South-South Cooperation Assistance Fund

Project Proposal Template

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Project Name：Learning from China's Experience to Improve the Ability of Response to COVID-19 in Asia and the Pacific Region
Project Origin Concept Note ID: *automatically read by system*
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Country/Region of the Project Implementation: Asia and the Pacific Region with the focus on Philippines, Myanmar, Cambodia, Nepal, Lao People's Democratic Republic **Thematic Area:** Healthcare System, Emergency preparedness and response & Resilience building
Area of Assistance: Recovery
Relevant 2030 Sustainable Development Goals: SDG 1 – No Poverty (1.5 Resistance to Disasters) SDG 3-Good health and Well-being (3.9 reduce the number of deaths and illness from contamination; 3D. capacity of all countries for early warning, risk reduction and management of global health risks) SDG 9 – Resilient Infrastructure (9.1 sustainable and resilient infrastructure to support human well-being; 9.c increase access to information) SDG 12-Ensure sustainable consumption and production patterns (12.4 achieve environmentally sound management of all wastes; 12.5 reduce waste generation) SDG 17 -Partnerships for The Goal (17.6 South-South cooperation on technology;17.9 capacity building through SSC)
Project Implementation Duration: From 01 July 2020 to 30 June 2021 (Or as soon as possible due to the fast evolving situation of the Pandemic in the Asia and Pacific Region)
Project Estimated Investment (USD): **$11,420,000** **Amount of Applied Fund (USD): $5,000,000** Parallel Fund (USD): $6,420,000(Philippine $0, Myanmar $0, Cambodia $5,000,000, Nepal $400,000, Lao PDR $1,020,000) *Parallel Funds from UNDP will be used to supplement the China aid fund, and details on these activities will be shared with CIDCA/donor in due time. These parallel funds will follow standard UNDP rules and regulations as described in the POPP section on programme and project management. Please note that the parallel funds are not reflected in the budgets submitted to CIDCA, in other words, the annexed budget reflects the applied fund only.
1. Project Overview
1.1 Overview of Recipient Countries *Highlight the background of the recipient countries that is related to the project assistance areas and*

the implementation content. Other public information (if any) may be attached.

Abstract

- The **total SSCAF funding** applied to this project is $5,000,000.
- The goals of the project are i) to strengthen the preparedness and responding capacity at Asia-Pacific reginal level with special focus in Laos, Philippines, Cambodia, Myanmar and Nepal to COVID-19, and ii) share China's successful experiences and establish regional connectivity within and beyond the project partner countries for sustainable cooperation on COVID-19 response and related. The **main objectives** are:
    - The first objective is to provide technical and logistical support on establishing safe health care waste management system in selected health care facilities to contain the epidemic and protect people and the environment;
    - The second objective is to provide advocacy, information sharing and communication support on COVID-19 protection and response to people in poverty and vulnerable groups (including women-headed households, persons with disabilities and HIV/AIDS) to ensure they are not left behind and can equally benefit from response, recovery and resilience building interventions for staying safe and healthy.
    - The third objective is to provide capacity development (provision of technical training materials and training courses) on general health precautionary measures to health care professionals, local government staff and others that carry out essential services (transportation, energy, water, waste, food delivery).
    - The fourth objective is to share lessons learned and experiences at regional and even global level through UNDP's network.
- The project will be implemented at the Asia and the Pacific Region level, in five countries— the Philippines, Myanmar, Cambodia, Nepal, Lao People's Democratic Republic.

COVID-19 in the Region

In Asia and the Pacific, the rapidly spreading COVID-19 virus is putting pressure on countries' health systems as they can hit capacity limits earlier than those in developed countries, and countries' health infrastructure is often severely lacking, struggling to provide even basic healthcare services in normal times.

As of 31 August 2020, there are more than 24 million of confirmed cases across over 200 countries worldwide, with the numbers increasing drastically daily. As the region with the largest population, comparatively low development and high migration rate, the Asia and the Pacific Region is currently

facing immense challenges in responding to COVID-19. In the five project countries – Cambodia, Lao PDR, Myanmar, Nepal and Philippines – the number of confirmed cases is growing continuously and rapidly, putting immense pressure on public health systems and triggering an ongoing social and economic crisis, adding to the existing challenges they are already facing. Even though the governments of the five countries within the Region have taken serious measures at multiple levels to respond to the situation, they still face immense challenges due to the frail health infrastructure, limited expertise and resources in healthcare system, unequal development within the countries and among various groups. Currently, the project countries are in pre-surge (i.e. there are only a relatively small number of confirmed cases, with possible challenges in access to accurate testing and under-reporting) and surge stages (i.e. new infections rising exponentially). So far, the number of confirmed cases in the five countries are:

Country	No. of confirmed cases (by 31 August 2020)[1]
Asia and Pacific Region	4,560,719
Philippines	217,396
Nepal	38,561
Myanmar	749
Cambodia	273
Laos PDR	22

Impacts in Philippines

The COVID-19 pandemic was confirmed to have spread to the Philippines on January 30, 2020, when the first case was confirmed in Metro Manila. In response, the President declared the Philippines under a State of Calamity for six months and placed the entire Luzon island under enhanced community quarantine (ECQ). The quarantine of the Metro Manila was extended to the end of May, while the quarantine of rest of the areas was lifted since 15 May. This move affected some 57 million people (a little over 50% of the country's population), 12 million of which are in the Metro Manila area. With an estimated bed capacity of a little over 100,000 beds all throughout the Philippines, there is real concern that the pandemic will overcrowd existing hospitals. From 1 June, the lockdown restrictions in Metro Manila was further eased, which allowed more business and public transportation to reopen. Until 3

[1] Statistics from WHO.

July, within only one month, the number of confirmed cases in Philippines increased by more than 2 times.[2] Since July, the Philippines has updated the community quarantine policy, with different levels of community quarantine depending on the severity of the pandemic in the region. There are four levels of community quarantine policy, the highest level being "Enhanced Community Quarantine" (ECQ), followed by "General Community Quarantine" (GCQ), "Modified General Community Quarantine" (MGCQ), which is strictly controlled locally.

Impacts in Myanmar

Myanmar, categorized as a least developed country (LDC), is bordered by China to its northeast, Laos and Thailand to its east and southeast Bangladesh and India to its northwest. Despite its extensive cross-border exchanges, Myanmar did not record its first official case of Covid-19 until March 23. Myanmar's Ministry of Health and Sports warned that the country is at very high risk of a "major outbreak" of COVID-19, due to the large numbers of migrant workers crossing the border from the neighbouring countries.

Due to its porous borders, Myanmar received an immediate return of thousands of migrant workers from China and Thailand where hotspots of COVID-19 outbreak exist. Hence, people living in rural areas and in border areas are exposed to high risk of the COVID-19 infections. The initial cases confirmed in Myanmar are a result of external transmission into Myanmar through internal travel and more recently through local transmission, which makes the frail healthcare system expose to the potential risks.

Impacts in Cambodia

Since 27 January 2020 when Cambodia confirmed the first case of COVID-19, the Royal Government of Cambodia (RGC) has implemented numerous measures to prevent its possible spread. These includes the close down of schools, museums, cinemas, concert halls, and bars, the prohibition of large religious gatherings and the limitations of the entry of people from severely-affected countries. However, with the increased number of the neighbouring countries, the frail medical system of RGC is still facing potential challenges.

Impacts in Nepal

[2] Based on the statistics released by WHO, the number of confirmed cases in Philippines was 18,086.

The first confirmed case in Nepal appeared in late January. The increasing newly confirmed cases have shown the spreading has been accelerating. The community spreading has appeared in some areas and close contacts of some confirmed cases have become almost impossible to be traced. What's more, with the potential arrival of large numbers of returning migrant workers and Nepali students from India, the Gulf, and other Asian and European countries, the medical system in Nepal may collapse because of overload, if no strong support from international community can be provided.

Nepal has been listed as a high-risk country for potential spread of COVID-19 by WHO, mainly due to its frail health system. Nepal's insufficient preparedness, weak health infrastructure, and lack of required technology and human resources to fight against COVID-19 outbreak makes the country particularly vulnerable. The health system is also challenged by change in governance structure due to state federalization with more power devolved to provincial and local governments, which do not have enough capacity to manage the essential functions. At the sub-national level, the health system infrastructure is being reorganized and capacities being re-built, which has added difficulties in effectively mobilizing resources to fight against COVID-19.

Impacts in Laos PDR

Following an increased number of COVID-19 cases, the Government of Lao PDR (GoL) formally announced a nation-wide lockdown on 29 March until 3 May. From May 4 to May 14, the government has lifted some restrictions, implement extra prevention measures where necessary, and leave some prohibitions in place, in order to assess the prevention measures and determine how to proceed. The GoL officially (Ref PM 580) eased the nation-wide lockdown from 15th May 2020, however the potential for a second wave of COVID-19 pandemic, especially after the international borders re-open in the predictable future remains a very real and daunting possibility. Despite the still limited number of cases, the outbreak in the region has significantly affected trade, construction, tourism, and other sectors adversely, which also implies a significant impact on the economy.

The situation so far suggests that there is currently no community transmission in the country. However, it is expected that with the easing of the internal lockdown and travel restrictions within and to and from Lao PDR, second wave of COVID-19 cases will be detected, especially in the south of the country which has a vibrant trade with Vietnam, Cambodia and Thailand across the relatively porous border. Led by Emergency Operations Centre under Ministry of Health (MoH), preparedness and response activities have been launched and coordinated, including multi-sectoral coordination, point of entry (PoE), surveillance, health services and risk communication, ensuring that equipment and health

products arrive in the country over the next several weeks will be critical in operationalizing the draft National COVID-19 Response Plan.

1.2 Project Background

Elaborate on the reasons for the project (i.e., the origins of the project, including the compliance of the project with China's external development strategy and its related planning policies), and on the work already completed (including feasibility study, pre-feasibility study, past projects, etc.) by the recipient country and the project reporting agency (including partners).

China is the first country to contain the spread of epidemics within its territory over a very short period of time since it was first reported on 31 December in Wuhan city and currently when most of the countries have imposed strict lockdown measures to contain the spread of, China has gradually resumed to normalcy with opening of markets under close monitoring and surveillance. Since the outbreak of COIVD-19, based on its historic experience of fighting with epidemics, China emphasizes that viruses are the enemy of all humankind and international cooperation is the most powerful defence for the international community to defeat viruses. In the G20 Extraordinary Virtual Leaders' Summit on COVID-19 on 26 March, President Xi Jinping underlined China's willingness to share proven practices in prevention of epidemics with all countries and provide assistance within its capacity to countries where the epidemic has spread.

Under the severe situation of the global outbreak, China fully affirmed the positive contributions made by the United Nations and its agencies and willingness to support the United Nations and its agencies to play a leading role in fighting against the COVID-19 epidemic.

China Aid

To strengthen capacities and resources to deal with the COVID-19 pandemic, the Government of China (GoC) has already provided crucial bilateral technical and financial assistance to the five countries that this proposal targets.

China has deployed medical experts to the five countries, as well as through online communication with local medical experts, to share their expertise and train health personnel to prevent the spread of COVID-19. Additional material supports have also been provided by China, which include surgical masks, pharmaceutical drugs, disposable face masks, protective gowns, protective goggles, nucleic acid

test reagents, extractors, forehead thermometers and viral DNA/RNA extraction kits to more than 100 countries.

Lessons from China

China's experiences and approaches in responding to COVID-19 holds critically important lessons for other countries - to prepare health systems for a spike in demand, to inform the public, and to slow the transmission of the disease.

COVID-19 medical waste management: One of the challenges that China experienced in response to COVID-19 was related to medical waste management. On 28 January 2020, the Ministry of Ecology and Environment issued the Management and Technical Guide for Emergency Disposal of Medical Waste of COVID-19 (Trial), to ensure the timely and efficient disposal of medical waste and avoid further spread of the virus. The hospitals have been following the guidelines to process COVID-19 medical wastes mainly through two methods—one is through to process the waste on-site using movable equipment and then deliver to the waste incineration or landfill site; another is to process the medical waste with the hazardous waste incinerator, domestic waste incinerator or cement kiln. This overwhelmed existing medical waste transport and disposal infrastructure around 20 cities and hospitals, and the central government deployed 46 mobile medical waste treatment facilities and built a new plant with a capacity of 30 tons within 15 days (South China Morning Post, 12 March 2020). The processed medical waste is safe enough to be further disposed along with the domestic garbage. As of 18 April 2020, the national medical waste management capacity has increased from 4902.8tons/day to 6100.0 tons/day, while the medical waste management capacity in Wuhan has raised from 50 tons/day to 265.6 tons/day.[3]

Trainings to frontline government staff, medical and social workers: The National Health Commission has been promoting online trainings to improve the knowledge and understandings of frontline local government staffs and social workers on COVID-19 control and preventions. COVID-19 training programs have been launched on digitalized and innovative platforms, such as China National Continuing Medical Education (NCME) website and WeChat official accounts, to deliver the latest policy documents, nationwide updates and pandemic prevention knowledges. As of 10 February, there are 257 courses on COVID-19, which have targeted a total of 3,320,000 healthcare workers across the nation. Also, China International Public Health Management Training Programme was launched online, which is accessible by national and international HCW, students majored in medical related areas, to educate on the knowledge on the virus, create a platform for international information sharing and

[3] http://www.mee.gov.cn/xxgk2018/xxgk/xxgk15/202004/t20200421_775586.html

promote the related policy making. In addition, local governments and local disease control and prevention centers have organized trainings on COVID-19 prevention and control measures and policies.

