Project title: Building Resilience of Health Systems in Asian LDCs to Climate Change		
Country: Bangladesh, Cambodia, Lao PDR, Myanmar, Nepal, Timor-Leste	**Implementing Partner**: United Nations Development Programme (UNDP)	**Management Arrangements:** Direct Implementation Modality (DIM)
UNDP Strategic Plan Outcome 2: Accelerate Structural Transformation for Sustainable Development		
UNDP Social and Environmental Screening Category: Low		**UNDP Gender Marker:** 2
Atlas Proposal/Award ID (also known as 'project'): 00105394		**Atlas Output ID/project ID**: 00106651
UNDP-GEF PIMS ID: 5400		**GEF ID:** 6984
Planned start date: 1 July 2018		**Planned end date:** 30 June 2022
PAC meeting date: 18 May 2018		
Financing Plan		
GEF LDCF		9,000,000 USD
UNDP TRAC resources		0 USD
Cash co-financing to be administered by UNDP		0 USD
(1) Total Budget administered by UNDP		9,000,000 USD
Parallel co-financing		
Government		17,985,200 USD
WHO		9,076,400 USD
(2) Total co-financing		27,061,600 USD
(3) Grand-Total Project Financing (1)+(2)		36,061,600 USD

Brief project description:

Climate change and climate change impacts have serious impacts on health, including but not limited to dehydration, increased incidence of water and vector-borne diseases, malnutrion related to reduced crop yields, and physical and psychological effects of extreme events. In vulnerable countries where health systems are not able to plan, prepare for or respond to these challenges, the impacts can be particularly devasting.

Asian least developed countries (LDCs), namely, Bangladesh, Cambodia, Lao, Myanmar, Nepal, and Timor-Leste, have limited technical capacity of health care systems and personnel to effectively integrate climate-related risks into policy, planning, and regulatory frames, and into interventions to control the

burden of climate-sensitive health outcomes. Existing climate early warning systems managed by national meteorological organizations lack systematic coverage of observational data from regions and areas of the countries with high risks of climate-sensitive health outcomes. Climate information services are not adequately tailored to the needs of public health professionals. And primary health care facilities are ill-equipped to prepare for and respond to extreme weather and climate events, lacking information and cost-effective methods and technologies to provide adequate water and sanitiation services during extreme events.

Recognizing these challenges, the National Adaptation Programmes of Action (NAPAs) of the above-mentioned countries prioritize adaptation to the health risks of climate variability and change. In consultation with stakeholders, this project was designed to increase the adaptive capacity of national health systems and institutions, and sub-level actors, to respond to and manage long-term climate-sensitive health risks, through the following complementary outcomes:

- Outcome 1: Institutional capacities are strengthened to effectively integrate climate risks and adaptation options in health sector planning and implementation
- Outcome 2: Effective decision-making for health interventions is enabled through generation of information and improved surveillance and/or early warning systems
- Outcome 3: Climate resilience is enhanced in health service delivery
- Outcome 4.1: Enhanced regional cooperation and knowledge exchange for promoting scale-up and replication of interventions
- Outcome 4.2: HNAP are effectively integrated into ongoing NAP processes

The regional approach of the project will ensure that catalytic partnerships across countries are developed and the regional-level systematization of lessons and best practices are documented and assessed to develop technical guidelines, manuals and tool-kits, thereby ensuring that these can be replicated and scaled-up across the region.

Signature		
Signature:  Pradeep Kurukulasuriya Executive Coordinator & Director Global Environmental Finance Bureau for Policy and Programme Support (BPPS)/Global Policy Network United Nations Development Programme	Agreed by UNDP	Date/Month/Year: 22 February 2019

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LIST OF ACRONYMS

AIT	Asian Institute of Technology
BCCSAP	Bangladesh Climate Change Strategy and Action Plan
BMUB	Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit
BPPS	Bureau for Policy and Programme Support
CBA	Community-based Adaptation
CBD	Convention on Biological Diversity
CCHPU	Climate Change and Health Promotion Unit (Bangladesh)
CCCA-2	Cambodia Climate Change Alliance Phase 2
CO	Country Office
CPAP	Country Programme Action Plan
CSO	Civil Society Organization
DOH	Department of Health
DPHE	Department of Public Health Engineering (Bangladesh)
DFID	UK Department for International Development
ECCA	Capacity Building Programme on the Economics of Climate Change Adaptation
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
GFATM	The Global Fund to Fight AIDS, Tuberculosis and Malaria
GIZ	Deutsche Gesellschaft fur Internationale Zusammenarbeit
H-NAP	Health-National Adaptation Plan
LDC	Least Developed Country
LDCF	Least Developed Countries Fund
MOEF	Ministry of Environment and Forests (Bangladesh)
MOH	Ministry of Health
MOHFW	Ministry of Health and Family Welfare (Bangladesh)
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NAP-GSP	NAP – Global Support Programme
PAC	Project Appraisal Committee
PIF	Project Identification Form
PIR	GEF Project Implementation Report
PMC	Project Management Cost
POPP	Programme and Operations Policies and Procedures
PPG	Project Preparation Grant
RAI	Global Fund's Regional Artemisinin-resistance Initiative
SDG	Sustainable Development Goal
TOR	Terms of Reference
UNDP	United Nations Development Programme
UNDP-GEF	UNDP - Global Environmental Finance
VIRTUE	Vulnerability and Impact Research Targeting Usability and Effectiveness
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

I. DEVELOPMENT CHALLENGE

I.1 The Problem, Root Causes and Barriers

1. Mortality and morbidity have fallen rapidly in Asia over the past 25 years, and there has been a marked transition from communicable to non-communicable diseases. The burden of disease from major infectious causes such as respiratory infections and diarrhea has fallen sharply, while that from cancer, cardiovascular and respiratory diseases has increased. Although health indicators still lag behind those of industrialized countries, life expectancy has increased and infant mortality rates have fallen in the region. Consequently, the proportion of the population aged over 65 years is projected to increase to over 25% by 2050.

2. While significant achievements have been made, this progress is at risk as the health of populations in Asia remains sensitive to climate variability and change and the capacity to prepare for and respond to these challenges is limited. The number of health professionals per capita is still low by global standards and less than 5% of GDP goes to health systems.

3. The Intergovernmental Panel on Climate Change (IPCC) 5th Assessment Report concluded that, in Asia heat waves will increase morbidity and mortality in vulnerable groups in urban areas; transmission of infectious disease will be affected due to changes in temperature and rainfall and nutritional status will be at risk from crop losses. Further, it noted that population groups most at risk from climate extremes are those living in low-lying coastal zones and flood plains; such areas are home to 50% of Asia's urban population.

4. This problem is exacerbated in Asian Least Developed Countries (LDCs: Bangladesh, Cambodia, Lao PDR, Myanmar, Nepal, and Timor-Leste), where health systems often struggle to manage existing health risks, and capacity to adapt to additional climate change-related health risks is limited. In these countries, annual average temperatures are projected to rise by 1.0 to 1.6°C by the year 2100 under a low emissions scenario and 3.6-6.0°C under a high emissions scenario. These changes lead to marked increases in heatwaves, and more modest increases in the risk of floods and droughts.

5. These climatic changes lead to increased health risks, via direct and indirect pathways. Potential direct impacts include deaths and injuries from extreme events (heatwaves, storms and floods). Indirect effects include increased risks of infectious diseases (including water borne, food borne and vector borne infections); food insecurity and malnutrition; and diffuse health impacts from loss of livelihoods, conflicts over resources and migration.[1]

Table 1 Summary of climate change and health indicators[2]

	Bangladesh	Cambodia	Lao PDR	Myanmar	Nepal	Timor-Leste
Temperature rise: 1990 – 2100 /°C (high emissions)	4.8	4.2	4.5	4.6	6.0	3.6
Temperature rise 1990 – 2100 /°C (low emissions)	1.4	1.2	1.4	1.4	1.6	1.0
Heat wave days /year (high emissions, 2100)	300	240	170	240	245	360
Heat wave days /year (low emissions, 2100)	120	75	50	70	65	210

[1] IPCC (2014) Climate Change 2014 Impacts, Adaptation, and Vulnerability. Intergovernmental Panel on Climate Change.
[2] Source: http://www.who.int/globalchange/resources/country-profiles/en/;

Change in risk of flooding 1990 – 2100/days per year (high emissions)	+10	+10	+7	+7	+6	+5
Consecutive days of drought (high emissions, 2100)	85	60	65	80	104	60
Consecutive days of drought (low emissions, 2100)	70	57	57	72	<90	60
People affected by sea level rise /thousands (high emissions, 2070–2100)	7,200	31	-	18,000	-	7.2
People affected by sea level rise /thousands (low emissions, 2070–2100)	2,600	9.8	-	15,000	-	6.5
Population at risk of malaria /thousands (2070, high emissions)	147,000	22,000	1,900	46,000	n/a	2,760
Population at risk of malaria /thousands (2070, low emissions)	117,000	22,000	1,600	<46,000	n/a	2,760
Heat related mortality/ per 100,000 people over age 65 (high emissions, 2080)	30	56	72	38	53	39
Heat related mortality/ per 100,000 people over age 65 (low emissions, 2080)	4	4	15	12	12	5
Nutritional impact /additional deaths per million people (2050)	67	59	54	87	62	n/a

6. The long-term solution for the governments of these Asian LDCs would be to have enhanced national health systems and institutions which are able to prepare effectively to climate change impacts on health in vulnerable population groups, with early warning measures in place to enable preventative measures to the extent possible, and adequate technical capacity of health systems that are able to respond to climate-related health issues.

7. There are a number of barriers however that hinder the long-term solution in the context of these countries. These barriers were expressed by each of the participating countries:

- limited awareness of health risks of climate change;
- insufficient integration of health into climate change adaptation plans and initiatives;
- poor coordination across ministries and departments;
- insufficient data and monitoring of climate-sensitive health outcomes;
- limited technical capacity of public health staff; and
- limited human and financial resources to assess risks and to design, implement, and monitor adaptation.

8. Asian LDCs have limited technical capacity of health care systems and personnel to effectively integrate climate-related risks into policy, planning, and regulatory frameworks. In part because climate change is a relatively new concern, and in part because of the medium to long timeframes of projections and the indirect mechanisms linking climate change to major health outcomes, there is limited awareness across sectors of the health risks posed by climate change. This lack of awareness hinders adequate consideration of climate change impacts on health into national and sub-national adaptation planning.

9. Similarly, related data on health vulnerability due to climate impacts, that could inform planning, is limited and does not lead to effective early warning based on climate projections and geographic or social vulnerability. Further, early warning systems managed by national meteorological organizations lack

systematic coverage of observational data from regions and areas of the countries with high risks of climate-sensitive health outcomes. Climate data is not adequately disseminated or tailored to the needs of public health professionals to enable application to planning and preparedness measures.

10. The project's target countries face formidable development challenges with limited public resources. As a result, health care facilities are ill-equipped to prepare for and respond to extreme weather and climate events, lacking information and cost-effective methods and technologies to provide adequate water and sanitation services during extreme events.

I.2 Baseline Scenario

11. The baseline without adaptation would mean that the significance of health risks from climate change would remain unrecognized, leading to insufficient integration of health into climate change adaptation plans and initiatives, poor coordination across ministries and departments; insufficient data and monitoring of climate-sensitive health outcomes; limited technical capacity of public health staff; and limited human and financial resources to assess risks and to design, implement, and monitor adaptation policy.

12. Currently, national health systems and climate monitoring systems are not linked. Evidence-based interventions are available for all climate-sensitive health outcomes, although the extent of their implementation varies across countries. These interventions were designed without considering changing weather patterns with climate change, hence human health in Asian LDCs, continues to be at risk from extreme and/or erratic weather events.

13. Below are short summaries of the related baseline for each of the participating countries. This was compiled during the project development phase in consultation with national stakeholders. It details the most critical climate health challenge faced by the countries as well as information about existing institutional and health system capacity. For additional details, please see the country-specific documents provided as annexes.

I.2.1 Bangladesh

14. While health spending is only 2.8% of GDP, there have been substantial improvements in health indicators in recent decades. Child malnutrition (stunting in children under 5 years) has fallen from around 70% in 1990 to 36% in 2015. Mortality from all causes has approximately halved from 10/1000 in 1990 to 5/1000 in 2015. About 60% of the population has access to improved sanitation, and 87% have improved water supplies. These percentages are similar in both urban and rural areas.[3]

15. Climate change, however, puts at risk these fragile development gains. Bangladesh has a subtropical monsoon climate with moderately warm temperatures and high humidity. There are three distinct seasons: hot, humid summer (March to June); cool rainy monsoon (June to October); and a cool, dry winter (October to March). Most parts of the country receive more than 2000mm rain per year, and 80% (1600mm) falls during the monsoon season.[4] With wide seasonal variations in rainfall, the country is highly vulnerable to natural disasters including inland and coastal inundation, storm surge, cyclones and tornados, drought, river erosion, sea level rise and salinity intrusion. Over the last decade, Bangladesh is experiencing changes to climate, recurrent flooding has become an increasing problem, with increased rainfall occurring in several districts. The number of cyclones and storm surges has also increased. While overall rainfall has increased, so has variability, meaning that some areas are experiencing more drought. Sea level rise from climate change is contaminating fresh water and soil. Temperatures are expected to continue to increase, with a further 0.4°C increase in mean temperature expected by 2030, with an overall increase in rainfall.

16. The main health concerns in Bangladesh are water- and vector-borne disease, pneumonia, skin and eye diseases, malnutrition, and high maternal and infant mortality.[4] Malaria, dengue and cholera are

[3] OECD/WHO (2016) Health at a Glance Asia/Pacific 2016. WHO (2017) Building resilience of health systems to climate change in Bangladesh.
[4] WHO (2017) Building resilience of health systems to climate change in Bangladesh.

of particular note, with increased heat and rainfall related to climate change contributing to incidence. While mortality from communicable diseases has fallen rapidly, there have been notable increases in non-communicable diseases.

17. The populations that are especially vulnerable to climate change in Bangladesh include those living in coastal regions or on small islands, those in mountainous regions, and those in megacities. The coastal zone of Bangladesh has over 35 million people who are exposed to cyclones, storm surges, rough seas, salinity intrusion and permanent inundation due to sea level rise. There are 72 offshore islands with an area of 4,200 square kilometres where over 3 million people are extremely vulnerable, due to coastal flood risks. Areas with poor health infrastructure, such as in remote villages, are the particularly vulnerable given their limited access to health services. Children and pregnant women are especially vulnerable, in particular to malnutrition and diarrhoeal disease. People with underlying chronic disease or who are elderly are also at increased risk, as are those who are less mobile.

18. The impacts on health from increasing extreme events include direct trauma from storms and flooding, increase in vector-borne disease from more favourable (warmer and wetter) conditions, loss of food crops and fishery resources, and mental health impacts associated with declining incomes as well loss as the damage to local lives and livelihoods from extreme events which may be immense. Overcrowding and poor quality buildings contribute to deaths and injuries during extreme events.[5]

19. Water-borne diseases will remain a major public health problem in Bangladesh as the climate changes, and require improvement in water supply and sanitation management as well as protection of water resources. A comprehensive health vulnerability and adaptation assessment conducted in 2011 concluded there is a need to undertake capacity and preparedness assessment of the health care facilities and health professionals to identify the strengths, weaknesses, and gaps in responding to the rising threats of emerging and re-emerging infectious diseases and non-communicable diseases (including mental health) associated with climate change.[6] There is a need for health professionals to be trained on climate change and its impact on human health.

20. The Climate Change and Health Promotion Unit is responsible for coordinating work on climate change, but lacks adequately trained personnel. Capacity building is needed both within the health sector as well as across sectors is needed for climate health sensitive planning. For example, the vulnerability and adaptation assessment developed by the health sector was not mainstreamed into regular health planning, due to adequate lack of awareness and technical capacity.

21. Reliable access to health services is also a concern. Health-care facilities, especially in remote areas, are vulnerable to extreme weather events and become inoperable during those events, when they are most needed. Remote facilities often lack access to safe running water and sanitation, which are preventive for many climate-sensitive diseases. Remote health-care providers have limited skill to diagnosis and treat climate-sensitive diseases. Health staff do not have access to treatment guidelines and are not skilled in epidemic preparedness. Community members, especially vulnerable groups such as poorer people, women and children, often do not have the resources to access health care.

22. The UNDP 'National Capacity Development for Implementing Rio Conventions through Environmental Governance', project focused on developing institutional capacities for management of global environment, mainstreaming global environmental conventions into human resource development, and raising awareness of the linkages between the Rio Conventions and sustainable development. That project offers some lessons towards carrying out needs assessments and approaches for capacity building of government staff, upon which this project can build.

23. Further, there are a number of interventions planned or underway, which will contribute to this baseline:

[5] IPCC (2014) Climate Change 2014 Impacts, Adaptation, and Vulnerability. Intergovernmental Panel on Climate Change.
[6] Vulnerability and adaptation assessment report. Geneva: World Health Organization; 2011

- A climate resilient water, sanitation and hygiene (WASH) project, Building adaptation to climate change in health in least developed countries through resilient WASH, is being implemented by Department of Public Health Engineering (DPHE) with technical assistance from WHO Bangladesh. The aim of that project is to reduce risks of climate-related disease and improved health protection for the poor through achieving i) coherent climate resilient international policy ii) climate resilient health promoting WASH policies defined, iii) climate resilient water safety plans.
- The Health, Nutrition and Population Sector Program, funded by World Bank, intends to pilot adaptation measures in three specific geographical divisions that are particularly vulnerable to different climate threats: Barishal (coastal flooding), Rajshahi (drought) and Sirajgonj (flood) division.
- A project funded by the Bangladesh Climate Change Trust, Adaptation research in the context of climate change impact on health sector in Bangladesh, will generate evidence on climate change and health related diseases like malaria, dengue, diarrhoeal diseases and others. It will also follow up a school health intervention trial and community based water treatment plants. This project will continue until the end of 2018.
- WHO and the UK Department for International Development (DFID) will start developing the health component of the National Adaptation Plan (NAP) in 2017. In the course of Health-NAP (H-NAP) development analysis of climate impacts, adaptive capacity of communities/institutions for each major vulnerable health sector considering geography will be evaluated.
- UNDP has submitted a proposal to the GCF, on behalf of the Government of Bangladesh, to support the NAP process. This is expected to be approved in 2017.

National Priorities

24. Two key policy documents relating to climate change in Bangladesh are the National Adaptation Plan of Action (NAPA) and the Bangladesh Climate Change Strategy and Action Plan (BCCSAP, 2009).[7] While the NAPA highlights disease and vector surveillance. The BCCSAP names priority actions as: resilience of vulnerable groups through community level adaptation, diversifying livelihoods and providing better access to basic health and social services; climate resilient agriculture and fisheries for food security; disease surveillance; water and sanitation.

25. The National Health Policy (2011) seeks to address climate change related outcomes of extreme temperature exposure, vector-borne and water-borne disease, malnutrition, and respiratory disease. The government's Five Year Plan (2011-16) included reducing burden of disease due to climate change, mainstreaming adaptation in health services, understanding health impacts from climate change, public awareness, advanced preparedness planning, and partnership with national and global community to safeguard public health.[8] Vision 2021 describes the aspirations of improving prosperity and global economic competitiveness and transforming Bangladesh into a middle-income country by 2021. This includes a focus on improving health through addressing social and environmental determinants.

I.2.2 Cambodia

26. From a strategic health perspective, Cambodia has been undergoing an epidemiological transition from communicable to non-communicable disease, although communicable disease remains a major problem with high burdens of tuberculosis, acute respiratory and gastroenteric infections, as well as being prone to outbreaks of water-borne and vector-borne disease. Through its impact on food security, adequate safe water, vector-borne disease transmission and productivity of major industry, climate change makes poverty reduction more difficult and further threatens growing inequality. The GDP per capita is USD 1158.70 and growing at around 7% per annum, health spending however is low by global standards at about 1.3% of GDP given the increased pressures on health spending expected with climate change.

[7] WHO (2017) Building resilience of health systems to climate change in Bangladesh.
[8] Bangladesh Planning Commission (2015) The Seventh Five Year Plan (2016-2020).

27. Climate change in Cambodia may increase the risk of food insecurity through floods and droughts and facilitate transmission of food and waterborne pathogens that cause diarrhoeal disease. Young children are especially vulnerable to malnutrition and diarrhoeal disease. Children who are poorly nourished through inadequate nutrition and/or recurrent diarrhoea are at increased risk of poor health outcomes if exposed to other climate-related diseases. Nearly 80% of all reported dengue cases in Cambodia occur in children aged 9 years or younger, with the highest incidence in infants aged under 1 year.[9]

28. Differences in education, literacy, land ownership, and income between men and women in Cambodia mean that women are more vulnerable than men to the impacts of climate change. They have fewer assets and resources available to adapt to climate change, including in their capacity to respond to acute climate shocks. Public awareness is needed, which is tailored to the needs of communities, is needed to ensure preventative measures are taken to the extent possible.

29. Cambodia has two main seasons, a dry season from mid-November to April and a monsoon wet season from May to October, interrupted by a "mini-dry season" in July to August. Temperatures average 28°C, ranging from a high of maximum daily temperatures of 38°C in April to a low of minimum of 17°C in January. Average annual rainfall ranges from 1400mm in the central lowlands to 5000mm in coastal areas, which are also more prone to extreme storms. Flooding is common in the monsoon season, from local rains and rains falling upstream in the Mekong basin, destroying crops and household assets. [10] Cambodia is a low-income country with an estimated population of 15.6 million people with a median age of 24.9 years and nearly 80% of whom live in rural areas. Approximately 70% of employment is in agriculture, mostly non-irrigated, rain-fed rice production.

30. Mean annual temperatures have increased 0.8°C since 1960, at a rate of 0.18C per decade, and the frequency of heatwaves has increased. Further temperature increases of between 0.7 and 2.7°C by the 2060s and 1.4 to 4.3°C by the 2090s, with 14-49% and 20-68% more days respectively to be considered hot in relation to current climate. Sea-levels will rise by up to 0.98m by 2100.[10]

31. A wide range of health outcomes are associated with weather and climate variability. The three areas of highest priority in Cambodia are vector-borne disease (malaria and dengue particularly), water-borne and food-borne, and the health impacts of extreme events.[11,12]

- Vector-borne disease will most likely increase due to higher temperatures, changing precipitation, increasing urbanization and migration. Malaria is associated, for example, with increased rainfall. In addition to malaria and dengue which are currently important, Japanese encephalitis, chikungunya and Zika viruses are of concern.[10] Greater surveillance, early warning, access to effective treatment and improved healthcare worker skills, and vector management is required. An increase in water storage in response to more variable rainfall will require implementation of vector-control measures.
- Major water-borne diseases in Cambodia include rotavirus, Escherichia coli, Shigella, cholera and typhoid. Many rural households do not have adequate latrines or waste disposal that may affect water quality of surface and ground water during heavy rain. Drought also is associated with water-borne diseases as a result of the shortage of water and poor sanitation practices. Infection may manifest as acute diarrhoeal disease or as chronic gastrointestinal infection contributing to malnutrition. Improved sanitation and water supplies are needed to reduce this climate change impact.
- Strong storm surges cause death, injuries, morbidity and mental health issues. Flooding has been recorded almost every five years, becoming more frequent in the last 10 years. Sea level rise is causing more severe and more frequent coastal inundation, especially during storms and typhoons. Extreme events amplify existing health problems of diarrhoeal and respiratory infections and vector-borne disease, while access to health care is limited. Increasing frequency of hot days may have

[9] WHO (2017) GEF-LDCF Climate Change and Health Adaptation Project Proposal: Cambodia
[10] WHO (2017) GEF-LDCF Climate Change and Health Adaptation Project Proposal: Cambodia
[11] Cambodian Ministry of Health and World Health Organization (2010) Climate change and health in Cambodia: a vulnerability and adaptation assessment.
[12] Cambodian Ministry of Health (2014) National Climate Change Action Plan for Public Health 2014–2018.

direct impacts on the health of the mostly outdoor workforce population and also negatively affect productivity. Increased temperatures and altered precipitation (more variable rainfall increasing both flooding and drought risk) may increase the risk of diarrhoeal disease. Early warning and improved access to services would reduce impacts of flooding on the health of communities, and modified activities may be needed to reduce impacts of heat on worker health and productivity.

32. The Ministry of Health (MoH) is responsible for health system planning, development and service delivery. Within the Ministry, the Directorate General for Health manages 24 provincial health departments. The provincial health departments encompass 81 health operational districts and operate the provincial hospitals. Each operational district covers 100,000–200,000 people and operates a referral hospital and health centers. Each health center covers 10,000–20,000 people. The health centers provide a minimum package of activities, mainly preventive and basic curative services, and the referral hospitals provide a complementary package of activities, mainly secondary care. Provincial and national hospitals provide the highest-level complementary package. National hospitals include general hospitals and specialist hospitals for pediatrics, maternal and child health, and tuberculosis. Less formal health posts provide services in remote areas.

33. MoH faces several capacity and finance gaps, and the urban–rural distribution of resources disproportionately favors urban areas. Government funding for health care is only 1.4% of GDP, and development assistance accounts for 15–20% of health expenditure. Out-of-pocket expenditure accounts for almost two-thirds of total health expenditure, and most of this is paid to private providers. The private sector is extensive and insufficiently regulated, but it provides the majority of curative care (the type of care most needed to treat climate-sensitive diseases). According to the 2014 Cambodian Demographic and Health Survey, only 22% of unwell or injured patients sought care first in the public sector, while 67% sought care for their last episode from private providers. Staffing and equipment capacity are limited. MoH employs just under 20,000 staff, but it hopes to increase the public health workforce to 32,000 people by 2020. Diagnostic equipment such as magnetic resonance imaging and computed tomography is largely unavailable, and maintenance is an issue. The equipment that is available is concentrated in the private sector.

34. The GEF-funded, Strengthening Climate Information and Early Warning Systems in Cambodia to Support Climate Resilient Development and Adaptation to Climate Change, project is improving the climate-observing infrastructure and increasing capacity to use climate and environmental information to respond to climate hazards and plan adaptation to climate change. There are opportunities to build on this work to include early warning for health.

35. Similarly, there are opportunities to build on the work of the Cambodia Climate Change Alliance Phase 2 (CCCA-2) project, Strengthening Country Capacity to Deal Effectively with Climate-sensitive Vector-borne and Waterborne Diseases and Reducing the Health Impacts of Disasters, which runs through 2018, as well as the Vulnerability and Impact Research Targeting Usability and Effectiveness (VIRTUE) project which aims to improve understanding of climate-sensitive risks to health in Cambodia and to facilitate effective health adaptation responses targeted at vulnerable groups.

National priorities

36. Cambodia's National Strategic Development Plan 2014–2018 calls for sustainable development within the health sector and prioritizes reduction of health risks caused by environmental pollution and climate change. The NAPA identifies high-priority adaptation projects; in the health sector these are: the production of bio-pesticides; development of health-care centres and posts; provision of safe water in high-risk malaria regions; and malaria education and mosquito habitat clearance campaigns. To support the NAPA, the Cambodia Climate Change Strategic Plan 2014–2023 creates a national framework for engaging the public and private sectors, civil society organizations and development partners to support sustainable development.

37. In the Climate Change Strategic Plan for Public Health 2012 and the National Climate Change Action Plan for Public Health 2014–2018 Cambodia has prioritized investments in infrastructure, institutional capacity and emergency preparedness to adapt to the increasing threats of vector- and

waterborne diseases and the health impacts of extreme weather events, particularly floods and droughts. The National Strategy for Climate Change Adaptation and Disaster Risk Reduction in Public Health is currently under development and will align the strategies for disaster risk reduction with the climate change adaptation plans.

I.2.3 Lao PDR

38. In Lao PDR, malaria is endemic occurring mostly in highland forests of the south, and multidrug resistance is of growing concern. Dengue outbreaks can place a heavy burden on the health system with a lack of adequate surveillance, vector-control, diagnosis and effective treatment, communication and early warning. Chronic malnutrition affects around 44% of children aged under 5 years in Lao PDR, often the result of a combination of insufficient quality food and diarrhoeal disease. Life expectancy in Lao PDR is low (64 and 67 years for men and women respectively) and child mortality is high (71.4 per 1000 aged < 5 years). Diseases related to lack of clean water and sanitation contribute substantially to health burden in Lao PDR with about a quarter of the population lacking access to improved drinking water, and a similar proportion practice open defecation. A majority of health services and hospital are also lacking water and sanitation facilities.

39. Significant disparities exist between urban and rural areas remain related to access to health services. Access to health care is difficult, especially for those in more isolated regions as there are few health centres. For instance, vaccine-preventable diseases such as measles, polio, diphtheria, rubella, tetanus and pertussis are diminishing but still of concern, with some geographic areas and ethnic groups poorly covered. Poverty is associated with more isolated rural and highland areas in the eastern border regions in the south.[13] People living in rural and highland areas are more likely to be poor. Through its impact on food security, adequate safe water, vector-borne disease transmission and productivity of major industry, climate change makes poverty reduction more difficult and threatens growing inequality.

40. Lao PDR has two main seasons, a dry season from mid-October to April and a rainy monsoon season from May to mid-October. Climate varies across three climatic zones: montane temperate and subtropical (northern highlands) tropical monsoon (central highlands), and tropical lowland and floodplains along the Mekong river. Temperatures in Lao PDR have risen over recent decades and will continue to increase between 1.4°C and 4.3°C by 2100 based on low and high emissions data, and will most likely be higher in southern areas. Dry seasons are getting longer and rainy seasons shorter but more intense. Mean annual rainfall is expected to increase in eastern and southern areas by 10-30% during the wet season, including with an increase in extreme events and flooding. Mountain areas may become more vulnerable to flash floods.[14]

41. A climate change and health vulnerability assessment (2010-2011) concluded that waterborne diseases, especially dysentery and typhoid, remain a significant source of morbidity, with the health burden expected to increase with climate change. Vector-borne diseases, particularly dengue, also are expected to increase. Limited data and information are available on who is most vulnerable and which geographical areas will be more affected, but it is likely to be the more isolated, poorer areas in mountain regions who are most at risk.

42. There is capacity gap between assessing vulnerability and addressing climate change and health issues. A health system review in 2014, organized by WHO on behalf of the Asia Pacific Observatory on Health Systems and Policies, concluded that despite strong government commitments to health, as reflected by policy statements, decrees, national strategies and plans, and a comprehensive health reform strategy, there are gaps between policy intentions and effective implementation. Cross-sectoral collaboration is weak and political commitments have not yet been translated into increased health spending.

[13] WHO (2017) Building resilience of health systems in Asian least developed countries to climate change. GEF country proposal document: Lao People's Democratic Republic

[14] http://apps.who.int/iris/bitstream/10665/246139/1/WHO-FWC-PHE-EPE-15.39-eng.pdf?ua=1

43. There are initiatives in development, related to supporting the NAP process, that can built upon to ensure that health is mainstreamed into adaptation planning. The Strengthening the Capacities for Iterative National Adaptation Planning Process in the Lao People's Democratic Republic project is a four-year project with the main objectives to strengthen institutional and technical capacities for effective climate change adaptation and to integrate climate change adaptation into relevant policies, plans and associated processes. The outcomes of the GEF, UNDP and Ministry of Natural Resources and Environment project are:

- to strengthen capacity and ownership of adaptation and climate risk reduction planning at the local level;
- to achieve adaptation benefits for food security and nutrition objectives of vulnerable populations, especially women, through improving land use practices and community support services;
- to strengthen the institutional, policy and fiscal framework for climate change adaptation.

National priorities

44. The National Adaptation Programme on Action on Climate Change (2010) identified that within the health sector, the priorities for climate change adaptation targeted improving drinking water and sanitation, including through better engineering and improved public awareness, and responsive health services, and noted limited existing capacity from lack of data, weak institutions, poor communication and coordination and low levels of awareness about climate change.

45. The multi-sectoral National Strategy on Climate Change (2010) includes climate change action plans for 2013–2020 that define mitigation and adaptation in the agriculture, forestry, land-use change, water resources, energy, transportation, industry and health sectors. Health priorities identified included high infant and maternal mortality, food and water-borne disease specifically typhoid fever and hepatitis A. Malaria, dengue, child malnutrition, and deficiencies in health service availability and delivery are also highlighted. Lao PDR's climate change action plans include mitigation as a priority, to be integrated with adaptation activities. Lao PDR is also developing a legal framework for climate change and disaster management.[15]

I.2.4 Myanmar

46. Myanmar aims to reduce poverty and improve human development through accelerating growth and providing economic stability. There has been an overall decline in poverty related indicators in recent decades, including increasing gender equality in educational outcomes, increased participation of women in government employment, increased sanitation. Myanmar's human development index, although improving, remains below average for countries in East Asia and the Pacific. Through its impact on food security, adequate safe water, vector-borne disease transmission and agricultural productivity, climate change makes poverty reduction more difficult and threatens growing inequality.

47. Life expectancy in Myanmar has increased over recent years to 63.2 years and 67.1 years for males and females respectively in rural areas, and 64 years and 69 years in urban areas (2007 estimates).[16] Infant mortality has almost halved, from 78 per 1000 in 1990 to 40 per 1000 in 2013. As per WHO/UNICEF Joint Monitoring Report of 2015, Myanmar has achieved 81% improved drinking water coverage and 80% of the population have access to improved. However, like in other developing countries, safety of drinking water and safely management of sanitation is an issue. Water and sanitation facilities in coastal areas are also at risk of extreme weather events. Malnutrition is prevalent, with stunting in approximately 40% of children under five years and underweight in approximately 30%.[17] Maternal mortality is high with between 230 and 580 maternal deaths per 100,000 live births. Communicable diseases of note include diarrhoea, cholera, influenza, malaria, dengue, yellow fever and tuberculosis. Indoor air pollution is a contributor to the burden of heart disease, stroke, lung cancer and COPD, especially in women, and to deaths from lower

[15] Government of Lao PDR (2017) Disaster and Climate Change Law
[16] WHO (2014) Country Cooperation Strategy 2014–2018, Myanmar.
[17] Ministry of Environmental Conservation and Forestry (2012) Myanmar's National Adaptation Programme of Action (NAPA) to Climate Change.

respiratory infections in children. Public health expenditure has increased as a proportion of government spending from 15.6% in 2010 to 45.9% in 2014.[18]

48. Myanmar has three seasons of hot, rainy and cool and is vulnerable to extreme weather events of cyclones, floods and droughts. Since the 1950s, average temperatures in Myanmar have increased an average of 0.08°C per decade, with greater increases in northern and central regions (up to 0.32°C per decade in Kayin State). Overall rainfall has increased, but decreases in some regions have been observed (e.g. Bago region).[17] The duration of the monsoon season has decreased, with later onset and earlier departure. Extreme weather events have increased in frequency and severity, including severe storms and cyclones, floods and storm surges, intense rainfall, drought and extreme heat. Over the coming decades temperatures will continue to rise 1.4°C to 4.6°C by the end of the century, depending on emissions, and the number of "warm spell" days per year will increase from 10 (1990 baseline) to between 70 and 230 depending on emissions. Rainfall intensity is projected to increase beyond the range of historical variability under a high emissions scenario, and the length of "dry spells" could increase from 8 to 80 days, with increased interannual variability.[19]

49. Current climate variability and change are already affecting communities and socioeconomic sectors in Myanmar. Drought, associated with shortened monsoon season, is the most severe weather event affecting local communities and causing health impacts. Climate change projections suggest extreme events will increase in frequency and intensity, further heightening these risks. The main health risks in Myanmar associated with climate include limited clean drinking water and poor sanitation services. Food insecurity and malnutrition among children is widespread. The greatest concern regarding climate change impacts on human health in Myanmar is related to availability of freshwater sources. Increases in intense rain events and tropical storms will lead to increases in flooding and storm surges which results in freshwater sources being contaminated by rising floodwater levels, while rising sea levels will result in fresh groundwater resources being displaced with salt water. An increase in non-potable fresh water will result in communities without safe drinking water and increasing dehydration risks, further exacerbated by diarrheal diseases. In addition, increased frequency and severity of droughts will decrease water availability and water quality –for drinking, sanitation and hygiene purposes. Myanmar's climate will consequently become more favorable to transmission of vector-borne, water- and food-borne disease.

50. Myanmar relies on passive surveillance for communicable disease resulting in incomplete data and limited ability to respond proactively in epidemic prevention. Lack of meteorological data and capacity for analysis and information exchange limits planning, early warning and timely response to extreme events.[20] Children are highly vulnerable to malnutrition associated with reduced food security and increased diarrhoeal disease. Women are more at risk due to poverty and lower literacy and educational attainment. Particular regions at risk include Central Dry Zone and flood risk areas. Enhanced early warning and public awareness tailored to needs is required to enable better preparedness.

51. Further, health facilities are not able to respond effectively to extreme events and Myanmar has limited technical capacity and limited personnel to plan for and implement climate adaptation activities. Training is needed for staff to able to identify and treat climate related illness.

52. Natural Disaster Plans are in preparation in different sectors and there is a Myanmar Action Plan on Disaster Risk Reduction (2009-15). The focus is on raising public awareness to bring about behaviour change to protect communities from climate-associated health risks such as heat exposure and water-borne disease, including an annual 'National Sanitation Week'. Basic sanitation systems are provided to communities to reduce transmission.

53. There are a number of programmes and projects provided related support in Myanmar:

[18] World Bank (2017) World Development Indicators. http://data.worldbank.org/products/wdi
[19] WHO (2017) Climate and health country profile 2015: Myanmar http://www.who.int/globalchange/resources/country-profiles/en/
[20] WHO (2017) GEF-LDCF Climate Change and Health Adaptation Project Proposal. Draft national report of Myanmar

- The World Bank flood and landslide recovery project aims to support recovery of flood affected areas in 2016 flood which can collaborate with climate sensitive communicable disease control projects, water safety plan development and nutrition activities.
- Asian Development is Rural Development Department, Relief and Resettlement Department for community disaster resilience focuses on preparedness for various epidemics and is one of the entry points for community disaster resilience and EWARS and disaster preparedness, health emergency response activities can be linked with ADB support projects.
- UNDP is working with the Environmental Conservation Department and support for climate change and disaster risk reduction through forest sector and environmental conservation. UNDP is also leading agency for DRR working group in Myanmar and implementation of water safety plan and community based climate related health risk reduction projects.
- The WHO Country Office plays a crucial role in health system strengthening and implementation of health care services in Myanmar by providing technical assistance and financial assistance. WHO country office with MOH implemented water safety plans in rural and town water supply systems funded by DFAT (Australia).

National priorities

54. Myanmar's National Adaptation Programme of Action (NAPA) recognized public health as the second most important sector for implementing priority adaptation projects. The focus of the National Climate Change Policy, Strategy and Action Plan (2013-17) is on community education to increase resilience, institutional capacity building in policy development and adaptation, and low carbon economic development. Myanmar also has a National Environmental Policy, Framework and Master Plan (to 2030) and Environmental Conservation Law (2012) which consider climate change, and a National Health Plan (2017-2021), largely focused on improving affordability and accessibility to care to reduce inequity.

I.2.5 Nepal

55. Nepal's climate varies with altitude between subtropical to alpine over a very short distance (200km). Rainfall is generally higher in the east compared to the west, and temperatures are warmer in the southern lowland areas that are in the Himalayan region to the north. The four seasons in Nepal are pre-monsoon (March-May), monsoon (June-September), post-monsoon (October-November) and winter (December-February). Annual maximum temperatures occur May-June. The topographic variability within Nepal leads to considerable variability in rainfall and temperatures.

56. Temperatures in Nepal have been increasing in recent decades at a rate of approximately 0.37°C and 0.15°C per decade in annual maximum and minimum temperatures, with warming greatest in the mountain compared with the lowland regions.[21] There are fewer cold days and more warmer days. Snowfall in highlands areas has been decreasing and glaciers are shrinking, reducing water available for drinking and irrigation, while there has been a trend overall for increasingly heavy precipitation.[22]

57. Overall health outcomes are improving, with substantial reductions in child mortality and maternal mortality over the last few decades. Health inequities remain significant, with numerous barriers to accessing health services – financial, sociocultural, geographic and institutional. Rapid urbanization, shifting health patterns and natural disasters place additional pressures on the system in providing quality care. Current lack of primary healthcare for most of the population contributes to Nepal's vulnerability to climate change. Epidemics relating, such as cholera, gastroenteritis, diarrhoea, encephalitis, meningitis, typhoid, jaundice, malaria, dengue, chikungunya and scrub typhus are exacerbated with warmer temperatures and flooding during the monsoon season, as well as lack of clean water and sanitation.

[21] Baidya SK, Shrestha ML, Sheikh MM. Trends in daily climatic extremes of temperature and precipitation in Nepal. Journal of Hydrology and Meteorology. 2008;5:38–51.
[22] WHO (2017) GEF-LDCF Climate Change & Health Adaptation Project Proposal. Final National Report of Nepal

58. Changing weather patterns in Nepal are consistent with the increasing risk of these climate-sensitive diseases, particularly malaria, kala-azar (visceral leishmaniasis), Japanese encephalitis, and diarrheal diseases (including cholera). Increasing temperatures will put more communities and a greater number of people at risk if the diseases spread to new regions, extending, for example, their altitudinal reach. Changing settlement patterns related to changing climatic conditions can further increase risks, with crowding and lack of infrastructure in rapidly urbanizing areas. Weather-induced disasters, such as flooding, adversely affect public health through injury and trauma, transmission of disease, and damage to infrastructure. Declining crop yields associated with both increasing extreme events and changes to average temperatures and precipitation and seasonal timing would increase undernutrition.

59. Population vulnerability in Nepal is associated with geography, local resources, infrastructure, and governance effectiveness including access to information for extreme events. Areas that are flood-prone, mountainous, water stressed and/or densely populated are especially vulnerable to changing climate, and geographical isolation compounds vulnerability to climate sensitive disease and diminishes capacity to respond to additional challenges of climate change. Population groups that are relatively more vulnerable than others, including children, women (especially pregnant women), those living in informal urban settlements or on environmentally exposed areas such as riverbanks, steep hills or plains, displaced people, those outside formal employment, older people, refugees and those in prison.

60. Nepal's priorities regarding equal access to health care, if realized, will go some way to reduce exclusion and inequalities. Poverty reduction in Nepal has been slow and unequal among groups, with women remaining overrepresented among the poor. The loss of lives and livelihoods associated with exposure to major extreme events, including the 2015 earthquake, slows poverty reduction and attainment of development goals. Climate change makes poverty reduction more difficult and threatens growing inequality, through its impact on food security, safe water, sanitation, vector-borne disease transmission and income from agriculture.

61. A number of efforts are ongoing providing support to address climate change and health issues in Nepal:

- WHO is implementing programmes that support the Ministry of Health in integrated disease surveillance and control of communicable diseases. In 2016 the Government of Nepal expanded the early-warning alert and response system in 81 sites.
- WHO and the Ministry of Urban Development, with the support of a climate change resilience project funded by the United Kingdom Department for International Development, are working on water safety plans as part of the DFID-funded project Building Adaptation to Climate Change in Health in Least Developed Countries through resilient Water, Sanitation and Hygiene.
- The Nepal UNDP Country Office is implementing the following projects: Renewable Energy for Rural Livelihoods, a GEF small grant programme, Ecosystem-Based Adaptation in Mountain Ecosystems in Nepal, the Nepal Climate Change Support Programme, the Community-Based Flood and Glacial Lake Outburst Risk Reduction Project and the Comprehensive Disaster Risk Management Programme.
- Financed through Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit (BMUB), UNDP is supporting Nepal to integrate agriculture into the NAPs process (US$500,000)

National Priorities

62. Nepal has been party to the UNFCCC since 1994 and submitted its first communication report in 2004 highlighting public health as a priority area under climate change, in particular noting the need to address extreme events (heatwaves and coldwaves) diarrhoeal disease and vector-borne disease. Nepal's constitution embeds certain rights of the population that relate to climate change including the right to a clean and healthy environment, the right to be compensated by polluters, and the right to health care – including access to safe water and hygiene and equal access to care.

63. Nepal's Climate Change Policy (2011) is aimed at promoting adaptation, mitigation and even restoration, climate neutral resource management for socioeconomic development and the development of climate-resilient infrastructure. The Policy cuts across sectors and encourages integration of climate policies in all sectors, including developing early warning systems and disaster preparedness programmes, public awareness and capacity building, with a focus on action at the level of community. Nepal's National Adaptation Programme of Action (2010) includes tools for vulnerability and adaptation assessment across multiple sectors.

64. The priorities in public health are to reduce impacts through evidence-based research along with piloting projects, empowering communities through education, investing in disease outbreaks and response, scaling up existing programmes in vector-borne and water and food borne disease in disasters, and strengthening forecasting early warning and surveillance systems. The NAPA also concentrates on the need for inter-sectoral collaboration to protect health. In line with the NAPA and with the emphasis on local communities, Nepal produced a National Framework on Local Adaptation Plans of Action (LAPA) (2011) with a focus on service delivery in most climate vulnerable areas and groups. The Nepal Health Sector Strategy (2015-2020) aims to address the social determinants of health through inter-sectoral collaboration, including a commitment for universal health coverage. The Health National Adaptation Plan (2016) aims to develop climate-resilient health systems including by raising public awareness, generating evidence at national and subnational studies, reducing morbidity and mortality from vector borne, water and foodborne disease and malnutrition, managing risks of extreme events, protecting health by ensuring health is covered in all policies across sectors, identifying the socioeconomic and environmental contexts relevant to health.

65. The NAP formulation process has been expedited to identify appropriate climate change adaptation needs and implement them in the medium (2020–2030) and long (2030–2050) term, bearing in mind the national policies towards that end and the SDGs. Nepal has received US$ 2.9 million for the development of a NAP from the Green Climate Fund (GCF). Health and water, sanitation and hygiene is one of the thematic groups led by the Ministry of Health for formulation of the NAP. Involvement of the Ministry of Health from conception of the NAP process may contribute to aligning health-specific components of the national adaptation plan with the overall national adaptation plan process.

66. Adaptation strategies in the health sector have largely focused on awareness raising and public health initiatives at the community level. Further action is needed at the national and subnational levels to better understand risks and to increase access to information, particularly with regards to the emergence of climate-sensitive infectious diseases. There are currently few standards and practices to ensure infrastructure resilience in Nepal, including for buildings and water supply services, while lack of data, analytical capacity challenge and information dissemination challenge the development and implementation of adaptation programs such as early warning systems.

67. Of the nine goals set by the Nepal Health Sector Strategy, two goals are directly related to environmental health and climate change – Goal 7 (improved healthy lifestyles and environment) and Goal 8 (strengthened management of public health emergencies). The Nepal Health Sector Strategy involves a multi-sectoral response to tackling the adverse effects of climate change on human health. The Ministry of Health plans to introduce an integrated disease surveillance system and guidelines to monitor existing and new threats, such as new viruses and the impact of climate change on the geographical spread of vector-borne diseases, and to strengthen the capacity of public health laboratories.

68. The goal of the Nepal Climate Change Support Programme is to contribute to ensuring the poorest and most vulnerable communities in Nepal are able to adapt to the adverse effects of climate change. The key objective is to enhance the capacity of governmental and nongovernmental organizations to implement Nepal's Climate Change Policy 2011 and execute the most urgent and immediate adaptation actions in 14 districts of far and mid-western Nepal. It has a health component to address the urgent needs of people in the community, but it does not focus on capacity-strengthening of the institutional health system.

I.2.6 Timor-Leste

69. Timor-Leste is a small country located on the eastern part of Timor Island, with a land area of 14,874km^2. Most of the terrain is mountainous and unsuitable for agriculture, and there are some riverine and coastal plains. The majority of the land is forest or woodland. Timor-Leste has a population of approximately 1.2 million, half of whom are under 18 years. Thirty-percent of the population live in urban areas, mostly in the capital, Dili. Adult literacy is at about 58%, and approximately 40% of the population live on less than USD 0.55 per day. More than 80% of the population depends on agriculture for their livelihood, mainly maize, rice, cassava, with forestry and fisheries. Together these contribute approximately 20% to Timor's GDP, while oil and gas contribute nearly 80%, and increasing. Workforce participation is around 30% reflecting the prominence of subsistence agriculture, and youth unemployment is high.

70. As many as 60-70% of households in Timor-Leste are already moderately-to-severely food insecure, particularly between December and February – often termed the 'hungry season', when most farmers have exhausted their stock of cereals and are awaiting their next harvest[23]. Children are particularly vulnerable, as 47% under the age of five suffer from chronic malnutrition[24]. Malnutrition weakens the immune system and can lead to a heightened risk of illness and disease. Chronic undernutrition in early childhood also results in diminished cognitive and physical development, which can put children at a disadvantage for the rest of their lives[25]. Research has shown that the effects of chronic malnutrition are irreversible if left untreated by the time a child reaches two or three years of age[26].

71. Agriculture production has not yielded enough, to meet what is required by the growing population[27]. While there has been an overall increase in total food production since 2002, imports are still needed to supplement the shortfall[28]. 80% of the country's poor and 90% of the rural poor depend on subsistence rain-fed agriculture for their livelihood. Unusual or extreme weather has been cited as the cause for low crop yields (i.e. 25% decrease in rice in 2009 and 20% decrease in maize in 2010)[29]. Climate change will continue to challenge food security with increasing temperatures and variability in rainfall. The impacts are likely to be particularly acute in the coastal regions where the sea surges, coastal inundation, prolonged submersions, erosion, and long term sea level rise undermine land productivity.

72. Timor-Leste's susceptibility to climate change impacts is high and it lacks coping and adaptive capacity. Timor-Leste is approaching malaria eradication, but climate change will most likely increase the risk of both dengue and malaria at least in the next few decades, while increases in major water and sanitation-related health problems, such as water-borne diseases, including diarrhoea and other parasitic and bacterial infections, are also very likely. Increasing variability in rainfall will have negative consequences for agriculture and food security. Climate change will aggravate vulnerability to natural hazards such as frequent tropical cyclones, floods, droughts, landslides, and coastal inundation, all of which have negative impacts on health through deaths, injuries and loss of livelihoods.

73. Similarly, negative impacts on agriculture and fisheries will contribute to poorer nutritional outcomes for the population, and likely to disproportionately affect women and children, as will drought and flooding affecting water supply and quality and contributing to diarrhoeal disease. Dependence on imported foods is high, at about 30-40%, creating vulnerability to international food market volatility, while poorer households are not able to access imported food at all. Increasing extreme heat is likely to negatively affect health of older people, children, those who are socially isolated and those occupationally at risk. Particular villages (sucos) are also considered more vulnerable, especially those in the western region with water and agriculture as notable resources at risk.

74. Climate change, largely through its impact on income generating activities relating to agriculture, will make poverty alleviation more difficult. Other ways in which climate change may contribute to poverty

[23] Timor-Leste and FAO Achievements and success stories (FAO, 2011)
[24] https://www.oxfam.org.au/what-we-do/health/food-and-nutrition/childhood-malnutrition-in-timor-leste/
[25] Tracking Progress on Child and Maternal Nutrition: A survival and development priority (UNICEF, 2009)
[26] https://www.oxfam.org.au/what-we-do/health/food-and-nutrition/childhood-malnutrition-in-timor-leste/
[27] Climate Change and Population Growth in Timor Leste: Implications for Food Security (N. Molyneux, et. al, 2011)
[28] Timor-Leste and FAO Achievements and success stories (FAO, 2011)
[29] Timor-Leste and FAO Achievements and success stories (FAO, 2011)

is through increasing illness (through vector-borne disease and diarrhoea, as examples) and its sequelae of reduced worker productivity and increased time spent out of education.

75. The fifth assessment report (AR5) from the Intergovernmental Panel on Climate Change (IPCC) indicates that temperature in the Southeast Asia sub-region has been increasing at a rate of 0.14°C to 0.20°C per decade since the 1960s, and predicts increases from 0.8°C to 3.2°C by the end of this century. The report further highlights the positive trend in the occurrence of heavy (top 10% by rain amount) and light (bottom 5%) rain events, and the influence of climate change on several large-scale phenomena affecting the region[30]. Temperature observations in Timor-Leste are consistent with the high end of the range of the IPCC AR5 temperature trend. Rainfall observations are also consistent with the report; heavy rain events are more common, while the overall average annual rainfall has decreased.

76. The northern region has distinct wet (four months, December to March) and dry seasons, and in the south the wet season is longer (7-9 months) with peaks in December and May. Timor-Leste has rainfall that is highly variable from year to year, influenced by the El Niño Southern Oscillation. It is prone to both drought and extremely heavy rainfall, which leads to erosion and landslides in mountainous regions due to deforestation for cropping and stock. Timor-Leste also experiences frequent and significant flooding.[31] Temperatures in Timor-Leste increased by 0.5-0.8°C to 2005, and will increase a further 1.5-1.8°C by 2041-60 (relative to 1981-2000), with more days of extreme heat. Rainfall will become more variable, with increased intensity and frequency of rainfall in the wet season and less rain in the dry. Cyclones are expected to be fewer but more intense. Sea levels will rise by 76cm by 2100.[31,32]

77. There are a number of ongoing initiatives supporting climate-resilience and climate-informed planning in Timor-Leste. Specific programmes and projects directed at climate variability and change are described below:

- WHO and MOH have implemented water quality and safety project funded by DFAT from 2012 – 2017. This project helped develop capacity of national teams and policies and guidelines on water, sanitation and environmental health. Several models for water safety plans are developed in five urban water supply systems.
- The Global Climate Change Alliance Support Programme to Timor-Leste seeks to improve the capacity of populations vulnerable to climate change risks to cope with climate change effects through the sustainable management of their natural resources and the improvement of their livelihood options. This will be achieved using local development mechanisms taking social inclusion and conflict management into account. The project has three expected results:
    - Weather monitoring is made reliable in all 13 districts; climate effects on agricultural production and the environment are better known; the results of regular agro-meteorological analysis are made accessible to the rural producers; and the consequent findings support the definition of evidence-based national policies.
    - Rural communities are able to identify adaptive responses to climate challenges; these responses are incorporated into suco (village) development plans in at least 50% of sub-districts identified as vulnerable to climate change risks, in a socially inclusive way.
    - The resilience of rural communities living in at least 50% of sub-districts identified as vulnerable to climate change risks is enhanced through the restoration of their environment, the implementation of sustainable livelihood development activities, and improved social dialogue.
- Strengthening the Resilience of Small Scale Rural Infrastructure and Local Government Systems to Climatic Variability and Risk - this UNDP-supported project uses the existing UNDP Local Government Support Programme as an entry point to deliver concrete measures to significantly increase the resilience of critical rural infrastructure to climate related impacts in high risk districts and sub-districts. Critical small scale rural infrastructure is designed and implemented through participatory approaches and strengthened local governance systems,

[30] Climate Change 2013: The Physical Science Basis (IPCC, 2013)
[31] Secretariat for Environment (2014) Timor Leste's Initial National Communication
[32] Ministry for Economy and Development (2010) Timor-Leste National Adaptation Programme of Action to Climate Change

reflecting the needs of communities vulnerable to increasing climate risks. The project takes a three pronged approach comprising the following specific outcomes:

- Systematic use of climate risk information, with a focus on rural water, and integration into development frameworks
- Inclusive planning and budgeting for reducing climate related risks at the district and sub-district levels
- Physical investment for reducing climate risks

- The Strengthening Community Resilience to Climate Induced Natural Disasters in the Dili to Ainaro Road Development Corridor project is a joint UNDP-World Bank program addressing the disaster related issues along the Dili-Ainaro road corridor and will showcase what can be done to minimize and prevent the impact of local disasters on large scale infrastructure and communities. The project seeks to reduce the risks that Timor-Leste faces from natural disasters and climate change and help minimize the losses that result to its infrastructure assets and livelihoods. The project's three goals are to:
  - Improve understanding of the natural disaster risks faced by the Dili-Ainaro corridor, and communicate those risks to strengthen evidence based planning and investment
  - Develop national and sub-national capacity for managing disaster risks including mainstreaming DRM in national, sub-national and sectoral strategies
  - Demonstrate effective risk management practices to make assets and livelihoods more disaster and climate resilient in the Dili-Ainaro corridor

National Priorities

78. Timor-Leste's NAPA proposes nine programs to cover the key adaptation actions, including enhancing the capacity of the health sector to anticipate and respond to changes and reduce the vulnerability of the population at risk from the expansion of climate-related health outcomes. The Initial National Communication was developed by a number of ministries, including the Ministry of Health.[33] Beyond these two documents there is very little analysis of the likely impacts of climate change on health in Timor-Leste or identification of adaptation options. Other related policies include the National Malaria Control Programme aimed at eradication and the Strategic Development Plan (2011-2030). The National Health Sector Strategic Plan (2011-2030) does not directly address climate change, but does consider sanitation, food safety, vector-borne disease, and waste management. Similarly, the National Nutrition Strategy (2014-2019) does not address climate change, nor disaster preparedness and response, but does focus on reducing malnutrition through improved food security and hygiene, including access to water and sanitation. The National Action Plan for a Hunger and Malnutrition Free Timor-Leste (2014) does specifically address climate change though promotion of sustainable and climate resilient agriculture and disaster risk reduction. Other priorities for climate change are included in the Environmental Health Strategy (2015) which considers inter-sectoral responsibilities, and the National Disaster Risk Management Policy (2008) which seeks to integrate disaster management into all sectors. In 2015 Timor-Leste adopted the Paris Agreement.

79. Timor-Leste's Strategic Development Plan (2011-2030) aims to transform Timor-Leste from a low to an upper middle income country by 2030, with a focus on health, education and community safety. Income from oil is to be re-invested in Timor-Leste's development.

[33] Secretariat for Environment (2014) Timor-Leste's Initial National Communication.

II. STRATEGY

80. The project will address specific barriers and root causes (both direct and indirect) that prevent the improvement of the adaptive capacity of the health sector to climate variation and change in Bangladesh, Cambodia, Lao PDR, Myanmar, Nepal, and Timor-Leste which are described in the Development Challenge section above. The project is designed as a multi-country approach for responding to climate change induced health risks in Asian LDCs, through the pursuit of four outcomes. Within each of these outcomes, the participating countries have defined a tailored set of activities to address country-specific climate health risks.

81. While country contexts differ, participating countries share similar challenges for addressing climate change health risks. These have been defined in detailed in the annexes national documents, however common key challenges and barriers can be summarized as 1) Insufficient capacity for climate change adaptation within the relevant government agencies 2) Limited surveillance data inhibiting prevention and response to epidemics 3) Limited ability to prevent and treat climate-sensitive diseases and remain operational during extreme weather events 4) Insufficient regional knowledge sharing and scale up of successful pilot projects. Each country has expressed the need for technical assistance on utilizing the newest methodological approaches, including, but not limited to diagnostic tools, as well as data collection, reporting, and training, to improve country capacity to cope with climate variability and change.

Outcome 1: Institutional capacities are strengthened to effectively integrate climate risks and adaptation options in health sector planning and implementation

82. As participating countries have completed their NAPAs and are getting ready to start their NAP processes, it is critical to achieve the goals of healthy communities and ensure that the health sector is properly represented in this process. In this context, ministries of health in participating countries will be supported to incorporate climate risks and opportunities into national health plans, policies and programs.

Outcome 2: Effective decision-making for health interventions is enabled through generation of information and improved surveillance and/or early warning systems

83. Vulnerability assessments will be conducted to project health burdens under different scenarios of development and climate change. This will reflect legal, policy and socio-economic barriers for special vulnerable and marginalized populations such as persons with disabilities, the elderly, socially-discriminated, and ethnic minorities.

84. This outcome addresses the urgent need to link climate, weather, and health information systems to improve surveillance and, where feasible, establish early warning systems. LDCF resources will be used to cover the additional costs of establishing these linkages.

Outcome 3: Climate resilience is enhanced in health service delivery

85. Currently, climate-sensitive disease's plans and programmes and emergency preparedness and response plans for public health and disaster management do not include consideration of climate change. Demonstrating effective health adaptation requires substantial improvements to existing health delivery systems. Under this outcome, specific health outcome control programs will be strengthened and emergency preparedness and management will be improved. Further, interventions will also involve (where appropriate) "climate-proofing" of existing health care facilities, particularly those that are located in remote or vulnerable communities. Efforts will also be done to enhance coordination at the institutional level to ensure that the health sector maximizes synergies and promotes health co-benefits across health-determining sectors such as disaster risk management, energy, agriculture, housing, and water.

Outcome 4.1: Enhanced regional cooperation and knowledge exchange for promoting scale-up and replication of interventions (to be directly implemented by WHO)

86. This Outcome aims to address technical gaps for implementation of health adaptation to climate change at country level as well as knowledge management at the regional-level. The regional approach proposed allows for learning and exchange of lessons between countries which will explicitly be promoted as one of the project's outcomes. Economies of scale will be considered as well as the avoidance of duplication in terms of the technical support provided, ensuring the most cost-effective solutions.

Outcome 4.2: HNAP are effectively integrated into ongoing NAP processes (Implemented by UNDP)

87. Through this Outcome, UNDP will provide technical assistance to governments of the participating LDCs to effectively embed the H-NAP process (under Outcome 1.1) with the ongoing NAP processes in the countries to ensure climate change is integrated into planning across economic sectors. Currently, UNDP is supporting LDCs in advancing their NAP processes through the ongoing NAP-GSP (National Adaptation Plan – Global Support Programmes) for LDCs (jointly implemented with UNEP). UNDP is also supporting countries to access finance from vertical funds and other donors to implement NAP elements, as per the LEG guidelines. The proposed project will use UNDP's technical expertise to build on capacity-building and awareness efforts on NAP as a "whole of government" process. This outcome will also ensure the continuity of South-South and triangular cooperation on advancing the NAP process in LDCs.

II.1 Theory of Change

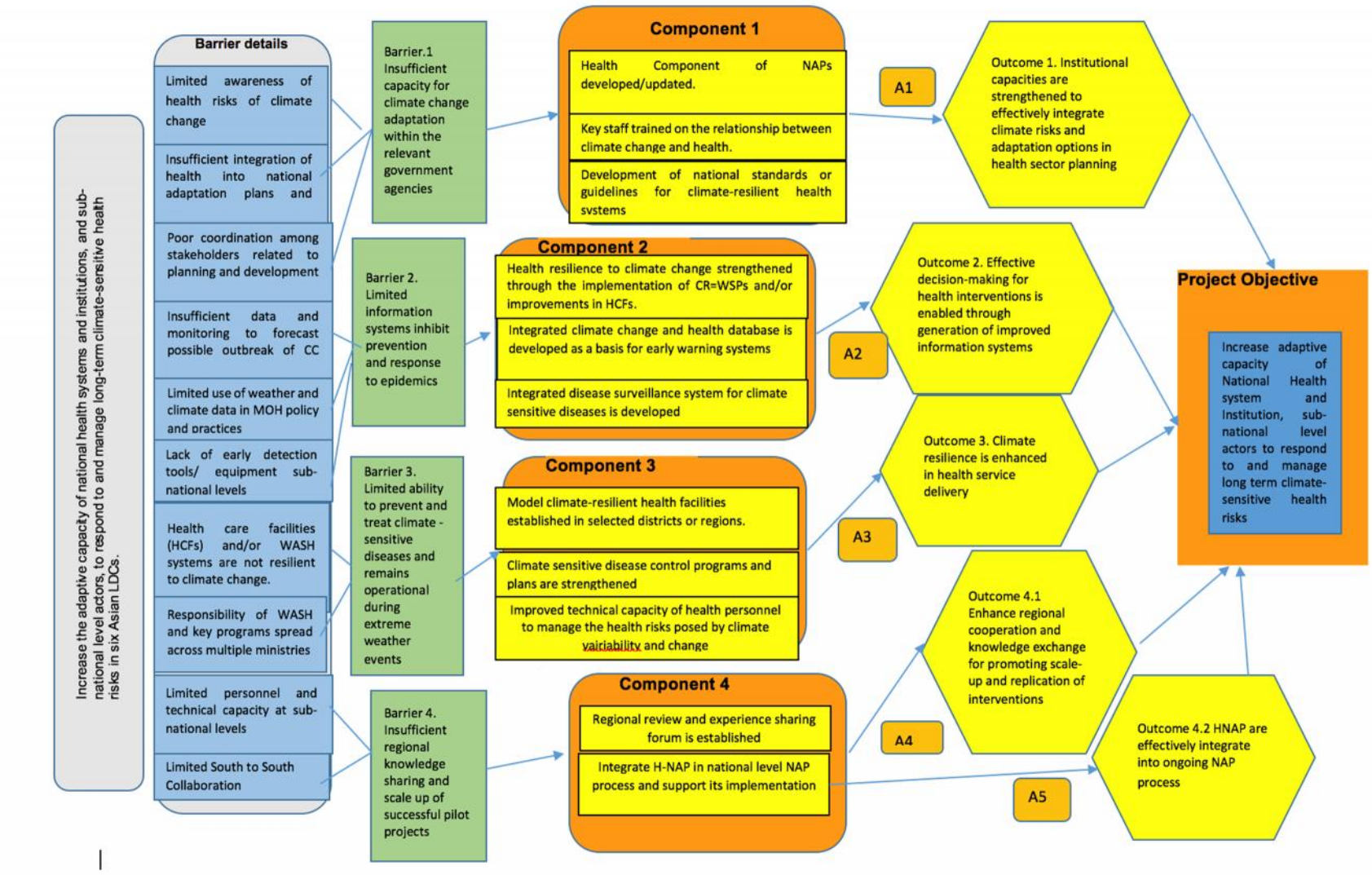
88. In the Theory of Change diagram (below), the pathways to intervention are described. The LDCF project will aim to remove the identified barriers in order to meet the project objective, namely to increase the adaptive capacity of national health systems and institutions, and sub-national level actors, to respond to and manage long-term climate-sensitive health risks in each country.

89. These barriers will be removed through the implementation of activities, whose results will contribute to the success of a series of project outputs, which will aim to achieve the four main project outcomes.

90. Innovative aspects of the project include that it builds on experience in the health sector on managing the risks of climate-sensitive health outcomes without considering climate change, thus extending their value. Further, the project will integrate adaptation activities in disaster risk management, as related to reduce disaster impacts on health. Embedding the project in Ministries of Health will ensure sustainability, as the MoH are responsible for maintaining the effectiveness of health systems. Once climate change is identified as a priority in strategic plans, and appropriate standards are modified, then managing the health risks of climate change will become part of the core activities of the MoH, therefore making this a sustainable initiative.

91. The regional approach will in itself ensure that catalytic partnerships across countries are developed and the regional-level systematization of lessons and best practices are compiled and analysed to develop technical guidelines, manuals and tool-kits, thereby ensuring that these can be replicated and scaled-up across the region. Similarly, the project will serve to establish a network of skilled professionals and practitioners on adaptation and health, in the countries and partner agencies, forming a community of practice which can continue to engage, and provide support to other countries implementing similar projects to build health resilience and mainstream these into planning, through future programmes. The fact that climate risks are included into on-going climate-sensitive health programmes (e.g. malaria, water and sanitation, disaster risk reduction, and nutrition) rather than creating parallel interventions, will ensure that these programmes will become climate-resilient and that climate risks will continue being considered once the project is over. At the regional level, with the support of relevant technical experts, best practices on building climate resilience across different health programmes will be systematized and norms defined, so as to continue to support countries (and expand to others) on building health resilience.

Figure 1: Theory of Change – Building Resilience of Health Systems in Asian LDCs to Climate Change



II.2 Assumptions

92. Assumption 1: training of key staff and development of guidelines will enable integration of climate risks into health sector planning and lead to increased adaptive capacity of health systems.

- Qualified professionals are available to develop training and advocacy materials and to train health personnel on climate change and health risks.
- Training can be developed at an appropriate level of technical detail; trainees can attend the training.
- Trained planners and programme managers are able to integrate climate risks and adaptation policies in health planning and implementation;
- Ministry of Health programme management teams take active roles in defining how to minimize climate change-based health impacts.
- Decision-makers will prioritize climate change issues and take an active role in the integration of newly defined criteria into existing policy and programmes.
- National coordination mechanisms can be established between meteorological, environmental, WASH and health sectors; relevant agencies will cooperate at national and subnational levels to reduce the health impacts of climate change.

93. Assumption 2: Improvements in information systems will enable improvements in health system management of climate sensitive diseases.

- Participants have technical capacity to undertake vulnerability and adaptation assessments.
- Development of integrated surveillance can support early-warning systems for climate-sensitive diseases.
- New strategies for prevention, control and management of climate-sensitive disease are effective: (for example, timely detection of primary cases can help limit epidemics among poor and vulnerable populations).

94. Assumption 3: communities and health-care facility operators are willing to participate in climate-proofing activities, and risk mitigation is possible.

- Improved technical capacity will enable health personnel to manage climate extremes more effectively.
- Pilot projects can be scaled up within project countries

95. Assumption 4: Major lessons learned during the project (for example, good adaptation practices or climate-resilient health facilities) are not unique to individual country settings, given similar development challenges;

96. Assumption 5: NAP processes are receptive to input from health experts; health experts understand NAP processes and are able to contribute effectively.

III. RESULTS AND PARTNERSHIPS

III.1 Projects Objective, Outcomes and Outputs

97. The alternative scenario supported by the proposed project will achieve the objective **to increase the adaptive capacity of national health systems and institutions, and sub-national level actors, to respond to and manage long-term climate-sensitive health risks in six Asian LDCs (Bangladesh, Cambodia, Lao PDR, Myanmar, Nepal and Timor-Leste).** This objective will be achieved through interventions and policy-level actions, under five outcomes, as described below. The gender marker to be applied for each project component is GEN2. This project will be overseen by UNDP. Project components will be implemented WHO and UNDP, in cooperation with Ministries of Health.

- Outcome 1: Institutional capacities are strengthened to effectively integrate climate risks and adaptation options in health sector planning and implementation
- Outcome 2: Effective decision-making for health interventions is enabled through generation of information and improved surveillance and/or early warning systems
- Outcome 3: Climate resilience is enhanced in health service delivery
- Outcome 4.1: Enhanced regional cooperation and knowledge exchange for promoting scale-up and replication of interventions
- Outcome 4.2: HNAP are effectively integrated into ongoing NAP processes

These outcomes are described in more detail below.

Outcome 1: Institutional capacities are strengthened to effectively integrate climate risks and adaptation options in health sector planning and implementation

98. As participating countries have completed their NAPAs and are starting or engaged in their NAP processes, it is critical to achieve the goals of healthy communities and ensure that the health sector is properly represented in this process. In this context, ministries of health in participating countries will be supported to incorporate climate risks and opportunities into national health plans, policies and programs.

99. A detailed national health adaptation plan, or H-NAP will be designed or updated in each country to achieve national health adaptation goals within a specific period of time and given a specific budget. The H-NAP will be developed using guidelines from WHO that are consistent with the LEG guidelines and will be integrated into the countries' overall NAP processes. In addition, national standards and guidelines for priority climate-resilient health protection programs and care facilities will be developed, based on country needs.

100. Strengthening the capacity of development of health planners, particularly on climate change vulnerabilities is required to ensure an enabling environment exists for implementation of the H-NAP. Under this outcome, the capacity of staff involved in the implementation of the H-NAP (at the national and sub-national levels) will be strengthened in climate change and health issues, as well as in project management. Health institutions that will be included in the capacity building are the centralized agencies, (whose mandate will normally include national level monitoring of health risks, the processing of data, and the issuance of health advisories); and local health practitioners who will need to respond to and make appropriate use of information generated by centralized agencies. Information, education, and communication materials will be developed to increase awareness of the health risks of climate change across a range of stakeholders within and outside the health sector. Awareness campaigns will be conducted among particularly vulnerable communities.

101. Through consultations and workshops during project development, countries specified activities to be implemented under the following Outputs:

Output 1: Integrated health national adaptation plan (H-NAP) is designed/updated to achieve the national health adaptation goals

Output 2: Standard operating procedures developed for managing climate-sensitive health outcomes

Output 3: Capacity building to support the implementation of standard operating procedures

Outcome 1: Institutional Capacities are strengthened to effectively integrate climate risks and adaptation options in health sector planning and implementation		
Country	**Outputs**	**Activities**
Bangladesh	1.1 Integrated health national adaptation plan (H-NAP) is designed/updated to achieve the national health adaptation goals	1.1.1. Review national health strategy, informed by vulnerability study and mapping of Output 2
	1.2 Standard operating procedures developed for managing climate-sensitive health outcomes	1.2.1 Develop a Memorandum of understanding/SOPs to share information to support an effective early-warning response among the Ministry of Environment and Forest, the Ministry of Health and Family Welfare, the Ministry of Disaster and Relief, DPHE and the Meteorological Department. 1.2.2 Conduct periodic meeting with the ministries and agencies, as mentioned above, to oversee the coordination and sharing of information among the ministries. 1.2.3. Strengthen monitoring framework to support SOPs. The monitoring framework will be developed to track the extent of implementation of policy in relation to climate change and health. 1.2.4. Necessary orientations/trainings will be provided to the health management information system staff of the Directorate General of Health Services.
	1.3 Capacity building to support the implementation of standard operating procedures	1.3.1. Build capacity of health professionals and multi-sectoral stakeholders through training needs assessments, development and conduct of training modules and courses. 1.3.2 Prepare short courses course curricula to be incorporated into medical education on climate change and health. 1.3.3 Provide technical assistance to the Climate Change and Health Promotion Unit for policy advocacy.