Media advocacy and awareness campaign: In response to COVID-19, mainstream media in China, including People's Daily, Xinhua News Agent and CCTV, not only plays the role of monitoring and early warning to update the public on real-time and authentic information, but also share the COVID-19 control prevention and control knowledge. In cooperation the medical website Dingxiangyuan in China, People's Daily launched the "real-time epidemic search" to update data and related disease knowledge in time and provide authoritative and timely pandemic information, as well as posted daily blog and vlog to document the frontline on-site interview. Xinhua Press adopted short videos, MV, comics and 3D interactive news to educate the public on preventive measures and the up-to-date news on COVID-19 control. China Central Television used VR live technology to broadcast the construction of cabin hospitals in Wuhan, which received a total of ten million of viewers. CCTV also worked with the most popular social media platforms—Weibo and Kuaishou, to 24/7 live update the condition of the frontline, the daily work of the HWC and interview with the experts.

Besides, social media platform has become an important channel to advocate epidemic prevention--online social media and short video platforms have been broadcasting pandemic information. The public can track the condition of the COVID-19 in China and internationally through the online COVID-19 Map, which was the most frequently used by the public. Mobile service providers have been providing news and information through SMS. Radio stations, mobile radio vehicles and loudspeakers has also been used to make sure that the information reaches every corner of the nation, especially remote and rural areas. Loudspeakers, posters and task forces consisted of the local government are the most widely used methods in rural and remote areas. Besides, with the wide use of online communication apps, such as WeChat, the local government at community would release the relevant information, policies and announcements of the GoC and monitor the status of the public through Wechat groups 24/7 to improve the accessibility to the vulnerable groups.

Asia and the Pacific Region

The regional platform aims to strengthen the cooperation between project countries in the region and increase their capacities by sharing their experiences, and to further expand this regional project to the global level, to respond to and recover from COVID-19. As the regional hub of UNDP for Asia-Pacific, UNDP Bangkok Regional Hub (BRH) is mandated to perform the roles of managing regional projects. It has necessary institutional structures in place for monitoring and oversight of the implementation of the regional projects. The BRH also provides technical advice and policy support in the thematic areas UNDP's support to country offices in the region.

The project will build on and add value to China's and UNDP BRH's ongoing efforts to support countries

to reduce the risks and impacts of COVID-19. China has been actively providing technical, material, and financial support and equipment to countries. At the regional level, UNDP Bangkok Regional Hub (BRH) has also been supporting countries to prepare, respond to, and recover from COVID-19 through strengthening health systems, enhancing inclusive crisis management, and assessing and responding to the socio-economic impacts of COVID-19. UNDP has been mobilizing resources through TRAC 2 and Rapid Response Facility (RRF) funds to provide immediate support to countries. For instance, of total 25 Country Offices in Asia and the Pacific, 15 COs (including those of the five project countries) have received RRF funds totalling 3.6 million USD. More than 20 per cent of the funds (0.74 million USD) were allocated to support health systems. UNDP has also been supporting many countries in the region on socio-economic impact assessments from COVID-19 and recovery framework development for COVID-19 responses. Examples of two regional projects below currently managed by the DRR team illustrates this capacity：

UNDP BRH has also supported countries through ongoing regional projects. With worsening risks, multiple vulnerabilities and increasing inequalities, UNDP BRH continues to support countries by strengthening DRR and recovery through digitalization and innovative partnerships. The lessons from COVID-19 has emphasized the need for going digital more than ever before. Under an ongoing partnership with Fujitsu and Tohoku university for the Global Centre for Disaster Statistics (GCDS), UNDP BRH is supporting 7 countries (Cambodia, Indonesia, Philippines, Sri Lanka, Nepal, Maldives, and Myanmar) in Asia for enhancing digitalization of disaster loss and damage data. Building on its partnership for the GCDS, UNDP BRH has mobilized USD 800,000 from MOFA Japan for a regional project 'Accelerating Disaster Risk Reduction and Enhancing Crisis Response through Digital Solutions'. This regional project builds on the GCDS initiative by helping digitalization of disaster data using cloud-based technologies in support of DRR and recovery in four countries (Indonesia, Nepal, Philippines, Sri Lanka) using geo-spatial technologies. It is also planned to develop digital solutions to increase preparedness and response of the vulnerable groups. The private sector will be engaged to build partnerships in the countries and to strengthen capacities of governments for DRR and recovery.

Under the regional project "Partnerships for Strengthening School Tsunami Preparedness in the Asia-Pacific Region", UNDP BRH has mobilized US$ 2.56 million from the Government of Japan to assist 23 countries in Asia and the Pacific region (including Cambodia, Myanmar, and the Philippines) to mitigate the impacts of tsunamis by strengthening school preparedness over two phases. Bringing together good practices from Japan, technical expertise from IOC UNESCO, ITIC and Tohoku University, over 300 schools developed or updated their tsunami preparedness plans, held tsunami education programmes, and conducted evacuation drills. Through the two phases (2017 – 2020), over 150,000 students, teachers and members of school administration were trained. Building upon the outcomes from the first phase, the current i.e. second phase primarily focuses on achieving institutionalization to sustain

efforts around tsunami preparedness and awareness programmes and scaling-up the scope of work so that more schools, communities, and countries can benefit beyond the initiative. To achieve this goal, nine countries have organized Training of Trainers (TOT) workshops, imparting practical knowledge and good practices to school principals, teachers and key personnel of over 130 schools. During the TOT workshops, the Regional Guide for Schools to Prepare for Tsunamis which was developed under the first phase was introduced and used for further preparedness programme planning. Inspired by the Regional Guide, several countries e.g. Sri Lanka, have developed a national guideline contextualized to their country contexts. Efforts in institutionalization have facilitated governments to make preparedness programmes an annual event. In Palau, the Presidential Proclamation No. 19-269 marked September as the National Preparedness Month and all schools are now expected to conduct evacuation drills annually. In Papua New Guinea, the Provincial Administrator in Milne Bay Province announced that all schools in the province are to conduct school drills every year on the 5th of November while observing the World Tsunami Awareness Day. The Government of Viet Nam approved a five-year plan to include disaster education into the national school curriculum. Key events such as World Tsunami Awareness Day, International Day for Disaster Risk Reduction, Indian Ocean Tsunami and Great East Japan Earthquake were commemorated with blogs, videos, newsletters and promoted on social media (70 stories, 25 blogs, 31 videos, 10 news bulletins). The video developed to mark the 9th Anniversary of the Great East Japan Earthquake (English and Japanese) achieved a high visibility while reaching a total of 138,668 people on social media, accumulating a total of over 40,000 views across the world.

While ensuring high visibility, the project aims to incorporate required changes to response to the impact of COVID-19 on the education sector. The team is currently at the stage of formulating a next phase of the project in close consultations with the Country Offices. Building upon its outcomes, lessons learnt and good practices, the project will continue materializing innovative ways of work and advancing the efforts in institutionalization in order ensure sustainability beyond the project.

Philippines

With the continuing spread of COVID-19 globally, impact on human health and the economy intensifies. Confirmed COVID-19 cases, as well as probable and suspected cases, continue to increase in most of the regions in the Philippines, with a high concentration in Metro Manila. Proper management of the significant medical, household, and other hazardous waste being generated is an urgent and essential intervention as it could pose additional risks to health and the environment. The ADB has estimated that in Metro Manila, around 280 tons per day of additional medical wastes will be generated, or 16,800 tons for 60 days. There are currently more than 11,000 metric tons of health care waste issued with special permit to transport by the DENR since the March lockdown.

Health care facilities follow stringent guidelines in waste management issued by the Department of Health (DOH) and Department of Environment and Natural Resources (DENR). However, with the increasing volume of medical and hazardous wastes, including infected face masks, gloves, gowns, coveralls, and other protective equipment, the capacities of hospitals, especially those catering to COVID-19 patients and probable and suspected cases, may soon be not enough. Treatment, storage and disposal facilities and personnel in the country are also limited, mostly located in the National Capital Region. There have been reports that hospital wastes are also being refused by waste management actors due to fear that they might also get infected.

At the same time, given the saturated capacity of the hospitals, many COVID-19 patients and probable/suspected cases with non-severe symptoms are advised to go on home quarantine and will be placed in new temporary quarantine facilities being established across the country. There are about 3,647 quarantine facilities with approximately 55,757 beds established by the DOH with the Department of Interior and Local Government (DILG) and local government units (LGU) for COVID-19 positive and mild asymptomatic cases. While about 15 mega COVID-19 facilities are being established with the Department of Public Works and Highways (DPWH) with an estimated of 2,538 beds. There is a need to ensure that infectious waste generated from the households and quarantine facilities are not mixed with the general waste, particularly since waste segregation is still not widely practiced in the country. If left unaddressed, this will pose significant risk to waste management actors and broader population and may deem other wastes that are otherwise recyclable, infectious.

Immediate interventions are needed that will help strengthen capacities of the healthcare facilities and the national and local government in managing medical and hazardous waste, found in hospitals, quarantine facilities and in the communities, resulting from the COVID-19 outbreak.

UNDP Philippines positioned itself early to support the Government to effectively manage the crisis and lay the foundations for an effective recovery. Our investment focused on: **strengthening the capture and analysis of key data** to inform the health response and better understand the multi-dimensional impact of the crisis; rapidly **demonstrating the viability of digital platforms** like mobile wallets to expedite payments to the poorest of the poor; and establishing **crisis coordination and management structures in BARMM.**

UNDP's COVID 2.0 offer – **Moving Beyond Recovery and Towards 2030** - now enables the Philippines Country Office to further build on these core investments as well as support the Philippines' capacity

for anticipatory governance to enable it to shape a resilient future in a volatile, uncertain, complex and ambiguous (VUCA) world and regain its momentum towards the attainment of the SDGs. The scope of the Philippines' Country Offer includes:

- Governance – building capacity for anticipatory governance; *Pintig* Futures; and enhanced local e governance
- Social protection – Phase 2 of Adaptable Digitally Enabled Post Crisis Transformation and Greening Social Protection;
- Green Economy – Better Business for Better Philippines; Establishment of Mineral wealth Fund; establishing evidence base for green policy and investments; and innovative green finance;
- Digital disruption – data for resolving land conflicts; digitally enabled supply chain management for BARMM; and digital Islamic micro financing.

Myanmar

The MoHS has updated its 2019 SOP and National Guideline on HCW Management in response to COVID-19, however the extent of compliance by health care workers and waste operators have not been documented and is presumably constrained by limited awareness on HCW handling, and lack of appropriate technologies for treatment and disposal of waste including Personal Protective Equipment (PPE) for those directly handling the waste. The increasing volume of COVID-19 HCW is expected to quickly overwhelm an already struggling and inefficient waste management system in the country and exacerbate transmission risks. The latter is further heightened with the inadequate handling, treatment and disposal of medical masks used by increasing number of people outside of the health care facilities, and for which no SOPs exist. While there is almost no credible data on the HCW generated in Myanmar, it is assumed that at least 70% of the waste collected from the hospitals and clinics are infectious waste.

Myanmar's healthcare systems have unique challenges that are structural and cannot be resolved in the short term. One emerging challenge, that has not yet been fully recognized is the management of health care waste (HCW) (whether generated from hospitals, homes or by individuals). At present, the HCW management in Myanmar is sub-standard with limited basic awareness at all levels further exacerbated by lack of an enabling policy and regulatory framework, capacities, facilities and information. There exists limited and incomplete information on the current levels of HCW generation in the country, though the Yangon City Development Committee and the Mandalay City Development Committee estimate that on an average 280 and 779 tonnes of HCW may be generated in the two regions respectively.

UNDP has been engaged in supporting the Rakhine and Mon State Governments in the development of the respective Solid Waste Management Plans. In Yangon, UNDP has closely worked with the Yangon City Development Committee in the preparation of the Yangon Earthquake Preparedness and Response Plan. The UNCT's Country Preparedness and Response Plan (CPRP) supporting the 'Health Sector Contingency Plan for COVID-19 and other emerging respiratory disease outbreak response in Myanmar' is guided by WHO's global guidance COVID-19 Strategic Preparedness and Response Plan (SPRP), and its COVID-19 Socio-economic Recovery Framework (UN-SERF) outlines the immediate socio-economic support to be provided to Myanmar to save lives, protect people and rebuild better, alongside and complementing the health response.

As part of its COVID-19 response, UNDP is working with the MoHS to develop a chatbot to provide a centralized interactive 1-stop platform linked with the Ministry to complement its COVID-19 related information sharing that can be accessed by Myanmar citizens on a real time basis and; to develop and produce multi-media COVID-19 awareness raising information and communication materials. UNDP will make use of the opportunities presented by these partnerships and lessons learned in ensuring the achievement of the project's results. It is also implementing the following activities with complementarities to the project:

- Socio-economic impact assessment of COVID-19 on key vulnerable populations
- Assessment of the impact of COVID-19 on entrepreneurs, and digital transformation needs
- Organization of Innovation Challenges to identify local solutions to addressing impacts
- Digitization of the capacity building programmes for the micro, small and medium enterprises.