Cambodia	1.1 Integrated health national adaptation plan (H-NAP) is designed/updated to achieve the national health adaptation goals	1.2.1 Expand and strengthen the Climate Change Technical Working Group, review of existing health strategy and plans
	1.2 Standard operating procedures developed for managing climate-sensitive health outcomes	1.2.1 Building on 1.1.1, update the group's terms of reference, establishing internal and external communications plans, improving members' knowledge of relationships between climate change and health, updating and developing budgets and implementation plans for the National Strategy for Climate Change Adaptation and Disaster Risk Reduction, and ensuring all ministries that impact health adaptation activities are members.
	1.3 Capacity building to support the implementation of standard operating procedures	1.3.1 Conduct a baseline assessment of the knowledge of Ministry of Health and other key ministry staff at national and provincial levels regarding relationships between climate change and health, and climate-sensitive diseases. Enhance existing WHO training materials based on these findings, to address knowledge and capacity gaps in Ministry of Health and other key ministries. 1.3.2 Support the development of university curricula to incorporate climate change into public health and medical programmes. This may include materials for a "micro-module" in climate change and health that can be incorporated across different disciplines. This unit could also be used for training of various ministry staff in climate change and health as part of Activity 1.3.1.
Lao PDR	1.1 Integrated health national adaptation plan (H-NAP) is designed/updated to achieve the national health adaptation goals	1.1.1: Develop a health-specific national adaptation plan, (H-NAP) including terms of reference (informed by vulnerability assessment of Output 2.1) 1.1.2: Organize a consultation meeting with stakeholders on development of the health-specific national adaptation plan 1.1.3: Organize an advocacy meeting for decision- and policy-makers on development of the health-specific national adaptation plan
	1.2 Standard operating procedures developed for managing climate-sensitive health outcomes	1.2.1: Facilitate coordination between health and other sectors, namely environment, water, transport, agriculture, and meteorology.

		1.2.2: Review and update the memorandum of understanding between various ministries relating to development and sharing of data relating to climate change and health. 1.2.3 Climate-sensitive management and response plans are developed in selected provinces (Savannakhet and Seokong)
	1.3 Capacity building to support the implementation of standard operating procedures	1.3.1: Develop training and advocacy materials on CC&H risks for healthcare facility workers at ministerial level and managers attend advocacy meetings and training sessions. 1.3.2: Conduct a community awareness assessment on climate change and health risks, to develop behaviour change communication materials, 1.3.3: Conduct climate change and health risk campaigns in two pilot communities in the selected provinces.
Myanmar	1.1 Integrated health national adaptation plan (H-NAP) is designed/updated to achieve the national health adaptation goals	1.1.1 Establish technical working group for health-specific components of national adaptation plan development 1.1.2 Review of existing relevant documents and consultation meetings to identify entry points 1.1.3 Develop health-specific components of national adaptation plan in consultation with key stakeholders
	1.2 Standard operating procedures developed for managing climate-sensitive health outcomes	1.2.1 Assess existing standard operating procedures and guidelines for control of climate-sensitive diseases, and identify gaps and capacity needs. 1.2.2 Develop standard operating procedures for managing climate-sensitive diseases
	1.3 Capacity building to support the implementation of standard operating procedures	1.3.1 Design and implement state and regional awareness raising, and training-of-trainers courses to support standard operating procedures
Nepal	1.1 Integrated health national adaptation plan (H-NAP) is designed/updated to achieve the national health adaptation goals	1.1.1: Operational research on climate-resilient health systems development for improved natural disaster preparedness health care facilities in five municipalities 1.1.2. Review and update as necessary HNAP informed by 1.1.1

	1.2 Standard operating procedures developed for managing climate-sensitive health outcomes	1.2.1: Expand and strengthen the Climate Change Technical Working Group by updating the group's terms of reference; establishing internal and external communication plans; improving working group members', policy-makers' and programme managers' knowledge of relationships between climate change and health; and ensuring health is covered in all policies so that the health co-benefits of climate change mitigation and adaption can be augmented.
	1.3 Capacity building to support the implementation of standard operating procedures	1.3.1 Conduct baseline assessment of national and subnational level (regions and districts) Ministry of Health and other key ministries' staff knowledge of relationships between climate change and health and climate-sensitive diseases and risks. 1.3.2. Based on the findings of assessment, factsheets and advocacy materials on climate change and health risks for policy-makers and programme managers will be developed, and advocacy meetings and training sessions will be organized. Post-training assessment will also be carried out. 1.3.3: Support the development and operation of a web portal for climate change and health. 1.3.4: Support the development or update of university, academy and training institution curricula to incorporate climate change and health risk management into health and medical sciences academic and training programmes for continued access to training
Timor-Leste	1.1 Integrated health national adaptation plan (H-NAP) is designed/updated to achieve the national health adaptation goals	1.1.1 Develop Timor-Leste's H-NAP. 1.1.2 Perform costing for the National Strategy for Environmental Health. 1.1.3 Incorporate climate-related risk factors into the diagnosis and treatment guidance for the four highest priority climate-sensitive diseases identified by the national vulnerability and adaptation assessment. This may include respiratory, airborne, waterborne, noncommunicable, or vector-borne diseases.
	1.2 Standard operating procedures developed for managing climate-sensitive health outcomes	1.2.1: Develop a coordination mechanism for information and data sharing between the health sector and other relevant sectors, including environmental, water, agriculture, meteorological, disaster risk reduction, and WASH. Some data is currently shared with the MCIE Adaptation Thematic Working Group but

		there is no formal mechanism to share new data as they are collected. 1.2.2: Review and update MOU between various ministries relating to development and sharing of CC&H required data and joint planning to address health sector climate risks. 1.2.3 Build statistical capacity within the MOH to determine the exposure-response relationship between climate and health. Strengthen capacity of MCIE Adaptation Thematic Working Group for data sharing, management, and analysis. This will include training to determine the exposure-response relationship between meteorological factors and climate-sensitive diseases as well as the provision of analysis software and computing equipment as necessary.
	1.3 Capacity building to support the implementation of standard operating procedures	1.3.1: Integrate climate change and health into the MOH Environmental Health Working Group. 1.3.2: Develop and deliver training and advocacy materials on climate change and health.

Outcome 2: Effective decision-making for health interventions is enabled through generation of information and improved surveillance and/or early warning systems

102. Vulnerability assessments will be conducted to project health burdens under different scenarios of development and climate change. This will reflect legal, policy and socio-economic barriers for special vulnerable and marginalized populations such as persons with disabilities, the elderly, socially-discriminated, and ethnic minorities.

103. This outcome addresses the urgent need to link climate, weather, and health information systems to improve surveillance and, where feasible, establish early warning systems. LDCF resources will be used to cover the additional costs of establishing these linkages.

104. Surveillance serves different purposes: i) it can help identify impending health emergencies; ii) it is used to document the impacts of an intervention; and iii) monitor and clarify the epidemiology of health problems, to allow priorities to be set and to inform public health policy and strategies. Improved integrated surveillance and monitoring systems will be critical for detecting trends in any health outcome early enough for effective interventions. This approach will in turn improve management of changes in the geographic range, seasonality, and incidence of climate-sensitive health outcomes.

105. During initial consultations, countries specified the following priorities to be implemented under Outcome 2: Effective decision making for health interventions is enabled through generation of information and improved surveillance and/or early warning systems.

Output 2.1. Vulnerability assessment conducted for future health burdens considering development and climate change

Output 2.2. Integrated surveillance system strengthened of climate-sensitive health outcomes-

Output 2.3. Early warning system and response strengthened

Outcome 2: Effective decision-making for health interventions is enabled through generation of information and improved surveillance and/or early warning systems		
Country	**Outputs**	**Activities**
Bangladesh	2.1. Vulnerability assessment conducted for future health burdens considering development and climate change	2.1.1 Conduct a national health vulnerability assessment to inform health policy and plans on climate change risk periodically. 2.1.2. Conduct geographical information system-based risk mapping for climate-sensitive diseases.
	2.2. Integrated surveillance system strengthened of climate-sensitive health outcomes	2.2.2 Develop guidelines and tools for climate-sensitive surveillance system. 2.2.3 Train health facility personnel in using health emergency plans related to integrated disease surveillance and early-warning systems for dealing with climate change-sensitive diseases.
	2.3. Early warning system and response strengthened	2.3.1 Develop early-warning alert and response systems and upgrade disease surveillance system to include data on climatic variables such as water quality, weather and entomological surveillance to develop models for prediction, prevention and preparedness of epidemic control of selected climate-sensitive diseases in project areas. 2.3.2. Health emergency plans related to integrated surveillance systems and early warning system strengthened for use by the Healthcare facilities for effective health interventions through prevention, control and management of climate-sensitive health risks and diseases such as Zika, malaria, dengue and diarrhoea.
Cambodia	2.2. Integrated surveillance system strengthened of climate-sensitive health outcomes	2.2.1 Strengthen diarrheal disease surveillance by revising case definitions and eliminating potential duplicate indicators in the health management information system (based on the 10th revision of the International Statistical Classification of Diseases and Related Health Problems), zero reporting system, and maternal and child health surveillance system. 2.2.2 Adapt existing trainings and train health-care providers on the new case definitions and reporting. 2.2.3. Improve dengue sentinel surveillance diagnosis and reporting mechanisms, including revising case definitions to include adult cases, to reduce lead time in identifying epidemics and

		improve capacity for prevention and response. Improving diagnosis may include clinical review of the efficacy and cost-effectiveness of dipsticks for diagnosis for dengue and the electronic dissemination of treatment guidelines in Khmer and English. 2.2.4 Increase the scope of the dengue sentinel surveillance system to include four additional provincial or referral hospitals.
	2.3. Early warning system and response strengthened	2.3.1 Develop dengue early-warning systems based on existing meteorological and surveillance data for dengue in high-incidence provinces to facilitate timely preventive measures and enable better preparedness by health-care facilities. 2.3.2. Identify and communicate data gaps to relevant Ministries for planning and budgeting
Lao PDR	2.1. Vulnerability assessment conducted for future health burdens considering development and climate change	2.1.1 Update the 2010 WHO and Lao Ministry of Health climate change and health vulnerability assessment. 2.1.2 Use the updated vulnerability assessment to inform development of health-specific national adaptation plan (Output 1.1)
	2.2. Integrated surveillance system strengthened of climate-sensitive health outcomes	2.2.1 Conduct workshop for integrating climate variables into the existing dengue surveillance system 2.2.2 Provide training for surveillance staff and supply new guideline for mosquito surveillance 2.2.3 Implement mosquito surveillance in selected communities in a district of Savannakhet province, document progress for upscaling
	2.3. Early warning system and response strengthened	2.3.1 Conduct a feasibility/needs assessment for developing a climate change and health database, including the capacity for an early-warning system 2.3.2 Utilize results and findings of the feasibility and needs assessment to inform health-specific adaptation plan (Output 1.1) and to establish early warning systems. 2.3.3. Identify gaps and inform relevant Ministries to guide policies, awareness raising materials to support SOPs (Output 1) to detail implementation processes and resource mobilization activities.

Myanmar	2.1. Vulnerability assessment conducted for future health burdens considering development and climate change	2.1.1 Assess vulnerability of climate change-sensitive diseases and prioritize areas to inform surveillance and early warning system
	2.2. Integrated surveillance system strengthened of climate-sensitive health outcomes	2.1.2 Review existing disease surveillance system and integrate surveillance of climate-sensitive diseases and new emerging diseases into system 2.1.3 Develop guidelines and materials for integrated disease surveillance system 2.1.4 Train health staff on integrated disease surveillance system at subnational level
	2.3. Early warning system and response strengthened	2.2.1 Assess existing early-warning alert and response system ensuring timely intervention and upgrade reporting and coordination mechanism as necessary 2.2.2 Develop guidelines for early-warning alert and response system and emergency health actions 2.2.3 Train health staff on emergency health actions after disasters and early-warning alert and response system
Nepal	2.1. Vulnerability assessment conducted for future health burdens considering development and climate change	2.1.1. Vulnerability assessments as necessary for climate-sensitive diseases and risks (scrub typhus, chikungunya fever and Zika). 2.1.2. Policy and strategy suggestions for prevention, control and management
	2.2. Integrated surveillance system strengthened of climate-sensitive health outcomes	2.2.1 Update disease surveillance systems integrating climatic variables, water quality and entomological surveillance data into the early-warning alert and response system for developing models for prediction, prevention and preparedness of epidemic control of selected climate-sensitive diseases in selected districts.
Timor-Leste	2.1. Vulnerability assessment conducted for future health burdens considering development and climate change	2.1.1 Perform a national V&A assessment of the health risks of climate change. The assessment will build on the existing vulnerability assessments performed in the agriculture, infrastructure, and natural disaster sectors, and will include maps of vulnerability to climate-sensitive health risks. 2.1.2 Perform district-level V&A assessments in the five most vulnerable districts identified by the national V&A.

	2.2. Integrated surveillance system strengthened of climate-sensitive health outcomes	2.2.1 Strengthen regional and national laboratory capacity to perform water quality testing. 2.2.3 Strengthen regional and national laboratory and healthcare facility capacity to diagnose waterborne, vector-borne, and non-communicable climate sensitive diseases.
	2.3. Early warning system and response strengthened	2.3.1: Identify top four priority diseases in the national V&A assessment and study the feasibility of an EWS for each disease. 2.3.2: Disseminate findings to stakeholders, including the Ministry of Health and coordinate future interventions.

Outcome 3: Climate resilience is enhanced in health service delivery

106. Currently, plans and programmes related to climate-sensitive diseases and emergency preparedness and response plans for public health and disaster management do not include consideration of climate change. Demonstrating effective responses requires substantial improvements to existing health delivery systems. Under this outcome, specific health outcome control programs will be strengthened and emergency preparedness and management will be improved. Further, interventions will also involve (where appropriate) "climate-proofing" of existing health infrastructures, particularly those that are located in remote or vulnerable communities. We will enhance coordination at the institutional level to ensure that the health sector maximizes synergies and promotes health co-benefits across health-determining sectors such as disaster risk management, energy, agriculture, housing, and water.

107. During initial consultations, countries specified the following priorities to be implemented under Outcome 3: Climate resilience is enhanced in health service delivery.

Output 3.1 Health care infrastructure strengthened to the impacts of climate change
Output 3.2 Capacity of health personnel improved to identify and treat to climate-sensitive health issues
Output 3.3 Climate-sensitive disease control/water programmes strengthened

Outcome 3: Climate resilience is enhanced in health service delivery		
Country	**Outputs**	**Activities**
Bangladesh	3.1 Health care infrastructure strengthened to the impacts of climate change	3.1.1 Prepare plans for developing climate-resilient health-care centres (Green Hospitals) in project areas addressing water, sanitation and hygiene, Comprehensive Disaster Management Programme (CDMP) and solar energy requirements related to climate change. 3.1.2 Pilot implementation in three green health centres, incorporating new policies and procedures related to safe water, sanitation, hygiene, cleanliness, medical waste management and solar power. 3.1.3 Revise and update emergency risk management and response protocol.
	3.2 Capacity of health personnel improved to identify and treat to climate-sensitive health issues	3.2.1: Revise, update or develop an emergency risk management and treatment protocol to incorporate climate change and health. 3.2.2: Develop professional capacity among health-care services providers to address the adverse impacts of climate variability. Short courses will be developed on risk management and training of trainers carried out. A number of short courses will be piloted at the national level and in the project areas.

Cambodia	3.1 Health care infrastructure strengthened to the impacts of climate change	3.1.1 Pilot climate-proofing community water, sanitation and hygiene infrastructure in Ratanakiri, using rural water safety plans to prepare for flood, drought, increased pathogen load, and increased mosquito breeding in water collection and storage containers. Improve infrastructure as identified in safety plans to protect against climate-sensitive waterborne diseases and extreme weather events. 3.1.2. Promote vector control for water collection and storage as necessary, using guppy fish and education to protect against climate-sensitive vector-borne diseases. Document and share pilot results to inform future scale-up. This activity will build on the recently completed WHO regional water safety planning project. Following the completion of the project, the Cambodian government has adopted a Water and Sanitation for Health Sector Strategic Plan and National Action Plan including guidelines and training manuals. 3.1.3 Assess and report on climate resilience of health-care facility infrastructure in Ratanakiri. Build on the rural water safety planning process to pilot improving water, sanitation and hygiene infrastructure in health-care facilities to ensure continued functionality during and after floods and droughts and resilience to climate-sensitive diseases. Document and share pilot results to inform future scale-up.
	3.2 Capacity of health personnel improved to identify and treat to climate-sensitive health issues	3.2.1 Improve community and health-care provider knowledge of the prevention, recognition and management of climate-sensitive health risks associated with food-, water- and vector-borne diseases.
	3.3 Climate-sensitive disease control/water programmes strengthened	3.3.1. Conduct a behavior change communication campaign in Ratanakiri that can serve as a model for scale-up in other provinces. Nationally, the project will develop a section of the Ministry of Health website to post the existing diagnosis and treatment guidelines for climate-sensitive diseases in Cambodia in Khmer and English.

Lao PDR	3.1 Health care infrastructure strengthened to the impacts of climate change	3.1.1 Develop a climate-resilience water safety plan for two selected provinces (Savannakhet and Seokong); by adapting WHO guidance on climate-resilience water safety plan and providing training for provincial water supply team. 3.1.2 Review and finalize the drafted disaster risk management plan by conducting stakeholder and technical consultation/working group meetings. 3.1.3 Support implementation of climate-proofing of hospitals within selected provinces using WASH FIT and the Green Hospital Initiative by providing training, and developing monitoring methods through technical assistance.
	3.2 Capacity of health personnel improved to identify and treat to climate-sensitive health issues	3.2.1 Adapt WHO training manual on climate change and health and conduct training of trainers with representatives from 17 provinces and the capital Vientiane.
Myanmar	3.2 Capacity of health personnel improved to identify and treat to climate-sensitive health issues	3.2.1 Train basic health staff on initial management of heat-related disorders 3.2.2 Train hospital staff on clinical management of health-related disorders

	3.3 Climate-sensitive disease control/water programmes strengthened	3.3.1 Prevention training for heat-related disorders in agricultural and industrial workers 3.1.1 Improve vector-borne disease control programmes, ensuring effective response for disasters and health impacts of climate change 3.1.2 Climate-resilient water safety plans in vulnerable townships 3.1.3 Assess nutritional status and identify most vulnerable states and regions to climate related impacts to nutrition 3.1.4 Develop and implement nutritional programmes in most vulnerable states and regions 3.1.5 Carry out integrated assessments of ambient air quality, climate change and related diseases patterns 3.1.6 Carry out water scarcity and health impact study in dry zone area 3.1.7 Implement climate-resilient water safety plans in vulnerable townships 3.1.8 Conduct advocacy meeting of decision-makers for climate-resilient infrastructure in vulnerable areas and communities 3.1.9 Develop information, education and communication materials for stakeholders and community within and outside health sector 3.1.10 Raise awareness among community, including schools on health impacts due to climate change
Nepal	3.1 Health care infrastructure strengthened to the impacts of climate change	3.1.1: Assess climate resilience of health facilities in different ecological regions. 3.1.2: Climate-proofing of health facilities piloted based on national guideline, in selected Terai, (lowland), hill and mountain regions
	3.2 Capacity of health personnel improved to identify and treat to climate-sensitive health issues	3.2.1: Orientation to health management personnel on climate resilient water safety plans. 3.2.2 Conduct training on climate change and health, including prevention, control, management and surveillance of climate-

		sensitive diseases and risks to health personnel in pilot districts.
	3.3. Climate-sensitive disease control/water programmes strengthened	3.3.1: Implement climate-resilient water safety plans in selected districts of the Terai (lowland), hill and mountain regions.
Timor-Leste	3.1 Health care infrastructure strengthened to the impacts of climate change	3.1.1: Assess the resilience of health facilities to extreme climate events such as floods, landsides, and droughts. 3.1.2: Create disaster management and response plans for health facilities. 3.1.3: Develop climate resilient health care facility standards for adequate water, sanitation, and waste management. 3.1.4: Pilot climate-proofing improvements in the assessed facilities.
	3.2 Capacity of health personnel improved to identify and treat to climate-sensitive health issues	3.3.2: Train healthcare workers in five pilot municipalities identified as vulnerable in the national V&A assessment (Output 2.1)
	3.3 Climate-sensitive disease control/water programmes strengthened	3.2.1: Incorporate climate-resilience into existing water safety plan materials. 3.2.2: Build on the previous WSP project in Aileu, Dili, Liquica, Oecusse, and Manatuto to strengthen the capacity of local authority and water user committees to protecting water quality and availability from climate change impact. 3.3.3: Pilot climate-proofing improvements in water supply in the pilot municipalities.3.3.1: Incorporate climate change adaptation into existing program materials (e.g. Saude na Familia and SISCa programs) 3.3.3: Pilot disease prevention measures at the community level to promote prevention and treatment of climate sensitive diseases.

108. Under Outcomes 4.1 and 4.2, regional knowledge exchange and technical support through guidelines and tools to integrate health into the NAP process. This includes: i) definition of normative aspects related to climate-resilient health systems by developing regional-level guidelines, manuals, and other relevant technical documents, as required by countries; ii) regional capacity-building events for different topics (on policy, science and implementation of interventions) and conferences; and iii) systematization of regional experiences and promotion of North-South and South-South cooperation and knowledge exchange (which may include virtual communities of practice and platforms). This last point is particularly important as countries have noted that they are keen on learning from each other and benefitting from real case studies to overcome similar socio-economic and political challenges in regards to on-the-ground implementation. Regional exchanges for project managers can also be considered. Further, it is expected that North and South cooperation events can also serve to create catalytic partnerships and shine a light on best practices from each country in order to mobilize additional sources of financing (domestic and international) for replication and sustainability.

Outcome 4.1: Enhanced regional cooperation and knowledge exchange for promoting scale-up and replication of interventions (implemented by WHO)

109. This Outcome aims to address technical gaps for implementation of health adaptation to climate change at country level as well as knowledge management at the regional-level. The regional approach proposed allows for learning and exchange of lessons between countries which will explicitly be promoted as one of the project's outcomes. This is the case for the development of a training package on climate change and health. Similarly, both WHO regions involved have passed climate change and health resolutions and have programmes on the topic. Economies of scale will be considered as well as the avoidance of duplication in terms of the technical support provided, ensuring the most cost-effective solutions. Scientific and technical support will be provided to ensure that climate information is utilized appropriately. Regional guidelines, tools, manuals, and other relevant technical documents in the priority areas of intervention will be developed or strengthened to define normative aspects of climate resilient health.

110. WHO Activities:

- Definition of normative aspects related to climate-resilient health systems by developing regional-level guidelines, manuals, and other relevant technical documents (e.g. climate-resilient health care facilities (CR-HCFs) and climate resilient Water Safety Plans (CR-WSPs);
- Regional capacity-building events for different topics (on policy, science and implementation of interventions) and conferences;
- Systematization of regional experiences and promotion of North-South and South-South cooperation and knowledge exchange (which may include virtual communities of practice and platforms)

	Outputs	Activities
Regional	4.1: Enhanced regional cooperation and knowledge exchange for promoting scale-up and replication of interventions	4.1.1 Regional experiences synthesized and shared among countries in the region and across different regions. 4.1.2 Definition of normative aspects related to climate-resilient health systems by developing regional-level guidelines, manuals, and other relevant technical documents (e.g. climate-resilient health care facilities (CR-HCFs) and climate resilient Water Safety Plans (CR-WSPs)), as required by countries; 4.1.3 Regional capacity-building events for different topics (on policy, science and implementation of interventions) and conferences; 4.1.4 Systematization of regional experiences and promotion of North-South and South-South cooperation and knowledge exchange (which may include virtual communities of practice and platforms)

Outcome 4.2: HNAP are effectively integrated into ongoing NAP processes (Implemented by UNDP)

111. Through this Outcome, UNDP will provide technical assistance to governments of the participating countries to effectively embed the H-NAP process (under Outcome 1) with the ongoing NAP processes in the countries. Specifically, support will focus on data collection and analyses to support technical officers and decision-makers to better quantify needs and costs related to climate change and health planning. This will inform annual planning and budgeting processes to support adequate resource mobilization from public or other resources. Activities will build on the support provided by the UNDP/LDCF *Assisting LDCs with country-driven processes to advance National Adaptation Plans (NAPs)* project as well as the UNDP/USAID *Capacity Building Programme on the Economics of Climate Change Adaptation (ECCA)*. The NAPs support project provides technical assistance to countries in advancing their NAP processes through per the LEG guidelines tailored to the country context. The ECCA programme provides technical training on economic analyses to build capacity of decision-makers on climate-informed and economically-efficient planning. ECCA is now in its second phase; a course has been developed and is available through the Asian Institute of Technology (AIT). Existing materials, tailored as needed to incorporate health, will be used to provide needed support to countries through in-country training and remote support. Products from this Outcome will be shared with countries for knowledge exchange.

	Outputs	Activities
Regional	4.2: HNAP are effectively integrated into ongoing NAP processes (Implemented by UNDP)	4.2.1 Training and technical support for MOHs to conduct economic analyses to inform integration of health into adaptation planning and budgeting. 4.2.2 Training and tech support for designing/developing bankable projects to secure public or other finance

III.2 Country Strategic Programmes and Policies

III.2.1 Bangladesh

112. The Government of Bangladesh has responded to the climate change vulnerability issue and developed two key policy documents, including the National Adaptation Programme of Action (NAPA) and the Bangladesh Climate Change Strategy and Action plan (BCCSAP). These documents highlight the role and efforts of the Bangladeshi Government and the political will to address health issues due to climate change. NAPA recommends initiation of surveillance of climate-sensitive diseases and vectors. BCCSAP highlights health concerns in the first of its six "pillars". Unfortunately, only a few programmes for mitigation and adaptation to climate change have been incorporated to date. Even though a national adaptation plan process has started with developing a roadmap, integration of health objectives has yet to begin. Health is a cross-cutting issue in the context of climate change, and there is a need to mainstream health in mitigation and adaptation strategies in all sectors. Currently different line ministries are performing the work in isolation, with limited coordination with other ministries. This is largely due to a lack of recognition or development of a multi-sectoral policy.

113. The Climate Change and Health Promotion Unit was created under the Ministry of Health and Family Welfare in 2010. This unit focuses its activities on coordination and policy advocacy on the health impacts of climate change. This unit, with technical assistance from the Climate Change Trust Fund of the Ministry of Forest and Environment, aims to build capacity and strengthen health systems to combat the health impacts of climate change and to protect human health from current and projected risks due to climate change. Due to the broad nature of climate change programming, the Climate Change and Health Promotion Unit has yet to find a solid base and voice on climate change issues in the Ministry of Health and Family Welfare or receive funding from operational plans of the sector programme. The Bangladesh Climate Change Trust Fund provided USD 1.92 million in 2010–2013 and USD 0.254million in 2016–2018 for research projects in the Climate Change and Health Promotion Unit.

114. The project will build its activities on the existing baseline and other initiatives on-going in Bangladesh and supported by the Government and international donor community. The Sixth Five Year Plan (2011 – 2016) recognizes possible health impacts due to changes in environmental conditions including due to climate change, and will "build capacity in the area of environmental health through both public and private sectors". The current project is consistent with these priorities.

115. The project will, through advocacy and capacity building, ensure the Fifth Health, Population and Nutrition Sector Development Programme incorporates a dedicated operational plan and will allocate financial resources to run surveillance, early-warning systems and routine capacity-building of health-care personnel and the general public. By mandate of the Ministry of Health and Family Welfare, it will carry out activities related to enhance resilience of the health system.

III.2.2 Cambodia

116. In Cambodia, the project will implement adaptation interventions consistent with the National Adaptation Programme of Action (2006), the Climate Change Strategy for Public Health (2012) and the National Climate Change Action Plan for Public Health (2014–2018). These emphasize institutional capacity and emergency preparedness for three key areas: vector-borne diseases; waterborne and foodborne diseases; and the health impacts of extreme weather events. A National Strategy for Climate Change Adaptation and Disaster Risk Reduction is under development. The project will ensure that health aspects of adaptation to climate change and disaster risk reduction are integrated, consistent with the Sendai Framework for Disaster Risk Reduction.

117. The project will also help to address significant gaps in the existing surveillance systems and the resulting lack of data which inhibits epidemic prediction and response. Some research has been done to identify the link between weather and disease incidence, but meteorological and disease surveillance data

are not shared across departments and ministries. Data-sharing is necessary for development of integrated surveillance and early warning systems.

118. The project will ensure complementarity with other projects that are currently in the appraisal and scoping stage, including the national adaptation plan, line ministries' climate change adaptation plans and strategies, and donor-led projects.

119. The Asian Development Bank's Strengthening Resilience to Climate Change in the Health Sector in the Greater Mekong Sub-Region project provides technical assistance to conduct vulnerability and adaptation assessments at national and provincial levels in 2017 and 2018. The GEF project will incorporate these assessments into the capacity-building activities under Outcome 1 and into the health-specific component of the national adaptation plan process under Outcome 4. The Asian Development Bank's project is also building data management and analysis capacity. This will also be coordinated with activities under Outcome 2 with the Asian Development Bank's activities to minimize duplication and optimize results.

120. The Cambodia Climate Change Alliance Phase 2 (CCCA-2) project, Strengthening Country Capacity to Deal Effectively with Climate-sensitive Vector-borne and Waterborne Diseases and Reducing the Health Impacts of Disasters, runs through 2018 and has a similar scope to the GEF project. The CCCA-2 project has the following aims:

- to improve understanding of health professionals regarding climate change and health risks – particularly those posed by vector-borne diseases, water-related diseases, and hydro-meteorological disasters such as droughts and floods – and to increase capacity to prevent, diagnose and manage these high-priority climate-sensitive diseases;
- to strengthen national institutional capacity to conduct integrated, climate-based, community, vector and epidemiological surveillance of climate-sensitive diseases;
- to enhance capacity of the health sector to reduce disaster risk, build resilience and manage the health impacts of disasters;
- to increase community and stakeholder awareness of the health risks posed by climate change on extreme weather events and vector-borne and water-related diseases, and to improve understanding and use of health-protective behaviours.

III.2.3 Lao PDR

121. The project is consistent with the Strategy on Climate Change (2010) and the Climate Change Action Plan for 2013–2020 which emphasize water and sanitation, communicable diseases, awareness-raising, and streamlining and strengthening existing programmes. The Action Plan focusses on four key initiatives: strengthening institutional and human resource capacities on climate change; enhancing adaptive capacity for coping with climate change; climate change mitigation; and strengthening education and improving public awareness of climate change. Two key areas of public health were highlighted: increased resilience of rural water supply systems to climate change, and improved public health services for climate change adaptation.

122. The project will help to fill gaps between policy intentions and effective implementation in these areas, as identified in the 2014 health system review.

123. The Asian Development Bank's Strengthening Resilience to Climate Change in the Health Sector in the GMS Region project provides technical assistance to conduct vulnerability and adaptation assessments at national and provincial levels in 2017 and 2018. The GEF project will incorporate these assessments into the capacity-building activities under Outcome 1 and into the health-specific component of the national adaptation plan process under Outcome 4. The Asian Development Bank's project is also building data management and analysis capacity. Lao PDR will coordinate the activities under Outcome 2 with the Asian Development Bank's activities to minimize duplication and optimize results.

124. The Lao People's Democratic Republic submitted its intended nationally determined contribution (INDC) to UNFCCC for the 1 October 2015 deadline, stipulated for countries wishing to be included in the Global Synthesis Report for the UNFCCC Conference of Parties (COP 21) in December 2015. This project is specifically designed to build on the INDC work completed and to support its implementation and follow-on actions after UNFCCC COP 21. The project is in line with the GEF climate change mitigation objective CCM3 under GEF-6: foster enabling conditions to maintain mitigation concerns unto sustainable development strategies. The project has two objectives: (i) to identify and support implementation of the country's contributions to the post-2020 global climate agreement (INDC); and (ii) to strengthen the country's engagement in the UNFCCC negotiation process leading to the post-2020 agreement.

125. The GEF-funded INDC project for 2016–2017 is implemented by the Department for Disaster Management and Climate Change and the Ministry of Natural Resources and Environment. The main outcomes are relevant institutional capacities of the Lao Government are enhanced; mitigation measures and adaptation options for INDC are reviewed and reaffirmed; relevant government sector staff are trained in the context of INDC and COP-21 issues; and INDC priorities, implementation plans, and a monitoring and evaluation framework are developed. The health sector is the implementation counterpart of mitigation and adaptation options defined by the Lao People's Democratic Republic's INDC.

126. The project will rely on a coordinated consultation process with key stakeholders, including the following:

- government ministries and agencies across the sectors of environment, forestry, agriculture, finance, transportation and energy;
- gender-based agencies such as the Lao Women's Union and the National Commission for the Advancement of Women;
- representation of other groups such as the Lao Youth Union;
- international and national nongovernmental agencies;
- development partners;
- other United Nations agencies.

III.2.4 Myanmar

127. Public health is one of the eight themes identified under The National Adaptation Programme of Action (NAPA 2012). The other themes are agriculture, early warning systems, forest, water resources, coastal zone, energy, industry, and biodiversity. Within the public health theme, the following projects were ranked according to importance:

- Adaptation to climate change through climate-resilient health facilities in the Rakhine State and Ayeyarwady Region.
- Integrating climate change adaptation strategies into the prevention of heat-related disorders in agricultural and industrial workers.
- Supporting Intensive Care Units in hospitals to treat heat-related disorders.
- Reducing the vulnerability of local communities to climate-induced water-related health hazards through the provision of safe water supplies and sanitary latrines.
- Climate change adaptation through establishing post-disaster rapid response networks to meet the immediate nutritional needs of disaster-affected communities.
- Adaptation to climate change through the construction of climate-resilient health facilities in Bago, Mandalay and Sagaing Regions.
- Integrating climate adaptation strategies into the prevention and control of diarrheal diseases.
- Integrating climate change adaptation strategies into the prevention and control of malaria and dengue hemorrhagic fever.
- Building the capacity of the health sector for determining the direct and indirect impacts of climate change on the transmission of current and emerging diseases.
- Adaptation to climate change through integrated plague and rodent control strategies

128. The National Climate Change Policy, Strategy and Action Plan (MCCSAP) is being developed by the Myanmar Consortium for Climate Change Adaptation programme and the Ministry of Natural Resources and Environmental Conservation (MONREC). The programme, which runs from 2013-17 is designed to increase awareness of climate change in Myanmar, to strengthen institutional capacity to develop policies address it, and to develop eco-system based adaptation practices.[34]

129. The MCCSAP presents a roadmap to guide Myanmar's strategic responses to address climate related risks and opportunities over the next 15 years and beyond. It aims to support key actors in their decision making at the national and local level to respond to the challenges and opportunities associated with climate change.

130. The strategy will devise the means to achieve the overall vision, and will set out a detailed implementation framework to address climate change in each sector. The MCCSAP builds on the following four principles: inclusive development, resource efficient development, integrated development, and result based development.

131. The objectives of the strategy and action plan are to increase the adaptive capacity of vulnerable communities and sectors so that they are resilient to the adverse impacts of climate change, and to create and maximize use of opportunities for potential sectors to pursue a low carbon development pathway by ensuring development benefits to communities and all economic sectors. Moreover, the plan identified actions areas to be implemented as follows:

- Integrate climate change into development policy and plan
- Establish institutional arrangement to plan and implement responses to climate change
- Establish financial mechanism to mobilize and allocate resources for investment in climate response initiatives
- Increase access to technology and capacity
- Build awareness and capacity to respond to climate change
- Promote multi-stakeholder partnerships to support investment smart initiatives

132. The strategy identified six key sector entry points to deliver inclusive climate resilient and low carbon development outcomes. Those sector entry points are: 1) climate smart agriculture, fisheries, livestock for food security 2) sustainable management of natural resources for healthy eco-system, 3) resilient and low carbon energy, transport and industrial system for sustainable growth, 4) climate resilient, inclusive and sustainable towns and cities for people to live and thrive towns and human settlement, 5) climate risk management for people's health and well-being, 6) education, science and technology for a resilient society.

133. Myanmar has a number of other health related policies that align with this proposal, including the Framework for Economic and Social Reform (FESR 2012-2015) which aims to modernize, democratize and develop Myanmar. The FESR identifies seven areas of reform, including poverty reduction and inclusive economic growth, regional development, improved governance, and international partnerships. The National Comprehensive Development Plan (2011-2031) underpins sectoral specific and regional plans, and includes building international cooperation and development partnerships, and implementing activities with immediate benefits. Other relevant Plans, Policies and Strategies are: Myanmar Action Plan on Disaster Risk Reduction (MAPDRR 2009-2015) to protect lives, livelihoods and secure development. The draft Myanmar National Environmental Policy (2016) aims to ensure environmental protection and sustainable development. The Myanmar Health Workforce Strategic Plan (2012-2017) guides the development of human resources to build sufficient numbers and appropriately skilled workers within the health system.

134. Other policies and plans aligned with this proposal that are currently being developed by Myanmar are the National Environment, Policy, Framework and Master Plan (2030) and the National Health Plan

[34] MCCSAP is national level climate change strategy and Action Plan which was developed by Ministry of Natural Resources and Environmental Conservation and partner agencies. The draft od plan has been completed in July 2016 GIVE WEB LINK

(2017-2021). The National Health Plan aims to strengthen Myanmar's health system and work towards universal health coverage, recognizing the need for cooperation and engagement with private care providers and non-government organizations. The strategies within the Plan include community (township) level stakeholder engagement and activities to ensure minimum standards of care can be delivered.

III.2.5 Nepal

135. Nepal has been party to the UNFCCC since 1992. It submitted its first communication report in 2004 in which public health was identified as high priority. The objectives of the UNFCCC came into effect in Nepal 2005, and in 2014 Nepal submitted its second communication report, prioritizing public health and identifying extreme weather events (cold waves and heat waves), diarrhoeal and vector-borne diseases as major climate-sensitive risks.

136. Nepal has in place several major policies and priorities that align with this proposal, starting with the Constitution of Nepal (2015) that embeds the right of people to live in a healthy and clean environment, the right to seek and have equal access to basic health and emergency care, and the right to clean water and sanitation.

137. The Climate Change Policy (2011) promotes adaptation and mitigation, through natural resources management and climate resilient infrastructure for socioeconomic development, and the formation of an intersectoral working group to integrate climate change in all policies. It highlights the need to develop forecasting and preventive actions for vector-borne and other climate-sensitive diseases, better preparedness for epidemics, increased public awareness and capacity building, with an emphasis on community level programmes.

138. Nepal's National Adaptation Programme of Actions to Climate Change (NAPA 2010) names public health as one of the six core themes, along with agriculture and food, climate-induced disasters, urban settlement and infrastructure, forests and diversity, and water resources and energy, In particular the public health priorities identified are to gather and apply evidence to reduce health impacts, empower communities through education, invest in disease outbreak and emergency response, scale-up existing programmes on vector-, water-, and foodborne disease, and strengthening early warning and surveillance systems.

139. Nepal has also developed a National Framework on Local Adaptation Plans of Action (2011) to identify climate vulnerable communities, appropriate agents for service delivery and monitoring and evaluation. It is intended that these local level plans influence national level planning. The National Adaptation Plan (2015) integrates climate change into all sector policies, strategies, plans and programmes, taking a medium term (2018-30) and longer term (to 2050) perspective and with consideration of the Sendai Framework for Disaster Reduction and Sustainable Development Goals.

140. Nepal has approved a Health National Adaptation Plan (H-NAP) in 2016 with a vision to develop climate resilient health system to protect human health from climate change. This plan aims to develop the national strategies on climate change and health with an adequate focus on health sector and inter-sectoral collaboration for protecting health from adverse effects of climate change. Furthermore, it aims to ensure that health issues are considered in the national adaptation plan (NAP), so that policies and programmes in other sectors contribute to health co-benefits. Following are the strategic objectives of H-NAP in Nepal:

- To raise public awareness about climate change and its effects on health;
- To generate evidence on health effects of climate change at national and sub-national levels through research and studies;
- To reduce the morbidity and mortality of infectious diseases (vector, water, air and food-borne diseases) and malnutrition attributed to climate change;
- To manage the risks of extreme climatic events
- To protect human health from climate change through multi-sectoral response, ensuring health in all policies.
- To identify socio-economic and environmental context within the country and related effects on health.

141. Implementation of key programmes and further development of policies and guidelines are key next steps for Nepal. Nepal has a number of other policies that are relevant to and aligned with this proposal. The National Health Policy (2014) is to ensure equitable delivery of and universal access to health services and to mainstream health into all policies. The National Population Policy (2014) focuses on the interrelationship between climate change, environmental degradation and sustainable development. The Nepal Health Sector Strategy (2015-2020) recognizes multi-sectoral responses to population health including in activities to achieve universal health coverage, and includes a climate change and public health working groups under the Ministry of Health. The draft Nepal Health Sector Strategy Implementation Plan identifies climate change as adversely affecting public health and includes a multi-sectoral response plan.

142. Nepal's Intended Nationally Determined Contributions (INDCs), submitted to the UNFCC in 2016, identifies the specific contributions that Nepal will make to reduce global greenhouse gas emissions.

III.2.6 Timor-Leste

143. Timor-Leste's National Adaptation Programme of Action on Climate Change (2010) briefly considers the vulnerability of key sectors, including health. A number of expected impacts are outlined in the NAPA, but an in-depth vulnerability assessment has not been undertaken. Health-related risks are rated as a high priority (priority 3) in the NAPA, and the Ministry of Health is tasked with addressing specific vulnerabilities through a proposed USD1.7 million project. The project includes policy reform (review of standards, national health vulnerability assessment), awareness raising and demonstration, strengthening of early-warning systems, targeted disease prevention measures, and institutional and capacity development (train policy-makers and planners, establish an inter-ministerial mechanism, integrate climate and health linkages into the school curriculum). These activities have not been funded for implementation, and the GEF project will incorporate them into its project design. Timor-Leste's Initial National Communication (2014) includes overall vulnerability assessments at village level. The health assessment is limited to likely impacts on vector-borne disease, and describes direct and indirect impacts from changing temperature and rainfall on malaria and dengue according to district. There are no other health impacts included.

144. Timor-Leste is therefore in the very early stages of working towards a climate change strategy. Its National Health Sector Strategic Plan does not currently address climate change directly. There is a short section on environmental health that considers sanitation, food safety, vector-borne disease, waste management and air pollution, and outlines objectives for improving the quality of the environment, but the interaction between environmental health and climate change is not discussed.

145. The Plan does not discuss disaster preparedness or management. It is unclear whether the Ministry of Health (MoH) has completed its public health management sub-plan as tasked under the National Disaster Risk Management Policy.

146. There is an opportunity to identify and integrate health-related climate impacts and adaptation measures during the Plan's mid-term reviews and four-yearly comprehensive evaluations. This opportunity is recognized within the Ministry.

147. Within the Environmental Health Strategy there are nine components – safe water and availability, sanitation and hygiene, food safety, vector control, waste management, healthy working place, safe housing and settlement, air quality, and climate change and health. While many of these components have clear direct and indirect links to climate change, the strategic action points that are documented in this strategy specifically in relation to climate change include the *development* of national policy and strategy on climate change; the review of policy, strategy, standards and guidelines of all development sectors in respect of climate change and updating these in order for them to be climate resilient; strengthen existing Adaptation Thematic Working Group for climate change and health for more coordinated action to minimize the health impact of climate change; carry out research to explore the potential impact of climate change on health in various regions of the country, develop alternative technology or ways of living; and take action to protect

public health from potential climate change with priority to most vulnerable groups, and develop alternative adaptation mechanisms. Timor-Leste thus has an intent to develop a strategic approach to climate change, but does not yet have a comprehensive strategy that crosses sectors.

148. Despite the lack of an overarching strategy and the very limited focus on vector-borne disease of the Initial National Communication, Timor-Leste does have other key strategies and plans that are consistent with this proposal, and that do address important climate-sensitive health outcomes even if climate change is not specifically considered. These plans focus on nutrition and hunger, which are indirectly related to climate change in that food security is climate sensitive and Timor-Leste will be exposed to increasingly extreme droughts and rainfall. The most recent National Nutrition Strategy (2014-2019) aims specifically to reduce maternal and childhood undernutrition, including through improved food security. There is also a National Action Plan for a Hunger and Malnutrition Free Timor-Leste (2014). This Plan does address climate change through one of its five pillars. Pillar 3 aims to ensure that all food systems are sustainable, which includes climate resilient agriculture and recognition of the need for cross-sectoral coherence and cooperation, including disaster risk reduction and management and strengthening early warning systems for climate change disasters.

III.3 Partnerships

149. This project will be jointly implemented by UNDP and WHO. UNDP will serve as the "Executive" agency representing the project ownership and interests of the GEF Council and will chair the Board. UNDP BRH and WHO will serve as the Senior Supplier, representing the executing or implementing agency, and will be responsible for coordinating, managing and providing technical expertise to the project. UNDP BRH and WHO will partner with the Ministry of Health for the implementation of the project as a way of ensuring health systems are strengthened with the implementation of the project. The Senior Beneficiaries will be representatives of the Ministry of Health in the countries participating in this project. They will represent the interests of those who will ultimately benefit from the project.

III.3.1 Bangladesh

150. The Climate Change and Health Promotion Unit, Ministry of Health and Family Welfare will coordinate the project (as Responsible Party) in collaboration with WHO and UNDP. This project will ensure complementarity with other projects that are currently in appraisal and scoping stage supporting the NAP process, the Ministry of Environment and Forests climate change adaptation plans and strategies, and other projects. The Climate Change and Health Promotion Unit has already coordinated with DGHS, DPHE, BMD, DOE, ICDDRB, MOEF, in the project preparation work. In coordination with the GCF National Designated Authority and stakeholders, UNDP has submitted a $3million proposal to support the NAP process for GCF consideration.

151. The Ministry of Health and Family Welfare, in consultation with the executing agencies, will establish a technical advisory group to advise and provide guidance on project implementation. The Ministry of Health and Family Welfare and executing agencies will appoint a national project coordinator, who will be accountable for the project's delivery. The national project coordinator will chair meetings of the project steering committee; this position will not be paid from project funds but will represent a governmental in-kind contribution to the project.

152. The technical advisory group will monitor project implementation, provide strategic guidance and advice, and facilitate communication, cooperation and coordination between stakeholders and other project partners. Project steering committee meetings will be convened at least twice a year. At the start, the project steering committee may, if deemed necessary, meet more frequently to build common understanding and to ensure the project is initiated properly.

153. The Ministry of Health and Family Welfare will establish a project implementation unit consisting of a project manager, an administrative assistant and a finance assistant. The project manager will be deputed

by the Ministry of Health and Family Welfare and will be responsible for the timely and effective delivery of all project activities and outputs, and for meeting the project's objective. The project manager will report to the WHO Country Office in Bangladesh. National consultants will be recruited when necessary, according to an established plan of activities developed by the project manager at the start of the project.

154. The project implementation unit will be located in premises provided by the Ministry of Health, or elsewhere as decided by the Ministry of Health and Family Welfare. The premises will be provided as part of the Bangladeshi Government's in-kind contribution (co-financing).

III.3.2 Cambodia

155. The overall coordination of the project at the country level will be led by the Ministry of Health and the Ministry of Rural Development (as Responsible Parties) in collaboration with WHO and UNDP. In view of the relatively broad scope covered by this project, it will engage with a wide range of government agencies and other stakeholders at all levels, and it will build on the results of and intersect with several significant initiatives.

156. All the project preparations were coordinated with the Climate Change Technical Working Group, which leads Cambodia's climate change and health adaptation activities. The Climate Change Technical Working Group will lead collaboration between the Department of Preventive Medicine, the National Centre for Parasitology, Entomology and Malaria Control, the Department of Hospital Services, the Department of Preventive Medicine, the Ministry of Water Resources and Meteorology, the Ministry of Agriculture, Forestry and Fisheries, and any other Cambodian Government agencies that become involved in the project.

157. The Gesellschaft für Internationale Zusammenarbeit (GIZ) Climate Finance Readiness Programme is building the capacity of the Cambodian Government to access and make effective use of international climate finance funds such as the Green Climate Fund. GIZ will work with the Ministry of Health in 2017, and the GEF project will build on its work in component one when strengthening the capacity of the Climate Change Technical Working Group.

158. The GEF-funded Strengthening Climate Information and Early Warning Systems in Cambodia to Support Climate Resilient Development and Adaptation to Climate Change project is improving the climate-observing infrastructure and increasing capacity to use climate and environmental information to respond to climate hazards and plan adaptation to climate change. These activities will impact the data available for the disease early-warning system developed under Outcome 2, and coordination will take place between the two projects to ensure the system incorporates the new data.

III.3.3 Lao PDR

159. The Ministry of Health has been working closely with the Ministry of Natural Resources and Environment in coordinating, developing and implementing the Multi-sectoral Strategic Action Plan on Environmental Health, Climate Change Strategy and National Adaptation Programme of Action to climate change (NAPA). The Director General of the Department of Hygiene and Health Promotion is a member of the national coordination committee of climate change and disaster management.

160. The Ministry of Health has been collaborating with the Ministry of Public Works and Transport to develop an overarching policy for water, sanitation and hygiene and a joint sector review mechanism, and to implement national water quality standards and national plans of action for urban and rural water, sanitation and hygiene sectors.

161. The Ministry of Health has been working with the Ministry of Forest and Agriculture to coordinate, develop, implement and jointly monitor the national nutrition strategy and multi-sectoral plan of action, with the main objective to improve the food security and nutritional status of the population, in particular for woman and children.

162. The Lao Woman's Union is a wider stakeholder of the project. The Ministry of Health has been working with the Lao Woman's Union to improve water, sanitation and hygiene at the community level. Members of the Lao Woman's Union are active female leaders in the Lao Government and community. The Lao Woman's Union has representatives in all villages to provide support to community development and gender equity. In many cases, representatives also act as members of water, sanitation and hygiene committees in villages.

163. The Lao Youth Union is a wider stakeholder of the project. The Ministry of Health will continue to collaborate with the Lao Youth Union to increase awareness and engagement of students on climate change adaptation and mitigation measures and the role of young people in the health of the nation.

164. Partners with other parallel programmes within the WHO Country Office in the Lao People's Democratic Republic. Within the Lao People's Democratic Republic WHO Country Office, the following teams and programme areas will contribute to the project:

- emergency response and surveillance of communicable diseases;
- natural disaster management in the health sector;
- neglected tropical diseases and dengue surveillance programme;
- environmental health programme.

165. WHO and UNDP will provide continuous support to the Lao Government in establishing better capacity in the health sector to reduce vulnerability to climate change by improved surveillance of communicable diseases, human resource capacity, operational-level emergency response planning, better preparedness and readiness for disasters, and functional climate-resilient water supply and sanitation systems in health facilities. These programmes will continue to complement each other and synergize outcomes of the GEF-funded project for strengthening the Lao Government's capacity to assess climate and natural disaster risks and conduct risk management and improve communications in the country.

166. The emergency response and surveillance team (national professional officers in disaster management, dengue prevention and control) will continue to collaborate with the health and environment team of the WHO Country Office to provide technical support and assistance to Lao Government counterparts in coordinating and implementing project activities efficiently, undertaking regular monitoring, facilitating communications to mainstream climate change risks into ongoing national programmes on particular climate-sensitive diseases, and exchanging technical knowledge and experiences on best practices between various departments, divisions and national centres of communicable diseases surveillance and control, environmental health and water and the Ministry of Health.

III.3.4 Myanmar

167. The Ministry of Health Services (MoHS) is principal stakeholder and will support collaboration with other line Ministries and stakeholders, including:

- Ministry of Health and Sport: lead agency to implement the project and need to cooperate and collaborate with in line other Ministries
- Ministry of Natural Resources and Environmental Conservation: GEF country focal Ministry, will cooperate in development of H-NAP and integration of H-NAP into ongoing NAP
- Ministry of Transport, Department of Meteorology: monitoring agency for the weather forecast and climate model and will cooperate in modification of EWARS, water safety plan and prevention of heat related disorders among farmers and workers
- Department of Rural Development: responsible Agency for rural water supply to reduce the water scarcity and cooperate in water safety plan development.
- City Development Committee: responsible for Agency for Urban Water supply
- Ministry of Agricultural and Irrigation: cooperates in the nutrition program and food security
- Ministry of Planning and Finance: cooperates in financial management of the projects.

- WHO and UNDP will serve as the implementing and executing agency respectively and will assist MoHS partners as member of steering committee and provide financial and technical assistance in this project.
- CBOs: participation in community awareness raising and field operations, disease control projects and support in emergency health care services
- Communities: communities will be consulted during the Project preparation phase

168. The World Bank has fully reengaged with the Government of Myanmar to support reforms that will benefit to all the people of Myanmar since 2012 including poor and vulnerable communities. Currently, the bank is providing loans for community based development projects with a focus on development of rural infrastructure including improving access to drinking water. That project can be linked with water safety plan of this proposal.

169. UNDP and WHO will be member of steering committee and technical working group to support Ministry of Health in implementing this project. Local Community Based Organizations are important for community participation in health risk reduction projects. They can be partners in public awareness raising on climate change health risks activities and campaigns.

III.3.5 Nepal

170. The Nepal Health Sector Strategy involves a multi-sectoral response to tackling the adverse effects of climate change on human health. The Ministry of Health plans to introduce an integrated disease surveillance system and guidelines to monitor existing and new threats, such as new viruses and the impact of climate change on the geographical spread of vector-borne diseases, and to strengthen the capacity of public health laboratories.

171. WHO is implementing programmes that support the Ministry of Health in integrated disease surveillance and control of communicable diseases. In 2016 the Government of Nepal expanded the early-warning alert and response system in 81 sites.

172. WHO and the Ministry of Urban Development, with the support of a climate change resilience project funded by the United Kingdom Department for International Development, are working on water safety plans as part of the DFID-funded project Building Adaptation to Climate Change in Health in Least Developed Countries through resilient Water, Sanitation and Hygiene.

173. The UNDP Nepal is implementing the following projects: Renewable Energy for Rural Livelihoods, a GEF small grant programme, Ecosystem-Based Adaptation in Mountain Ecosystems in Nepal, the Nepal Climate Change Support Programme, the Community-Based Flood and Glacial Lake Outburst Risk Reduction Project and the Comprehensive Disaster Risk Management Programme.

174. The goal of the Nepal Climate Change Support Programme is to contribute to ensuring the poorest and most vulnerable communities in Nepal are able to adapt to the adverse effects of climate change. The key objective is to enhance the capacity of governmental and nongovernmental organizations to implement Nepal's Climate Change Policy 2011 and execute the most urgent and immediate adaptation actions in 14 districts of far and mid-western Nepal. It has a health component to address the urgent needs of people in the community, but it does not focus on capacity-strengthening of the institutional health system. This is the first significant intervention on climate change adaptation in Nepal in line with the recommendation of NAPA. The proposed project will be the first climate change and health project of the health sector in Nepal.

175. The national adaptation plan formulation process has been expedited to identify appropriate climate change adaptation needs and implement them in the medium (2020–2030) and long (2030–2050) term, bearing in mind the national policies towards that end and the SDGs. Nepal has received USD 2.9 million for the plan from the Green Climate Fund, a fund within the framework of UNFCCC. Health and water, sanitation and hygiene is one of the thematic groups led by the Ministry of Health for formulation of the national adaptation plan. Involvement of the Ministry of Health from conception of the national adaptation

plan process may contribute to aligning health-specific components of the national adaptation plan with the overall national adaptation plan process. In order to achieve the fourth outcome of the proposed GEF project, the national adaptation plan could be one of the major co-financers.

III.3.6 Timor-Leste

176. The overall coordination of the GEF project will be coordinated by the MOH in collaboration with WHO and UNDP. In view of the relatively broad scope covered by this project, it will engage with a wide range of government agencies and other stakeholders at all levels, and will both build on the results of, and intersect with several significant initiatives.

177. This project will ensure complementarity with other projects that are currently in appraisal and scoping stage including the NAPA, the Initial National Communication, the line ministries' climate change adaptation plans and strategies, and donor led projects. From the government's side, all the project preparations were coordinated with the MOH environmental health department and the MCIE Adaptation Thematic Working Group, which leads Timor-Leste's climate change and health adaptation activities. The MOH and the Adaptation Thematic Working Group will lead collaboration between MOH, MCIE, MAF, CCCB, and any other government agencies or departments that become involved in the project. The project will also coordinate with the following donor-led projects:

III.4 Stakeholder engagement

178. Continued engagement with stakeholders is a key element of this proposal, from project inception, through prioritization, development and implementation of activities, to evaluation, communication and feedback. While the stakeholders engaged in the project and their nature of involvement varies somewhat country to country, there are common themes across countries. Active engagement with groups that represent more vulnerable segments of the population is a priority, for example, with a focus especially on engaging women, as proposers of activities and as participants in project activities, and in monitoring and evaluation. This is done with a view to capitalize on the skills and knowledge of women and to build capacity for responding to climate change among women, as well as to ensure that existing gender inequalities are not exacerbated.

179. The stakeholder engagement process has so far included a multinational inception workshop, in-country consultations and follow-up interactions to define each country's climate change challenges, capacity building gaps and barriers, project activities, and potential risks. These extensive bilateral consultations have involved central government agencies, nongovernment organizations, and relevant development partners, with additional relevant stakeholders identified in the process. The project will continue to engage with stakeholders through the governance structures put in place by the project, and through existing structures at national and subnational levels, including national departments and agencies, and provincial and community-level governance structures and organizations.

180. WHO is the Implementing Partner for the project in each country, UNDP will directly implement Outcome 4.2. WHO will engage the Ministries of Health as Responsible Parties for Outputs 1-3. The active engagement of the Ministry under a broader regional project ensures knowledge sharing across participating countries and supports the upscaling and replication of efforts.

	Stakeholder	Relevant roles	Outcomes, outputs
Bangladesh	1. Ministry of Health and Family Welfare + DGHS	Responsible party for the project. Working in collaboration with other agencies and to develop the strategy for mainstreaming and incorporation of the H-NAP into the national health policy Monitoring and implementation of the H-NAP with advocacy for resource allocation in climate	Outcomes 1, 2, 3: (All Outputs)

		vulnerable area in terms of medication and water supply intervention. Develop capacity of health workers in various subjects as outlined in the proposal	
	2. Ministry of Environment and Forest + DOE	Technical support and coordination as focal ministry for climate change	Outcome 4: Output 4.2
	3. Department of Public Health Engineering of Ministry of Local Government and Rural Development DPHE	DPHE to assist in the improvement of WASH in health care facilities. Standard operating procedures for water safety plan and sanitation	Outcome 2: Outputs 2.2, 2.3, 3.3
	5. WHO	Responsible for the implementation and management of the project; WHO to monitor implementation and to provide technical support	Outcomes 1,2,3 (All outputs) Outcome 4: Output 4.1
	6. UNDP	Responsible for the implementation and management of the project; UNDP RBAP to monitor implementation and to provide technical support in regard to Output 4.2	Outctome 4: Output 4.2
	7. Institute of Epidemiology, Disease Control and Research IEDCR	IEDCR and BCAS to support in developing and strengthening the climate-sensitive diseases surveillance system	Outcomes 2, 3: Outputs 2.1, 2.2. 2.3, 3.1, 3.2
	8. Bangladesh Centre for Advance Studies BCAS	CSO active on adaptation to climate change; they will provide technical support and knowledge of which stakeholders to engage	Outcomes 1,2,3 (All outputs)
	9. Communities, including local government institutes	Communities engaged in vulnerability assessments and to the extent possible in project implementation	Outcomes 1,2,3 (All outputs)
Cambodia	1. Ministry of Health MOH	Evaluation and identification of health care infrastructure needs and capacity of health personnel	Outcome 1: Output 1.1
	2. Preventive Medicine Department, MOH	Developing of H-NAP, strategy for climate change and health, and strengthening of inter-sectoral coordination and data/information sharing among agencies. Provide overall coordination, implementation and management of projects related to waterborne diseases, respiratory diseases and other climate-sensitive diseases including emergency preparedness and response	Outcomes 1, 2, 3: Outputs 1.1, 1.2, 2.1, 3.1, 3.2
	3. Communicable Disease Control Department, MOH	Provides coordination, management and surveillance of projects related to waterborne diseases, respiratory diseases and climate-sensitive diseases.	Outcome 2: Output 2.1
	4. National Center for Parasitology, Entomology and	Strengthening national institutional capacity, support for sustainability of the project such as development of training program for healthcare	Outcome 2: Output 2.2

	Malaria Control, MOH	workers; and surveillance, control and prevention of vector borne diseases.	
	5. National Institute of Public Health, MOH	Strengthening of laboratory capacity	Outcome 2: Output 2.1, 2.2
	6. Department of Planning, MOH	Coordination of Disaster Management Program and health systems	Outcome 3: Outputs 3.1, 3.2
	7. Ministry of Environment	Provide guidance on development of national action plan and strategy including advocacy support	Outcome 1: Outputs 1.1, 1.2
	8. Ministry of Education	Promoting health education and raising awareness on climate change resilience and adaptation to climate sensitive health outcomes among school children and parents	Outcome 1: Output 1.2
	9. Ministry of Water Resources and Meteorology	Provide climatic data and information for early warning system development and analysis	Outcomes 1, 2: Outputs 1.1, 2.2
	10. Non-governmental local and international organizations and community representatives	Promoting public education and raising awareness on climate change resilience and adaptation to climate sensitive health outcomes	Outcomes 1,2,3 (All outputs)
	11. Selected provincial health departments	Implementation of surveillance system and capacity building in diagnostic, case management, prevention and public education of climate-sensitive diseases	Outcomes 2,3: Output 2.1, 2.2, 3.1, 3.2
	12. WHO	Responsible for the implementation and management of the project; WHO to monitor implementation and to provide technical support Direct implementation of output 4.1.	Outcomes 1,2,3 (All outputs)
	13. Communities	Communities engaged in vulnerability assessments and to the extent possible in project implementation	Outcomes 1,2,3 (All outputs)
Lao PDR	1. Ministry of Natural Resource and Environment, Ministry of Health	Developing H-NAP, strategy for climate change and health, and strengthening inter-sectoral coordination	Outcomes 1,2,3 (All outputs)
	2. National Center for Environmental health and Water Supply	Strengthening national institutional capacity, long term support for sustainability of the project such as development of training program for public health and healthcare workers, and control and prevention of waterborne diseases	Outcomes 1,2,3 (All outputs)
	3. Selected 2 provincial health departments, district health offices, provincial centers for environmental health and water supply	Strengthening local early warning system, and integrated surveillance	Outcomes 2,3: outputs 2.2, 3.1,3.2

	4. Provincial hospitals	Developing climate-sensitive health management and response plans and introducing Green Hospital Initiatives	Outcome 3: outputs 3.1,3.2
	5. Non-governmental local and international organizations and community representatives	Raising awareness on climate change resilience and adaptation to climate sensitive health outcomes	Outcomes 1,2,3 (All outputs)
	6. Communities	Communities engaged in vulnerability assessments and to the extent possible in project implementation	Outcomes 1,2,3 (All outputs)
	7. WHO	Responsible for the implementation and management of the project; WHO to monitor implementation and to provide technical support Direct implementation of output 4.1.	Outcomes 1,2,3 (All outputs)
Myanmar	1 Ministry of Health	Responsible party for the project, cooperate and collaborate with other Ministries	Outcomes 1,2,3 (All outputs)
	2 Ministry of Environmental Conservation and Forestry	GEF country focal Ministry	Outcome 1: Output 1.1, 1.2
	3 Ministry of Transport, Department of Meteorology	Monitoring agency for the weather forecast and climate model	Outcomes 1,2: Output 1.1, 1.2, 2.1;2.2
	4 Department of Rural Development	Responsible Agency for rural water supply to reduce the water scarcity	Outcome 3: Output 3.1, 3.2
	5 City Development Committee	Agency for Urban Water supply	Outcome 3: Output 3.1, 3.2
	6 Ministry of Agricultural and Irrigation	Responsible agency for food security	Outcome 1: Output 1.1,
	7 WHO	Responsible for the implementation and management of the project; WHO to monitor implementation and to provide technical support	Outcomes 1,2,3 (All outputs)
	8 Communities	Communities engaged in vulnerability assessments and to the extent possible in project implementation	Outcomes 1,2,3 (All outputs)
Nepal	1 Ministry of Health and Population MoHP	Responsible Party for the project, lead ministry on health in Nepal	Outcomes 1,2,3 (All outputs)
	2 Ministry of Urban Development MUD	Government agency to implement some of the activities related to WASH	Outcome 2: Output 2.2
	3 Ministry of Science technology and Environment MoSTE	For technical support and coordination as focal ministry for climate change	Outcomes 1,2: Outputs 1.1, 1.2 and 2.2

	4 Research institutions/Academia	For capacity building and research activities	Outcome 1,2: Outputs 1.1 1.2,2.1,2.2
	5 NGOs, Civil Society organizations	Partnership with government agencies for awareness programs and implementation of adaptation activities at the local level	Outcomes 2,3: Outputs 2.2 and 3.2
	6 Communities	Communities engaged in vulnerability assessments and to the extent possible in project implementation	Outcomes 1,2,3 (All outputs)
	7. WHO	Responsible for the implementation and management of the project; WHO to monitor implementation and to provide technical support Direct implementation of output 4.1.	Outcomes 1,2,3 (All outputs)
Timor-Leste	1 Ministry of Health	Lead ministry on health, responsible party for the project	Outcomes 1,2,3 (All outputs)
	2 WHO	Responsible for the implementation and management of the project; WHO to monitor implementation and to provide technical support Direct implementation of output 4.1.	Outcomes 1,2,3 (All outputs); Outcome 4, output 4.1
	3 Ministry of Education	Implements relevant climate change adaptation activities	Outcomes 1, 2: Outputs 1.1, 1.2, 2.1
	4 Secretary of State of Environment, Ministry of Economic & Development	Involved in the advocacy and coordination	Outcome 2: Output 2.1
	5 Directorate of Meteorology, Ministry of Communication, Telecommunication & Transport	Involved in coordination and implementation, providing data and information on climate and weather forecast.	Outcomes 1,2: Outputs 1.1, 1.2 and 2.2
	6 Directorate of Water & Sanitation, Ministry of Infrastructure	Implements the water safety plans	Outcome 3: 3.1,3.2
	7 National NGOs NGO Forum, NGO Haburas, etc,	May be engaged for pilot work under the project	Outcome 3: 3.1,3.2
	8 Member of parliaments, local authorities, religious groups and civil societies	Provide oversight and support for the local projects	Outcomes 1,2,3 (All outputs)
	9 Communities	Communities engaged in vulnerability assessments and to the extent possible in project implementation	Outcomes 1,2,3 (All outputs)

III.5 Mainstreaming gender

181. This project aligns with GEF policies on gender mainstreaming; the activities require the full participation of local community and local stakeholders throughout the project, including its development and implementation, and that this is also where the benefits will be realized. The project ensures local women's participation in particular throughout the project cycle, including in the development of this proposal, which aligns with the UN's System Wide Action Plan (UN-SWAP) where women's empowerment is expected to be included in each of the following areas: accountability, results based management, oversight, human and financial resources, capacity, and coherence, knowledge and information management. Many of the activities involved in this project attend to the delivery of basic services to communities as a foundation for building broad level resilience to climate change.

182. The project recognises that gender affects vulnerability to climate-related diseases and intersects with and enhances adverse outcomes for people in other marginalised or especially exposed groups. This project will thus be designed with a strong emphasis on benefiting marginalized, excluded, and vulnerable community groups. It will ensure that vulnerability assessments take into account social and gender vulnerabilities, such as stigma, discrimination, and regulatory and legal barriers, which make certain populations particularly vulnerable to climate change and deter them from seeking relevant health services. Awareness campaigns will be designed to reach out to marginalized communities and most vulnerable groups such as women, youth, elderly and people with disabilities, enabling their engagement in discussions and decision-making. Further, particular attention will be given to ensure that the creation of national health standards and guidelines (component 1) consider the most vulnerable and excluded groups.

183. For example, in Bangladesh it is observed that women and children are more likely to be impacted during floods and cyclones in vulnerable coastal regions, be affected by diarrhoea and malnutrition, and to suffer psychosocial distress due to displacement following disaster. Bangladesh specifically aims in their Climate Strange Strategy and Action Plan (2009) to increase the resilience of women and other vulnerable groups to climate change through community level adaptation. Similarly, community level adaptation to diversify livelihoods and improve basic services and social protection is aimed primarily at women. In Bangladesh women are not only more vulnerable to climate-sensitive health risks than men, they are also more likely to carry the burden of healthcare for their families, and improved access to healthcare for women is a national priority. The projects within the program will promote active participation among women including gender-based stakeholder engagement, while monitoring and evaluation will include sex disaggregation.

184. In Cambodia, women are more vulnerable to climate-sensitive health risks because of lower literacy, lower wages, and fewer assets including smaller land holdings. Woman are also more likely to be responsible for water collection and treatment. WASH interventions in Cambodia under this proposal are to be specifically implemented in a participatory manner, and the perspectives of women and girls will be included in key decisions on resource allocation, planning and monitoring. Data will be disaggregated by sex to ensure that the effects on women specifically can be considered. Women's representatives are included in all stages of the project, including in final review.

185. In Lao PDR, improving public health services, especially for women, is embedded in the Constitution. Women in Lao PDR are closely linked to the agriculture industry and hold much of the responsibility for family nutrition, food and water security. They are also vulnerable to malnutrition, especially anaemia, and are sensitive to changes to nutrition brought about by drought and flooding. Engaging women in activities that improve food security through improved land use practices is thus a priority in Lao PDR. The MoH works with Lao Women's Union representatives in villages to improve WASH facilities and behaviors.

186. Women in Myanmar are vulnerable to poor health from malnutrition and diarrhoeal disease arising from food insecurity, limited clean water and poor sanitation. Improving the education of women and girls and increasing workforce participation in professional occupations are key priorities to reduce gender inequalities. Activities in Myanmar includes implementing climate change awareness campaigns on climate change aimed specifically at reaching women and other more vulnerable groups and specifically targets inclusive economic growth in their Framework for Economic and Social Reform.

187. Undernutrition is also a concern for women in Nepal, and it is observed that women and children are at increased risk during disaster. Increasingly uncertain rainfall affects women and girls more as they are responsible for water collection, and have to walk further to find water when rainfall is low. Improving water security would thus have a particularly beneficial impact on women and girls in Nepal. Women and other vulnerable population groups are also expected to especially benefit from the implementation of early warning systems for climate-related extreme events. Nepal has specifically targeted women stakeholders in their consultation process for this proposal, and monitoring and evaluation will seek women's as well as men's perspectives.

188. In Timor-Leste, women are at significant risk of malnutrition from declining food availability relating to climate, and the National Nutrition Strategy aims specifically to address this. Women are also more vulnerable, to vector-borne disease and to household air pollution. Similarly to elsewhere, gender intersects with other markers of vulnerability such as poverty in particular, and women are also more likely than me to be poor. This project includes an emphasis on gender-based stakeholder engagement in Timor and participation in local activities to improve resilience to climate change. The National Nutrition Strategy, a key activity in building population resilience, focuses on women and their very young children.

III.6 South-South and Triangular Cooperation (SSTrC)

189. The project is designed to facilitate South-South and triangular cooperation. Project development involved countries setting their own priorities within the broad outcomes specified in the PIF. At regional meetings, ideas and proposals were shared between countries as well as between countries and international agencies. During project implementation, triangular cooperation will be facilitated via further regional meetings, sharing of lessons learned and best practices via publications, presentations and a project website.

190. Climate change is a complex new issue for most national health systems. International agencies as well as project countries have relatively little experience of assembling technical evidence and cooperating across sectors to build adaptive capacity. The project will provide crucial new knowledge and experience on resilient health systems in Asia and internationally.