Cambodia

The Cambodian Ministry of Health (MoH) has played a central role in overseeing and containing the response to COVID-19 and providing medical advice and training to hospitals and health workers. This has been done with technical supports from the WHO and the US Centre for Disease Control and Prevention (CDC) as well as the Institute Pasteur of Cambodia (IPC).

As of March 2019, there are a total of 1,474 public health facilities with 1,221 health centers, 127 health posts, 9 national hospitals, 25 provincial hospitals and 92 district hospitals, according to the National Health Congress. The total number of private health facilities is 14,432.

COVID-19 testing is conducted by the Institute Pasteur of Cambodia (IPC) and the National Institute of Public Health. The MoH has authorized three hospitals in Phnom Penh (Khmer-Soviet Friendship Hospital, National Pediatric Hospital and Chak Angre Krom Hospital), and 25 Provincial Referral Hospitals to order tests for and treat cases of COVID-19.

At least 110 beds have been reserved for COVID responses in Phnom Penh. Other provinces have reserved some hospitals and prepared hotels to serve the same function. However, most medical facilities and services in Cambodia are below international standards due to shortage of resources and of the technical capacities required to provide care during the COVID-19 pandemic.

At an average of US$2,000-2,500 for treating a patient for 10 days (including testing fees of between US$100 and US$120), the high cost of treating COVID patients poses yet another challenge for Cambodia. Funds raised by the government to handle the crisis, have been used to purchase more than 10 million surgical masks, 30,000 protective suits [PPE], 13,000 N95 masks and other medical supplies.

As per relevant assistance provided by UNDP Cambodia to counter the Covid-19 outbreak, UNDP Cambodia received the government's request through WHO to support in the procurement of health equipment from international sources, and the facilitation of rapid delivery of these items to Cambodia. In response, under the UNDP Engagement Facility project (2020-2023) with the proposed budget of US$5 million, UNDP has been procuring and delivering emergency medical and laboratory equipment supplies such as ventilators, ambulances, and vehicles to COVID-19 designated hospitals across Cambodia.

Governmental efforts with extensive aid support from China and other countries have significantly improved the country's overall capacity to handle the COVID 19 pandemic. However, proper and safe treatment of medical waste infected by COVID-19, areas in which Cambodia has limited resources, expertise, and experience is one of the remaining, critical challenges. Particular challenges which the COVID response designated hospitals experience include:

- Lack of a full set of equipment and of operational guidelines for full treatment of infectious waste (solid waste)
- Lack of equipment and guidelines for treating wastewater
- Lack of guidelines to ensure proper operation of incinerators to minimize health and environmental hazards
- Prevalent mix of waste types, which heighten the risk of infections among waste collectors

Nepal

Though Nepal government has taken various measures to contain the pandemic, these measures have not been enough to contain the spread of this disease. Nepal government has taken significant efforts in increasing case management, coordination with local stakeholders and reaching out to the communities in rural provinces to convey message regarding COVID 19. Nepal is under complete lockdown since March 24 taken as a step towards prevention of COVID 19 spread.

In order to meet the urgent need to strengthen the existing health system to handle the surge of outbreak, ensure the safe environment of health and quarantine facilities, provide immediate relief to the most-affected, UNDP Nepal has been working with Government of Nepal, UN Country Team and other partners to support the country's preparedness to face the mounting public health emergency, respond to the socio-economic impact of the protracted lockdown on the most vulnerable and support longer-term recovery measures, focusing on the three major areas: rapid assessment of impact and recovery needs, health system support and crisis management and response.

Rapid assessment of impact and recovery needs：

In order to better understand the direct and indirect impact of COVID-19 and provide comprehensive policy options to address the related challenges, UNDP Nepal commissioned Institute for Integrated Development Studies (IIDS) to conduct a rapid assessment of socio-economic impact of COVID-19 in Nepal. The assessment provides evidence-based analysis of those areas most impacted by the pandemic and analyzes the specific impact on vulnerable groups. It not only gives a deep insight into the health sector, but also shapes better understanding of relationship among health sector and other sectors in the context of COVID-19. The findings of the assessment constitute an important basis to design policy and programme interventions in a number of areas, including the health sector.

Health system support：

UNDP has been supporting the provincial and local governments to strengthen their health system, including by providing much-needed medical supplies, assessment of quarantine facilities and public awareness on COVID-19. A lot of activities are been carrying out in this area, mainly including enhancing public awareness on COVID-19 through communication (PSAs, Community level activities), management of quarantine facilities through monitoring and assessment and

logistics support, strengthening health support system, engaging youth groups to locally design and produce delivery robots to help frontline health workers.

Health care waste management is an important part of health system. Volunteers are mobilized for awareness activities at the community level. So far, more than 500 waste workers in Kathmandu and Nuakot districts have been provided with protective gear and needful trainign on safe handeling of hazardious waste.

Crisis management and response：

UNDP Nepal has been also focusing on enhancing crisis response and management capacities at sub-national level, which include communication support and skills transfer to provincial governments and municipalities. The activities carried out so far include supporting the overall UN wide Preparedness and Response Plan, communications support to provincial and local government, live phone-in radio program aimed at helping connect people with government authorities and inform polices, and crisis communications training to representatives of local governments and other actors.

UNDP, as a technical leader, has been supporting the UN Country Team to draft UN Framework for Responding to the Socio-Economic Impacts of COVID-19 in Nepal. “Health first” is one of the five pillars of the framework. In order to help Nepal’s health sector improve its capacity to control the epidemic, the framework has identified and analysed the existing gaps and challenges of health system, proposed strategic interventions, and designed monitoring and evaluation mechanisms and indicators for the next 18 months. Several projects related to health care waste management have been designed to reduce the cross-infection risk in health facilities.

The capacity of the hospitals for health care waste management in Nepal is very weak. According to the assessment report by WHO and UNICEF in 2019, almost 99% of hospital facilities surveyed, has not reached the minimum standard of basic health care waste management facilities, which is the worst situation among the 49 involved countries. Strengthening the health care management system in Nepal, which has been under neglect for a long time, has become now urgent and critical to win the battle against COVID-19 epidemic.

In Nepal, a total of 274 hospitals generate 10,520 tons of non-hazardous healthcare waste per year and 3,094 tons of hazardous medical waste (Government of Nepal, 2014). The waste was used to be

disposed of as regular city garbage, which exposed the waste collectors at risks. In some cases, the waste was burnt in incinerators which released persistent organic pollutants (POPs) such as dioxin to the environment.

With the increase in the delivery of quality health care to more people, volume of health care waste generation is on rise. The current practices of burying or open burning of the health care waste has increased the possibility of exposure to potential hazards and susceptibility of the population to disease due to mishandling of waste. Nepal with its fragile health system is facing a huge challenge to properly manage the potentially infected medical waste in the bid to fight against the COVID-19 pandemic. The composition of the medical waste in Nepal are:

- Healthcare waste composition of Nepal constitutes 22% of infectious waste, 48% of general non-hazardous non-biodegradable waste, 28% of biodegradable waste and 2% of hazardous chemical/pharmaceutical waste (UNEP 2012).
- Study of five regional hospitals of Nepal conducted by Ministry of Health in 2015 shows HCW and Risk HCW generated per bed per day was 1.35 kg and 0.44 kg respectively (Shrestha. S, 2015).

Lao PDR

With an increased risk of a second wave of COVID-19 infections, Lao PDR may also face significant challenges based on its population size and resources allocated to medical waste management. Based on the China's experience, if a second wave of COVID-19 infections outbreaks in Lao PDR, the peak of medical waste generated in Vientiane could be 1,800kg/day, and in provinces, the average amount could be approximate 322kg/day. Some provincial hospitals have autoclaves that can treat 15kg medical waste/hour, but most provinces lack capacities to deal with the expected excessive amount. Charcoal incinerators are used in all provinces but medical waste is not treated separately.

On medical waste generation, the following surveys were conducted:

- Survey on waste management conducted by UNDP Lao PDR Accelerator Lab, 2019
- Surveys on Healthcare waste (HCW) management conducted by the MoH and WHO, 2017

A further important lesson from China will be on how best to impart information to the general public. The best time to inform people about the disease is before the epidemic. People need access to the latest updates on government announcements; this includes learning to wash their hands often, to avoid touching their face and what to do if symptoms appear. Also, awareness needs to be raised on

the issues related to medical waste at the community level. In Lao PDR, access to information and communication channels to express opinion can restrict people from participating in the process and being informed. This is most evident in rural populations, particularly illiterate ethnic communities in remote areas living below the poverty threshold. This is partly being addressed by UNDP's on-going support for the Community Radio network (9 districts in 6 provinces) which has proven to be an effective communication tool for the target populations.

1.3 Did the project applicant agency conduct any similar projects in the region before? Did any other countries or institutions conduct similar projects in the region before? If so, please analyze their experiences and lessons separately. (Additional rows may be added.)

Start Date	End Date	Region/ Country	Project Name	Thematic Area	Cost (USD)	Partner
January 2009	July 2014	**Philippines**	Demonstrating and Promoting Best Techniques and Practices for Reducing Health-Care Waste to Avoid Environmental Releases of Dioxins and Mercury	Chemicals Management	830,000	Department of Health

Project achievements, experiences and lessons learned:

The Project was able to establish model facilities and programs to exemplify best practices in health care waste management, and develop materials to facilitate replication. It also deployed and evaluate commercially viable, non-incineration health care waste treatment technologies appropriate to the needs of each facility or cluster; and enhanced capacities for implementation of best practices and technologies beyond the model facilities and programmes. Finally, the Project was also able to review and recommend appropriate policies.

An important lesson from implementation was the importance of having clear agreements on goals and roadmap in achieving these, among government and other parties including the roles and responsibilities, and identify the risks attached to each role. The project experienced delays due to disagreements on the specifications on the medical technology (autoclave) to be used by

the project. As mentioned in the terminal report – "The different strategic views of the Project Team and National Project Implementing Agency on some important issues, like centralized vs. non-centralized technologies, or incineration vs. non incineration, generated since the very beginning created some misunderstanding which did not facilitate project implementation. It is however to be recognized that the Project Team, in multiple occasions, tried to address the main project issues proposing solutions that, if accepted, could have solved almost all the difficulties that the project dealt with" It should be noted that at that time of terminal evaluation, the debate to use incineration versus other technologies was a very sensitive issue. The Project did eventually installed the waste treatment facility – steam autoclave – in selected hospitals.

2018	2021	**Philippines**	Sustainable Health in Procurement Project (SHiPP)	Green procurement in hospitals	830,000	Health Care Without Harm and World Health Organization

Project achievements, experiences and lessons learned:

The Project aims to reduce greenhouse gasses, resource depletion and chemical pollution by working with health ministries, hospitals and health systems in ten countries, via two regional components, and across the UN system to develop innovative procurement strategies. Its objectives include:

- Development of universally applicable criteria and standards for sustainable manufacturing, distribution and content of products procured by the health sector
- Strengthening capacity for sustainable procurement in the health sector in ten project countries;
- Strengthening capacity for sustainable production, supply and disposal of health care products in at least ten project countries; and
- Strengthening the understanding and application of appropriate indicators and monitoring and evaluation processes that help promote accountability for sustainable procurement in the health sector

Still on going, the most important experiences and lessons include embedding environmental and social sustainability in operational guidelines for member states that pool their procurement of health commodities within the South African Development States (SADC) and Medical Stores Department (MDC).

The project has also built synergies with global initiatives: Kigali Cooling Efficiency Program (K-CEP); UNDP/WHO/HCWH Health Care Waste and Mercury Elimination Project funded by GEF; Reduction of Emissions for Antibiotics Production; and UNDP's Solar for Health Project. Moving on, this Project has lined up to produce the following:

- A Sustainable Procurement Index that provides policy makers and procurement officers around the world with clear, consistent guidance on purchasing choices.
- A map of carbon hotspots in the global health care supply chain and an action plan to reduce them that includes procurement of efficient, low global warming potential cooling technology, anesthetic gasses, and energy generation.
- A global Guidance Document on implementing sustainable procurement in a health care setting.
- Model policy and tender documents to integrate sustainability into health procurement.
- Hospitals and health systems in multiple countries implementing sustainable procurement regulations, policies, strategies and practices for climate- smart, toxics-free, zero waste health care.
- A strong innovation agenda that brings university teaching hospitals in SHiPP countries on board and engages their medical students.

The proposed Project with CIDCA can benefit from the experiences of the SHiPP to provide a more holistic approach to management of health care wastes.

March 2020	To date	**Philippines**	Pintig (heartbeat) Lab Digital Data Analytics Warehouse for COVID	Chemicals Management	487,000	Department of Health and the Interagency Task Force on COVID 19

Project achievements, experiences and lessons learned:

The LAB offers data analytics support to the government and other stakeholders to pull in and analyze data from various sources to inform policy and decision making. More recently, it produced a Policy Brief, working with Economists, Epidemiologists, and other Experts to model the health and economic impacts of quarantine regulations to inform government. In turn, the DOH decided to partner for more in depth data analysis.