IV. FEASIBILITY

IV.1 Cost Efficiency and Effectiveness

191. The project takes the approach of addressing barriers to the achievement of effective climate change adaptation for health, as noted in the theory of change. This approach will have broad applicability at local and national levels, with potential for replication throughout the country in the long term. As such, the project will contribute directly by integrating health considerations within national policy, planning, and fiscal and communications goals in support of each countries adaptation priorities. The project strategy also focuses on demonstrating, documenting and sharing best practices for climate change adaptation for disease surveillance, health early warning systems, water, sanitation and hygiene, and sharing other experience in South to South collaboration to support cross-replication and upscaling, which is highly cost-effective and low risk.

192. Implementation will be undertaken almost exclusively within existing government structures. This approach is believed to be particularly cost-effective, as it reduces costs that would need to be spent on nongovernmental organization-driven implementation, and it builds capacity of the government system for ongoing and more widespread implementation of similar adaptation activities. In order to reduce costs and to avoid duplication, the project will pursue an active partnership strategy with other ongoing and planned initiatives, including existing malaria, dengue and water safety plan projects. Through these collaborations, the project will build on the lessons learned and best practices from past and current projects and ensure that cost effectiveness is considered in implementation plans. Through these collaborations, the project will build on the lessons learnt and best practices from past and current projects and ensure cost-effectiveness is included in the identification of appropriate adaptation practices and implementation protocols.

193. This approach is more cost effective than alternatives such as implementing independent measures within each ministry across the entire system, as it allows the project to be focused on a subset of considered priorities for climate change adaptation to demonstrate specific approaches towards maintaining health system integrity and climate change. If this approach is not taken then the full scope of the Health system would involve many more local government administrations and the project resources would be stretched to cover such a large geographical area, increasing logistical challenges and reducing its overall impact, thus providing less return on investment.

IV.2 Risk Management

194. As per standard UNDP requirements, the Project Manager will monitor risks quarterly and report on the status of risks to the WHO Country Offices. The WHO will record progress in the ATLAS risk log. Risks will be reported as critical when the impact and probability are high (i.e. when impact is rated as 5, and when impact is rated as 4 and probability is rated at 3 or higher). Management responses to critical risks will also be reported to the GEF in the annual PIR. See Table 5 below. During implementation, the PMU will integrate risk management into project work plans and procedures (to prevent, mitigate or transfer potential risks) including identification of risks and issues before or when they arise, quarterly monitoring and recording of risks using the UNDP Risk Log, and ensuring that risks are included in reporting to the Project Board. The project manager would have overall responsibility for risk management.

IV.2.1 Social and Environmental Safeguards

195. The UNDP environmental and social safeguard requirements have been followed in the development of this GEF/LDCF-financed project. During the project development stage, UNDP and WHO screened the project for social and environmental risks. Risks identified at the pre-screening (PIF) stage were reviewed and their probability of occurrence and likely impact were estimated in order to rate each risk, and determine how they would be mitigated by the Project.

196. In accordance with the UNDP Social and Environmental Screening Procedure, the project has been categorized as low risk and – as outlined below – is not expected to have significant negative environmental or social impacts. Please see Annex 6 – the Social and Environmental Screening report - for details. Nevertheless, risk avoidance and risk minimization, mitigation and management mechanisms are integrated into the project design (see Table 7) and a Social and Environmental Management Checklist has been completed (Annex 6).

197. Human Rights: In line with national law WHO and UNDP principles, the project design seeks to uphold the centrality of human rights to sustainable development, poverty alleviation and ensuring fair distribution of development opportunities and benefits. Thus, it will implement a human rights-based approach in its delivery of Health policies consistent to the laws within the nation. This will include maintaining and respecting the legal and traditional rights of local communities.

198. Participation and inclusion: While developing the project interventions, WHO as Implementing Partner for the project will ensure a participatory process focusing on strengthening capacity of the duty bearers to meet their obligations to the project stakeholders at the national, sub-national and community levels. They are consulted to ensure that they were adequately informed of the proposed initiative, and for their full and effective participation, as appropriate, in the design of interventions that are inclusive, to promote ownership and sustainability.

199. Equality and non-discrimination: The project will not discriminate on the grounds of race, ethnicity, gender, age, language, disability, sexual orientation, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as a member of a minority. WHO and UNDP will ensure the meaningful, effective and informed participation of stakeholders during implementation, monitoring and evaluation. Capacity building training will be tailored to women and men at all levels including the project management office.

200. Accountability and rule of law: will be upheld by following the clauses included in the agreement signed between UNDP and WHO regarding policies on monitoring, evaluation, audits and transparency in project implementation. The legal context is also defined in this agreement.

201. Gender Equality and Women's Empowerment: Gender indicators with gender disaggregated data are incorporated in the project's Results Framework for monitoring progress during implementation and evaluations. In terms of the UNDP Gender Marker, the project has been rated GEN 2.

Table 7: Project Risks and Mitigation Measures

Project Risks					
Description	**Type**	**Probability (p) and Impact (I)**	**Mitigation Measures**	**Owner**	**Status**
Risk 1: Technical capacity. Stakeholders do not distinguish vulnerability to climate change from baseline weaknesses in disease control practices and management of environmental determinant of health (especially related to food and water security)	Operational	P = 2, I = 3 Will undermine impact of project due to lack of perceived correlation between new effort and improving health treatment	Integration of monitoring and evaluation systems with surveillance and early warning systems will support correlation of health metrics against climate change factors. Maintain proactive awareness raising and communication programmes, coupled with technical training and application of health information and early warnings to help differentiating climate and non-climate drivers for the implementation of integrated adaptation interventions	MOH, WHO, Project manager	No Change
Risk 2: Turnover of government staff who will be managing various project components and potentially negate benefits of training	Operational	P = 3, I = 2 Rapid turnover of government staff leading implementation activities results in loss of capacity and institutional knowledge; disrupts progress, and potential changes in direction of activities. Degrade the long term	To reduce negative impacts of staff turnover, the project will appoint supporting project management unit staff to ensure continuity and smooth transition. The project will focus on institutionalization of all outputs and outcomes to	MOH, WHO, Project manager	No Change

		sustainability of project.	ensure sustainability of project products and achievements through emphasis of a training-of-trainers approach to capacity building efforts and on development of detailed training material over heavy investments on individuals.		
Risk 3: Poor inter-ministerial collaboration, considering cross-sectoral nature of health, to effectively integrate health into adaptation planning.	Organizational / Institutional	P = 2, I = 4 This is a key sustainability risk for the project as almost all activities require collaboration between ministries or departments. Insufficient collaboration could cause significant delays to all four outcomes	The project will support inter-ministerial coordination through its activities, building to the extent possible on existing coordination mechanisms. Further, a stakeholder engagement plan has been developed as part of project preparation activities. The plan will be revisited and revised as needed during implementation to ensure it is comprehensive and inclusive given local contexts.	MOH, WHO, Project manager	No Change
Risk 4: Ensure that DDT and other environmentally harmful pesticides are recommended for newly	Environmental	P = 2, I = 1	Review of newly developed guidelines and policies to ensure this is not implemented nor recommended as	Project Manager	No Change

developed mosquito control			a means of control.		

V. PROJECT RESULTS FRAMEWORK

Applicable Outputs from the 2018 – 2021 UNDP Strategic Plan:		Output 2.1.1: Low emission and climate resilient objectives addressed in national, sub-national and sectoral development plans and policies to promote economic diversification and green growth			
Applicable Output Indicators from the UNDP Strategic Plan Integrated Results and Resources Framework:		Number of countries with targets for low emission and climate-resilient development in: a) Development plans and strategies b) Budgets c) Private sector business plans and strategies			
Project Strategy	Objective and Outcome Indicators	Baseline[35]	Mid – Term Target	Final Target	Assumptions[36]
Project Objective: Increase the adaptive capacity of national health systems and institutions, and sub-national level actors, to respond to and manage long-term climate-sensitive health risks in six Asian LDCs.	National H-NAP for long term planning and capacity development is created and budgeted. (AMAT 3.2 Indicator 12) (Output 2.1 – UNDP Strategic Plan)	H-NAP has not been developed and/or implemented. (Note: Cambodia and Nepal have approved H-NAP – funding and implementation planning has not yet been incorporated. Bangladesh has DFID HNAP development project – early stages)	Draft H-NAP has been developed (Bangladesh, Lao PDR, Myanmar, and Timor-Leste).	H-NAP is finalized/updated in 6 countries as the long-term plan for health adaptation to climate change and MOH is part of TWG with mandate to address cross-cutting climate change adaptation.	With support provided through outcome 4.2, countries are able to identify and quantify possible socio-economic impacts related to health and climate change
Outcome 1: Institutional Capacities are strengthened to effectively integrate climate risks and adaptation options in health sector planning and implementation.	Development of National Standards or guidelines for climate change and health systems	National standards, guidelines and SOPs are not available relating CC and Health	Draft standards or guidelines are developed and disseminated for review	Final standards and guidelines are developed.	Technical capacity of staff to understand and implement the requirements within their current programmes and develop new programmes with funding appropriately.

[35] Baseline, mid-term and end of project levels must be expressed in the same neutral unit of analysis as the corresponding indicator.
[36] Risks must be outlined in the Feasibility section of this project document.

Outcome 2: Effective decision making for health interventions is enabled through generation of information and improved surveillance and/or early warning systems	Vulnerability and adaptation assessments (V+A) conducted for current and future health risks. (AMAT 2.1 Indicator 6)	V+A has not been completed, or existing V+A is outdated or not comprehensive.	Gender-disaggregated health vulnerability and adaptation assessments conducted or updated in 2 countries.	Gender-disaggregated health vulnerability and adaptation assessments completed or updated in 6 countries.	Technical capacity to carry out V+A is available.
	Integrated disease surveillance system for climate sensitive disease is strengthened	Disease surveillance system does not consider climate/weather data	Integrated disease surveillance system considers climate/weather data	Tailored products to inform decision making based on surveillance system which incorporates climate/weather data (6 countries)	Appropriate climate/weather data can be obtained for linkage in a timely manner
Outcome 3: Climate resilience is enhanced in health service delivery	Disease control and prevention programmes are strengthened to account of the effects of climate variability and change.	Specific programmes and plans of climate-sensitive diseases don't include climate/weather considerations.	Disease control and prevention plans and programmes strengthened in two countries by including climate/weather considerations in the areas of intervention.	Disease control and prevention programmes strengthened in 6 countries	Methods of prevention and control of climate sensitive diseases are effective under changed climate. All local health facilities have necessary tools and capacity for timely reporting.
	Number of direct beneficiaries from enhanced health service delivery (AMAT 1.1 Indicator 1: number of direct beneficiaries)	Health service responds to vulnerability to climate change and health	0	100,000	Informed by vulnerability assessments
Outcome 4.1: Enhanced regional cooperation and knowledge exchange for promoting scale-up	Three regional trainings/meetings organized (Percentage of government stakeholders participated in national	No regional exchange of experiences on climate change and health	One Regional training/ meeting on climate change and health organized by WHO.	3 Regional Meetings on climate change and health (building on National experiences) for	

and replication of interventions	review meeting on CC&H)			International South-South collaboration focused on CCH. Reports on Improvements and Challenges will be generated and shared within the meeting. (Implemented by WHO)	
Outcome 4.2 HNAP are effectively integrated into ongoing NAP processes	HNAP informed by economic analyses to support integration into the NAP	Economic analyses on climate change and health not available	2 countries receive support to develop climate change and health economic analyses	6 countries receive support to develop climate change and health economic analyses (Implemented by UNDP)	

VI. MONITORING AND EVALUATION (M&E) PLAN

202. The project results as outlined in the project results framework will be monitored annually and evaluated periodically during project implementation to ensure the project effectively achieves these results. It will be monitored through the following M&E activities. The M&E budget is provided in the table below. The M&E framework set out in the Project Results Framework in Part 3 of this project document is aligned with the AMAT and UNDP M&E frameworks.

203. Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy. While these UNDP requirements are not outlined in this project document, the UNDP Country Office will work with the relevant project stakeholders to ensure UNDP M&E requirements are met in a timely fashion and to high quality standards. Additional mandatory GEF-specific M&E requirements (as outlined below) will be undertaken in accordance with the GEF M&E policy and other relevant GEF policies[37].

204. In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report. This will include the exact role of project target groups and other stakeholders in project M&E activities including the GEF Operational Focal Point and national/regional institutes assigned to undertake project monitoring. The GEF Operational Focal Point will strive to ensure consistency in the approach taken to the GEF-specific M&E requirements (notably the GEF Tracking Tools) across all GEF-financed projects in the country. This could be achieved for example by using one national institute to complete the GEF Tracking Tools for all GEF-financed projects in the country, including projects supported by other GEF Agencies.[38]

M&E Oversight and monitoring responsibilities

205. Project Manager: The Project Manager is responsible for day-to-day project management and regular monitoring of project results and risks, including social and environmental risks. The Project Manager will ensure that all project staff maintain a high level of transparency, responsibility and accountability in M&E and reporting of project results. The Project Manager will inform the Project Board, the UNDP Country Office and the UNDP-GEF RTA of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.

206. The Project Manager will develop annual work plans based on the multi-year work plan included in Annex A, including annual output targets to support the efficient implementation of the project. The Project Manager will ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually in time for evidence-based reporting in the GEF PIR, and that the monitoring of risks and the various plans/strategies developed to support project implementation (e.g. gender strategy, KM strategy etc..) occur on a regular basis.

207. Project Board: The Project Board will take corrective action as needed to ensure the project achieves the desired results. The Project Board will hold project reviews to assess the performance of the project and appraise the Annual Work Plan for the following year. In the project's final year, the Project Board will hold an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to highlight project results and lessons learned with relevant audiences. This final review meeting will also discuss the findings outlined in the project terminal evaluation report and the management response.

208. Project Implementing Partner: The Implementing Partner is responsible for providing any and all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary and appropriate. The Implementing Partner will strive to

[37] See https://www.thegef.org/gef/policies_guidelines
[38] See https://www.thegef.org/gef/gef_agencies

ensure project-level M&E is undertaken by national institutes, and is aligned with national systems so that the data used by and generated by the project supports national systems.

UNDP-GEF:

209. The UNDP-GEF Regional Technical Advisor will support the Project Manager as needed, including through annual supervision missions. The annual supervision missions will take place according to the schedule outlined in the annual work plan. Supervision mission reports will be circulated to the project team and Project Board within one month of the mission. The UNDP-GEF Regional Technical Advisor will initiate and organize key GEF M&E activities including the annual GEF PIR, the *independent mid-term review* and the independent terminal evaluation. The UNDP-GEF Regional Technical Advisor will also ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality.

210. The UNDP-GEF Regional Technical Advisor is responsible for complying with all UNDP project-level M&E requirements as outlined in the UNDP POPP. This includes ensuring the UNDP Quality Assurance Assessment during implementation is undertaken annually; that annual targets at the output level are developed, and monitored and reported using UNDP corporate systems; the regular updating of the ATLAS risk log; and, the updating of the UNDP gender marker on an annual basis based on gender mainstreaming progress reported in the GEF PIR and the UNDP ROAR. Any quality concerns flagged during these M&E activities (e.g. annual GEF PIR quality assessment ratings) must be addressed by the UNDP Country Office and the Project Manager.

211. The UNDP-GEF Regional Technical Advisor will retain all M&E records for this project for up to seven years after project financial closure in order to support ex-post evaluations undertaken by the UNDP Independent Evaluation Office (IEO) and/or the GEF Independent Evaluation Office (IEO).

212. Additional M&E and implementation quality assurance and troubleshooting support will be provided by the UNDP-GEF Headquarters and the UNDP-GEF Directorate as needed.

Audit

213. The project will be audited according to UNDP Financial Regulations and Rules and applicable audit policies for DIM and agency-implemented projects.[39] For Output 4.2 (and UNDP PMU), implemented directly by UNDP, DIM rules will apply. For Outputs 1, 2, 3 and 4.1 (and WHO PMU), audit policies for Agency-implemented projects will apply.

Additional GEF monitoring and reporting requirements

Inception Workshop and Report

214. A Project Inception Workshop will be held within the first two months of project start after the project document has been signed by all relevant parties to, amongst others:

- Re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project strategy and implementation;
- Discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms;
- Review the project results framework and finalize the indicators, means of verification and monitoring plan;
- Discuss reporting, monitoring and evaluation roles and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFP in M&E;
- Update and review responsibilities for monitoring the various project plans and strategies, including the risk log; knowledge management strategy, and other relevant strategies;
- Review financial reporting procedures and mandatory requirements, and agree on the arrangements for audits

[39] See guidance here: https://info.undp.org/global/popp/frm/pages/financial-management-and-execution-modalities.aspx

- Plan and schedule Project Board meeting and finalize first year annual work plan

215. The Project Manager will prepare the inception report no later than one month after the Inception Workshop. The inception report must be cleared by UNDP-GEF RTA and will be approved by the Project Board.

GEF Project Implementation Report (PIR)

216. WHO Country Offices in consultation with Responsible Parties, and the UNDP-GEF Regional Technical Advisor will provide objective input to the annual GEF PIR covering the reporting period July (previous year) to June (current year) for each year of project implementation. The WHO Country Offices in consultation with Responsible Parties will develop the PIR and submit these to the Project Management Unit, who will then compile the individual reports in one overall project PIR, to be finalized by WHO in consultation with UNDP-GEF and will coordinate with the GEF Operational Focal point and other stakeholders.

217. The Project Manager will ensure that the indicators included in the project results framework are monitored annually in advance of the PIR submission deadline so that progress can be reported in the PIR. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR.

218. The PIR submitted to the GEF will be shared with the Project Board. UNDP-GEF and WHO will coordinate the input of the GEF OFP and other stakeholders to the PIR as appropriate. The quality rating of the previous year's PIR will be used to inform the preparation of subsequent PIR.

Lessons learned and knowledge generation

219. Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects and disseminate these lessons widely. There will be continuous information exchange between this project and other projects of similar focus in the same country(ies), region and globally.

220. A detailed plan for disseminating results will be developed within the first 2 months of project implementation, in consultation with relevant parties including the project management unit of UNDP's Adaptation Learning Mechanism.

221. There will be a two-way flow of information between this project and other projects of a similar focus. This will be supported by knowledge management activities in Outcome 4.1, including the development and sharing of case studies, national and regional seminars / workshops and exchange visits, and information exchange via a project website and national/regional level workshops.

GEF Focal Area Tracking Tools:

222. The following GEF Tracking Tool(s) will be used to monitor global environmental benefit results: The baseline/CEO Endorsement GEF Focal Area Tracking Tool(s) – submitted in Annex D to this project document – will be updated by the Project Manager/Team and shared with *the* mid-term review consultants and terminal evaluation consultants (not the evaluation consultants hired to undertake the *MTR* or the TE) before the required review/evaluation missions take place. The updated GEF Tracking Tool(s) will be submitted to the GEF along with the completed Mid-term Review report and Terminal Evaluation report.

Independent Mid-term Review (MTR)

223. An independent Mid-Term Evaluation of the project will be conducted after completion of the first two years. The Mid-Term Evaluation will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and

timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the WHO based on guidance from UNDP-GEF, and in line with UNEG Guidelines. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the UNDP Evaluation Office Evaluation Resource Center (ERC). The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle.

Terminal Evaluation (TE)

224. An independent terminal evaluation (TE) will take place upon completion of all major project ouputs and activities. The terminal evaluation process will begin three months before operational closure of the project allowing the evaluation mission to proceed while the project team to reach conclusions on key aspects such as project sustainability. The project manager will remain on contract until the TE report and management response have been finalized. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance prepared by UNDP IEO for GEF-financed projects available at the UNDP Evaluation Resource Center. As noted in this guidance, the evaluation will be "independent, impartial and rigorous". The consultants that will be hired to undertake the assignment will be independent from organizations involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final TE report will be cleared by the UNDP-GEF Regional Technical Advisor, and will be approved by the Project Board. The TE report will be publicly available in English and the corresponding management response to the UNDP Evaluation Resource Centre (ERC). Once uploaded to the ERC, the UNDP IEO will undertake a quality assessment and validate the findings and ratings in the TE report, and rate the quality of the TE report. The UNDP IEO assessment report will be sent to the GEF IEO along with the project terminal evaluation report.

Final Report

225. The project's terminal PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lessons learned and opportunities for scaling up.

Mandatory GEF M&E Requirements and M&E Budget

226. The indicative monitoring and evaluation plan and corresponding budgets is provided in Table below. Costs for M&E will be incorporated into Outcomes 1-3.

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget[40] (USD)		Time frame
		GEF grant	Co-financing	
Inception Workshop	Project Manager/ PMU WHO	USD 20,000	None	Within two months of project document signature
Inception Report	Project Manager/ PMU WHO	None	None	Within two weeks of inception workshop

[40] Excluding project team staff time and UNDP staff time and travel expenses.

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget[40] (USD)		Time frame
		GEF grant	Co-financing	
Standard Monitoring and reporting requirements as outlined in the UNDP POPP	Project Manager/ PMU WHO	None	None	Quarterly, annually
Monitoring of indicators in project results framework	Project Manager and WHO	None	*None*	Annually
GEF Project Implementation Report (PIR)	Project Manager/ PMU WHO	None	None	Annually
Monitoring of environmental and social risks, and corresponding management plans as relevant	Project Manager/ PMU	None	None	On-going
Addressing environmental and social grievances	Project Manager/ PMU	None	None	As needed
Project Board meetings	Project Board, WHO, UNDP-GEF	20,000 USD per meeting = 80,000 USD	None	Meeting annually
Supervision missions	Project Manager/ PMU	None[41]	*None*	Annually
Oversight missions	Project Manager/ PMU	None	*None*	Troubleshooting as needed
GEF Secretariat learning missions/site visits	WHO, PMU and UNDP-GEF team	None	*None*	To be determined.
Mid-term GEF Tracking Tool	PMU Project Manager WHO	None	None	Before mid-term review mission takes place.
Independent Mid-term Review (MTR)	WHO, PMU and UNDP-GEF team	30,000 USD	None	Between 2nd and 3rd PIR.
Final GEF Tracking Tool to be updated by MOH	Project Manager	None	None	Before terminal evaluation mission takes place
Independent Terminal Evaluation (TE) included in UNDP evaluation plan	WHO, PMU and UNDP-GEF team	100,000 USD	None	At least three months before operational closure

[41] The costs of UNDP Country Office and UNDP-GEF's participation and time are charged to the GEF Agency Fee.

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget[40] (USD)		Time frame
		GEF grant	Co-financing	
TOTAL indicative COST Excluding project team staff time, and UNDP staff and travel expenses		210,000 USD	None	

VII. GOVERNANCE AND MANAGEMENT ARRANGEMENTS

VII.1 Roles and responsibilities of the Project's Governance Mechanism

227. The project will be implemented following UNDP's Direct Implementation Modality (DIM). UNDP will be responsible for Outcome 4.2. WHO is assigned as Responsible Partner through UN Agency to UN Agency Contribution Agreement for Outcomes 1 - 4.1. The Implmenting parter is responsible and accountable for managing the project, including the monitoring and evaluation of of project interventions, achieving project outcomes, and for the effective use of UNDP resources.
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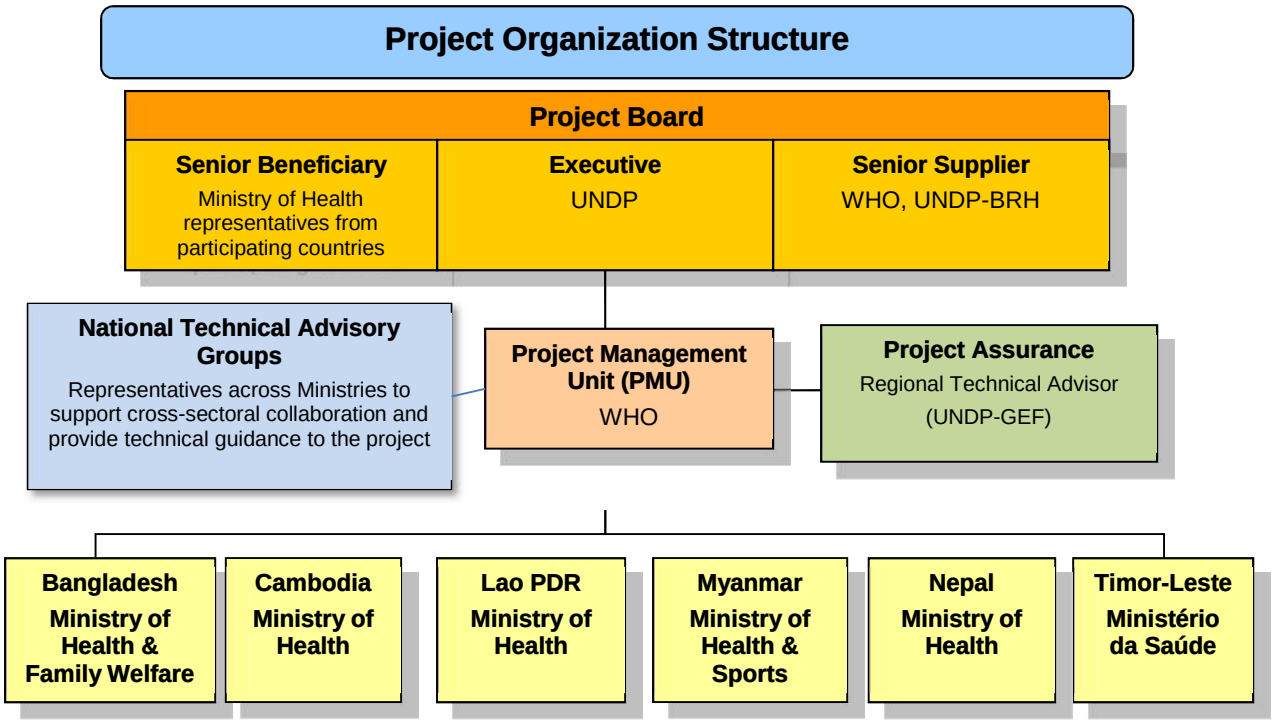

228. The Project Board is responsible for making by consensus, management decisions when guidance is required by the Project Manager, including recommendation for UNDP/Implementing Partner approval of project plans and revisions. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management and development results, best value for money, fairness, integrity, transparency and effective international competition. In case a consensus cannot be reached within the Board, final decision shall rest with the UNDP Programme Manager. The terms of reference for the Project Board are contained in Annex. The Project Board is comprised of the following individuals: Representatives of the Ministries of Health of the participating countries, UNDP and WHO.

229. Members of the Project Board will be reviewed and recommended for approval during the PAC International Project Board meeting. Representatives of other stakeholders can be included in the Board as appropriate. The Board contains three distinct roles, including:

- Senior Technical Advisor, UNDP-GEF will serve as the "Executive**"** representing the project ownership and interests of the GEF Council and will chair the Board.
- Scientist, Team Leader, Climate Change and Health, Public Health and Environment, World Health Organization, Geneva, WHO and Regional Cluster Leader, HIV and Health, UNDP Bangkok Regional Hub will both serve as the **Senior Supplier**, representing the executing agency, and the

technical expertise to the project. The Senior Supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project:

a. Make sure progress towards the outputs remains consistent from the supplier perspective;
b. promote and maintain focus on the expected project outputs from the point of vide of supplier management;
c. ensure that supplier resources required for the project are made available;
d. contribute supplier opinions on project board decisions on whether to implement recommendations on proposed changes;
e. arbitrate on, and ensure resolution of, any supplier priority or resource conflicts.

230. Suppliers should also advise on the selection of strategy, design and methods to carry out project activities; ensure that any standards defined for the project are met and used to good effect; monitor potential changes and their impact on the quality of deliverables from a supplier perspective; monitor any risks in the implementation aspects of the project.

231. The **Senior Beneficiaries** will be the Ministries of Health in the countries participating in this project. They will represent the interests of those who will ultimately benefit from the project. The Senior Beneficiary's primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries. This role includes: i) ensuring the expected output and related activities of the project are well defined; ii) ensuring progress towards the outputs required by the beneficiaries remains consistent from beneficiaries; iii) promote and maintain focus on the expected project outputs; iv) prioritize and contribute beneficiaries' opinions on Project Board decisions on whether to implement recommendations on proposed changes; v) resolve priority conflicts. The Senior Beneficiaries primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries.

232. The **Regional Technical Advisor (RTA**) for Climate Change Adaptation within the Global Environmental Finance Unit at UNDP will undertake the **Project Assurance** role in coordination with WHO. The RTA supports the Project Board Executive by carrying out objective and independent project oversight and monitoring functions. The Project Manager and Project Assurance roles should never be held by the same individual for the same project.

233. **Regional Project Manager (RPM)** will be recruited by WHO, to be based at WHO Regional Offices (SEARO and WPRO) with the authority to run the project on a day-to-day basis on behalf of the Implementing Partner within the constraints laid down by the Board. The Project Manager's prime responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. Furthermore, there will be National Project Managers based at the WHO Country Offices, so as to coordinate activities and workplans within the country effort.

Governance role for project target groups

234. On the Project Board, Beneficiaries will be represented by officers from the Ministries of Health.

Direct Project Costs

235. UNDP Direct Project Services will apply to Project Management Cost. Direct Project Costs (DPC) charge shall follow GEF specific guidance on DPC based on the written request from participating countries and/or WHO.

Agreement on the intellectual property rights and use of logo on the project's deliverables and disclosure of information

236. In order to accord proper acknowledgement to the GEF for providing grant funding, the GEF logo will appear together with the UNDP and WHO logos on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citations on publications regarding projects funded by the GEF will also accord proper acknowledgement to the GEF. Information will be

disclosed in accordance with relevant policies notably the UNDP Disclosure Policy[42] and the GEF policy on public involvement.[43]

Project Management

237. Sucessful execution of the project will require the establishment of an efficient global management structure, complemented by efficient regional and national management structures. As Responsible Partner, WHO will implement the project per established UNDP guidelines related to agency-executed projects. Within WHO, WHO will execute the project and will manage disbursement of project resources to its regional and country offices and report back to UNDP on expenditures as well as key results on a quarterly and annual basis as per the terms of Executing Agency Agreement between UNDP and WHO (see Figure below).

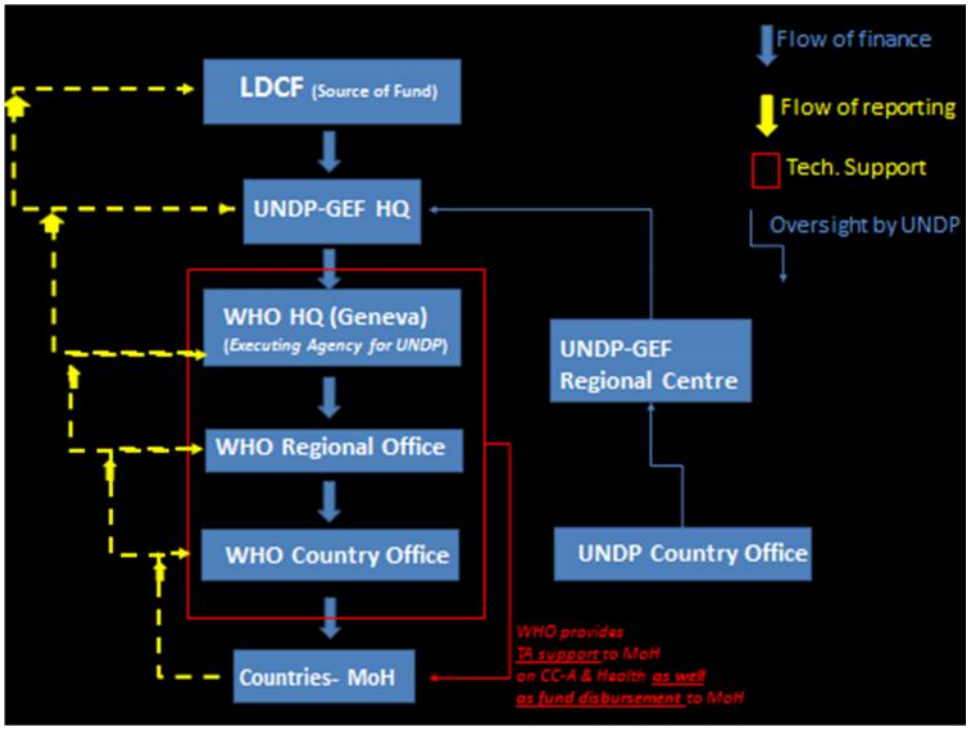

Figure 2: Project Organization Chart at Regional Level

VII.2 Country Level

238. At the country level, techncial advisory groups made up of key stakeholders will provide technical guidance to project implementation and support cross-sectoral collaboration. The Ministry mandated to oversea health concerns in each of the participating countries is expected to chair the committee, and identify a key person or persons who will have primary project responsibility for country level project activities, and to support coordinattion of country level activities.

239. UNDP country offices will participate in the technical advisory group in each country, and contribute towards coordination of this project with other UN/UNDP initiatives on climate change adaptation within the country. Per UNDP financial regulations and rules, UNDP country offices will fully recover costs associated with specific services upon the request from participating countries and/or WHO.

[42] See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/
[43] See https://www.thegef.org/gef/policy_guidelines

240. WHO country offices will participate in the technical advisory groups, and contribute towards the execution of the project, including issuing and monitoring contracts to the Ministry of Health and other sub-contractors according to WHO processes, and providing technical guidance and resources. This execution modality is followed in order to promote the following:

- Enhanced integration and synergy with existing climate change and health related global programs led by WHO and other development-orientated adaptation projects supported by UNDP through greater use of appropriate global systems and procedures.
- Promote greater national self-reliance through effective use of, and, as required, strengthening of, technical expertise of national health institutions, through a 'learning by doing' approach;
- Enhanced sustainability of the project outcomes through an increased sense of national ownership and commitment to climate change adaptation and inherent development objectives of the project;
- Ultimately, this approach is expected to maximize, at the national level, integration of the global project's national activities into national poverty reduction strategies in support of the Sustainable Development Goals (SDGs).

VIII. FINANCIAL PLANNING AND MANAGEMENT

241. The total cost of the project is US$36,061,600. This is financed through a GEF - LDCF grant of US$9,000,000 and co-financing of US$27,061,600. UNDP, as the GEF Implementing Agency, is responsible for the execution of the GEF resources and the cash co-financing transferred to UNDP bank account only.