April	Sept	**Philippi**	Adaptable, Digitally	DRR	350,00	Pasig City,

2020	2020	**nes**	enabled, Post Crisis Transformation Project (ADEPT) Pilot		0	Metro Manila

Project achievements, experiences and lessons learned:

The project supported the rapid piloting of an enhanced social protection system that aims to: (1) establish a validated process of beneficiary identification and registration, including the use of biometrics to help meet "know your customer" requirements for digital payments; (2) use digital payment platforms to provide cash transfers to targeted beneficiaries and enable financial inclusion for the poor; and (3) provide financial and mobile money literacy training for beneficiaries and merchants.

The most important lesson was that beneficiaries found the digital financial transfer mechanism allowed for faster receipt of payments; is safe and more secure during these times of pandemic as the scheme limits their exposure to other people, compared to person to person contact in availing of the government's social amelioration program (SAP). Based on these lessons and results, the Country Office is having discussions with government for roll out of the mechanism.

The *PintigLab* can also complements the effort of the proposed project for CIDCA through development of analytics for health care wastes to monitor and make decisions on deployment of HCW facilities.

As a related initiative, UNIDO conducted a Webinar involving national and international participants to: (1) Share the UNIDO approach to infectious wastes management, with 2 examples from UNIDO projects in Asia: India and China; and (2) share the experiences of a local healthcare facility on their practices and experience considering the current pandemic. The webinar was attended by more than 200 participants from relevant government agencies, hospitals and healthcare facilities, Treatment, Storage, Disposal (TSD) facilities, academe, private sector, civil society organizations and partners from other countries.

Key recommendations include identifying strategies on policy updating, capacity-building and institutional-strengthening, promoting Best Environmental Practices (BEP) such as source reduction and Best Available Technologies (BAT) like mobile waste treatment systems, and scaling up with the participation of the private sector. The crucial role of stakeholders in

bringing attention to biomedical wastes, which are otherwise mostly unseen, as an important development area was also discussed highlighted.						
6 Dec 2018	15 Sep 2019	Mon State, **Myanmar**	Township Democratic Local Governance (Master Plan: Solid Waste Management for Mon State)	Developing Mon State Solid Waste Management Master Plan	91,715	Mon State Government
1 Oct 2019	30 May 2020	Rakhine State, **Myanmar**	Township Democratic Local Governance (Master Plan: Solid Waste Management for Rakhine State)	Developing Rakhine State Solid Waste Management Master Plan	53,931	Rakhine State Government
Project achievements, experiences and lessons learned: UNDP supported the development of two Solid Waste Management Plans for Mon State and Rakhine State in 2019. Both Plans cover waste from hospitals and clinic and has set targets (short-term; medium term and long term) for strengthening the management medical/health care waste in these two States. Through the development process for these two plans, the State Governments and policy makers were introduced to international best practices on solid waste management, and the extensive consultation processes with a broad variety of stakeholders strengthened awareness for and importance of effective and efficient waste management. The Mon State Waste Management Plan is the first to be developed for a sub-national government. The lessons learnt from the formulation process, and its implementation will inform the development of similar plans for the other sub—national governments. For example, a key lesson learnt in other projects has been around ensuring alignment with government priorities and budgeting adequate time for implementation of project activities while factoring in time and procurement related risks in line with COVID-19 advisories.						
April 2020	Sept 2020	**Myanmar**	UNDP COVID-19 Rapid Response Facility Resources for L3 COVID-19 Crisis	DRR	249,929	Ministry of Health and Sports (MoHS)
Project achievements, experiences and lessons learned:						

The goals of the project is to: 1) Improve the preparedness of subnational health systems in terms of capacity and availability of essential health products and supplies to respond to COVID-19 crisis; 2) Enhance the understanding of potential socio-economic and livelihoods impacts of COVID-19 to inform response and early recovery initiatives. Under this support, UNDP provided essential health supplies (PPE, and lab and medical supplies) to 9 most vulnerable states and regions in close coordination with the UNCT, and with WHO in particular. Two assessments to understand the socio-economic impacts of COVID19 on key vulnerable groups and entrepreneurs are currently ongoing. The assessments are expected to provide key policy recommendations for informing recovery initiatives for the UNCT in Myanmar.						
April 2020	Sept 2020	**Cambodia**	Cambodia Allocation from Rapid Response Facility to respond to COVID-19	DRR	300,000	General Secretariat of the National Social Protection Council, the Ministry of Social Affairs, Veterans and Youth (MoSAVY), the Ministry of Planning (MoP), the Ministry of Interior (MoI)
Project accomplishments The goals include: 1) setting-up of an emergency social protection framework enabled; 2) rigorous review of the ID Poor system and payment protocols at national and local level supported; 3)roll-out of a system capable of fast disbursement of cash transfers up to 600,000 households facilitated.						
Jan 2019	Dec 2020	**Cambodia**	Building an enabling environment for sustainable	Environment	2,037,337	Ministry of Environment

			development			

Project achievements, experiences and lessons learned:

The overall objective of this project is to strategically position Cambodia's path towards achieving the Sustainable Development Goals related to 1) natural resources management (NRM); 2) circular economy; and 3) clean, affordable and sustainable energy.

One of the key foci of this proposal is to support transition to waste management based on Circular Economy principles. Thus, the project tests and implements numerous enabling measures and approaches for sustainable management of waste. They include drafting a national Circular Economy policy and roadmap to enable integration of waste management in a circular economy as well as a pilot initiative in the Kep province to promote sustainable waste management at the sub-national level.

Lessons learned from the above projects:

Lesson 1: Aligning project activities with the priorities of key partners will increase their ownership and buy-in, leading to successful results.

→ UNDP consulted the MoH and three target COVID hospitals to identify their priorities in relation to infectious waste management and framed activities to meet their priorities and needs.

Lesson 2: It is important to gain in-depth understanding of perceptions of beneficiaries about their needs as well as about project impacts so as to improve the implementation design as well as approaches.

→ UNDP conducted consultations with COVID hospitals to identify their needs in relation to medical waste management and proposed a set of equipment, and capacity building activities to directly address their needs. UNDP will also regularly monitor project impacts via regular interviews with beneficiaries to ensure continuous improvement of project design and interventions to meet the beneficiaries' needs.

Lesson 3: Utilising existing mechanisms to provide goods and services is the most effective way in outreaching target beneficiaries in a timely manner.

→ UNDP will make use of existing proven mechanisms to the extent possible for import, custom clearance, transport and logistics to procure and deliver equipment to target hospitals and beneficiaries.

April 2020	Sept 2020	**Nepal**	Nepal Allocation from Rapid Response Facility to respond to COVID-19	DRR	267,500	Ministry of Health, Ministry of Federal Affairs and General Administration (MoFAGA)

Project accomplishments

The project aims to: 1) protect the Health workers against COVID-19 and enhance the public awareness of COVID-19; 2) undertake the rapid socio-economic and livelihoods impact assessment of COVID-19 to inform response and early recovery initiatives; 3) enhance the crisis response and management at the sub-national level.

April 2020	May 2020	**Kathmandu Nepal**	COVID-19 RESPONSE of health care waste management	Waste management	56,424	Médecins du Monde France

Project accomplishments

The project aims to mitigate the spread of the COVID-19 amongst the vulnerable communities of formal and informal waste workers in Kathmandu Valley and the Kakani Municipality and amongst the urban community through prevention and promotion of safe and efficient waste collection.

Experiences:

1. Health waste collecting workers are one of the most vulnerable groups in the context of COVID-19, as they are exposed to huge health risks of cross-infection from unsafe health care waste and insufficient protective measures. Improving awareness and knowledge of health workers could not only protect themselves, but also provide safer environment in health

facilities for health staffs and visitors.

2. Health workers are at the frontline to fight against COVID-19, and their awareness and capacity are one of the key factors to effectively deal with epidemic. Necessary raining and providing protective equipment in time will give them great support.

Lessons:

1. Insufficient ability of health care facilities to respond to COVID-19 is a common problem in Nepal. As the coverage of above project is limited, more comprehensive support and resources are in urgent need.

2. In order to control the epidemic, only raising the awareness of medical staffs is not sufficient. A more systematically approach is needed to improve the overall capacity of the hospitals to handle the medical waste.

Dec 2009	Dec 2011	**Nepal**	Public awareness and participation for elimination of POPs and its sources from Nepal	Chemicals	170,771	Center for public Health and Environmental Development

Project accomplishments

The project is aimed at addressing mainly the unintentional sources of POPs from waste burning at health care setting as well as in the communities. In addition to this, the industrial chemicals like polychlorinated biphenyl (PCBs) contaminated transformer oil is being used in iron and welding workshops. This has led to production of furan and POPs and the project aims at addressing this risk.

Dec 2009	May 2015	**Nepal**	From pilots to policies: improving medical waste management	Chemicals	366,022	Center for public Health and Environmental

						Development UNDP WHO (UNDP/ the GEF Small Grants Programme)

Project accomplishments

The project sought to address the unintentional release of POPs to the environment, from waste burning at healthcare facilities as well as from open burning. Efforts were also aimed at limiting the release of furans and polychlorinated biphenyls by eliminating the use of contaminated transformer oil in welding machines. Additionally, the project advocated to ban the import and use of endosulfan in Nepal.

Experiences:

1. Advanced technology and equipment are important ways to solve the pollution problems caused by health care waste. Learning form international experience and technology could help Nepal significantly improve the ability of health care waste disposal.

2. From a long-term perspective, institutionalization is an important measure to improve health care waste management capacity. To promote more good practice and experience to be absorbed into institutions to standardize the process of heal care waste disposal, it will make it easy for more health facilities to learn and improve their capacities.

Lessons:

1. The above projects are mainly focusing on how to avoid burning pollution of health care waste, and do not pay enough attention to the classification, collection, transportation, disinfection, storage and other important links in the whole chain of health care waste disposal.

2. The above projects mainly concern how to reduce the pollution of health care waste burning and provide very limited countermeasures to reduce the infective risk of health care waste during the epidemic situation.						
October 2017	February 2019	Lao PDR	Supply Autoclave to Local hospitals	Medical waste management	3,017,000	13 special , provincial and district hospitals
Project accomplishments This project is supported by EU, and aims to provide 14 sets of autoclaves and 11 sets of shredders in target hospitals.						
2/4/2020	1/5/2020	Lao PDR	Local Health System Sustainability and supporting the Government of Laos In preparedness and response to COVID-19.	Capacity building	15,000	Ministry of Health
Project accomplishments This project is supported by Save the Children, it aims to support the Department of Hygiene and Health Promotion (DHHP) to implement community hygiene activities to prevent infection and slow outbreak in key provinces and help produce hygiene education materials for community use.						
April 2020	June 2020	Lao PDR	Bilateral COVID-19 preparedness and response support from the government of China	Capacity building		Ministry of Health
The Chinese government has deployed 2 healthcare expertise teams to Lao PDR to support capacity strengthening and evaluation on of COVID-19 preparedness and response. it is also noted that the government of China has donated two batches of medical supplies to support COVID-19 preparedness and response in Lao PDR.						
2017	2022	Lao PDR	Heath security Project. For general (not for Covid19)	advocacy, capacity building and	96,200	District Hospital in 12 provinces

				Monitoring)		
Project accomplishments This project is supported by ADB, it aims to 1) conduct the M & E of target district hospitals and provide relevant training to staff of chosen district hospitals.2) Revise the Infection prevention and Control guideline(which including the guideline of medical waste management as well)						
June 2018	Dece mber 2020	Lao PDR	Building capacities of reliant recovery phase II	Capacity building and advocacy	603,63 6	Ministry of labor and social welfare
Project accomplishments This project aims to Enhancing Lao PDR's preparedness for disaster response (including pandemics like COVID-19) and recovery at the national and sub-national level by strengthening the already existing mechanisms and by introducing new mechanisms for disaster recovery and resilience. The project works directly with the National Disaster Management Office of the Lao PDR In this project, UNDP Lao PDR provide equipment to remote villages for disaster early warnings, including information on COVID-19 policy announcements in target villages. The project has also repurposed specific activities to support those who have recently returned from overseas during quarantine and provision of employment (cash for work activities).						
July 2020	Nov 2020	Lao PDR	UNDP Rapid Response Facility (RRF) - inclusive and integrated crisis management and responses	Enhacned coordination and Business continuity Planning,	250,00 0	Ministry of Planning and Investment
Project accomplishments This project in implemented by UNDP and in response to COVID-19 and aims to enhance						

intersectoral coordination through business continuity and functional assessment of existing capacities and systems, business process reengineering / digital workflows for MPI DIC, including teleconferencing capacity (at central and provincial level); and Enhanced planning and coordination via the online collection and validation of DP assistance data and the dissemination of information for COVID-19 recovery interventions.						
March, 2020	Dec.2020	Lao PDR	Supporting provincial health preparedness and surge capacities, including at points of entry MPTF	Medical waste management ,advocacy, COVID-19 preparedness and response.	700,000	Ministry of Health and Ministry of Home Affair,
Project accomplishment: This project is a joint project and aims to Improve Services for COVID-19 preparedness in southern Provinces of Lao PDR the project supports provincial and district level COVID-19 preparedness by targeting border authorities and providing training and information on COVID-19 screening. The project will also work through MoHA with district level authorities to identify and manage quarantine and isolation centres according to the protocols developed by MoH with WHO support. IOM and UNODC will support the training and IEC need at the borders, while UNDP and UN-Habitat will join forces to engage with district level authorities.						
27/6/2020	11/7/2020	Lao PDR	Local Health System Sustainability and supporting the Government of Laos In preparedness and response to COVID-19.	Capacity building	12,000	Department of hygiene and health promotion Loungphabang Health Provincial office Xayabouly Health Provincial office

Project accomplishments

This project is supported by Save the children, it aims to Conduct the COVID-19 preparedness and response training for District Health staff in Loungphabang province and Xayabouly province

Lessons learned:

1) Target areas: As a least developed country, in the selection of target project areas it is crucial to address inequality and poverty.
2) Capacity building: With medical waste management at its early stage of development in Lao PDR, some donors have so far only provided equipment and limited training to MOH and medical waste disposal staff. It is critical to enhance the medical waste management capacity at both central and local levels, this includes not only with hardware support but also with softer support, such as awareness raising and provision of information, digitization and human resources capacity building.

1.4 Conditions of Project Implementation

Are the implementation conditions of the project related to nature, transportation, site, personnel, construction (if any) already fulfilled, reliable, and stable? Is it necessary for the recipient government or relevant agencies to cooperate? Are the relevant supporting conditions fulfilled or clearly planned? Explain the access conditions of the country and industry.

UNDP China and UNDP Bangkok Regional Hub (BRH)

The United Nations Development Programme the application agency. UNDP has delegated its authority to UNDP China to oversee the implementation. During the development of the proposal, UNDP China has recruited a team of experts from Solid Waste and Chemicals Management Center, Ministry of Ecology and Environment of People's Republic of China and Tsinghua University/Basel Convention Regional Center for Asia and the Pacific to investigate and assess the medical waste management capacities, current condition and the prevention needs in the five counties. Based on the assessment results, in combination with the Chinese experiences, country capacities, the experts gave suggestions on the specifications of the medical waste management. During the implementation phase, UNDP China would assist the COs and coordinate with MEESCC, THU/BCRC China and NHC to provide technical and consultation supports to the guidelines, training materials and trainings, based on the needs of the countries. In addition, UNDP China will provide support the communication and visibility (including

translations) of the project, as well as reporting responsibilities to the SSCAF (narrative and financial).

UNDP Bangkok Regional Hub (BRH) will provide supports to the country offices if needed. More importantly, to advocate the good practices and the successful experiences, BRH, as the leading unit in the region, will share the experiences and accomplishments among the 25 country offices in the Asia and the Pacific Region and to other regions, through trainings and communication materials, as well as establish the network of government, private sector, civil society, and research institute representatives based on the existing platforms.

The project will be implemented by UNDP Country Offices under Direct Implementation Modality (DIM).

Philippines

The project will be implemented through the UNDP Philippines Country Office. Recognizing the size of the project and the expected delivery period, establishment of a high-level implementation task team will ensure quality, efficiency and sustainable delivery. UNDP will source the necessary expertise utilizing its network and roster of experts. UNDP will also draw on its wider capacity for procurement. The UNDP Philippines Country Office has the capacity to manage this project and can quickly ramp-up the necessary capacity to deliver the project within the required timeline.

UNDP will implement the project in close coordination with DOH, DENR, LGUs and other stakeholders, target hotspot hospitals, quarantine facilities and communities that are catering to significant number of COVID patients and PUIs, and help strengthen capacities of the healthcare facilities and the national and local government in managing medical and hazardous waste, resulting from the COVID-19 outbreak. The import of the equipment and materials provided by this project will not be restricted by local policy. In March, the Food and Drug Administration and the Bureau of Customs assured to speed up the entry process for importers of medical equipment, which are deemed essential to treat patients with COVID-19.

The primary implementation area, Metro Manila, has mature infrastructures such as power connection, voltage and water connection, while the secondary implementation area, hospitals in BARMM, will be carefully selected to meet such requirements. Typhoon and rainy season may delay transportation or installation of the equipment, especially for maritime transport, but the implementation areas would

not be severely affected by local climatic conditions.

The training location has not been determined yet, and potential locations are offices within the city government premises, hospitals and quarantine facilities. During physical training workshops, public health advices and requirements, including social distancing, wearing masks and using alcohol-based hand sanitizers, will be enforced to protect attendees. In advance, virtual training sessions are the fallback option.

Myanmar

The country is affected by internal conflict in several parts of the country - the nature and intensity of which are also varied and complex. Current ongoing conflict between the Tatmadaw and the Arakan Army in Rakhine State has led to increased displacement. As of January 2020, over 184,000 IDPs are living in 128 camps in Kachin, Kayin, Shan and Rakhine States which is likely to be exacerbated by the overburdening of government services and under coverage of health facilities in several parts of Myanmar.

Against this backdrop of a conflict impacted country, with extremely weak health systems, especially at regional and state levels, the COVID-19 crisis is unfolding with a potential of being not only a major humanitarian crisis but also manifest into a lasting crisis that threatens to exacerbate the already fragile socio-political fabric of the country.

In the context of COVID-19 response work, UNDP is engaging with the government to offer support both in responding to and in recovering from the crisis. UNDP's COVID-19 response and recovery efforts for this project will be focused in the Yangon region where majority of the cases have been confirmed, with intended spill over benefits to other affected states and regions.

The UNCT's Country Preparedness and Response Plan (CPRP) supporting the 'Health Sector Contingency Plan for COVID-19 and other emerging respiratory disease outbreak response in Myanmar' is guided by WHO's global guidance COVID-19 Strategic Preparedness and Response Plan (SPRP). The CPRP and the UN Framework on the immediate socio economic response to the COVID-19, the COVID-19 Economic Relief Plan and the Myanmar Sustainable Development Plan provides the overarching framework for UNDP and the project to support the expansion and upgrading of the appropriate waste management facilities; development of guidelines for and provision of targeted trainings on waste management for COVID-19 health care, waste and sanitation workers; and increase awareness and

basic knowledge on the prevention and containing of the spread of the virus amongst the most vulnerable populations.

The project will be directly implemented by the UNDP Myanmar Country Office in close collaboration and coordination with the Ministry of Health and Sports. Under the overall strategic guidance of UNDP's Resident Representative and the nominated representative of the MoHS, the day to day management will be led by the Project Management Unit coordinating UNDP's COVID19 response under the Sustainable and Inclusive Growth Unit of the Country Office. The PMU is supported by the Programme Support Unit, Strategic Management Unit and Programme Finance Unit to ensure compliance to UNDP's corporate standards and procedures related to procurement, project financial management and strategic implementation, monitoring and reporting of project results.

The PMU will use international and national experts and consultants' rosters maintained by the Country Office, UNDP's Bangkok Regional Hub and WHO to identify the most appropriate technical experts in close consultation with Chinese Embassy in Myanmar, UNDP China and the Ministry of Health and Sports. It will, to the extent that it is replicable and applicable to the Myanmar context, adapt China's experience to the local context in agreement with the MoHS.

Building of UNDP's experience in developing online training content and facilitating virtual training programmes, all training materials and trainings will be designed to be conducted online, with the flexibility to organize face to face training as and when local COVID19 situation permits gathering of individuals in a location. The virtual training experience allows for more individuals to be sensitized and trained vis-à-vis normal training programmes. All training content will be identified by the experts and adapted to the Myanmar context in consultation with MoHS and WHO.

As the equipment will be located in Yangon, it is unlikely that transportation, installation and maintenance will be impacted by climatic conditions. Import of equipment are also not expected to be impacted as a result of COVID-19.

Cambodia

The MoH has played a central role in overseeing and containing the spread of COVID-19, and in providing medical advice and training to hospitals and health workers (as noted, with technical support

provided from the WHO and US Centre for Disease Control and Prevention (CDC) and the Institute Pasteur of Cambodia (IPC)).

UNDP has held a series of meetings with the Ministry of Health (MoH) and WHO to discuss how to support the treatment of medical waste. Given the country's limited experience and the scarce expertise available on medical waste management, this support has been welcomed by both parties. UNDP will liaise with the Ministry of Health and WHO to provide necessary equipment for the hospitals of Phnom Penh as well as technical materials and training to ensure proper handling of medical waste.

UNDP will be responsible for overall fund administration, disbursement, procurement, project management and monitoring. UNDP will closely work with MoH, WHO and all relevant stakeholders in ensuring the technical quality in operating equipment and capacity building support for medical waste treatment. UNDP will liaison with MoH about the provision of equipment and technical guidance of for target hospitals to ensure effective implementation of the project in accordance with existing national guidelines and infrastructures.

In terms of required conditions for equipment installation and operation, through the ongoing UNDP Engagement Facility project (2020-2023) to procure emergency medical and laboratory equipment supplies, it is proven that UNDP Cambodia is able to effectively deal with logistics, customs clearance and transport to import and deliver needed medical equipment in a timely manner to the COVID designated hospitals across the country. The three COVID 19 designated hospitals in Phnom Penh (to be supported by the project) are connected to national energy grids with back-up electricity generators and have proper access to sewage systems. They thus meet required conditions such as power connection, voltage and water connection to install and operate a proposed set of equipment for medical waste management. The installation of these equipment will not be affected by the climatic conditions as these hospitals are not located in flood risk prone areas. The project will secure safe locations of trainings with a full set of highest safety measures and guidelines in place and to be strictly followed.

Nepal

UNDP currently has established the required coordination and collaboration mechanisms with Government (national and local level), as well as with UN partners, NGOs and private sector involved in health care waste management issues.

Recognizing the size of the project and short delivery timeline, a high-level implementation and coordination task team under the guidance of Ministry of Health and Population, with representation of UN Agencies and other partners, will be established to ensure quality, efficiency and sustainable delivery. UNDP will partner with other institutions having experience of working on health care waste management and mobilize necessary expertise from its network of expert roster for implementation of the project.

The Ministry of Health and Population has already selected 25 hub hospitals as the referral hospital for the COVID-19. Already few organizations are supporting those institutions for improvement of existing practices of health care waste management gaps identified in current programme will need to be addressed.

During the proposal designing stage, Ministry of Health and Population and candidate health care facilities have confirmed their needs and willingness to participate in the project. And the feasibility of the basic conditions for construction, installation and other targeted interventions have also been confirmed with candidate health care facilities.

Although the international airport is not open for commercial flight under the content of lockdown, Nepal government has issued policies to make sure cargo flight and emergency charter flight could remain keeping operation, especially giving priority to flights with medical supplies. What's more, the land border ports between China-Nepal and India-Nepal also remain in operation, providing alternative routes for international cargo transportation. In order to improve the logistic efficiency of medical supplies, UN agencies have been support government of Nepal to ensure waiver certain protocols or mechanisms are in place for fast-track imports, custom duties and customs clearance of COVID-19 medical and non-medical supplies with a short turn around.

In order to reduce people gathering and reduce cross infection risk, on-line training and workshop have been given priority in training course design. For the trainings those have to be on-sit, necessary health protective measures will be design and strictly implanted. Some of the on-sit training will be hold in the candidate health care facilities. The places for the other on-sit training have not been decided, but they will be selected to meet the requirement of proposed training targets in this project later.

Rainy season may be the most important potential climate influence factor for the implantation in Nepal, which usually begins in April and ends in September. As the candidate health care facilities are

in cities, installation or construction will not be seriously impacted by rainy season. The main potential risk is the influence on transportation. Measures will be taken to ensure the safety of transportation process. What's more, as the project will start at the end of rainy season and transportation activities mainly happens after the rainy seasons, the influence of rainy season can be under control with related countermeasures.

Lao PDR

The activities in Lao PDR will be implemented by the UNDP Lao PDR Country Office. A Task Force team, led by UNDP Resident Representative, will be established to ensure timely implementation and quality assurance of the project results in compliance with UNDP policies. International and national technical expertise will be sourced through various channels including the UNDP roster and Regional Hub in consultation with the Chinese Embassy in Lao PDR. Given the relatively short project duration, the project will draw from the experience of China and UNDP in medical waste management and advocacy on COVID-19 related issues. The China experience will be localized, taking into consideration of the Lao PDR's context through the joint work of Lao and Chinese experts together with UNDP.

At the design stage, the MoH and the Ministry of Planning and Investment have been consulted reaffirming its needs and interests in the proposed project and confirming areas for targeted interventions as well as gaps in the management of medical waste. The MoH will be the direct government counterpart throughout the entire project cycle for decision making. This will ensure that the project has unimpeded access to needed information, infrastructure (water and electricity) and will be able to implement planned activities smoothly and ensure sustainability and institutionalisation. Moreover, the project will also effectively utilise existing networks, such as Community Radio, which will enable reliable and stable implementation condition of the project. UNDP will implement the project in close collaboration with other relevant stakeholders, including provincial and district authorities, WHO, target hospitals, and communities creating synergies.

As a landlock country with underdeveloped manufacturing and transportation, due to COVID-19 reduced capacity on air freight, goods and equipment, importing will most probably take more time than usual in Lao PDR.