Country	Co-financing source	Co-financing type	Co-financing amount	Description	Risks	Risk Mitigation Measures
Bangladesh	Ministry of Health and Family Welfare, Government of Bangladesh	In kind, In parallel	US$5,300,000	Office space, staff, utilities, baseline researchers from Bangladesh Climate Change Trust-funded Adaptation Research project, telecommunications, other administration, enhancement of capacity of key policy-makers and programme managers, model health facilities and diseases, Climate-resilient water safety plan implementation (Outputs 2.1, 2.2, 3.1, 3.2) (Outputs 1.1, 1.2, 2.1, 2.2,3.1 3.2)4.1 and 4.2)	Low	Project Board Oversight to confirm resources with Regional Project Manager (Review at Project Inception and at Mid-term)
	WHO CO	In Kind/Grant	US$700,000	In-kind and grant co-financing related to activities on water surveillance, water safety plans and other capacity building activities. (Output 1.1 1.2, 4.1),	Low	Project Board Oversight to confirm resources with Regional Project Manager (Review at Project Inception and at Mid-term)
Cambodia	MOH - Department of Preventative Medicine	Grant	US$2,500,000	$1,500,000 - Cambodia Climate Change Alliance (CCCA) and ADB's Strengthening Resilience to Climate Change in the Health Sector in the Greater Mekong Sub-region $1,000,000 – malaria and dengue control	Low	Project Board Oversight to confirm resources with Regional Project Manager (Review at Project Inception and at Mid-term)

Country	Co-financing source	Co-financing type	Co-financing amount	Description	Risks	Risk Mitigation Measures
				programmes under the Ministry of the Health's National Center for Parasitology, Entomology and Malaria Control (CNM)		
Lao PDR	Lao Government (MOH)	In Kind	US$2,385,200	Facilities and staff, telecommunication, utilities and other administrative costs	Low	Project Board Oversight to confirm resources with Regional Project Manager (Review at Project Inception and at Mid-term)
	WHO CO	In Kind	US$1,036,400	Activity budget for strengthening national emergency response, disaster management, dengue surveillance and WASH capacity in the country	Low	Regional Project Board Oversight to confirm resources with Regional Project Manager (Review at Project Inception and at Mid-term)
Myanmar	Government	In Kind	US$3,000,000	Personnel, infrastructure, supplies, equipment and operational support	Low	Project Board Oversight to confirm resources with Regional Project Manager (Review at Project Inception and at Mid-term)
Nepal	Government - MOH	In Kind	US$3,300,000	Office space, staff cost, utility and telecommunications and other administrative costs, enhancement of capacity of key policymakers and program managers,	Low	Project Board Oversight to confirm resources with Regional Project Manager (Review at Project

Country	Co-financing source	Co-financing type	Co-financing amount	Description	Risks	Risk Mitigation Measures
				integration of H-NAP in NAP process, Climate resilient health service delivery, establishment of model health facilities and diseases surveillance (Outputs 1.1,1.2, 2.1. 2.2, 3.2,3.2,4.1 and 4.2)		Inception and at Mid-term)
	WHO CO	In Kind/Grant	US$700,000	Office space, staff cost, utility and telecommunications and other administrative costs, integration of H-NAP in NAP process, enhancement of capacity of key policymakers and program managers, climate resilient water safety plans implementation and support for integrated diseases surveillance as per international health regulation (Outputs1.1 1.2, 2.1. 2.2, 3.2, 3.2, 4.1 and 4.2),	Low	Project Board Oversight to confirm resources with Regional Project Manager (Review at Project Inception and at Mid-term)
Timor-Leste	Government	In Kind	US$1,500,000	Government in kind contribution related to staff time and related equipment	Low	Project Board Oversight to confirm resources with Regional Project Manager (Review at Project Inception and at Mid-term)
	WHO CO	In Kind/Grant	US$240,000	Activity budget related to water safety plans, climate change and health programmes, medical waste management, and dengue control	Low	Project Board Oversight to confirm resources with Regional Project Manager (Review at

Country	Co-financing source	Co-financing type	Co-financing amount	Description	Risks	Risk Mitigation Measures
						Project Inception and at Mid-term)
Regional	WHO	In Kind/Grant	US$6,400,000	Grants from climate change and health projects that WHO is coordinating within the sub-regions and countries participating in this project. This includes surveillance systems for climate-sensitive diseases, such as malaria, dengue, malnutrition, and diarrhoeal diseases, and staff costs.	Low	Project Board Oversight to confirm resources with Regional Project Manager (Review at Project Inception and at Mid-term)

242. Through close consultation with stakeholders and development partners, the project will ensure collaboration with ongoing and in-development projects at the national and regional levels. These include the climate change and health related projects and NAPs support projects included in the baseline section, as well as new partnerships currently being explored. For instance, UNDP has recently submitted a proposal (US$3million) on behalf of the Government of Bangladesh to the GCF for consideration, to support the NAP process. This project is expected to be approved in 2018. Further, UNDP has begun discussions with the Global Fund's Regional Artemisinin-resistance Initiative (RAI), launched in 2013 in response to the emergence of drug-resistant malaria in the Greater Mekong region. This programme has recently been expanded with a second phase (US$242million) addressing case management through health volunteers and surveillance systems, specifically related to malaria. Collaboration will ensure complementarity and maximization of combined resources for common countries, namely Cambodia, Myanmar and Lao PDR.

243. Budget Revision and Tolerance: As per the UNDP requirements outlined in the UNDP POPP, the project board can agree on a budget tolerance level for each plan under the overall annual work plan allowing the project manager to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the project board. Should the following deviations occur, the Project Manager and UNDP Country Office will seek the approval of the UNDP-GEF team as these are considered major amendments by the GEF: a) budget re-allocations among components in the project with amounts involving 10% of the total project grant or more; b) introduction of new budget items/or components that exceed 5% of original GEF allocation. Any over expenditure incurred beyond the available GEF grant amount will be absorbed by non-GEF resources (e.g. UNDP TRAC or cash co-financing).

244. Project Closure: Project closure will be conducted as per the UNDP requirements outlined in the UNDP POPP (see (https://info.undp.org/global/popp/ppm/Pages/Closing-a-Project.aspx) On an exception basis only, a no-cost extension beyond the initial duration of the project will be sought from the PMU and then the UNDP-GEF Executive Coordinator.

245. Operational completion: The project will be operationally completed when the last GEF - financed inputs have been provided and the related activities have been completed including the final clearance of the Terminal Evaluation Report that must be available in English, and after the final project board meeting. The WHO Country Office through a Project Board decision, will notify the UNDP Country Office when the

operational closure has been completed. The relevant parties will then agree on the disposal of any equipment that is still the property of UNDP.

246. Financial completion: The project will be financially closed when the following conditions have been met: a) the project is operationally completed or has been cancelled; b) the implementing partner has reported all financial transactions to UNDP; c) UNDP has closed the accounts for the project; d) UNDP and WHO have certified a final Combined Delivery Report (which serves as final budget revision).

247. The project will be financially completed within 12 months of operational closure or after the date of cancellation. Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The PMU will send the final signed closure documents to UNDP Regional Office including confirmation of final cumulative expenditure and unspent balance to the UNDP-GEF Unit for confirmation before the project will be financially closed in Atlas by the Country Office.

248. Refund to Donor: should a refund of unspent funds to the GEF be necessary, this will be managed directly by the UNDP-GEF Unit in New York.

IX. SUSTAINABILITY OF RESULTS

249. Adaptation interventions promoted by the project will be mainstreamed into main policy instruments and legislative platforms to enable project results to be sustained beyond the lifetime of the project. Sustainability has been built into the project approach by emphasizing institutional and individual capacity development.

IX.1 Sustaining and Mainstreaming

250. The focus on improved planning and decision-making on climate change and health as well as strengthened information management for adaptation will strengthen each countries capacity to plan for and implement health adaptation to climate change in the medium- to long-term. These outcomes thus inherently contribute to sustainability of project activities by mainstreaming climate change adaptation – including practical measures implemented in this project. The creation or updating of H-NAPS and integrating with the over-arching NAPs will ensure it is embedded within national policies, strategies and plans on an ongoing basis.

IX.2 Institutional, Social and Financial Sustainability

251. To support sustainability, the project design relies on the following elements which are included within the corresponding Outcomes:

- A commitment to long-term planning at all levels, from strategies (such as promotion of inter-sectoral decision-making through inter-sectoral fora), to policies (such as the development of the health component of National Adaptation Plans (H-NAPs)), to specific measures (such as pre-defined action plans for dealing with outbreaks of water-borne disease);
- Inclusion into budgetary allocations to establish continuous improvement and training;
- Institutionalizing knowledge through development and maintenance of best practice learning detailed in guidelines and operational procedures;
- Embedding and maintaining automated collection of comprehensive surveillance information, correlating climatic data to bench marks and institutional metrics;
- Building of multi-sectoral teams, to allow climate-change adaptation to be integrated into planning in a wide range of sectors;
- Mainstreaming within the health community the connections of climate change and health within national medical/nurse universities and community awareness training programmes will support long term sustainability;
- Creation of standing Technical Working Groups within each country that will have sufficient capacity to advocate and focus cross sector coordination that will enhance the health-specific component of the national adaptation plan processes;
- Explicit consideration of costs and benefits, with endorsement of strategies, policies and measures only if they can be expected to provide overall net benefits to health, and sustainable development;
- Commitment to continuous monitoring and regular evaluation of interventions over time; and
- Inclusion of fund-raising amongst national and international agencies and donors as a core activity.

252. Project resources will be used to systematically capture, analyze and disseminate experience and best practices, from early stages of engagement and policy-related work. Consequently, the investments in this project will help scale up this nationwide approach for regional benefits.

IX.3 Sustainability and Scaling Up

253. The project builds on developing or further developing a policy and institutional framework for building health resilience to climate change. There is strong commitment from Governments to integrate

health management policies and capacities to effectively adapt to climate change across cross-sectoral programmes.

254. The project strategy and outputs will have long term impacts – for instance, through the national H-NAP the integration of climate change adaptation into national and local health planning and governance practices, including sharing of climate data to support integrated health care approaches. Focus on enhancing the capacity of surveillance and early warning systems will all make major contributions towards enduring impacts that extend well beyond the project lifetime.

255. Regional South-to-South coordination to ensure sharing of resilient health actions, policies and plans through lessons learned will ultimately build capacity for each country to strengthen and facilitate the integration of dealing with cross-cutting issues within the respective government's decision-making processes and development policies, plans and programmes. This is being done to ensure that issues such as Climate Change, Health, Environment, Disaster, Gender and Poverty and their opportunities are adequately integrated into the mainstream development process. Furthermore, the South to South collaboration on health is aimed to raise awareness around and build capacity in mainstreaming across sector and government agencies, particularly at the local levels. For example, enhanced surveillance and early warning systems will be developed by the project and the related lessons learned will be adopted and applied to future phases of health care adaptation to climate change. Guidelines and SOPs will be developed and shared between the participants to better understand and institutionalize the approaches used.

X. LEGAL CONTEXT

256. This project forms part of an overall programmatic framework under which several separate associated country level activities will be implemented. When assistance and support services are provided from this Project to the associated country level activities, this document shall be the "Project Document" instrument referred to in: (i) the respective signed SBAAs for the specific countries; or (ii) in the Supplemental Provisions to the Project Document attached to the Project Document in cases where the recipient country has not signed an SBAA with UNDP, attached hereto and forming an integral part hereof. All references in the SBAA to "Executing Agency" shall be deemed to refer to "Implementing Partner."

Risk Management section:
257. UNDP as the Implementing Partner will comply with the policies, procedures and practices of the United Nations Security Management System (UNSMS.)

258. UNDP as the Implementing Partner will undertake all reasonable efforts to ensure that none of the [project funds][1] are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/sc/committees/1267/aq_sanctions_list.shtml. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

259. Social and environmental sustainability will be enhanced through application of the UNDP Social and Environmental Standards (http://www.undp.org/ses) and related Accountability Mechanism (http://www.undp.org/secu-srm).

260. UNDP as the Implementing Partner will: (a) conduct project and programme-related activities in a manner consistent with the UNDP Social and Environmental Standards, (b) implement any management or mitigation plan prepared for the project or programme to comply with such standards, and (c) engage in a constructive and timely manner to address any concerns and complaints raised through the Accountability Mechanism. UNDP will seek to ensure that communities and other project stakeholders are informed of and have access to the Accountability Mechanism.

261. All signatories to the Project Document shall cooperate in good faith with any exercise to evaluate any programme or project-related commitments or compliance with the UNDP Social and Environmental Standards. This includes providing access to project sites, relevant personnel, information, and documentation.
UNDP as the Implementing Partner will ensure that the following obligations are binding on each responsible party, subcontractor and sub-recipient:

a. Consistent with the Article III of the SBAA, the responsibility for the safety and security of each responsible party, subcontractor and sub-recipient and its personnel and property, and of UNDP's property in such responsible party's, subcontractor's and sub-recipient's custody, rests with such responsible party, subcontractor and sub-recipient. To this end, each responsible party, subcontractor and sub-recipient shall:
    i. put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
    ii. assume all risks and liabilities related to such responsible party's, subcontractor's and sub-recipient's security, and the full implementation of the security plan.

b. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as

[1] To be used where UNDP is the Implementing Partner

required hereunder shall be deemed a breach of the responsible party's, subcontractor's and sub-recipient's obligations under this Project Document.

c. Each responsible party, subcontractor and sub-recipient will take appropriate steps to prevent misuse of funds, fraud or corruption, by its officials, consultants, subcontractors and sub-recipients in implementing the project or programme or using the UNDP funds. It will ensure that its financial management, anti-corruption and anti-fraud policies are in place and enforced for all funding received from or through UNDP.

d. The requirements of the following documents, then in force at the time of signature of the Project Document, apply to each responsible party, subcontractor and sub-recipient: (a) UNDP Policy on Fraud and other Corrupt Practices and (b) UNDP Office of Audit and Investigations Investigation Guidelines. Each responsible party, subcontractor and sub-recipient agrees to the requirements of the above documents, which are an integral part of this Project Document and are available online at www.undp.org.

e. In the event that an investigation is required, UNDP will conduct investigations relating to any aspect of UNDP programmes and projects. Each responsible party, subcontractor and sub-recipient will provide its full cooperation, including making available personnel, relevant documentation, and granting access to its (and its consultants', subcontractors' and sub-recipients') premises, for such purposes at reasonable times and on reasonable conditions as may be required for the purpose of an investigation. Should there be a limitation in meeting this obligation, UNDP shall consult with it to find a solution.

f. Each responsible party, subcontractor and sub-recipient will promptly inform UNDP as the Implementing Partner in case of any incidence of inappropriate use of funds, or credible allegation of fraud or corruption with due confidentiality.

   Where it becomes aware that a UNDP project or activity, in whole or in part, is the focus of investigation for alleged fraud/corruption, each responsible party, subcontractor and sub-recipient will inform the UNDP Resident Representative/Head of Office, who will promptly inform UNDP's Office of Audit and Investigations (OAI). It will provide regular updates to the head of UNDP in the country and OAI of the status of, and actions relating to, such investigation.

g. UNDP will be entitled to a refund from the responsible party, subcontractor or sub-recipient of any funds provided that have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document. Such amount may be deducted by UNDP from any payment due to the responsible party, subcontractor or sub-recipient under this or any other agreement.

   Where such funds have not been refunded to UNDP, the responsible party, subcontractor or sub-recipient agrees that donors to UNDP (including the Government) whose funding is the source, in whole or in part, of the funds for the activities under this Project Document, may seek recourse to such responsible party, subcontractor or sub-recipient for the recovery of any funds determined by UNDP to have been used inappropriately, including through fraud or corruption, or otherwise paid other than in accordance with the terms and conditions of the Project Document.

   Note: The term "Project Document" as used in this clause shall be deemed to include any relevant subsidiary agreement further to the Project Document, including those with responsible parties, subcontractors and sub-recipients.

h. Each contract issued by the responsible party, subcontractor or sub-recipient in connection with this Project Document shall include a provision representing that no fees, gratuities,

rebates, gifts, commissions or other payments, other than those shown in the proposal, have been given, received, or promised in connection with the selection process or in contract execution, and that the recipient of funds from it shall cooperate with any and all investigations and post-payment audits.

i. Should UNDP refer to the relevant national authorities for appropriate legal action any alleged wrongdoing relating to the project or programme, the Government will ensure that the relevant national authorities shall actively investigate the same and take appropriate legal action against all individuals found to have participated in the wrongdoing, recover and return any recovered funds to UNDP.

j. Each responsible party, subcontractor and sub-recipient shall ensure that all of its obligations set forth under this section entitled “Risk Management” are passed on to its subcontractors and sub-recipients and that all the clauses under this section entitled “Risk Management Standard Clauses” are adequately reflected, *mutatis mutandis*, in all its sub-contracts or sub-agreements entered into further to this Project Document.

262. Regarding accountability of WHO as a responsible party, please refer to the UN Agency to UN Agency Contribution Agreement entered into between UNDP and WHO for this Project. In the event that the terms contained in this Project Document are incompatible or inconsistent with those contained in the UN Agency to UN Agency Contribution Agreement, then the latter shall govern and prevail. For the avoidance of any doubt, all contributions to WHO are subject exclusively to its internal and external auditing procedures, and the activities implemented by WHO and the funding received thereto shall be administered solely in accordance with, and pursuant to, the Financial Regulations and Rules, and financial and administrative rules and practices of WHO and in respect of the “single audit” principle. In the event that any part of the contribution for which WHO is a responsible party is determined by WHO to have been lost due to fraud or corruption, such loss will be dealt with in accordance with the applicable financial regulations, rules, policies, procedures and directives of WHO. Further, in respect of such amount which WHO has been able to recover, such amount will be returned to the Project. Where the Project has been concluded or terminated, the amount shall be re-programmed as agreed by WHO and UNDP or returned to UNDP at such bank account as determined by UNDP. In respect of such amount that has not been recovered, WHO agrees to continue consultations with a view to determining a mutually agreeable solution, including the return of such funds, and in the interim, to discuss such issues on a case-by-case basis. The foregoing shall be applied in a manner consistent with the privileges and immunities of WHO.

XI. TOTAL BUDGET AND WORK PLAN

Award ID:	00105394	Project ID(s):	00106651
Award Title:	PIMS 5400 FSP Building Resilience of Health Systems in Asian LDCs to Climate Change		
Business Unit:	UNDP - GEF		
Project Title:	PIMS 5400 FSPBuilding Resilience of Health Systems in Asian LDCs to Climate Change		
PIMS no.	5400		
Implementing Partner (Executing Agency)	United Nations Development Programme		

Outcome/ Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor name	Budgetary Account Code	Atlas budget description	Amount Y1 (USD)	Amount Y2 (USD)	Amount Y3 (USD)	Amount Y4 (USD)	Total	Budget Notes
Outcome 1: Institutional capacities are strengthened to effectively integrate climate risks and adaptation options in health sector planning and implementation	WHO and Various (Country Specific)	62160	LDCF	71200	International Consultants	54,400	67,500	14,400	24,400	160,700	1A
				71300	Local consultants	110,600	128,600	111,600	73,150	423,950	1B
				71400	Contractual Services - Individual	48,500	52,000	43,500	40,500	184,500	1C
				71600	Travel	27,104	36,380	14,184	12,185	89,853	1D
				72100	Contractual Services - Companies	112,300	115,000	103,500	104,000	434,800	1E
				72200	Equipment and Furniture	15,000	-	-	-	15,000	1F
				72500	Supplies	24,200	12,200	9,200	7,000	52,600	1G
				74200	Audio Visual & Print Production Costs	27,000	5,000	-	-	32,000	1H

				75700	Training, Workshops and Conferences	118,500	173,500	113,500	108,500	514,000	1I
Total Outcome 1 (Including M&E Costs)						**537,604**	**590,180**	**409,884**	**369,735**	**1,907,403**	
Outcome 2: Effective decision-making for health interventions is enabled through generation of information and improved surveillance and/or early warning systems	WHO and Various (Country Specific)	62160	LDCF	71200	International Consultants	89,800	95,500	34,050	26,050	245,400	2A
				71300	Local consultants	74,850	80,600	73,200	54,600	283,250	2B
				71400	Contractual Services - Individual	10,000	20,000	15,033	10,000	55,033	2C
				71600	Travel	44,788	45,380	27,638	26,638	144,444	2D
				72100	Contractual Services - Companies	225,500	198,500	181,366	138,000	743,366	2E
				72500	Supplies	52,200	48,800	30,700	24,700	156,400	2F
				72800	Information Technology Equipment	16,000	17,000	17,000	10,000	60,000	2G
				75700	Training, Workshops and Conferences	105,000	110,000	78,000	52,000	345,000	2H
Total Outcome 2 (Including M&E Costs)						**618,138**	**615,780**	**456,987**	**341,988**	**2,032,893**	
Outcome 3: Climate resilience is enhanced in health service delivery	WHO and Various (Country Specific)	62160	LDCF	71200	International Consultants	60,800	61,300	43,900	52,900	218,900	3A
				71300	Local consultants	151,600	144,600	110,100	86,600	492,900	3B
				71400	Contractual Services - Individual	50,000	60,000	50,000	38,000	198,000	3C
				71600	Travel	56,288	60,288	38,744	33,584	188,904	3D
				72100	Contractual Services - Companies	223,500	291,500	174,500	132,500	822,000	3E

				72200	Equipment and Furniture	34,000	47,000	46,000	1,000	128,000	3F
				72500	Supplies	56,700	103,200	81,700	34,400	276,000	3G
				75700	Training, Workshops and Conferences	236,000	200,000	160,000	119,000	715,000	3H
Total Outcome 3 (Includes M&E Costs)						**868,888**	**967,888**	**704,944**	**497,984**	**3,039,704**	
Outcome 4 Regional Cooperation and Knowledge Management	WHO (Outcome 4.1 Enhanced regional cooperation and knowledge exchange for promoting scale-up and replication of interventions)	62160	LDCF	71200	International Consultants	67,500	67,500	67,500	67,500	270,000	4A
				71400	Contractual Services - Individual	40,000	40,000	40,000	40,000	160,000	4B
				71600	Travel	43,750	43,750	43,750	43,750	175,000	4C
				72100	Contractual Services - Companies	15,000	30,000	15,000		60,000	4D
				74100	Professional Services	30,000	50,000	30,000	50,000	160,000	4E
				75700	Training, meetings and workshops	125,000	0	125,000	125,000	375,000	4F
	UNDP (4.2 H-NAP are effectively integrated into ongoing NAP processes)	62160	LDCF	71200	International Consultants		100,000	100,000		200,000	4G
				75700	Training, meetings and workshops		100,000	100,000		200,000	4H
Total Outcome 4						**321,250**	**431,250**	**521,250**	**326,250**	**1,600,000**	
Total Outcome 1-4						**2,345,880**	**2,605,098**	**2,093,065**	**1,535,957**	**8,580,000**	
Project Management Unit	WHO	62160	LDCF	71400	Contractual services	87,500	87,500	87,500	87,500	350,000	PMU1
				72500	Supplies	2,500	2,500	2,500	2,500	10,000	PMU2

				72800	Information Technology Equipment	18,000				18,000	PMU3
				73300	Rental & Maint of Info Tech Eq	500	500	500	500	2,000	PMU4
				74100	Professional Services	4,000	4,000	4,000	4,000	16,000	PMU5
				75700	Training, meetings and workshops	5,000	5,000	5,000	5,000	20,000	PMU6
	UNDP			74596	Service to Projects - GoE	1,000	1,000	1,000	1,000	4,000	PMU7
Total PMU						**118,500**	**100,500**	**100,500**	**100,500**	**420,000**	
Grand Total						**2,464,380**	**2,705,598**	**2,193,565**	**1,636,457**	**9,000,000**	

Global Environmental Facility	Sources of Co-Financing	Type	Y1	Y2	Y3	Y4	Total
		LDCF	2,464,380	2,705,598	2,193,565	1,636,457	9,000,000
Summary of Funds	Sources of Co-Financing	Type	Y1	Y2	Y3	Y4	Total
Bangladesh	National Government	In Kind/Grant	$1,325,000	$1,325,000	$1,325,000	$1,325,000	$5,300,000
	WHO	In Kind/Grant	$175,000	$175,000	$175,000	$175,000	$700,000
Cambodia	National Government	Grant	$1,000,000	$500,000	$500,000	$500,000	$2,500,000
Lao PDR	National Government	In Kind	$596,300	$596,300	$596,300	$596,300	$2,385,200
	WHO	In Kind/Grant	$259,100	$259,100	$259,100	$259,100	$1,036,400

Myanmar	National Government	In Kind	$750,000	$750,000	$750,000	$750,000	$3,000,000
Nepal	WHO	In Kind/Grant	$175,000	$175,000	$175,000	$175,000	$700,000
	National Government	In Kind	$825,000	$825,000	$825,000	$825,000	$3,300,000
Timor-Leste	WHO	In Kind/Grant	$60,000	$60,000	$60,000	$60,000	$240,000
	National Government		375,000	375,000	375,000	375,000	1,500,000
Regional	WHO		1,600,000	1,600,000	1,600,000	1,600,000	6,400,000
		Total Co-financing	7,140,400	6,640,400	6,640,400	6,640,400	27,061,600
		Total Project	9,604,780	9,345,998	8,833,965	8,276,857	36,061,600

Budget notes:

	Description	
	Outcome 1	
1A	71200 - International consultants	
Bangladesh	International consultants – budget for M&E activities to complete Mid-term and Terminal Evaluations	9,000
Cambodia	4 weeks: international consultant to identify key national and provincial staff at Ministry of Health and other key ministries and assess knowledge of climate change and health (Activity 1.1.1)	43,000
	5 weeks: international consultant to conduct Climate Change Technical Working Group terms of reference workshop (Activity 1.2.1)	
	3 weeks: international consultant to develop training to address knowledge and capacity gaps (Activity 1.1.1)	
	2 weeks: international consultant to assess staff knowledge post-training (Activity 1.1.1)	
Lao PDR	6 weeks IC to develop H-NAP in consultation with key government and development partners and finalize after technical consultation and stakeholder meetings (Activity 1.1), 2 weeks IC to design community awareness assessment on climate change and health risks jointly with LC. (Activity 1.3).	20,000
	6 weeks IC to develop training materials using WHO CC&H training materials to address knowledge and capacity gaps (Activity 1.1 and will support 3.1) and 2 weeks to develop advocacy materials for H-NAP implementation and high level advocacy meeting (Activity 1.3).	25,000
Timor Leste	IC time 3 weeks to perform costing for the National Strategy for Environmental Health; 6 weeks to strengthen data sharing; 3 weeks to Develop training and advocacy materials on CC&H;	22,400
	IC time 12 weeks to support the creation of an H-NAP; 3 weeks to develop and deliver training;	30,500
	IC time 2 weeks to update treatment guidelines; LC time 2 weeks to update treatment guidelines;	5,400
	IC time 2 weeks to update treatment guidelines;	5,400
1B	71300 - Local consultants	
Bangladesh	Two local consultants will be hired to prepare terms of reference for the national project implementation unit and technical advisory group, make necessary arrangements for setting up the project implementation unit and technical advisory group, prepare bid documents with Agreement for Performance of Work (APW) mechanism, and other technical support	65,000
Cambodia	6 weeks: local consultant to determine necessary data-sharing and develop and negotiate agreements (Activity 1.1.2)	107,550
	3 weeks: local consultant to assess existing climate change curricula and courses taught by Climate Change Technical Working Group members and add or update courses (Activity 1.2.2)	

	1 week: local consultant to build Ministry of Health data analysis capacity (Activity 1.1.2)	
	2 weeks: local consultant for Climate Change Technical Working Group meetings (Activity 1.2.1)	
	One special services agreement to support all activities under Outcome 1	
	1 week: local consultant to build Ministry of Health data analysis capacity (Activity 1.1.2)	
	2 weeks: local consultant for Climate Change Technical Working Group meetings (Activity 1.2.1)	
	One special services agreement to support all activities under Outcome 1	
	WHO technical support for all activities under Outcome 1	
	1 week: local consultant to build Ministry of Health data analysis capacity (Activity 1.1.2)	
	2 weeks: local consultant for Climate Change Technical Working Group meetings (Activity 1.2.1)	
	One special services agreement to support all activities under Outcome 1	
Lao PDR	4 wks LC to collect and analyse data and information for community awareness assessment (Activity 1.3), 4 wks LC to draft behaviour change and communication materials (Activity 1.3).	116,000
	8 weeks LC to work under IC support to translate training and advocacy materials into local language and develop awareness raising materials for community (Activity 1.1 and 1.3).	
	6 weeks LC/or NGO to provide refresher training and onsite support to MOH for data management capacity for multi-sectoral coordination (Activity 1.4 and integrated with 2.3).	
	6 weeks LC/or NGO to build National Center for Environmental Health and Water capacity for CC&H data management (Activity 1.4 and integrated with 2.3).	
	WHO technical support for all activities under outcome 1.	
	Translation cost for WHO CCH training materials and editing in local language at $2000 and	
Myanmar	Consultant will be hired to support Ministry of Health and Sport staff in development of health-specific components of national adaptation plan by reviewing existing documents, organizing and facilitating workshops, and drafting health-specific components of national adaptation plan	65,000
Timor Leste	Local consultant to support outcome 1; LC time 2 weeks to update treatment guidelines; WHO technical support costs;	70,400
1C	71400 - Contractual Services - Individual	
Bangladesh	Professional services to support development of curricula to incorporate climate change and health risks management into health and medical sciences academic and training programmes	34,000

	Professional services for developing monitoring framework, and developing standard operating procedures for the framework, for monitoring policy implementation; professional services for conducting geographical information system-based vulnerability mapping for potential health risks from climate-sensitive diseases	33,000
	Contractual professional services to support development or updating of university, academy and training institution curricula to incorporate climate change and health risk management into health and medical sciences academic and training programmes	30,000
Myanmar	Contractual services (individual) include conducting baseline assessment of national and subnational level (regions and districts) for development of new standard operating procedures; based on findings of assessment, develop standard operating procedures and provide training of trainer courses and training on climate change models, risk assessment and new guidelines to public health staff	40,000
	Contractual professional services will be hiring resources staff to support projects, survey data collection, develop training guidelines for training of trainers, and train basic health staff	47,500
1D	71600 - Travel	
Cambodia	Consultant travel costs for all activities under Outcome 1	18,000
Lao PDR	Travel cost covers required travels for the government staff, IC, LC to work in target provinces for community awareness assesment and H-NAP consultation; travel costs for all activities and onsite support in target 2 provinces; travel costs for monitoring visits to target provincies and communities	20,000
Timor Leste	Travel costs	51,852
1E	72100 - Contractual Services - Companies	
Bangladesh	Contractual services to conduct knowledge gap analysis of climate change and health and training needs assessment and to prepare training module and courses; develop course curriculum for medical education and short courses for other professions; conduct post-training assessment	100,000
Myanmar	Contractual services companies/institutions include service contracts for printing and publishing health-specific components of national adaptation plan, standard operating procedures, guidelines and training manuals for climate-sensitive diseases prevention and management	50,000
	Contractual services to support Ministry of Health to develop national standards for climate-resilient health-care system adopting WHO 2014 operational framework for building climate-resilient health systems	65,500
Nepal	Contractual services from companies or institutions for conducting baseline assessment of national and subnational level (regions and districts) Ministry of Health and other key ministries' staff knowledge on relationships between climate change and health and climate-sensitive diseases and risks. Organization of advocacy meetings and training sessions. Conduction of post-training assessment for assessing change on knowledge level of health professionals	80,000
	Contractual services for supporting development and operation of web portal and website of climate change and health in Nepal	20,000

	Contractual services to carry operational research on climate resilient health system development in Nepal	80,000
	Contractual professional services to support development or update of university, academy and training institution curricula to incorporate climate change and health risks management into health and medical sciences academic and training programmes	39,300
1F	72200 - Equipment and Furniture	
Nepal	Strengthening Disease Control, Climate Change and Environment Section of Ministry of Health in terms of purchase of furniture, required equipment etc.	15,000
1G	72500 - Supplies	
Cambodia	Climate change website for Department of Preventive Medicine/Climate Change Technical Working Group (Activity 1.2.1)	14,000
	US$ 100/month for supplies for all activities under Outcome 1	
	Laptop and other information technology for special services agreement supporting all activities under Outcome 1	
Lao PDR	Laptop, projects and training equipment for 2 provincial training institutes at $2000. $166/month for supplies for all activities. 2000$/year for laptop and other IT equipment for secretariat to make multi-sectoral coordination; Laptop and projector for district level-trainers/District health office at $2000,	20,800
Timor Leste	$100/month for supplies; WHO technical support costs; Printing costs for new guidelines; Laptop and other IT for SSA; statistical analysis training and software	17,800
1H	72400 - Audio Visual & Print Production Costs	
Nepal	Development of factsheets and advocacy materials on climate change and health risks for policy-makers their printing/dissemination	32,000
1I	75700 - Training, Workshops and Conferences	
Bangladesh	Training, workshops, meetings, visits (travel), transport and miscellaneous support including supporting the Inception Workshop and related training material costs	103,000
Cambodia	Two Climate Change Technical Working Group meetings at US$ 1000 each	60,000
	Nongovernmental organization to conduct Climate Change Technical Working Group external communications (Activity 1.2.1)	
	Three Climate Change Technical Working Group meetings at US$ 1000 each, and eight climate change and health training sessions at US$ 2000 each	
	Nongovernmental organizations to conduct Climate Change Technical Working Group external communications (Activity 1.2.1)	
	Three Climate Change Technical Working Group meetings at US$ 1000 each, and seven climate change and health training sessions at US$ 2000 each	
Lao PDR	All costs for stakeholder meetings at $5000 each, translation cost for WHO CCH training materials and editing in local language at $2000 and coordination committee meetings under outcome 1 (1000$/each).	40,000

	Coordination committee meetings at $1,000 each (Activity 1.1), 2 National advocacy meeting for H-NAP at $15000, 2 provincial level advocacy meeting for H-NAP at 10000$ each and 3 advocacy meetings for managers of healthcare facility level at $3,000 each (Activity 1.3)	40,000
	Coordination committee meetings at $1,000 each (Activity 1.1), 2 CC&H trainings for provincial and district trainers at $5,000 each, community level training and awareness raising campaign at $1000 each community (Activity 1.3).	30,000
	Coordination committee meetings at $1,000 each (Activity 1.1), 2 refresher trainings for provincial and district trainers at $5,000 each, community level training and awareness raising campaign at $1000 each community (Activity 1.3).	25,000
Myanmar	Consultation meetings, workshops, exposure visits (travel), transport, miscellaneous support for technical working group members for development of health-specific components of national adaptation plan	65,000
Nepal	Training, workshops, meetings, exposure visits (travel), transport, miscellaneous support for technical working group members for enhancing knowledge on relationship between climate change and health	45,000
Timor Leste	CC&H training in 7 municipalities	48,000
	CC&H training in 3 municipalities	22,000
	CC&H training in 3 municipalities	22,000
	CC&H TOT $5K; $5K Integrate CC&H into environmental health working group; $4K dissemination workshop for National Strategy for Environmental Health	14,000
	Outcome 2	
2A	71200 - International consultants	
Bangladesh	International consultants – budget for M&E activities to complete Mid-term and Terminal Evaluations	70,000
Cambodia	4 weeks: international consultant to develop dengue rapid diagnostic test usage guidelines (Activity 2.2.1)	44,000
	4 weeks: international consultant to select two pilot provinces and develop dengue predictive models (Activity 2.2.2)	
	8 weeks: international consultant to expand dengue predictive model to four additional provinces (2 weeks per province) (Activity 2.2.2)	
	8 weeks: expand dengue predictive model to four additional provinces (2 weeks per province) (Activity 2.2.2)	
Lao PDR	4 weeks IC to deisgn vulnerability and capacity needs assessment methods, 4 weeks IC to collect data and information with assistance from 2 LCs (Activity 2.1). 4 weeks IC to make data analysis and write report and recommendations.	25,000
	4 weeks IC to assess needs of CC&H database and feasibility to establish early warning system (Activity 2.3).	30,000
Timor Leste	IC support 4 weeks to perform V&A training; 24 weeks to support V&A development;	68,300

	IC support 3 weeks to support EWS assessment;	8,100
2B	71300 - Local consultants	
Cambodia	3 weeks: local consultant to map diarrheal disease surveillance stakeholders and data requirements	115,283
	1 week: local consultant to update case definitions and indicators (Activity 2.1.1)	
	One special services agreement to support all activities under Outcome 2	
	WHO technical support for all activities under Outcome 2	
	Diarrheal disease baseline assessment (Activity 2.1,1)	
	Diarrheal disease final assessment (Activity 2.1.1)	
Lao PDR	Eight weeks LC provide translation support to IC and collect data and information for the feasibility assessment. Eight weeks IC to provide support to MoH in building capacity for CC&H database and its management.	102,533
	Eight weeks LC to review dengue surveillance system and provide support in organizing the review meeting.	
	WHO technical support for all activities under outcome 2.	
Timor Leste	Local consultant to support outcome 2; WHO technical support costs	65,433
2C	71400 - Contractual Services - Individual	
Bangladesh	Professional services to map climate-sensitive disease surveillance, stakeholders and data requirements, to update case definitions and indicators, and to obtain water quality surveillance data from Department of Public Health Engineering; professional services provided to develop coordination mechanism for obtaining required weather and environmental data and effective role in surveillance and early-warning activities	55,033
2D	71600 - Travel	
Bangladesh	Travel costs for programme managers, national project implementation unit and technical advisory group members, and non-local participants to visit pilot areas	39,000
Cambodia	Consultant travel costs for all activities under Outcome 2	18,500
Lao PDR	Consultant and other staff travel costs for all activities under outcome 2.	20,000
Nepal	Travel support to programme managers and technical working group members between Kathmandu and pilot districts of integrated disease surveillance and non-local participants of policy document finalization meetings	20,000
Timor Leste	Travel costs	46,944
2E	72100 - Contractual Services - Companies	
Bangladesh	Contractual services to support Ministry of Health in developing surveillance systems integrating climatic and water quality parameters, to develop guidelines and tools to carry out the surveillance system, to develop mobile-phone based noncommunicable disease surveillance, and to pilot integrated surveillance system in three project areas	70,000