Climate conditions and nature disasters should not impede goods and equipment transportation.

Overall, this project provides a sound opportunity for UNDP and MoH to engage in implementation and monitoring of the SDGs and will fully support the implementation of National Work Plan for Emerging Infectious Diseases and Public Health Emergencies for COVID-19 and beyond.

2.How the project is accordance with the recipient countries' (region's or industry's) development strategy, policies and planning

Working at the heart of the United Nations family and in close coordination with the World Health Organization (WHO), UNDP is responding to a growing volume of requests from countries to help them **prepare for, respond to and recover** ("3 by 3 approach") from the COVID-19 pandemic, focusing particularly on the most vulnerable. UNDP's response is framed around three objectives: Helping countries to prepare for and protect people from the pandemic and its impacts, to respond during the outbreak, and to recover from the economic and social impacts in the months to come, with the opportunity to build back better for enhanced inclusion, prosperity and a healthy planet. For most countries, these phases will happen simultaneously and are interlinked. How a country prepares for and responds to the pandemic, for example, will directly impact the type of recovery that will be necessary.4

As the UN's lead agency on socio-economic impact and recovery, UNDP will provide the technical lead in the UN's socio-economic recovery plan and efforts[5], supporting the overall coordination role of the Resident Coordinators, with UN teams working as one across all aspects of the response.

To name a few, UNDP has so far been supporting countries to prepare, respond to, and recover from COVID-19 through strengthening health systems, enhancing inclusive crisis management, and assessing and responding to the socio-economic impacts of COVID-19. By coordinating with governments and the private sector, UNDP has provided a wide range of support from procuring medical supplies to conducting socio-economic impact assessments and strengthening business continuity plans for national and local authorities and the private sector.

[4] For more info on UNDP's COVID-19 response, please see COVID-19 UNDP's Integrated Response, April 13, 2020, available here: https://www.undp.org/content/undp/en/home/librarypage/hiv-aids/covid-19-undp_s-integrated-response.html

[5] UN Framework for the Immediate Socio-Economic Response to COVID-19, April 2020, available here: https://unsdg.un.org/resources/un-framework-immediate-socio-economic-response-covid-19

However, there have been growing demands from countries in the Asia-Pacific region for support on healthcare waste management and for effective ways to increase connectivity and public awareness, with the COVID-19 pandemic placing a heavy burden on healthcare systems and preventative and physical distancing measures causing huge challenges to national development and economic plans. UNDP has been receiving requests from governments for support to help contain the spread of the virus and to support inclusive and integrated preparedness and responses to the crisis.

This project will build on existing efforts and align with the project countries' priorities and long-term development and investment plans, including economic growth, social equality, environmental conservation, and the eradication of poverty. Furthermore, as this project will strengthen the Asia-Pacific region's overall crisis response capacities while building connectivity and supporting ASEAN integration, it will also enable "building back better" and accelerate efforts for the region to shift to more resilient and sustainable development trajectories.

Philippines

In the Philippines, several policies and legislations have been enacted that form the basis of improving HCW management. Among these, Health Care Waste Manual serves as the backbone for the planning, implementation, monitoring and evaluation of health care waste management programs in all hospitals, health facilities and the like. This manual provides information and guide on safe, efficient and environment-friendly waste management options. The 4th edition of the manual has been finalized by Department of Health, which incorporates the requirements for compliance to all Philippine laws and regulations and is designed for the use of individuals, establishments, and other entities involved in segregation, collection, handling, storage, treatment, and disposal of waste generated from health care activities. DOH is also updating the Philippine Health Facility Development Plan 2040, which incorporates the climate resilience of health facilities. This project will be implemented in close coordination with Department of Health and Department of Environment and Natural Resources, and ensure compliance with all policies and legislations above.

In responding to the challenge of COVID, the National Economic and Development Authority (NEDA) has developed an Anticipatory Forward Plan (AFP) that will define the key programmes and policies as the country aims to rebuild confidence and adjusts to the 'new normal'. These recommendations, embodied in the document "We Recover as One", identified as one of the priority policies and strategies, streamlining the management of health care and infectious wastes, especially at the community and household levels. This shall be achieved through:

- Ensuring compliance of health care facilities and treatment technologies with standards for hazardous waste management;
- Modernizing and increasing the number of treatment, storage and disposal (TSD) facilities for hazardous healthcare wastes; and
- Improving disposal of healthcare wastes at the household or barangay level.

The project is also aligned with the UN Partnership Framework for Sustainable Development 2019 – 2023 (PFSD). Under the prosperity and planet pillar, the partnership aims to ensure that urbanization, economic growth, and climate change actions are converging for a resilient, equitable, and sustainable development path for communities. This proposed project is expected to contribute to the achievement of the following intermediate outcomes:

- Government at national and sub-national levels adopting evidence-based policies, structures, and mechanisms, using frameworks that support the integration of climate change, urbanization and inclusive economic growth, promoting and creating decent and green jobs/livelihoods and resilient and sustainable communities; and
- Public and private sector investments in green and climate resilient technologies, innovations, practices and approaches increasing, in support of a just transition to resilient and low-emission development that protects the rights of all affected and at-risk

In the same way, the proposal is consistent with the UNDP Country Programme Document (CPD) for the Philippines (2019-2023), particularly Outcome 2 above; and in supporting national government and local government units to better understand and plan for the extent, scope and distribution of medium- and long-term risks. The achievement of the first objective of the proposed project is expected to pave the way for the development of long-term resilience plan for the health sector, and the incorporation of pandemics in the National Disaster Risk Reduction Management Plan.

Myanmar

Myanmar's National Waste Management Strategy and Action Plan (2017-2030) is the GoM's first national initiative on institutionalizing waste management and strategic guidance for achieving a resource efficient and zero waste society. It provides the strategic vision, guiding principles, long-term goals and key activities for addressing waste management in Myanmar.

There are various laws and ordinances that can be applied to solid waste management, inclusive HCW such as the Prevention of Hazard from Chemical and Related Substances Law (2016) and its Rules

(2016); Environmental Conservation Law (2012); National Environmental Policy (2019); Environmental Impact Assessment Procedure (2015); and National Environmental Quality Guidelines (2015). Laws and Rules related to Land Use are also applicable.

As of now, only two of the major cities- Yangon and Mandalay have their waste managed by municipal authorities. In Yangon, the solid waste management is the responsibility of YCDC. In response to the COVID-19 outbreak in Myanmar, the MoHS updated its 2019 SOP and National Guideline on Health Care Waste Management in April 2020. There are 6,808 quarantine facilities located across the country, and 22 hospitals treating COVID-19 patients. In Yangon, the Waibargi Hospital is treating more than 60% of the confirmed patients. The South Okkalapa Women and Children's hospital has recently been readied to treat patients in light of the increasing number of confirmed cases in the Yangon region. As of 20 April, there were 74 patients in Waibargi and 17 in South Okkalapa hospitals.

Cambodia

Managing the COVID 19 pandemic is Cambodia's highest immediate priority, as the pandemic severely impacts the country's public health and economy.

The current project responses to areas 4 (clinical management and health care services) and 5 (infection prevention and control) of the Cambodian government's response plan for Covid-196.

It directly addresses one of the four priorities set out in the Rectangular Strategy IV (2019-2023), the achievement of a poverty reduction target below 10%, the prevention of returning poverty via a focus on enhanced market participation, the implementation of social protection policy, the minimization of the burden of daily living through the provision of quality public services, and reduction of social inequality. The project also aligns with the 2019-2023 National Strategic Development Plan (NSDP), which promotes inclusive growth and works toward achieving the 2016-2030 Sustainable Development Goals.

[6] Cambodian government set out Covid-19 response plan covering 9 areas: (1) Incident management and planning, (2) Surveillance and risk assessment, (3) Laboratory, (4) Clinical management and health care services, (5) Infection prevention and control, (6) Non-pharmaceutical public health measures, (7) Risk communication, (8) Points of entry and (9) Operational logistics

The UNDP Country Programme Document for the Cambodia 2019-2023 (CPD) aligns with the Rectangular Strategy IV and NSDP (2019-2023), the UNDP Strategic Plan (2018-21). It includes priorities for sustainable waste management and leaving no one behind.

Nepal

The Nepalese government launched the Solid Waste Management Act of 2011, the Solid Waste Management Regulation of 2013 and the Health Care Waste Management Guideline 2014, which define key aspects of healthcare waste management and roles and responsibilities of various institutions. Following the government's policy and guidelines, several initiatives were launched to raise awareness and building capacity among concerned stakeholders, by providing access to information about healthcare waste management and allowing demonstration of best-case waste management practice in Bir Hospital of Kathmandu, by piloting environmentally friendly healthcare waste management system.

After the government's call for support to all the partners to contain the spread of COVID-19 pandemic in the aftermath of the first case detected in Nepal, on 05th April 2020, the Nepal Medical Council approved Nepal Medical Council Interim Guidance for Infection Prevention and Control When COVID-19 Is Suspected. The Guidance set out standards for medical staff and related workers protection, detail management of health care waste and dead body management to control the spread of COVID-19 disease.

The project is also aligned with United Nations Development Assistance Framework for Nepal (2018-2022) (UNDAF), which is aligned with the SDGs, the GoN's development policies, and international commitments and norms to which Nepal is a party with aims to ensure all people here enjoy peace and prosperity, while protecting the planet. Supporting the government and people (especial the most vulnerable groups) to deal with the crisis is one of the key elements. The project can support Nepal Country Programme of UNDP (2018-2022) as well, which aligns with UNDAF, includes components of improvement of governance ability, social and economic development, and resilience to crisis.

In order to response to COVID-19, Multi-Sector Emergency Response Preparedness for Covid-19 has been approved by UN Nepal. To support the Government of Nepal in preparing and responding to an outbreak of Covid-19 of a scale that necessitates an international humanitarian response (including mitigation of social and economic impacts) and to ensure that affected people are protected and have equal access to assistance, services, and rights without discrimination, in line with humanitarian principles and best practice. UNDP is a key player in implementation of UN-wide response preparedness

plan. This project seeks to support GoN by providing strategies, solution and logistics required to address the challenges posed by COVID 19 through effective management of medical and health care wastes in Nepal.

Lao PDR

Lao PDR's economic base remains fragile and despite many efforts made to improve the business environment and promote private sector investment in the non-resource sector, Lao PDR is still ranked very low in the World Bank's Doing Business survey 2015, as 149th out of the 189 surveyed countries. COVID-19 pandemic and related economic crisis, global unemployment, shrinking exports potentially cause huge social economic losses across the whole country.

The project is in accordance with Lao PDR's 8th Five-Year National Socio-Economic Development Programme (NSEDP, 2016-2020), which serves as the common, over-arching framework for mobilisation and coordination of resources, from both national and international development partners, towards reaching the country's development goals. The project also integrates with the development of the 9th NSEDP (2021-2025), which is supported by UNDP during the preparation process. The primary objectives of the new plan are the well-being and equality of the people, sustainable socio-economic development; smooth transition from Least Developed Country (LDC) status, with graduation expected in 2024; and achievement of the Sustainable Development Goals, leaving no one behind.

The project will contribute to the achievement of 8th NSEDP in the following ways:

Output 5.1, "Enhanced technical and operational capacities for safe medical waste management capacities at the national and sub-national levels" will contribute to the achievement of the following goals of the 8th NSEDP:

-Outcome1, Output5: Improved Public/Private Labor Force Capacity by building capacity for the workforce in health care and waste management areas.

-Outcome 2 Output 4: Access to High-Quality Health Care and Preventative Medicine, by Developing basic social infrastructure, and extend health and education services widely

-Outcome 3, Output 1: Environmental Protection and Sustainable Natural Resources Management by developing a database to support the monitoring and analysis of medical waste across the country.

Output 5.2 “Increased access to information on COVID-19 for communities with a special focus on disadvantaged groups incl. the poor, women, ethnic groups, youth and People with Disabilities” will support the implementation of:

-Outcome 2, Output 4 by carrying out campaigns and providing healthcare information in the communities to raise people’s awareness of the importance of keeping healthy in urban, rural and remote areas.

This proposed project will also support the GoL in meeting its commitment to relevant international conventions as well as contribute to the implementation of its domestic policies, rules and regulations

The status of the ratification of 4 international conventions are as follows:

- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (UNEP 2003): Accession (21/09/2010)
- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade: Accession (09/10/2010)
- Stockholm Convention on Persistent Organic Pollutions (POPS), Stockholm: Ratified (28/06/2006)
- Minamata Convention on Mercury (UNEP 2013) : Accession (21/09/2017)

For medical waste management, MoH takes the lead and a series of regulations including medical waste management has already been put in place and is in the process of being implemented crossing the country, this regulates the handling of medical waste such as the national IPC strategy and SOPs, health care waste management regulation, the ministerial decree on health-care waste management, environmental health standards and a tool for improving WASH at health facilities.The project will contribute to the enforcement of the following national legislation (laws/regulations) on medical waste:

- Decree on Sanitation of Public Area (No 1705/MoH, 20/7/2004)
- Decree on Waste Management from Health Care Facilities (No. 1706 /MoH, 2/7/2004)
- National Infection Prevention and Control (IPC) strategy and SOPs (2013)
- National regulations on health care waste management, environmental health standards and a tool for improving WASH at health facilities (2014)
- Ministerial Decree on health-care waste management (2017)

This project intends to support multiple layers within the health system for the provision of public health services through a network of health centres, district, provincial, central and specialized hospitals. The leadership, commitment and ownership by the Minister of Health and Deputy Ministers, as well as provincial and district governors and vice-governors, are essential. This will establish the foundation for department heads, hospital administrators, technical staff, hospital and health centre staff, and other key personnel to lead and support reform efforts throughout the health care system.

This project will also promote national actions through enhanced access to information. The information on the National Risk Communication Strategy and Action Plan 2016–2020 with standard operating procedures (SOPs) will be shared through various medial channels as well as 166 hotline, which focuses on communicable diseases and other acute public health events. More engagement and participation from the community should be nurtured for rapid and effective response.

3. Necessity of Conducting the Project

3.1 Description of the current situation.

Describe the situation and major issues of local economy and social development with data and charts, pleas also attach baseline survey material (if any)

Before the onset of the COVID-19 pandemic, the Asia-Pacific region had been experiencing an upward trend of economic and social development, accounting for more than two-thirds of global growth in 2019[7]. The pandemic is challenging the world with two concurrent global crises: an economic crisis and a health crisis. Whilst Asia-Pacific countries are acutely vulnerable to the global financial recession, with the reduction in the tourism industry a particular challenge, the implementation of physical distancing measures is resulting in further reductions in economic activity, the consequences of which fall disproportionately on vulnerable communities and informal and migrant workers.

While hospitals are being increasingly overwhelmed, hospital workers and others that carry out essential services are facing an elevated risk of infection. It is essential to provide them with trainings to better equip them with knowledge on preventive measures and safe operating procedures. Meanwhile, an increasing volume of medical waste, especially infectious waste, is generated amidst the pandemic. Evidence shows that in Wuhan, hospitals generated six times as much medical waste at the

[7] https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#top.

peak of the outbreak as they did before the crisis began, with the generation of medical waste reaching 240 metric tons per day.[8] The safe handling, treatment, and final disposal of this waste is an vital element in an effective emergency response. However, the five project countries have limited medical waste management capacities, with knowledge and technological gaps, accompanied by a lack of training and safety equipment provided to formal and informal workers in the waste management sector.

At the same time, Asia-Pacific countries have been experiencing challenges related to effective public advocacy, awareness raising, and the dissemination of timely and accurate information. For those that are connected to the internet, countries face issues related to unverified or inaccurate information spread on social media and news websites that can cause confusion or misinform the public. At the same time, there is also a significant digital divide, with a significant number of people living in remote areas lacking internet access or a mobile phone, and therefore cannot access information from official sources online. In this regard, the project will enable knowledge sharing from China and within the region to explore solutions for public advocacy and increase connectivity. The project will bring together both the public and private sectors to identify or develop appropriate innovative solutions that enable messages to be disseminated effectively, including by connecting to those who are currently without digital access.

Philippines

As is shown in Figure 1, ADB launched a research on the expected impact of COVID-19 in Philippines, which shows that the GDP may be affected 0.79%-1.62% and the employment rate might be affected 0.82%-1.69% Among all the affected industries, the travel industry, particularly transport services and hospitality (hotel and restaurant) services, have been hit particularly hard by COVID-19, with countless flights and hotel bookings cancelled across the globe amid rising fears of the virus.

As the most seriously affected country by COVID-19 among the five, there is no aggregate data available nationally and in each province regarding the HCW volume per day or the daily treatment capacity. There are case studies in Health Care Without Harm and from other sources on per hospital basis that will show monthly waste volume over time generated by these facilities. The private sector is operating HCW treatment/disposal facilities and landfill is the major disposal technique for residues of medical wastes after treatment or disinfection.

[8] "Medical waste in Wuhan increased by 6 times, waste treatment capacity under pressure" (Caixin, 11 March 2020), available at: http://china.caixin.com/2020-03-11/101527032.html.

As part of the government response, the DENR has increased the volume of permitted healthcare wastes to be transported to 11,000 metric tons. Of these, 1,364 MT have been transported and brought to treatment facilities. The DENR has likewise streamlined the permitting system for treatment, storage and disposal of healthcare wastes.

Recently, the ADB projected that COVID-19 crisis will produce additional 280 metric tons per days of waste in Metro Manila, totaling to 16,800 tons over 60-day period. ADB also recommended several actions including improving general municipal solid waste management services; better household infectious medical waste management, and improved infectious waste management in hospitals, medical centers and emergency facilities.

Sector	Shorter containment, smaller demand shocks		Longer containment, larger demand shocks		ADDITIONAL Impact if significant outbreak occurs	
	as % of sector GDP	*as % of sector employment*	*as % of sector GDP*	*as % of sector employment*	*as % of sector GDP*	*as % of sector employment*
Agriculture, Mining and Quarrying	-0.77	-0.77	-1.60	-1.58	-1.54 to -4.01	-1.55 to -4.04
Business, Trade, Personal, and Public Services	-0.47	-0.47	-0.98	-0.97	-1.59 to -4.25	-1.6 to -4.32
Light/Heavy Manufacturing, Utilities, and Construction	-0.70	-0.61	-1.42	-1.23	-1.47 to -4.08	-1.51 to -4.31
Hotel and restaurants and Other Personal Services	-4.73	-4.93	-9.63	-10.03	-1.36 to -3.46	-1.33 to -3.38
Transport services	-1.68	-1.65	-3.42	-3.36	-1.58 to -4.03	-1.6 to -4.07
TOTAL (Economy-wide)	**-0.79**	**-0.82**	**-1.62**	**-1.69**	**-1.54 to -4.13**	**-1.56 to -4.19**

Fig.1 Expected Economic Impact in Philippines (Source: ADB)

Myanmar

Myanmar's rapid industrialization and urbanization have contributed to immense challenges in managing waste from all these waste streams. There is no reliable system measuring the total waste generation in the country. According to the World Bank's estimate in 2012, waste generation was predicted to reach about 21,012 tons/day with 0.85 kg/capital/day.

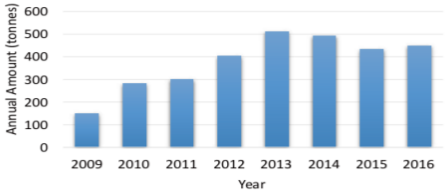
The responsibility of waste collection and disposal lies with the respective townships. In Yangon, Naypyitaw and Mandalay, the respective autonomous City Development Committees are tasked with the waste management within their respective boundaries. In other parts of the country, the respective Township Development Committees have been made responsible for waste management. 55% of the total waste generated in the country is from the three major cities of Yangon, Naypyitaw and Mandalay.

These three cities have prioritized waste management as issues of immediate concerns both in terms of environmental pollution and in terms of public health.

Medical waste management practices are reported to sub-standard with basic awareness at all levels about importance of protecting health workers, as well as visitors to health care facilities and communities living within the vicinity of health care waste. The City Development Committees are responsible for collecting medical waste. The Yangon City Development Committee and Mandalay City Development Committee collect medical waste from large hospitals and special clinics on a daily basis while collection service is provided to smaller facilities once a week or on an on-call basis. There are standard practices in segregating the non-hazardous waste, pathological waste, and sharps and pharmaceutical waste by using different colored bags. Infectious waste is incinerated or burned in the dig made at the cemetery while sharp wastes are buried underground in landfills. Other medical wastes are treated as domestic waste. There is no accurate information on the generation of medical waste though the YCDC and MCDC estimate that on an average medical waste amounts to 280 and 779 tons/year for each city respectively.

Cambodia

The amount of medical waste in Cambodia has grown substantially from around 150 tons in 2009 to about 450 tons in 2016 (See Figure 2). For Phnom Penh, it is estimated that around 40 tons of medical waste is generated per month. As shown in Table 1, national hospitals in Phnom Penh produced the four most common categories of medical waste including infectious waste, pathological waste, sharps



and pharmaceuticals waste (Department of Hospital Services, 2006).

Fig.2 Amount of collected annual medical waste (Choeu, 2016)

Health Care Facilities	Infectious Waste		Pathological Waste		Sharps	Pharmaceutical Waste	
	Kg/day	L/day	Kg/day	L/day	Box/day	Kg/day	L/day
National Hospitals	33.22	1.85	14.83	1.46	12.43	20	0.1

(Source: Department of Hospital Services, 2006)

Table 1. Average amount of health care waste separated from National Hospitals in Phnom Penh

Source: the State of Waste Management in Phnom Penh Cambodia (2018)

In Phnom Penh, medical waste is collected and managed by the Medical Waste Management Unit (MWMU), which was established under the Cambodia Red Cross (CRC) in 2009. The CRC also provides medical waste collection and burning services in other provinces including Siem Reap, Battambang, and Preah Sihanouk.

Many state hospitals sort and store their medical waste in isolation rooms and use incinerators for burning. The remaining medical waste is collected by MWMU and treated at a disposal site of about one hectare of land area, located next to the municipal landfill (Choeu, 2016). At MWMU, medical waste is incinerated at temperatures up to 1200 degree Celsius using a range of incinerators as shown in the figure below (data on their operational capacity unavailable).

Fig. 3 The equipment of waste management in Phnom Penh

Source: The State of waste management in Phnom Penh Cambodia (2018)

Legislation relevant to medical waste available include the following:

- Environmental Guidelines on Solid Waste Management in Kingdom of Cambodia (2006)
- Prakas (Ministerial Order) on Health Care Waste Management (2008)
- Decision on creation of Municipal Waste Management Unit (MWMU), No. 96 of Red Cross Cambodia (2009)
- National Guideline on Health Care Waste Management (2012): this guideline is currently under review and revision
- National Guideline on Infection Prevention and Control for Healthcare Facilities (2017)

Additionally, the sub-decree on Environmental Impact Assessment (EIA) processes requires an Initial Environmental Impact Assessment (IEIA) or Environmental Impact Assessment (EIA) to be carried out prior to waste processing and burning (https://bit.ly/2wWUA3h). Another sub-decree on water pollution control includes a standard for the discharge of wastewater into public water areas or sewers

(https://bit.ly/2Kp9SRA). Finally, the Ministry of Health is developing minimum standards for health facility, including waste management standards.

While managerial, operational and regulatory frameworks for medical waste management are in place, several challenges remain in ensuring proper treatment of medical waste in Cambodia:

- Growing volume of medical waste, likely to exceed the operational capacity of waste management service providers
- Mixed waste: while medical waste needs to be separated from general waste, in practices, medical waste is often disposed in mixture of general waste. This increases the cost of waste collection and treatment.
- Lack of proper equipment to treat medical waste in a safe and environmentally friendly manner: For example, not many hospitals in Cambodia have a full set of equipment to properly treat medical waste and wastewater besides incinerators.
- Lack of technical capacity and knowledge to implement existing guidelines to ensure public heath safety and avoidance of negative environmental impacts: Limited knowledge and technical capacity are available to ensure proper treatment of medical waste and wastewater. For instance, many hospitals incinerate medical waste on site, without sufficient knowledge of possible adverse impacts on public health as well as air and soil quality as well as of operational measures to avoid these impacts.

Nepal

The health care waste workers are among the most vulnerable group of people facing high risk but have inadequate ability to protect themselves from the epidemic. In Nepal, large numbers of workers in informal sector are involved in solid waste management due to a lack of alternative opportunities, limited education level and skills. Informal waste workers (IWWs), mostly coming from marginalized social groups and external/internal migration from India and South Nepal, work specifically in a very unsafe and unhealthy working environment. According to a survey conducted in 2017 amongst 1,278 IWWs of the Kathmandu Valley, 50% are migrants from India, 30% are migrants from Terai and 20% are belonging to the Hill ethnic groups, 80% are men and 50% are illiterate. 50% are single people and 50% are living with family. The median daily income is around 500 NPR.

Nepal government have selected 25 hub hospital for treatment of the COVID 19 across the country. Most of the hospital selected have lack of proper waste management system. Either the waste generated are burned in the backyard or are buried within or out of the health premises increasing the chances of further exposure and potential hazards to the community and the environment.

This proposed activities in Nepal will support these health care facilities to improve the existing practices on health care waste management to reduce the potential hazards from the exposures due to mismanagement of medical waste.

Lao PDR

Despite the limited number of cases, the outbreak in the region has significantly affected trade, construction, tourism, and other sectors adversely, which also implies a significant impact on the economy. The service sector, especially the tourism industry, is expected to lose around US$250 to US$300 million in the first quarter of 2020 alone and growth is expected to dip from 5.0 per cent in 2019 to 0.7 per cent in 2020 (IMF), if the pandemic cannot quickly be contained. Besides, the closure of borders and COVID-19 outbreak in neighbouring countries are affecting the job prospects of Lao migrant workers, with an estimated 134,404 migrants returning from Thailand before 20 March 2020 (Vientiane Times, 23 April 2020). The agriculture sector, which employees over 70 per cent of the population, was heavily affected by the 2018/2019 floods and drought, and continues to be particularly vulnerable to climate and global shocks.