Myanmar	Contractual services to review existing surveillance, assessment survey and integration of climate variables, entomological surveillance system and climate-sensitive diseases alert system into existing surveillance system	180,000
	Contractual services to update existing early-warning alert and response system for prediction, prevention and preparedness of epidemic control of selected climate-sensitive diseases in selected states and regions and piloting new system and training health staff on new early-warning alert and response system and management of health actions after disasters and epidemics; purchasing equipment for rapid diagnosis, confirmation and training on control measures	100,000
	Contractual services to support development of integrated disease surveillance systems integrating climatic variables, water quality and entomological surveillance data into early-warning alert and response system for developing models for prediction, prevention and preparedness of epidemic control of selected climate-sensitive diseases in selected districts	76,333
Nepal	Contractual services to develop polices and strategies for prevention, control and management of chikungunya, Zika, scrub typhus fever and other climate-sensitive health risks and diseases	80,000
	Support to conduct training on climate change and health, including prevention, control, management and surveillance of climate sensitive diseases and risks to health personnel in pilot districts	80,000
	Procurement of professional services to develop disease surveillance systems integrating climatic variables, water quality and entomological surveillance data into early-warning alert and response system for developing models for prediction, prevention and preparedness of epidemic control of selected climate-sensitive diseases in selected districts	81,000
	Institutional support in pilot districts for implementing integrated diseases surveillance in terms of transport, equipment, supplies, information technology, transportation cost including miscellaneous activities	76,033
2F	72500 - Supplies	
Cambodia	US$ 100/month for supplies for all activities under Outcome 2	8,600
	Laptop and other information technology for special services agreement supporting all activities under Outcome 2	
Lao PDR	$166/month for supplies for all activities under outcome 2. Equipment and IT supports for dengue surveillance in Savannakhet province (Activity 2.2); Computer and IT equipment for CC&H database (Acctivity 2.2 and integrated with 1.4).	33,000
Timor Leste	Water quality and VBD testing equipment and supplies; $100/month for supplies; printing guidelines and V&As;	114,800
2G	72800 - Information Technology Equipment	
Bangladesh	Laptop and other information technology procured for computer and mobile-based surveillance system	60,000
2H	75700 - Training, Workshops and Conferences	
Bangladesh	Conduct training, workshops and seminars on climate change and health, including prevention, control and risk management of climate-sensitive diseases through surveillance and early-warning systems to health personnel of pilot districts	42,000

Cambodia	One rapid diagnostic test usage guideline meeting (US$ 1000) (Activity 2.2.3)	71,000
	One sentinel dengue surveillance site training (US$ 2000) (Activity 2.2.1)	
	One annual dengue surveillance system review (US$ 2000) (Activity 2.2.1)	
	Develop dengue surveillance expansion plans at two sites (US$ 5000 x4) (Activity 2.2.2)	
	One meeting to update diarrheal disease case definitions and surveillance indicators (US$ 2000) (Activity 2.1.1)	
	Two training of trainers sessions on diarrheal disease reporting (US$ 2000 x2) (Activity 2.1.2)	
	One meeting to develop dengue prediction and dissemination standard operating procedure (US$ 1000) (Activity 2.2.1)	
	Two meetings to develop response standard operating procedures in early-warning provinces (US$ 2000 x6) (Activity 2.2.2)	
	Four meetings to conduct reporting training sessions at each dengue surveillance expansion site (US$ 2000 x4) (Activity 2.2.3)	
Lao PDR	Meeting to develop early warning messages/SOPs in early response at $5000. Trainings for master, national and provincial ToTs at $ 5000 each (Activity 2.2).	90,000
	Dengue surveillance training and follow up monitoring visits and on-site advice in Savannakhet province, district and community levels at $5000 each.	
	Dengue surveillance training and follow up monitoring visits and on-site advice in Seakong province, district and community levels at $5000 each.	
	National review meeting ($15000) for dengue surveillance and experiences sharing workshop for 5 southern provinces ($10000).	
Timor Leste	3 V&A workshops $4K each; $30K laboratory training on water quality and climate-sensitive disease testing	42,000
	5 V&A workshops $4K each; $30K laboratory training on water quality and climate-sensitive disease testing	50,000
	5 laboratory strengthening workshops $4K each; $30K laboratory training on water quality and climate-sensitive disease testing	35,000
	5 laboratory strengthening workshops $4K each; $30K laboratory training on water quality and climate-sensitive disease testing	15,000
	Outcome 3	
3A	71200 - International consultants	
Bangladesh	International consultants – budget for M&E activities to complete Mid-term and Terminal Evaluations	7,000
Cambodia	1 month: international consultant to develop behaviour change communication campaign on climate-sensitive diseases (Activity 3.2.1)	60,000
	Final evaluation	
Lao PDR	2 weeks IC to facilitate national ToT on CC&H and selected 2 provincial levels (Activity 3.1 integrated with 1.3).	47,000

Timor Leste	IC support for disaster preparedness and mainstreaming CC into WSPs, SISCa, and Saude na Familia;	104,900
3B	71300 - Local consultants	
Cambodia	8 months: local consultant to develop a behaviour change communication campaign on climate-sensitive diseases (Activity 3.2.1)	242,500
	1 week: local consultant to assemble existing treatment and diagnosis guidelines for climate-sensitive diseases (Activity 3.2.1)	
	Two special services agreements based in Ratanakiri to support all activities under component 3	
	Guideline translation (US$ 15 x300 pages) (Activity 3.2.1)	
	Website development (US$ 4000) (Activity 3.2.1)	
	Behaviour change communication campaign development (US$ 20 000) (Activity 3.2.1)	
	Conduct behaviour change communication campaign (US$ 3000 per commune over 2 years) (Activity 3.2.1)	
	Health-care facility climate-resilience assessment (US$ 20 000) (Activity 3.1.2)	
	Rural water safety planning costs for three districts (US$ 1000 x75 villages) (Activity 3.1.1)	
	Climate-proof rural water safety planning and water, sanitation and hygiene in health-care facilities improvements (US$ 2000 per village and US$ 60 000 for health-care facilities over 2 years) (Activities 3.1.1 and 3.1.2)	
	Knowledge, attitudes and practices survey of diarrhoeal disease and water treatment, including water quality testing (US$ 30 000) (Activities 3.1.1 and 3.1.2)	
	Publicize guidelines and monitor guideline website traffic (Activity 3.2.1)	
	Promote WASH FIT for health-care facilities (US$ 1500 per facility) (Activity 3.1.2)	
	WHO technical support for all activities under Outcome 3	
Lao PDR	Eight weeks LC to review and finalize disaster management plan.	116,000
	Eight weeks LC to develop Disaster Management Plan for provincial health department of Savannakhet and Seokong in consultation with local stakeholders (Activity 3.2).	
	Eight weeks LC to assess results of climate sensitive management and response plans in 2 selected provincial hospitals and water suppliers.	
	WHO technical support for all activities under outcome 3.	
Timor Leste	Local consultant to support outcome 3; WHO technical support costs; piloting improvements to climate-proof healthcare facilities and water safety plans;	134,400
3C	71400 - Contractual Services - Individual	

Bangladesh	Contractual services to develop treatment guidelines, diagnosis and treatment of climate-sensitive health outcomes; review and update risk-management protocol during emergencies, including climatic events; design and pilot climate-resilient health-care facilities in three project sites – US$ 120 000.	120,000
	Professional services to develop short certificated courses on treatment protocols and conduct training of trainers; promote Water, Sanitation and Hygiene for Health Facility Improvement Tool (WASH FIT) for health-care facilities and assess vulnerability of selected facilities – US$ 78 000.	78,000
3D	71600 - Travel	
Bangladesh	Travel costs for programme managers, national project implementation unit and technical advisory group members, and non-local participants to visit pilot areas	25,000
Cambodia	Travel to and within Ratanakiri for all activities under Outcome 3	41,000
Lao PDR	Travel cost for training and monitoring visits to provincial water supplier and provincial hospital in Savannakhet (Activity 3.1 and 3.2).	45,000
	Travel costs for all monitoring visits and supportive supervise in 2 selected provinces (Activity 3.1 and 3.2).	
	Exchange visits (5 people, 2 visits, $2.5K per visit)	
Nepal	Travel support to programme managers and technical working group members between Kathmandu and pilot districts and local transportation cost in pilot districts of climate-resilient health service delivery	20,000
Timor Leste	Travel costs	57,904
3E	72100 - Contractual Services - Companies	
Myanmar	Contractual services to support strengthening of vector-borne disease control programme (malaria, dengue haemorrhagic fever, Japanese encephalitis), school health, nutrition, water safety plans and community awareness-raising activities in most vulnerable states and regions	400,000
	Contractual services to provide training of basic health staff and staff from hospitals for emergency and clinical management of heatstroke	74,000
Nepal	Professional services to support assessment of climate resilience of health facilities of different ecological regions and to develop model health facilities in terms of climate-proofing in selected districts of Terai (lowland), hill and mountain regions	105,000
	Contractual services for implementation of climate-resilient water safety plans in selected districts of Terai (lowland), hill and mountain regions	104,000
	Institutional support in pilot districts for implementing climate-resilient water safety plans, orientation trainings and development of model climate-resilient health facilities in terms of equipment, supplies, information technology and transportation costs, including miscellaneous activities	139,000
3F	72200 - Equipment and Furniture	

Lao PDR	Water quality monitoring equipment to Savannakhet provincial health department, division of environmental health and water ($10K) and provincial water suppliers ($10K). Disposable equipment and supply for healthcare waste management and WASH FIT in Savannakhet, Seokong provincial hospital ($10K) (Activity 3.2).	128,000
	Equipment ($20K) and supply ($20) for WASH FIT improvement plan and Green hospital implementation (Activity 3.2) in model hospitals.	
3G	72500 - Supplies	
Bangladesh	Supplies in relation to course development and implementation of pilots	67,300
	Supplies to support health-care facilities during piloting of climate-resilient hospitals in terms of safe water, sanitation, medical waste management and infection prevention	78,000
Cambodia	US$ 100/month for supplies for all activities under Outcome 3	118,900
	Laptop and other information technology for special services agreement supporting all activities under Outcome 2	
	WHO Country Office supplies, WHO Country Office management costs, regional office and headquarters costs placeholder	
Timor Leste	Program material translation costs; $100/mo for supplies;	11,800
3H	75700 - Training, Workshops and Conferences	
Bangladesh	Organize training workshops at subnational and national level for orientation and finalization of protocols; conduct short courses after successful piloting; meeting to disseminate findings of health-care facility climate-resilience assessment	78,000
Cambodia	Meeting to disseminate findings of the health-care facility climate resilience assessment (Activity 3.1.1)	201,000
Lao PDR	Climate Resilient Water Safety Plan training material translation and training to prepare trainers ($10K), 2 climate resilient water safety plan trainings at the Savannakhet water supplier at $5000 each, WASH FIT trainings (4 trainings) in Savannakhet and Seokong provincial and selected district hospitals at $5000 each.	190,000
	National ToT for CC&H for 18 provincial health department and Vientiane capital health department staff ($20K) (Activity 3.1). 1 national ($10K) and 2 selected provincial consultation workshops ($10K) for Disaster Management Plan (Activity 3.2). Two climate resilient water safety plan trainings at the Seokong water supplier at $5000 each, 2 CC&H trainings in Savannakhet and Seokong provinces at $5000 each.	
	Training for urban water safety plan audit ($10K) for selected 2 provinces, rural water safety plan training for provincial and district staff in Savannakhet and Seokong ($15K), five trainings for Green Hospital initiative in 2 provincial hospitals and a district hospitals in Savannakhet and Seokong ($5000K)	
	Experience sharing workshops for health care workers of selected provincial hospitals and visits to best model hospital ($10K). National ($5K), 2 provincial level-review meeting ($10K) of the project (Activity 4.1).	

	Regional/inter-country training and conference for government staff (5 people, 2 visits, $1.5K per meeting). Other costs are discussed in the Overall Proposal	
	Inception workshop ($3K), other costs are discussed in the Overall Proposal.	
	Reporting and Coordination Committee Meetings ($1K each quarter). Other costs are discussed in the Overall Proposal	
Nepal	Capacity-building of health professionals, engineers and people in the community through training sessions, workshops and conference participation on climate-resilient health service delivery	147,000
Timor Leste	6 trainings each in five municipalities on climate proofing WSPs, disaster risk assessment, and integrating CC&H into SISCa and Saude na Familia	99,000
	Outcome 4	
4A	71200 - International consultants	
Regional (WHO)	International Consultant for the development of technical guidance on: 1)climate resilient health care facilities (500 USDx100 days) 2)climate-resilient water safety plans(500 USDx100 days) 3)the provision of support for the conduct of vulnerability and adaptation assessments (500 USDx100 days) 4)the development of health component of national adaptation plans (500 USDx60 days) 5)the provision of training on climate change and health (500 USDx60 days) 6)the development of climate-informed health early warning systems (500 USDx50 days) 7)training on development of EWSs (500 USDx60 days)	270,000
4B	71400 - Contractual Services - Individual	
Regional (WHO)	Project Managers Regional (2) – WHO Contracted $20,000/year x 4 years = $160,000	160,000
4C	71600 - Travel	
Regional (WHO)	Visits to 6 countries at an average cost of 7,300 USD for 4 years;	175,000
4D	72100 - Contractual Services - Companies	
Regional (WHO)	Development of promotional and communication materials; Technical Reports, Proceedings, Lessons Learned, project completion report.	60,000
4E	74100 - Professional services	
Regional (WHO)	External audits, independent mid-term review, independent terminal evaluation	160,000
4F	75700 - Training, Workshops and Conferences	
Regional (WHO)	Training workshop on climate change and health (5 days for 50 participants); Training workshop on EWS (5 days for 50 participants); Training workshop on and climate resilient health systems (5 days for 40 participants). Cost includes airfare (est. 1000 USD each); DSA (est. 1250 USD each); Terminal allowance and Visa (est 200 USD each); Meeting package (est. 50 USD each).	375,000
4G	71200 - International consultants	

Regional (UNDP)	Technical support for MOH to create an economic case for integration of health into adaptation plan and budgeting; Technical support for designing/developing bankable projects (ie. To secure public or other finance).	200,000
4H	75700 - Training, Workshops and Conferences	
Regional (UNDP)	Training for MOH to create an economic case for integration of health into adaptation plan and budgeting (5 days for 40 participants); Training for designing/developing bankable projects (5 days for 40 participants). Cost includes airfare (est. 1000 USD each); DSA (est. 1250 USD each); Terminal allowance and Visa (est 200 USD each); Meeting package (est. 50 USD each).	200,000
	PMU	
PMU1	**71400 - Contractual Services - Individual**	
Regional (WHO)	Project Manager – National (6) (WHO contracted - $12,500/year x 4 years = $300,000) and M&E Specialist (WHO contracted - $12,500/year = $50,000) for project duration (4 years); Total: $350,000.	350,000
PMU2	72500 - Supplies	
Regional (WHO)	PMU office supplies - paper, printer cartridges, other consumables	10,000
PMU3	72800- Information Technology Equipment	
Regional (WHO)	Computers 5 @ $1500, printer/scanner/fax multifunction 1 @ $500; laser printer 1 @ $500, digital camera 2@$1000, IT accessories $2500, software $3000; mobile phones 5@$400 = $2000	18,000
PMU4	73300 - Rental & Maint of Info Tech Eq	
Regional (WHO)	PMU office supplies - paper, printer cartridges, other consumables	2,000
PMU5	74100 – Professional Services	
Regional (WHO)	Professional Services: Annual NIM audit @$4000/year.	16,000
PMU6	**75700 - Training, Workshops and Conferences**	
Regional (WHO)	Project Board meetings 8@$1,250 = $10,000, TAC Meetings 8@$1,250 = $10,000.	20,000
PMU7	74596 – Services to Project - GOE	
Regional (UNDP)	UNDP support on procurements for workshops and hiring of consultants	4,000

Annexes

Annex 1:	Multi-Year Workplan
Annex 2:	Monitoring and Evaluation Plan
Annex 3:	GEF Tracking Tool
Annex 4:	Project Quality Assurance Report Plan
Annex 5:	UNDP Risk Log
Annex 6:	Terms of Reference for Project Team
Annex 7:	UNDP Social and Environmental and Social Screening
Annex 8:	List of Participants in PPG Inception Workshop
Annex 9:	Letters of co-financing/Agreements
Annex 10:	National Reports (Bangladesh, Cambodia, Lao PDR, Myanmar, Nepal, and Timor Leste)

ANNEX 1: MULTI-YEAR WORK PLAN

EXPECTED OUTPUTS and RESULT INDICATORS	PLANNED ACTIVITIES (Grouped and Summarized from National Reports)	TIMEFRAME				RESPONSIBLE PARTY (Refer to Budget Notes – ANNEX 9)	PLANNED BUDGET		
		Y1	Y2	Y3	Y4		Funding Source	Budget Description	Amount
Outcome 1	1.1 Expand and strengthen existing TWG to accommodate for CC and H.	X	X			Various (Refer to TBP – Section VII)	GEF	Training, workshops, meetings, exposure visits (travel), transport, Miscellaneous	400,000
	1.2 Workshops and Annual meetings by TWG to monitor and develop Terms of References and MOU's	X	X	X	X	Various (Refer to TBP – Section VII)	GEF	Training, workshops, meetings, exposure visits (travel), transport, Miscellaneous)	100,000
	1.3 Conduct or update CC National Vulnerability Assessment as a basis for developing HNAP	X	X			Various (Refer to TBP – Section VII)	GEF	Contractual Services – international and Local Consultants	650,000
	1.4 Conduct baseline assessment of staff to establish knowledge gaps and develop training requirements	X				Various (Refer to Total Budget Plan (TBP) – Section VII)	GEF	Contractual services, training, workshops, travel, printing costs, audio-visual, professional services, transport	215,000

	1.5 Prepare and deliver University Courses curriculum and training plans / sessions		X	X		Various (Refer to TBP – Section VII)	GEF	Training, workshops, meetings, exposure visits (travel), transport, Miscellaneous	90,000
	1.6 Assess staff capacity and behaviour post training				X	Various (Refer to TBP – Section VII)	GEF	Training, workshops, meetings, exposure visits (travel), transport, Miscellaneous	130,000
	1.7 Identify, Assess and create / update National Standards, guidelines and SOPS for managing CC.			X	X	Various (Refer to TBP – Section VII)	GEF	Contractual Services – international and Local Consultants	120,000
	1.8 Develop Framework and MOU for sharing of needed data between MOH and other stakeholders.		X	X		Various (Refer to TBP – Section VII)	GEF	Contractual services, training, workshops, travel, printing costs, audio-visual, professional services, transport	135,000
	1.9 Monitor agreements to ensure data is shared; update as necessary			X	X	Various (Refer to TBP – Section VII)	GEF	Training, workshops, meetings, exposure visits (travel), transport, Miscellaneous	67,403

Outcome 2	2.1 Develop guidelines and tools for surveillance systems for climate sensitive diseases.	X	X	X		Various (Refer to TBP – Section VII)	GEF	Contractual Services – international and Local Consultants	115,000
	2.2 MOU for sharing of key stakeholder data with MOH. (Especially meteorological data)	X				Various (Refer to TBP – Section VII)	GEF	Contractual services, training, workshops, travel, printing costs, audio-visual, professional services, transport)	67,893
	2.3 Develop Early Warning Systems for climate sensitive diseases prediction, prevention and preparedness (may include Vulnerability Maps; Identify priorities and key affected areas)		X			Various (Refer to TBP – Section VII)	GEF	Contractual Services – International and Local Consultants	650,000
	2.4 Integrate CC, Weather monitoring, surveillance and early warning systems and pilot in selected areas			X		Various (Refer to TBP – Section VII)	GEF	Contractual Services – International and Local Consultants	950,000
	2.5 Train health staff in implementation of data analysis tools for CC			X		Various (Refer to TBP – Section VII)	GEF	Training, workshops, meetings, exposure visits (travel), transport, Miscellaneous)	250,000

Outcome 3	3.1 Climate proofing of health care facilities piloted including better supporting WASH FIT.			X		Various (Refer to TBP – Section VII)	GEF	Contractual Services – International and Local Consultants	1,770,000
	3.2 Monitor and report on Health care facilities where staff have piloted new policies and procedures. (technical capacity improvements)				X	Various (Refer to TBP – Section VII)	GEF	Contractual Services – International and Local Consultants	114,704
	3.3 Improve community and health care provider knowledge of the prevention, recognition and management of CC health risks		X			Various (Refer to TBP – Section VII)	GEF	Training, workshops, meetings, exposure visits (travel), transport, Miscellaneous)	480,000
	3.4 Develop IEC materials for stakeholders and community (promote WASH FIT at health centers)		X			Various (Refer to TBP – Section VII)	GEF	Contractual Services – International and Local Consultants	150,000
	3.5 Create and implement disaster management, safety and response plans, guidelines for health facilities for key areas. (including water safety plans)			X		Various (Refer to TBP – Section VII)	GEF	Contractual Services – International and Local Consultants	350,000
	3.6 Develop Communications materials to promote WASH FIT and behavior changes			X		Various (Refer to TBP – Section VII)	GEF	Contractual Services – International and Local Consultants	175,000

Outcome 4.1	4.1.1 Definition of normative aspects related to climate-resilient health systems by developing regional-level guidelines, manuals, and other relevant technical documents in the priority areas of intervention (e.g. climate-resilient health care facilities (CR-HCFs) and climate resilient Water Safety Plans (CR-WSPs)), as determined by countries;		X			WHO	GEF	Contractual Services – International and Local Consultants	200,000
	4.1.2 Regional capacity-building events for different topics (on policy, science and implementation of interventions) and conferences;			X		WHO	GEF	Contractual Services – International and Local Consultants	500,000
	4.1.3 Systematization of regional experiences and promotion of North-South and South-South cooperation and knowledge exchange (which may include virtual communities of practice and platforms)				X	WHO	GEF	Contractual Services – International and Local Consultants	500,000
Outcome 4.2	4.2.1 Training and technical support for MOH to create a economic case for integration of health into adaptation plan and budgeting.		X			UNDP – BRH (GEF)	GEF	Contractual Services – International and Local Consultants	200,000

	4.2.2 Training and technical support for designing/developing bankable projects (ie. To secure public or other finance)			X		UNDP – BRH (GEF)	GEF	Contractual Services – International and Local Consultants	200,000
	Total Outcome1-4								8,580,000
	Project Management Costs								420,000
	Grand Total								9,000,000

ANNEX 2: MONITORING AND EVALUATION PLAN

Monitoring and Evaluation Plan: The Project Manager will collect results data according to the following monitoring plan.

Monitoring	Indicators	Description	Data source/Collection Methods	Frequency	Responsible for data collection	Means of verification	Assumptions and Risks
Project objective from the results framework	Number of countries with targets14 for low emission and climate-resilient development in: a) Development plans and strategies b) Budgets c) Private sector business plans and strategies (Output 2.1 – UNDP strategic plan)	HNAP developed or updated and incorporation of CC budget into MOH and other stakeholder institutions.	Consultation with each country gov't institutions. Interviews and Surveys of MOH management staff	Annually	PMU	HNAP documents with budgets. Review reports/results Monitoring progress reports	**Assumptions:** Project team and evaluators will have access to government officers, local communities, project sites and documents to allow review of implementation progress **Risks:** Lack of access to stakeholder informants, project sites and documentation.
Project Outcome 1	National updated H-NAP for long term planning and capacity development is created and budgeted.	Creation of Approved or updated H-NAP Document.	Documentation Reviews Stakeholder Interviews Focus Group discussions.	At the end of project (PIR)	Project Manager	Data source: H-NAP Policy Document and MOH / Stakeholders Budgets with CC&H components.	Political recognition importance of project outcomes to support policy and budget changes
	Key Staff trained on the relationship between climate change and health to initiate effective responses	Number of management staff trained on relationship between CC and H.	Documentation Reviews (Training Records) Stakeholder Interviews	Annual	Project Manager	MOH and other stakeholder ministry training records.	Availability of properly updated and maintained training records

	Development of National Standards or guidelines for climate change and health systems	Creation of new and updated standards and guideline.	Documentation Reviews Stakeholder Interviews	Annual	Project Manager	New Policy. Standards and SOPS created and made available for Health staff.	Technical capacity to understand the correlation and response requirements for CC&H. Establish TWG.
Project Outcome 2	Health Vulnerability and adaptation assessments (V&As) conducted/updated for current and future health risks	Health vulnerability to climate change assessed and adaptation options defined so as for the health system to manage the health risks posed by climate change	Documentation Reviews Stakeholder Interviews	Annual	Project Manager	Updated/ new VA Reports	Technical capacity to understand the correlation and response requirements for CC&H. Establish TWG.
	Integrated disease surveillance system for climate sensitive disease is developed and implemented in key pilot areas	Incorporation of climate/weather variables to current surveillance systems for climate-sensitive diseases	Documentation and database Reviews Stakeholder Interviews	Annual	Project Manager	Updated or new database created or requirements are established.	Technical capacity to understand the correlation and response requirements for CC&H. Establish TWG.
Project Outcome 3	Climate sensitive disease control programmes and plans are strengthened	Service delivery of selected climate-sensitive control programmes strengthened by incorporating climate/weather considerations	Documentation and database Reviews Stakeholder Interviews	Annual	Project Manager	Updated or new programmes and plans developed	Technical capacity in developing guidelines and plans.
	Improved technical capacity of health personnel to manage the health risks posed by climate variability and change	Train the trainer programs established and training completed in piloted areas.	Documentation and database Reviews Stakeholder Interviews	Annual	Project Manager	Updated or new training guidelines and modules. Survey Reports.	Technical capacity in developing training guidelines and plans.

Project Outcome 4.1	Three International review and experience sharing workshops organized.	Regional workshops for knowledge transfer between nations and WHO with lessons learned	Documentation and database Reviews Stakeholder Interviews	Annual	Project Manager	Regional Meetings held with train the trainers material developed.	Technical capacity in developing training guidelines and plans.
Project Outcome 4.2	%Budgets and %Resources identified with NAP Program and support line ministries to align with priorties of the HNAP for each country	Developing institutional capacity in planning for CC&H adaptation and also developing the tools and skills to support proposal development for funding.	Consultation with each country gov't institutions. Interviews and Surveys of MOH management staff	Annual	Project Manager	Updated or new programmes and plans developed that align budgeting and planning with CC&H	Political recognition importance of project outcomes to support policy and budget changes.
Mid-term GEF Tracking Tool	GEF-CCA	N/A	Baseline GEF Tracking Tool included in Annex 3	After 2nd PIR submitted to GEF	Project Manager with WHO CO	Completed GEF Tracking Tools	Assumptions: Continuous monitoring of project results on a quarterly basis will facilitate completion of the mid-term tracking tools prior to the MTR evaluation mission. Project team has the capacity and resources to complete the Tracking Tools Risks: Project team fails to conduct periodic monitoring of project results and therefore compromise the quality

							and completeness of the tracking tools. Lack of consistency in how the tracking tools are completed.
Final GEF Tracking Tool	GEF-CCA	N/A	Baseline GEF Tracking Tool included in Annex 3	After final PIR submitted to GEF	Project Manager with WHO CO	Completed GEF Tracking Tools	Assumptions: continuous monitoring of project results on a quarterly basis will facilitate completion of the TE tracking tool prior to the TE mission. Project team has the capacity and resources to complete the Tracking Tool Risks: Project team fails to conduct periodic monitoring of project results and therefore compromise the quality and completeness of the tracking tool. Lack of consistency in how the tracking tools are completed.
Mid-term Review	N/A	N/A	Independent evaluators	Submitted to GEF same year as 2nd PIR	Independent Evaluator Contracted by WHO	UNDP Cleared MTR Report	Risks: The MTR team do not have access to all stakeholders and fully updated and completed information on the project There is a delayed or ineffective management response to the MTR findings by the Project Board.

Terminal Evaluation	N/A	N/A	Independent evaluators	To be submitted to GEF within three months of operational closure	Independent Evaluator Contracted by WHO	UNDP Cleared TE Report	Risks: The TE team do not have access to all stakeholders and fully updated and completed information on the project. There is a delayed or ineffective management response to the TE findings by the Project Board.

ANNEX 3: GEF TRACKING TOOL

Project identification						
Project title	Building Resilience of Health Systems in Asian LDCs to Climate Change					
Country	Bangladesh, Cambodia, Lao PDR, Myanmar, Nepal and Timor Leste			GEF project ID		6984
GEF agency	UNDP			Agency project ID		5400
Executing partner(s)	UNDP and WHO			Council/CEO approval date		
Project status at submission	Development Stage			Tool submission date		25 Aug 2017
Project baselines, targets and outcomes						
Indicator	Unit of measurement	Baseline at CEO endorsement	Target at CEO endorsement	Actual at mid-term	Actual at completion	Comments (e.g. specify unit of measurement)
Objective 1: reduce vulnerability of people, livelihoods, physical assets and natural systems to adverse effects of climate change						
Indicator 1: number of direct beneficiaries	Number of people	0	100,000			
	% female	0	50%			
	Vulnerability assessment (yes/no)	No	Yes			Vulnerability assessments will be conducted or updated during year 1 of implementation
Outcome 1.1: vulnerability of physical assets and natural systems reduced						
Indicator 2: type and extent of assets strengthened or	Land (ha)					
	Coast (km)					
	Roads (km)					

managed better to withstand effects of climate change	Other					
Outcome 1.2: livelihoods and sources of income of vulnerable populations diversified and strengthened						
Indicator 3: population benefiting from adoption of diversified climate-resilient livelihood options	Number of people					
	% female					
	% of targeted population					
Outcome 1.3: climate-resilient technologies and practices adopted and scaled up						
Indicator 4: extent of adoption of climate-resilient technologies and practices	Number of people					
	% female					
	Number of people					
	% female					
	Number of people					
	% female					
	% of targeted					
	Number of ha					
	% of targeted					
Objective 2: strengthen institutional and technical capacities for effective climate change adaptation						
Outcome 2.1: increased awareness of climate change impacts, vulnerability and adaptation						
Indicator 5: Public awareness activities carried out and population reached	Yes/no					
	Number of people					
	% female					
Outcome 2.2: access to improved climate information and early-warning systems enhanced at regional, national, subnational and local level						

Indicator 6: risk and vulnerability assessments and other relevant scientific and technical assessments carried out and updated	Number of relevant assessments and knowledge products	0	6			
Indicator 7: number of people per geographical area with access to improved climate information services	Number of people					
	% female					
	% of targeted area (e.g. % of country's total area)					
Indicator 8: number of people per geographical area with access to improved, climate-related early-warning information	Number of people					
	% female					
	% of targeted area (e.g. % of country's total area)					
Outcome 2.3: Institutional and technical capacities and human skills strengthened to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures						
Indicator 9: number of people trained to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures	Number of people					
	% female					

Indicator 10: capacities of regional, national and subnational institutions to identify, prioritize, implement, monitor and evaluate adaptation strategies and measures	Number of institutions					
	Score					(If scoring methodology is different from the recommended, please describe)
Objective 3: integrate climate change adaptation into relevant policies, plans and associated processes						
Outcome 3.1: institutional arrangements to lead, coordinate and support integration of climate change adaptation into relevant policies, plans and associated processes established and strengthened						
Indicator 11: institutional arrangements to lead, coordinate and support integration of climate change adaptation into relevant policies, plans and associated processes	Number of countries					
	Score					(If scoring methodology is different from the recommended, please describe)
Outcome 3.2: policies, plans and associated processes developed and strengthened to identify, prioritize and integrate adaptation strategies and measures						
Indicator 12: regional, national and sector-wide policies, plans and processes developed and strengthened to	Number of policies, plans and processes	0	6			H-NAP is finalized/updated in 6 countries as the long-term plan for health adaptation to climate change and MOH is part of TWG with mandate to address cross-cutting climate change adaptation.

identify, prioritize and integrate adaptation strategies and measures	Score	0	10			(If scoring methodology is different from the recommended, please describe)
Indicator 13: subnational plans and processes developed and strengthened to identify, prioritize and integrate adaptation strategies and measures	Number of plans and processes					
	Score					
Outcome 3.3: Systems and frameworks for continuous monitoring, reporting and review of adaptation established and strengthened						
Indicator 14: countries with systems and frameworks for continuous monitoring, reporting and review of adaptation	Number of countries					
	Score					
Reporting on GEF gender indicators						
Q1: has a gender analysis been conducted during project preparation?			Yes			PPG consultations ensured capture of gender vulnerabilities related to climate change, data gaps will be addressed and data collected through vulnerability assessment
Q2: does the project results framework include gender-responsive indicators and sex-disaggregated data?			Yes			Vulnerability assessments will ensure collection of gender-disaggregated data

Q3: of the policies, plans, frameworks and processes supported (see Indicators 12 and 13), how many incorporate gender dimensions?	1			Support will ensure that gender is effectively captured in HNAPs
Q4: at mid-term and completion, does the mid-term review and terminal evaluation assess progress and results in terms of gender equality and women's empowerment?	N/A			

Annex 4: Project Quality Assurance Report Plan

Implementing Partner	Adjusted Risk Rating	Spot Checks	Programme/Project Monitoring *	Scheduled Audits	Audit Type	Scheduled Evaluation	Remarks
MoH, WHO	Low	2 Spot Checks in a Financial Year conducted in July, December 2018, 2019,2020,2021	Refer to the project detailed monitoring plan	Annual audits	Annual Audit by UN agency	Refer to the project detailed evaluation plan	

* Programme/Project Monitoring includes visit of the projects on ground to see if targets are achieved as per the signed ProDoc

* Spot Checks: On-site reviews of the IP's financial records of cash transfers

ANNEX 5: UNDP RISK LOG

Project Title: Building Resilience of Health Systems in Asian LDCs to Climate Change	Award ID: 00105394	Date: 11/08/2017

#	Description	Date Identified	Type	Impact & Probability	Countermeasures / Mngt response	Owner	Submitted, updated by	Last Update	Status
1	Technical capacity. Stakeholders do not distinguish vulnerability to climate change from baseline weaknesses in disease control practices and management of environmental determinant of health (especially related to food and water security	During project formulation	Operational	P: 2 I: 3	Integration of monitoring and evaluation systems with surveillance and early warning systems will support correlation of health metrics against climate change factors. Maintain proactive awareness raising and communication programmes, coupled with technical training and application of health information and early warnings to help differentiating climate and non-climate drivers for the implementation of integrated adaptation interventions	MoH/WHO	Project Manager	N/A	N/A

2	Turnover of government staff who will be managing various project components and potentially negate benefits of training	During project formulation	Operational	P: 3 I: 2	To reduce negative impacts of staff turnover, the project will appoint supporting project management unit staff to ensure continuity and smooth transition. The project will focus on institutionalization of all outputs and outcomes to ensure sustainability of project products and achievements through emphasis on development of detailed training material over heavy investments on individuals	MoH/WHO	Project Manager	N/A	N/A
3	Poor inter-ministerial collaboration, considering cross-sectoral nature of health, to effectively integrate health into adaptation planning.	During project formulation	Organizational / Institutional	P: 2 I: 4	The project will support inter-ministerial coordination through its activities, building to the extent possible on existing coordination mechanisms. Further, a stakeholder engagement plan has been developed as part of project preparation activities. The plan will be revisited and revised	MoH/WHO	Project Manager	N/A	N/A

					as needed during implementation to ensure it is comprehensive and inclusive given local contexts.				
4	Ensure that DDT and other environmentally harmful pesticides are recommended for newly developed mosquito control	During project formulation	Environmental	P: 2 I: 1	Review of newly developed guidelines and policies to ensure this is not implemented or recommended means of control.	MoH/WHO	Project Manager	N/A	N/A

ANNEX 6: TERMS OF REFERENCE FOR PROJECT TEAM

A. Project Board

The Overall Project Board will meet at least once every year and will be chaired by WHO. Specific roles and responsibilities will include:
At the inception of the project:

- Appraise the overall project plan;
- Review and approve the Annual Work Plan and budget for the first project year;
- Delegate any project assurance functions as appropriate.
- After the initiation of the project:
- Provide overall guidance and direction to the project, ensuring it remains consistent with national policies and the planned activities are in line with the project objectives and timeframe;
- Address project issues raised by the PMU for the PB's attention and guidance;
- Review and approve Annual Work Plans and budgets;
- Appraise Annual Project Review Reports and offer recommendations for the subsequent Annual Work Plan;
- Commission Mid-term Evaluation of the project, appraise the MTE Report and provide direction to the project to address the recommendations emanating from the MTE Report;
- Review project progress reports submitted by the PMU and notify, or provide guidance to, the PMU for corrective actions should they find any issue with the project progress.
- Review planned activities and ensure that they are technically sound especially with respect to environmental sustainability and climate resilience and that, wherever necessary, there is integration and synergy between the various project components during planning and implementation;
- Ensure that project interventions are planned and implemented in a coordinated and holistic manner at central as well as local levels;
- Promote technical coordination between institutions, where such coordination is necessary and where opportunities for synergy and sharing of lessons exist;
- Provide guidance, and/or clarifications, where technical issues are confronted;
- Ensure that the project activities are carried out in accordance with the desired policy/ technical standards and norms of the National Governments, WHO, GEF and UNDP including the social and environmental standards;
- Review and endorse ToRs for consulting tasks, participate in the selection of project consultants, review consulting reports/ deliverables and provide feedback on them;
- Review technical reports emanating from the project and provide feedback on them.

It is proposed that the Project Board be composed of representatives from the following agencies (to be affirmed at the Project Inception Workshop):

- Designated Representative from each Country
- WHO at all levels - representative
- UNDP Regional Office - representative

Furthermore, the project may invite other resource persons/ experts to the Technical Advisory Group (TAG) meetings depending on the need for additional information, clarification and advice on any specific technical issues related to the project interventions.

At the close of the project:

- Assure that all project deliverables have been produced satisfactorily;
- Commission the Terminal Evaluation of the project, and appraise and endorse the TE Report;
- Provide recommendations for follow-up actions;
- Notify operational completion of the project.

B. PMU Staff

1. Project Manager – Regional (2)

WHO will assume the role of the Project Manager - Regional. The PM will have the responsibility for operational direction, supervision and management of the project. Specific responsibilities will include:

- Supervise and guide project staff;
- Ensure that inputs from the WHO, MOH, GEF, UNDP and other donors to the project are forthcoming in a timely and effective manner;
- Endorse annual work plans and budgets for review and approval by the Project Board;
- Ensure the project is implemented in a coordinated manner and as per approved project design, work plans and budgets;
- Oversee timely submission of technical and financial progress reports in accordance with the requirements specified in the Project Document;
- Oversee the recruitment of project consultants, ensuring consultants recruited are technically competent for the tasks in question and the quality of consulting inputs is of the desired quality and in accordance with the approved ToR;

2. Project Manager – Country (6)

A national professional officer of WHO will assume the role of the Project Manager in each of the countries. The PM will have overall responsibility for the supervision and day-to-day management of the project, reporting to the Regional Project Manager and the Project Board. Specific responsibilities will include:

- Manage and coordinate the implementation of the project activities in accordance with the approved Project Document, annual work plans and budgets;
- Examine and Endorse with the PB annual work plans and budgets for onward submission to the PB for perusal and approval;
- Monitor project progress and oversee the preparation of technical and financial progress reports in accordance with the requirements of the Project Document;
- Organize PB meetings, including the preparation and notification of agenda and circulation of documents necessary for these meetings at least a week in advance;
- Ensure that the minutes of PB meetings are produced and circulated within a week after such meetings are held;
- Manage staff and consultants assigned to the project;
- Network with other relevant agencies and projects and establish linkages for learning and sharing experiences and developing synergies;
- Facilitate mid-term and terminal evaluations of the project;

- Liaise with UNDP on project management matters;
- Visit project sites as and when necessary to appraise project implementation and related issues in interaction with local project stakeholders.

ANNEX 7: UNDP SOCIAL AND ENVIRONMENTAL SCREENING

The completed template, which constitutes the Social and Environmental Screening Report, must be included as an annex to the Project Document. Please refer to the *Social and Environmental Screening Procedure* and *Toolkit* for guidance on how to answer the 6 questions.

Project Information

Project Information	
1. Project Title	Building Resilience of Health Systems in Asian LDCs to Climate Change
2. Project Number	5400
3. Location (Global/Region/Country)	Bangladesh, Cambodia, Lao PDR, Myanmar, Nepal, Timor-Leste

Part A. Integrating Overarching Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Overarching Principles in order to Strengthen Social and Environmental Sustainability?
Briefly describe in the space below how the Project mainstreams the human-rights based approach
The project ensures the mainstreaming of a human-rights based approach and the Sustainable Development Goal (SDGs) commitment to "leave no one behind" through the use of the WHO Innov8 Approach for Reviewing National Health Programmes (available at this link: http://apps.who.int/iris/bitstream/10665/250442/1/9789241511391-eng.pdf?ua=1). This approach involves an analysis of specific entry points and recommendations for concrete programmatic action to ensure the programmes of the WHO are equity-oriented and rights-based. Through the 8 step process it is ensured that projects address health inequities, support gender equality, and support the progressive realization of universal health coverage and the right to health. Further to this, this project is founded on the principle of the right to health, where all persons have the right to the highest attainable standard of physical and mental health. This project is a step towards the attainment of this right through strengthening health adaptation in national planning, improving the climate resilience of healthcare and the health sector, as well as reducing health risks and impacts of climate change.
Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment
Within the WHO gender equality and women's empowerment are cornerstones of all health programmes. Similarly to human rights, gender equality and women's empowerment are mainstreamed into programmes through the Innov8 approach of the WHO. The Innov8 approach involves an analysis of specific entry points and recommendations for concrete programmatic action to support gender equality and empowerment in the work of

the WHO. Further to this, the WHO has specific guidance for the consideration and support of gender equality and women's empowerment in climate change and health adaptation (available via this link: http://www.who.int/globalchange/publications/Mainstreaming_Gender_Climate.pdf). This guide provides practical information and concrete guidance on mainstreaming gender to programme managers implementing climate change and health programmes and projects. This guide teaches users how to conduct a gender analysis of health vulnerability and adverse health impacts of climate change, and to design gender-responsive adaptation programmes and actions through all four phases of the project cycle: identification, formulation and design, implementation, and monitoring and evaluation. Additionally, the project will rely on a coordinated consultation process with key stakeholders, such as gender-base agencies such as the Lao Women's Union and the National Commission for the Advancement of Women in Lao PDR.
Briefly describe in the space below how the Project mainstreams environmental sustainability
As a climate change and health project, the project holds environmental sustainability as one of the core principals guiding the project. This concept will not only be embodied in the activities on country level, but in the management techniques surrounding the project as undertaken in previous WHO implemented projects. This includes the use of teleconferencing to reduce the burden of international travel, among other strategies. Furthermore, WHO has experience in applying the WHO's Environmental Management Procedure which is modeled on international good practice and standards in environmental impact assessment, such as those developed by the OECD and UNEP. This framework has been adapted to fit the specific needs of WHO programs and health-care activities more broadly and is applied to relevant projects.

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? Note: Describe briefly potential social and environmental risks identified in Attachment 1 – Risk Screening Checklist (based on any "Yes" responses). If no risks have been identified in Attachment 1 then note "No Risks Identified" and skip to Question 4 and Select "Low Risk". Questions 5 and 6 not required for Low Risk Projects.	QUESTION 3: What is the level of significance of the potential social and environmental risks? Note: Respond to Questions 4 and 5 below before proceeding to Question 6			QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?
Risk Description	Impact and Probability (1-5)	Significance (Low, Moderate, High)	Comments	Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.

Risk 1: Risk that duty-bearers do not have the capacity to meet their obligations in the Project.	I = 3 P = 3	Moderate	Duty-bearers in the 6 countries responsible for implementation of the project will need technical support on climate change and health. WHO will ensure that countries have the required support throughout the implementation of the project. Special attention will be given to those countries with less capacity.	This has been addressed in the project design through the provision of technical assistance in the form of international consultancy assistance and technical support from WHO, will be provided to each country to utilize the newest methodological approaches, including, but not limited to diagnostic tools, as well as data collection, reporting, and training, to improve country capacity to cope with climate variability and change.
Risk 2: Indigenous peoples are present in the Project area of influence.	I = 2 P = 1	Low	This project covers 6 countries at the national level, and although indigenous people are present in some of them the project will not involve any adverse impact to these populations as it will mainly aim to strengthen national health systems.	

	QUESTION 4: What is the overall Project risk categorization?		
	Select one (see SESP for guidance)		Comments
	Low Risk	☐	The project overall categorization is low risk.
	Moderate Risk		
	High Risk	☐	

	QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?		
	Check all that apply		Comments
	Principle 1: Human Rights	☑	Duty-bearers in the 6 countries responsible for implementation of the project will need external

			assistance on utilizing the newest methodologies for climate change and health.
	Principle 2: Gender Equality and Women's Empowerment	☐	
	1. Biodiversity Conservation and Natural Resource Management	☐	
	2. Climate Change Mitigation and Adaptation	☐	
	3. Community Health, Safety and Working Conditions	☐	
	4. Cultural Heritage	☐	
	5. Displacement and Resettlement	☐	
	6. Indigenous Peoples	☑	As this project covers 6 countries at the national level, there are indigenous peoples in the area of influence but since the project will basically work with the health sector no adverse impact on indigenous populations is expected.
	7. Pollution Prevention and Resource Efficiency	☐	

Final Sign Off

Signature	Date	Description
QA Assessor		UNDP staff member responsible for the Project, typically a UNDP Programme Officer. Final signature confirms they have "checked" to ensure that the SESP is adequately conducted.
QA Approver		UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD)**,** Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have "cleared" the SESP prior to submittal to the PAC.
PAC Chair		UNDP chair of the PAC. In some cases PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks	
Principles 1: Human Rights	Answer (Yes/No)
1. Could the Project lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
2. Is there a likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups? [44]	No
3. Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	No
4. Is there a likelihood that the Project would exclude any potentially affected stakeholders, in particular marginalized groups, from fully participating in decisions that may affect them?	No
5. Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	Yes
6. Is there a risk that rights-holders do not have the capacity to claim their rights?	No
7. Have local communities or individuals, given the opportunity, raised human rights concerns regarding the Project during the stakeholder engagement process?	No
8. Is there a risk that the Project would exacerbate conflicts among and/or the risk of violence to project-affected communities and individuals?	No
Principle 2: Gender Equality and Women's Empowerment	
1. Is there a likelihood that the proposed Project would have adverse impacts on gender equality and/or the situation of women and girls?	No
2. Would the Project potentially reproduce discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	No
3. Have women's groups/leaders raised gender equality concerns regarding the Project during the stakeholder engagement process and has this been included in the overall Project proposal and in the risk assessment?	No
4. Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being	No
Principle 3: Environmental Sustainability: Screening questions regarding environmental risks are encompassed by the specific Standard-related questions below	

[44] Prohibited grounds of discrimination include race, ethnicity, gender, age, language, disability, sexual orientation, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to "women and men" or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender people and transsexuals.

Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management	
1.1 Would the Project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? *For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes*	No
1.2 Are any Project activities proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	No
1.3 Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No
1.4 Would Project activities pose risks to endangered species?	No
1.5 Would the Project pose a risk of introducing invasive alien species?	No
1.6 Does the Project involve harvesting of natural forests, plantation development, or reforestation?	No
1.7 Does the Project involve the production and/or harvesting of fish populations or other aquatic species?	No
1.8 Does the Project involve significant extraction, diversion or containment of surface or ground water? For example, construction of dams, reservoirs, river basin developments, groundwater extraction	No
1.9 Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)	No
1.10 Would the Project generate potential adverse transboundary or global environmental concerns?	No
1.11 Would the Project result in secondary or consequential development activities which could lead to adverse social and environmental effects, or would it generate cumulative impacts with other known existing or planned activities in the area? For example, a new road through forested lands will generate direct environmental and social impacts (e.g. felling of trees, earthworks, potential relocation of inhabitants). The new road may also facilitate encroachment on lands by illegal settlers or generate unplanned commercial development along the route, potentially in sensitive areas. These are indirect, secondary, or induced impacts that need to be considered. Also, if similar developments in the same forested area are planned, then cumulative impacts of multiple activities (even if not part of the same Project) need to be considered.	No
Standard 2: Climate Change Mitigation and Adaptation	
2.1 Will the proposed Project result in significant[45] greenhouse gas emissions or may exacerbate climate change?	No
2.2 Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change?	No

[45] In regards to CO_2, 'significant emissions' corresponds generally to more than 25,000 tons per year (from both direct and indirect sources). [The Guidance Note on Climate Change Mitigation and Adaptation provides additional information on GHG emissions.]

2.3 Is the proposed Project likely to directly or indirectly increase social and environmental vulnerability to climate change now or in the future (also known as maladaptive practices)? For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding	No
Standard 3: Community Health, Safety and Working Conditions	
3.1 Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?	No
3.2 Would the Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	No
3.3 Does the Project involve large-scale infrastructure development (e.g. dams, roads, buildings)?	No
3.4 Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or infrastructure)	No
3.5 Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic conditions?	No
3.6 Would the Project result in potential increased health risks (e.g. from water-borne or other vector-borne diseases or communicable infections such as HIV/AIDS)?	No
3.7 Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	No
3.8 Does the Project involve support for employment or livelihoods that may fail to comply with national and international labor standards (i.e. principles and standards of ILO fundamental conventions)?	No
3.9 Does the Project engage security personnel that may pose a potential risk to health and safety of communities and/or individuals (e.g. due to a lack of adequate training or accountability)?	No
Standard 4: Cultural Heritage	
4.1 Will the proposed Project result in interventions that would potentially adversely impact sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: Projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.2 Does the Project propose utilizing tangible and/or intangible forms of cultural heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement	
5.1 Would the Project potentially involve temporary or permanent and full or partial physical displacement?	No
5.2 Would the Project possibly result in economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No

5.3 Is there a risk that the Project would lead to forced evictions?[46]	No
5.4 Would the proposed Project possibly affect land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples	
6.1 Are indigenous peoples present in the Project area (including Project area of influence)?	Yes
6.2 Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
6.3 Would the proposed Project potentially affect the human rights, lands, natural resources, territories, and traditional livelihoods of indigenous peoples (regardless of whether indigenous peoples possess the legal titles to such areas, whether the Project is located within or outside of the lands and territories inhabited by the affected peoples, or whether the indigenous peoples are recognized as indigenous peoples by the country in question)? If the answer to the screening question 6.3 is "yes" the potential risk impacts are considered potentially severe and/or critical and the Project would be categorized as either Moderate or High Risk.	No
6.4 Has there been an absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
6.5 Does the proposed Project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.6 Is there a potential for forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources?	No
6.7 Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	No
6.8 Would the Project potentially affect the physical and cultural survival of indigenous peoples?	No
6.9 Would the Project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No
Standard 7: Pollution Prevention and Resource Efficiency	
7.1 Would the Project potentially result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	No
7.2 Would the proposed Project potentially result in the generation of waste (both hazardous and non-hazardous)?	No
7.3 Will the proposed Project potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials? Does the Project propose use of chemicals or materials subject to international bans or phase-outs? For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Conventions on Persistent Organic Pollutants or the Montreal Protocol	No

[46] Forced evictions include acts and/or omissions involving the coerced or involuntary displacement of individuals, groups, or communities from homes and/or lands and common property resources that were occupied or depended upon, thus eliminating the ability of an individual, group, or community to reside or work in a particular dwelling, residence, or location without the provision of, and access to, appropriate forms of legal or other protections.

7.4 Will the proposed Project involve the application of pesticides that may have a negative effect on the environment or human health?	No
7.5 Does the Project include activities that require significant consumption of raw materials, energy, and/or water?	No

UNDP/WHO Building Resilience of Health Systems in Asian LDCs to Climate Change
Contacts List

Country	Name	Email	Affiliation	Official Responsibility
Bangladesh	Mr Mesbah		Project Consultant	
Bangladesh	Dr. Iqbal Kabir	iqbalkabirdr@gmail.com	Ministry of Health	Coordinator of Climate Change and Health Promotion Unit Ministry of Health & Family Welfare
Bangladesh	Mr SG Mahmu	mahmuds@who.int	WHO Bangladesh	Water, Sanitation & Environment Health Technical Officer
Cambodia	Ms Katrina Lyne		Project Consultant	Consultant, Climate Change and Health
Cambodia	Dr Prak Piseth Rainsey	pisethrainsey@gmail.com	Ministry of Health	Director of Preventive Medicine Department
Cambodia	Dr Heng Sopheab	hsopheab@niph.org.kh	Ministry of Health	Deputy Director of National Institute of Public Health
Cambodia	Ms Sophary Phan	phans@who.int	WHO Cambodia	Water, Sanitation & Environment Health Technical Officer
Cambodia	Mr James Rarick	rarickj@who.int	WHO Cambodia	Diseases/Environmental Health Team Leader
Lao PDR	Mr Noupheuak VIRABOUTH	nvirabouth@yahoo.com	Project Consultant	Consultant, Climate Change and Health
Lao PDR	Dr Tayphasavanh FENGTHONG	tayvilay@yahoo.com	Ministry of Health	Director, Division of Environmental and Occupational Health, Department of Hygiene and Health Promotion, Ministry of Health
Lao PDR	Ms Oyuntogos Lkhasuren	lkhasureno@wpro.who.int	WHO Lao PDR	Environmental Health Technical Officer
Myanmar	Dr. Than Tun Aung		Ministry of Health	Deputy Director General (Disaster)

Myanmar	Dr Alaka Singh , WHO Myanmar	singha@who.int	WHO Myanmar	Environmental Health Technical Officer
Nepal	Dr. Meghnath Dhimal		Project Consultant	
Nepal	Mr Ram Khrisna Adhikari		Ministry of Health	Under Secretary, Ministry of Health
Nepal	Mr RajaRam Pote Shresthra	poteshresthar@who.int	WHO Nepal	Water, Sanitation & Environment Health Technical Officer
Timor-Leste	Mr Basilio Martins Pinto	basiliomartins2013@gmail.com	Project Consultant	Director for Policy, Planning, and External Cooperation, Ministry of Health
Timor-Leste	Mrs Tomasia de Sousa	hanslok23@YAHOO.COM	Ministry of Health	Focal Point on Climate Change and Health - Head of Environmental Health Department
	Mrs. Payden	payden@who.int	WHO SEARO	Water, Sanitation & Health Sanitary Engineer
	Dr. Mohd Nasir Hassan	hassanm@wpro.who.int	WHO WPRO	Health and the Environment Division Coordinator
	Mr. Jung Sub Yeom	yeomj@wpro.who.int	WHO WPRO	Health and the Environment Division Technical Officer
	Dr Rabindra Romauld Abeyasinghe	abeyasingher@wpro.who.int	WHO WPRO	Malaria, and other Vectorborne and Parasitic Diseases Unit Coordinator
	Dr. Diarmid Campbell-Lendrum	campbelllendrumd@who.int	WHO HQ	Climate Change and Health Unit Team Leader
	Dr. Lachlan McIver	lachlan.j.mciver@gmail.com	WHO HQ	Consultant, Climate Change and Health
	Dr. Pradeep Kurukulasuriya	pradeep.kurukulasuriya@undp.org	UNDP	Head, Climate Change Adaptation, UNDP-Global Environment Finance
	Ms. Mariana Simões	mariana.simoes@undp.org	UNDP	Regional Technical Advisor, Climate Change Adaptation, UNDP-Global Environment Finance
	Mr. Umberto Labate	umberto.labate@undp.org	UNDP	NAPs Specialist, NAPs Global Support Programme
	Ms. Deborah O'Connell	Deborah.O'Connell@csiro.au	CSIRO	
	Mr. Ravi Kammila	kammilar@gmail.com	WHO - IC	International Consultant - IC2

ANNEX 9: CO-FINANCING LETTERS

Bangladesh - Ministry of Health and Family Welfare US$5,300,000

Roxana Quader
Additional Secretary (PH&WHO)
Ministry of Health & Family Welfare
Govt. Of the People's Republic of Bangladesh

রোকসানা কাদের
অতিরিক্ত সচিব (জনস্বাস্থ্য ও বিশ্বস্বাস্থ্য)
স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়
গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

Memo no- MOHFW/Add. Sec. (PH & WHO)/Misc-01/2014 - 99 Date: 26.07.2017

Ms. Adriana Dinu
Executive Coordinator
UNDP-Global Environmental Finance
United Nations Development Programme
New York, USA

Subject: Co-financing support to GEF funded project 'Building Resilient of Health Systems in Asian LDCs to Climate Change'

Dear Ms Dinu,

Bangladesh is one of the countries developing the project proposal on "Building Resilience of Health Systems in Asian LDCs to Climate Change".

Now, we are pleased to confirm that Ministry of Health and Family Welfare will be able to support the project through co-financing of USD 5,300,000 in-kind over the four years of project implementation which will include Government staff time, office space and facilities and parallel financing through other activities on climate change.

We look forward to collaboration and partnership for the successful implementation of the project in Bangladesh.

Yours sincerely,

26.7.17
(Roxana Quader)
Additional Secretary (World health and Public Health)
Health Services Division
Ministry of Health and Family welfare

CC.

01. WHO Representative, Country Office for Bangladesh.
02. PS to Hon'ble Minister, Ministry of Health & Family Welfare.
03. PS to Hon'ble State Minister, Ministry of Health & Family Welfare.
04. PS to Secretary, Health Services Division, Ministry of Health & Family Welfare.

Bangladesh - WHO US$700,000

World Health Organization
Country Office for Bangladesh

United House (Ground to 3rd Floor), 10 Gulshan Avenue, Gulshan 1, Dhaka 1212, Bangladesh
Tel.: +88 02 8831415 Fax: +88 02 8831423 E-mail: sebanregistry@who.int Website: www.searo.who.int/bangladesh

In reply please refer to : E5/61/1

Your reference:

Ms. Adriana Dinu
Executive Coordinator
UNDP-Global Environment Finance
United Nations Development Programme
New York, USA

3 April 2017

Dear Ms Dinu,

Subject: Co-financing support to GEF funded project "Building Resilience of Health Systems to Climate Change in Bangladesh"

With reference to the subject, I am pleased to confirm that WHO Country Office for Bangladesh will be able to support this project through in- kind co-financing of USD 700,000 over the four years of its implementation. The support includes WHO staff time and facilities from regular budget and voluntary contributions, office space and facilities and parallel financing through other activities on climate change such as water quality surveillance, water safety plan and other capacity building activities.

We look forward to collaboration and partnership for the successful implementation of the project in Bangladesh.

Thank you for your continuous cooperation.

WORLD HEALTH ORGANIZATION * DHAKA, BANGLADESH *

Yours sincerely,

Dr N. Paranietharan
WHO Representative to Bangladesh

cc: Ms Mariana Simoes, UNDP Regional Technical Advisor for Climate Change
cc: Additional Secretary (PH & WHO), Ministry of Health and Family Welfare, Bangladesh Secretariat, Dhaka
cc: The Director General, Directorate General of Health Services , Mohakhali, Dhaka

Cambodia -Ministry of Health US$2,500,000

KINGDOM OF CAMBODIA
NATION - RELIGION - KING

MINISTRY OF HEALTH
No. 144 P.M.D

Phnom Penh, Date: 16 / 05 / 2017

Ms Adriana Dinu
United Nations Development Programme
New York, U.S. A

Subject: Building Resilience of Health Systems in Asian LDCs to Climate Change

Dear Ms Adriana Dinu,

We refer to the GEF-Proposal titled: **Building Resilience of Health Systems in Asian LDCs to Climate Change,** which was developed with technical support from WHO, and in close consultation with key stakeholders at the national and provincial level. This project support will help strengthening our national capacity to coordinate and response to climate change and disaster risks, especially contributing to achieving Cambodian Development Goals.

We are pleased to confirm the amount of USD 2,500,000 as co-financing for the project "Building Resilience of Health Systems in Asian LDCs to Climate Change." The co-financing is related to the following projects and programmes;

USD 1,500,000 from the Ministry of Health's Preventative Medicine Department (PMD) related to the ongoing Cambodia Climate Change Alliance (CCCA) and Asian Development Bank Strengthening Resilience to Climate Change in the Health Sector in the Greater Mekong Sub-region projects. These projects are working to reduce vulnerability to climate-related health risks in Cambodia and will complement the work performed under the GEF project.

USD 1,000,000 from the Ministry of Health's National Centre for Parasitology, Entomology, and Malaria Control (CNM) existing malaria and dengue control programmes. The GEF project will strengthen these programmes surveillance, prevention, and treatment of climate-sensitive vector borne diseases.

On behalf of key stakeholders/partners in the country, we highly appreciate the financial and technical assistance from GEF through WHO for developing and implementing the project to build resilience of our health system to climate change.

We look forward to collaboration and partnership to implement this project.

Yours sincerely,

Dr. KOL HERO
Director of Preventive Medicine Department,
Ministry of Health

MINISTRY OF HEALTH No. 80, SAMDECH PENN NOUTH Blvd. (289), SANGKAT BOEUNGKAK 2, TUOL KORK DISTRICT, PHNOM PENH. PHONE/FAX: (855-23) 885 970 / 884 909

Lao PDR – WHO US$1,036,400

WORLD HEALTH ORGANIZATION
WESTERN PACIFIC REGION

ORGANISATION MONDIALE DE LA SANTE
REGION DU PACIFIQUE OCCIDENTAL

OFFICE OF THE WHO REPRESENTATIVE IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC
BUREAU DU REPRESENTANT DE L'OMS EN REPUBLIQUE DEMOCRATIQUE POPULAIRE LAO
B.P. 343 Vientiane, République démocratique populaire lao

In reply please refer to: LAO/2016/HAE/347
Prière de rappeler la référence:

Ms Adriana Dinu
Executive Director
UNDP GEF
New York, USA

19 December 2016

Dear Ms Adriana Dinu,

Subject: Co-financing support to GEF supported project" Building Resilience of Health Systems in Lao PDR to Climate Change

This is to confirm the support of the WHO Lao PDR Country Office to the above-named GEF project to be implemented by Ministry of Health in Lao PDR. We confirm USD 1,036, 400 as in kind co-financing and activity budget for strengthening national emergency response, disaster management, dengue surveillance and WASH capacity in the country, which will be allocated for a four year period.

We look forward to collaboration and coordination of the above-named project to implement building resilience of health systems in Lao PDR to climate change.

Yours sincerely,

Julia Fleischl
WHO Representative

Cc:
- Ms Mariana Simoes, UNDP Regional Technical Advisor for climate change.

Telephone: (856) 21 353902, (856) 21 353903, (856) 21 353904 Facsimile: (856) 21 353905 E-mail: who.lao@wpro.who.int Website: http://www.wpro.who.int

Lao PDR - Ministry of Health (US$2,385,200)

December 14th, 2016

Dr Juliet Fleischl

WHO Representative

Subject: Building Resilience of Health Systems in Asian LDCs to Climate Change

Dear Dr Fleischl,

The Department of Hygiene and Health Promotion in the Ministry of Health has been working to improve health system capacity in assessing and managing environmental and climate risks and its health impacts on public health.

Lao PDR is one of six Asian LDCs developing the proposed project titled "Building Resilience of Health Systems in Asian LDCs to Climate Change". The country proposal for Lao PDR was designed in close consultation with all stakeholders at the national and provincial health department levels. We believe that the UNDP-GEF project, developed with technical assistance from WHO, will provide support to the national and selected provincial and district health care providers by integrating climate change adaptation into the ongoing national strategy and plan of action, as well as improving capacity for its implementation and monitoring.

We are pleased to confirm USD 2,385,200 as co-financing for this project "Building Resilience of Health Systems in Asian LDCs to Climate Change", which will include Government of Lao PDR in-kind contribution for 4 years, through staff time, office space and other operational costs of MoH and the National Center for Environment and Rural Water in Vientiane Capital, as well as two provincial health departments, two district health offices, and two provincial and district hospitals in Savannakhet and Seokong provinces.

We look forward to continued close collaboration and partnership.

Yours sincerely,

ດຣ. ພັດ ເກື່ອງຊາເນດ
Dr. Phath KEUNGSANETH

Dr Phath Keungsaneth

Director General

Department of Hygiene and Health Promotion

Ministry of Health

Myanmar – Ministry of Health and Sports US$3,000,000

THE GOVERNMENT OF THE REPUBLIC OF THE UNION OF MYANMAR
MINISTRY OF HEALTH AND SPORTS
DEPARTMENT OF PUBLIC HEALTH

Letter No: Pa Ka Ya/ Tha Ba Wa-CEU/335 2017
Dated : 4th, April 2017

To

Ms Adriana Dinu
United Nations Development Programme
New York, USA

Subject: Co-financing on the project "Building Resilience of Health System in Myanmar to Climate Change"

Dear Madam,

It is of great pleasure that we will contribute co-financing for implementation of the project "Building Resilience of Health System in Myanmar to Climate Change." Therefore, we are pleased to confirm US $ 3 million in co-financing related to the project by provision of personnel, infrastructure, supplies, equipment and operational support.

We look forward to working with GEF, UNDP and WHO for the successful implementation of this important global project.

Sincerely,

Dr. Than Tun Aung
Deputy Director General (Disaster/ CEU)
Department of Public Health
Ministry of Health and Sports

Nepal – Ministry of Health US$3,300,000

Government of Nepal
Ministry of Health
Policy Planning and International Cooperation Division
Ramshah Path, Kathmandu

223580
262696
260736
4 262802
262987
262468
262826

Ref. No:

Date: 30.03.2017

Ms. Adriana Dinu
Executive Director, UNDP-Global Environmental Finance
United Nations Development Programme
304 E. 45th Street, 9th Floor
New York, NY 10017
USA

Subject: Co-financing support to GEF supported project "Building Resilience of Health Systems in Asian LDCs to Climate Change"

Dear Ms. Dinu,

I am pleased to inform you that Ministry of Health (MoH) has been working to mainstream climate change in health program and planning in Nepal. We already prepared its H-NAP and are working with Ministry of Population and Environment to align this with NAP process. It is also working to improve health system capacity in assessing and managing environmental and climate risks and its public health impacts.

We thank you for your support to implement "Building Resilience of Health Systems in Asian LDCs to Climate Change" project and considering Nepal as one of the countries. We take this opportunity very positively as this will provide support to increase the adaptive capacity of national health systems and institutions to respond to and manage long-term climate-sensitive diseases and health risks in Nepal.

We are pleased to confirm USD 3,300,000.00 in kind as co-financing for the above mentioned project which will include contribution for 4 years through staff time, facilities and other operational costs of MoH and its divisions and centers for diseases surveillance, vector control, water quality surveillance, research, capacity building and associated activities.
We look forward to continued close collaboration and partnership.
Yours sincerely,

.....
Mr. Bhogendra Dotel
Chief , Policy Planning and International Cooperation Division
Ministry of Health

CC-
Dr. Jos Vandealer, WHO Representative to Nepal

Nepal – WHO US$700,000

World Health Organization
COUNTRY OFFICE FOR Nepal

UN HOUSE, PULCHOWK, LALITPUR, PO BOX: 108, KATHMANDU, NEPAL, TEL: +977-1-5523200 FAX: +977-1-5527756 E-MAIL: senepwr@.who.int

In reply please refer to WRN-E5/48/1

Ms. Adriana Dinu
Executive Coordinator
UNDP-Global Environmental Finance
United Nations Development Programme
New York, USA

13 March 2017

Dear Ms. Dinu,

Subject: Co-financing support to GEF supported project "Building Resilience of Health Systems to climate change in Nepal"

This is to confirm the support of the WHO Country Office Nepal to the above mentioned GEF project. We confirm USD 700,000.00 as in kind co-financing for the project over the four years of its implementation. It will include country office staff time, facilities and parallel activity budget for implementation of climate change related activities, water quality surveillance, water safety plans implementation and capacity building activities among others.

We look forward to collaboration and coordination of the above mentioned project to implement for building resilience of health system to climate change in Nepal.

With best regards,

Yours sincerely,

Dr Jos Vandelaer
WHO Representative to Nepal

Copies to:
Ms. Mariana Simoes, UNDP Regional Technical Advisor for Climate Change
Mr. Bhogendra Raj Dotel, Chief, PPICD, Ministry of Health, Government of Nepal
Dr. Bhola Ram Shrestha, Chief, Curative Division, Ministry of Health, Government of Nepal

Timor Leste – Ministry of Health US$1,500,000

MINISTÉRIO DA
SAÚDE

Gabinete do
Ministro de Estado
e Ministro da Saúde

Ref. No: 12/MS-GMEMS/WHO/IX/2017
Dili, 27th September 2017

Dr. Rajesh Pandav
WHO Representative to Timor-Leste
Dili, Timor-Leste

Subject: Confirmation of Co-Financing for the Global Environment Facility Project

Dear Dr. Pandav,

At the instruction of H.E. Minister of State and Minister of Health, Dr. Rui Maria de Araújo, we would like to inform that the National Direction of Public Health at the Ministry of Health has been working to improve health system capacity in assessing and managing environmental and climate risk and its impact on public health.

Timor-Leste is one of the six Asian Least Developed Countries (LDCs) that is developing the project proposal entitled "Building Resilience of Health System in Asian LDCs to Climate Change".

The country proposal for Timor-Leste was designed in close consultation with all stakeholders at the national and health municipality's level. We believe that UNDP-GEF (Global Environment Facility) project with technical assistance from WHO, will provide support to the national and selected municipalities and administrative posts healthcare services by integrating climate change adaptation into the ongoing national strategy and plan of action, as well as improving capacity for its implementation and monitoring.

We are pleased to confirm USD 1,500,000 as co-financing for this project "Building Resilience of Health System in Asian LDCs to Climate Change", which will include the Government of Timor-Leste's in-kind contribution for 4 years, through staff time, office space and others administrative costs of Ministry of Health.

We look forward to continued close collaboration and partnership on climate change and health adaptation in the future.

Yours Sincerely,

L. Sanches
Lourdes DC Sanches
Chief of Staff
Minister of State and Minister of Health

Received in
WHO, East Timor Office, Dilli
28 SEP 2017
Head | AO | AA

cc.: Dr. Odete da Silva Viegas, DGPS
Mr. Pedro Canísio, DNSP

Palácio das Cinzas
Rua de Caicoli
Caixa Postal 374
Dili, Timor-Leste

Timor Leste – WHO US$240,000

World Health Organization
Country Office for Timor-Leste
UNITED NATIONS HOUSE, CAICOLI STREET, DILI, TIMOR-LESTE
TEL: +670-3310968; EXTN. 2058

Tel. direct: +670 3310968
Fax direct: +670 3310967
In reply please refer to: WHO Country Office, Timor-Leste

Your reference: **WHO-TL/V/2017/152**

Ms. Adriana Dinu
Executive Director
UNDP GEF
New York, USA

8 May 2017

Dear Ms Adriana Dinu,

Subject: **Co-financing support to Global Environment Facility (GEF) supported Project" Building Resilience of Health Systems in Timor-Leste to Climate Change**

This is to confirm the support of the WHO country office Timor-Leste the above-named Global Environment Facility (GEF) project to be implemented by Ministry of Health in Timor-Leste. We confirm **USD 60.000 (*sixty thousand America dollars)* per year** as in kind co-financing and activity budget for strengthening environmental health component such as, water safety plans, climate change and health programme, medical waste management, dengue control in the country, which will be allocated for a four year period.

We look forward to collaboration and coordination of the above-named project to implement building resilience of health systems in Timor-Leste to Climate Change.

Yours Sincerely,

Dr. Rajesh Pandav
WHO Representative to Timor-Leste

Cc: - Ms Mariana Simoes, UNDP Regional Technical Advisor for Climate Change.

WHO – Regional US$6,400,000

Tel. direct: +41 22 791
Fax direct: +41 22 791
E-mail :

In reply please refer to:

Your reference:

Ms Adriana Dinu
Executive Coordinator
UNDP - Global Environment Finance
United Nations Development Programme
New York
USA

29 September 2017

Dear Ms Dinu,

I am pleased to support the project "Building Resilience of Health Systems in Asian Least Developed Countries (LDCs) to Climate Change", developed jointly by the World Health Organization (WHO) and UNDP.

The WHO Member States, through the World Health Assembly, have requested WHO to increase their assistance in protecting populations from health risks associated with climate change. Our capacity to meet this objective has been scaled up across WHO headquarters, and Regional and Country Offices. We are also committed to working with other UN agencies to support national level activities.

I am therefore pleased to confirm that WHO will be able to support this project through a co-financing grant of USD 6,400,000. This co-financing refers to grants from other projects on climate change and health that WHO is coordinating within the regions and countries participating in this project. It includes surveillance systems for climate-sensitive diseases such as malaria, dengue, malnutrition, and diarrhoeal diseases, and also staff costs.

Yours sincerely,

Dr Maria Neira
Director
Public Health and Environment

ANNEX 10: NATIONAL REPORTS

a. Bangladesh
b. Cambodia
c. Lao PDR
d. Myanmar
e. Nepal
f. Timor Leste