The social impact of the recent natural disasters has led to loss of livelihoods, forced migration, increased indebtedness, long-term unemployment, and malnutrition especially for children and young adults, the poor, subsistence farmers, women, and other disadvantaged groups. It is expected that with the easing of internal lock down and travel restrictions to and from Lao PDR, new COVID-19 cases will be detected, especially in the south of the country which has a vibrant trade with Vietnam, Cambodia and Thailand across the relatively porous border.

To ensure the effective preparedness for COVID-19, the government will require a huge amount of financial resources in the health sector. However, it remains challenging for the government to mobilise sufficient resources. Although the domestic government budget for health has been gradually increased in the past four years, 5.3% of the government domestic budget for health still falls short of the target of 9% that was set in the Health Sector Reform Strategy and Framework till 2025 (HSRF).

There are 5 central general hospitals and 3 specialist hospitals in Vientiane capital (1,678 beds), 3 curative facilities at central level (160 beds), 4 regional hospitals (665 beds), 13 provincial hospitals (1,090 beds),136 district hospitals (2,057 beds), 1,055 health centers (5,420 beds),27 Army hospitals (N/A),10 Police Hospital (N/A), approximate 1,028 Private hospitals/clinics (N/A).

All tertiary and specialized hospitals are based in Vientiane Capital, therefore in terms of administrative health care, Vientiane Capital reports the highest rate for outpatient and inpatient visits per 1,000 population, and the leverage medical waste generated in Vientiane Capital was approximate 300kg per day in 2019. Currently in Lao PDR, MoH takes the lead on medical waste management by regulating the handling of medical waste, including collection and storage. MoH developed a brief guideline of COVID-19 related medical waste to guide healthcare workers and waste disposal workers.

The project's focus sites will be in 21 hospitals, 5 border check points, and 16 districts located in Vientiane capital and other 12 provinces. Proposed project provinces in the north are Phongsaly, Luangprabang, Houphanh; in the center Vientiane province, Bolikhamxay, Xiengkhouang, Xaysomboun; and in the south Savannkhet, Attapue, Salavan. Champasak. (Fig 4)

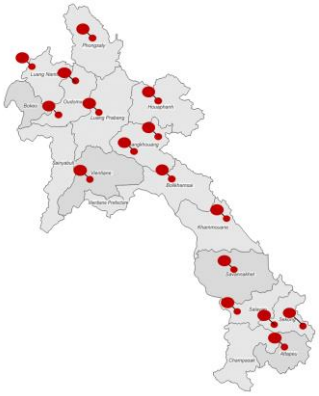


Fig.4 Proposed Project Target Areas

These sites were identified and selected, considering several factors including COVID-19 outspread risk, MoH's needs and priorities. For the identification of the selected sites, data were obtained from interviews and discussions with key officials of Hygiene department of the MoH, and WHO in dealing with health care waste management, and analyzed regarding the status of health care waste management in the Lao PDR, existing advocacy channels and border check point locations.

The population of these sites including Vientiane Capital and 11 provinces is approx. 4,782,504 incl (more than 2/3 of population) approximately 50% women,31.9% youth and 24.83% poor individuals (Lao PDR 2015 Census-based Poverty Map, 2016). (Table 2)

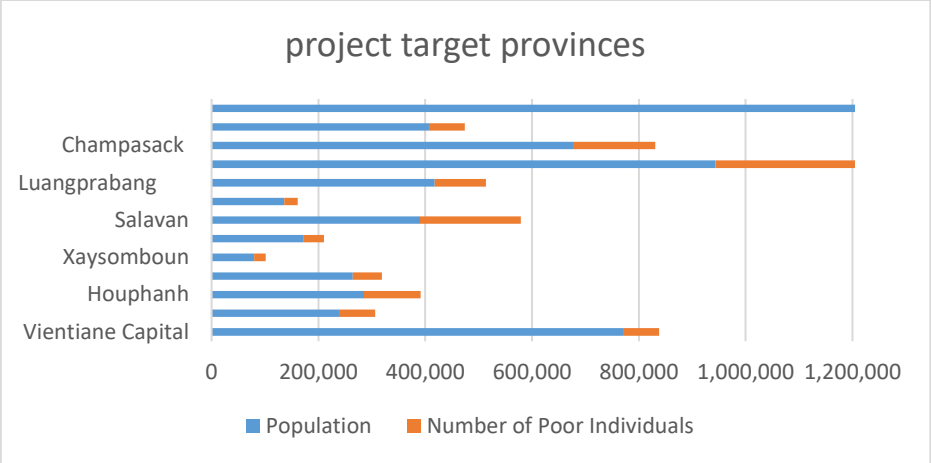


Table 2. Beneficiaries of the Project

3.2 Project requirements and analysis (Please be specific, provide both qualitative and quantitative analysis)

Analyze the development characteristics and main problems of recipient countries and industries, highlight key requirements; clarify specific parameters, such as functional parameters of products, number of beneficiaries of trainings, benefit industries and regions.

Philippines

While HCW management standards and systems are yet to be established for thousands of temporary quarantine facilities, these are expected to cater to about 60,000 COVID-19 positive and possibly infected individuals. At the same time, treatment, storage and disposal (TSD) facilities for health care and hazardous wastes are insufficient and are mostly located in Metro Manila and nearby regions, such as Regions IV-A and III.

The project will provide support to the national and local Government and the health care facilities to better manage the increasing health care waste given the continuing spread of COVID-19. This will include strengthening capacity of hospitals and quarantine facilities, LGU and waste management personnel to implement the HCW management guidelines, which include proper segregation, handling, collection, treatment, storage, and disposal of waste. The project will:

- procure appropriate 2 Mobile autoclaves (Parameters are listed in below, the equipment involved are non-standard products, so the product models only indicate the model of the equipment produced by a selected manufacturer), increasing the processing capacity of 2-3 tons per day and train local

personnel on the use and maintenance of equipment;

- provide equipment for segregation and collection of wastes and facilitate setting up of storage facilities;

- procure PPEs and consumables for segregation and handling of wastes and protection of waste handlers.

-300 trainees, including health-care facility personnel from Government hospitals and quarantine facilities, waste handlers, and national and local government officials, will be trained on proper and sustainable management of health care waste, including waste minimization, segregation, collection, treatment, storage and disposal. Training materials and simplified guidelines will be developed and disseminated to 100 hospitals and healthcare facilities, which will include sharing of Chinese experiences.

Parameters of mobile autoclaves with integrated air pollution control equipment (Philippines)

Product model	YFMD-A1-2.5
Volume	1.5m^3
Disposal capacity	1.8T/d
Designed pressure	0.3MPa
Working pressure	0.23MPa
Designed temperature	144℃
Working temperature	134℃
Sterilization time	45min
Power	14kw
Full load weight	1.7T
Overall dimension	3720mm×2150mm×2300mm

Mobile HCW treatment equipment is favored, which will be shared by cluster of Government hospitals and quarantine facilities and shall be redistributed to needed areas after the surge phase to tackle the spatial imbalance of HCW treatment capacity. Critically, the project will work with DOH, DENR and other relevant agencies and engineers/experts to ensure appropriate HCW treatment technologies to meet agreed standards.

A vital requirement for the success of the project will include full engagement of the national and local government, authorities of selected hospitals and quarantine facilities as well as community representatives in districts with most cases. It is therefore foreseen that the project will require a period of engagement to confirm the priorities and approach to realizing implementation. The project will also benefit from UNDP's unique role to ensure coordination with other partners.

Myanmar

The MoHS has recently updated its 2019 SOP and National Guideline on HCW. While all hospitals and quarantine facilities are required to comply with the guidance, there is no assurance that these are being followed both at the health care facilities or by waste operators responsible for collecting and disposing HCW. Facilities and equipment to segregate, sterilize and dispose/incinerate do not exist, or meet standards requirements for safety. There is also limited awareness on the proper handling of HCW, and COVID-19 HCW in particular, both in and outside of health care settings.

The project will be implemented in Yangon in two of the major hospitals (Waibargi hospital and South Okkalapa Hospital[9]) catering to more than 60% of the country's COVID-19 patients in Yangon under the guidance of the MoHS. It will support the Yangon City Development Committee in strengthening its capacity for the collection disposal of the COVID-19. Due to the lack of resources at different levels, specific supports will be given:

<u>To the Ministry of Health and Sports</u>

- Validation of needs, gaps and opportunities for effective and efficient HCW management in Myanmar including identification of appropriate technologies

[9] The selection of these two hospitals are based on the current COVID-19 situation and needs. Considering the rapidly evolving nature of the pandemic, the selection and specific technical priorities and needs at these facilities might need to re-validated during the inception phase of the project

- Strengthen operationalization and application of its SOP and National Guideline on HCW Management
- Development and production of multi-media awareness and advocacy and communications materials on COVID-19 prevention and contained, including on safe disposal of masks in all local languages, braille and sign language
- Development and provision of virtual training courses and materials on general health precautionary measures to at least 2 local governments, 2 health centers, and up to 50 waste operators and others carrying out essential services during COVID-19 (transportation, energy, water, waste, food delivery)
- Procurement of 2 high temperature steam sterilizer equipment with integrated shredder (Parameters are listed in below, the equipment involved are non-standard products, so the product models only indicate the model of the equipment produced by a selected manufacturer) essential and appropriate technology to manage both hazardous and non-hazardous HCW
- Provision of trainings through online platforms (as relevant), and development of materials for targeted personnel in the installation, use and maintenance of the proposed technologies

Parameters of high temperature steam sterilizer equipment with integrated shredder (Myanmmar)

Product model	YTJ-0.7
Total volume	0.7m^3
Transportation cart capacity	0.09m^3
Disposal capacity	20-30kg/h
Designed pressure	0.3MPa
Working pressure	0.23MPa
Designed temperature	144℃
Working temperature	134℃
Sterilization condition	15 minutes at 138±2℃, or

	45 minutes at 134±2℃
Power	13.35kw
Full load weight	2T
Overall dimension	2460mm×1820mm×1940mm

To the Hospitals

- Installation of essential and appropriate technology to manage both hazardous and non-hazardous HCW[10]
- Access to virtual training platforms, trainings, and materials for relevant personnel in the installation, use and maintenance of the technologies
- Sensitize and train up to 500 relevant health care workers and non-health care workers with responsibility in handling and treating HCW on MoHS SOP and National Guidelines of HWC management
- Procurement and provision of appropriate PPE for both health care workers and waste operators, including those managing the technology

To Yangon City Development Committee

- Procurement and provision of appropriate PPE for waste operators
- Provision on virtual training platforms and development of trainings materials on the handling and disposal of medical waste for up to 100 YCDC personnel tasked with the responsibility of handling and disposing medical waste

Cambodia

Governmental efforts with extensive aid support from China and other countries have significantly improved the country's overall capacity to handle the COVID 19 pandemic. However, proper and safe treatment of medical waste infected by COVID-19, areas in which Cambodia has limited resources, expertise, and experience is one of the remaining, critical challenges.

[10] Incinerators, micro-waves and autoclaves have been broadly proposed based on current needs. Considering the rapidly evolving nature of the pandemic, the selection and technology needs at these facilities will require re-validation during the inception phase of the project.

Since 2016, the Asian Development Bank (ADB) has implemented the Greater Mekong Subregion (GMS) Health Security Project funded by a total of US$117 million. Under the GMS, the Governments of Cambodia, Lao People's Democratic Republic (Lao PDR), Viet Nam, Myanmar, and the Asian Development Bank (ADB) aim to develop core capacities for the control of emerging infectious diseases (EIDs) and other major public health threats. Based on WHO's international standards, the aim of the project is to strengthen regional, cross-border, and inter-sectoral communication about disease control, to improve national disease surveillance and outbreak response and to improve laboratory services and hospital infection prevention and control.

To facilitate proper treatment of medical waste and minimize health and environmental risks from COVID infected waste, GMS is currently procuring equipment including high temperature steam sterilizer equipment with integrated shredder (Parameters are listed in below, the equipment involved are non-standard products, so the product models only indicate the model of the equipment produced by a selected manufacturer), washing machines and PPEs for 53 hospitals located in 13 Cambodian provinces.

However, the three hospitals in Phnom Penh designated for COVID-19 responses are not among the hospitals targeted by the ADB project. According to the MoH, these three hospitals face the following sets of challenges:

- Lack of a full set of equipment and of operational guidelines for full treatment of infectious waste (solid waste)
- Lack of equipment and guidelines for treating wastewater
- Lack of guidelines to ensure proper operation of incinerators to minimize health and environmental hazards
- An insufficient amount of Personal Protective Equipment (PPEs).
- Prevalent mix of waste types, which heighten the risk of infections among waste collectors

These challenges seriously threaten the capacity to contain the COVID outbreak, especially in areas with dense populations, such as the capital city of Phnom Penh. As noted, further challenges relate to the generally limited knowledge and experience among waste management service providers and informal waste pickers about the risks of transporting, disposing and recycling infected waste, and possible mitigation measures.

The project therefore seeks to strengthen the ongoing efforts of Cambodia to manage infectious medical waste and protect Phnom Penh's population and urban environment against the threat of COVID-19. This objective will be achieved by provision of 1) a full set of equipment for three COVID-19 designated hospitals as well as waste service providers and informal waste pickers to properly treat medical waste and wastewater, and 2) trainings to fully develop technical capacity of target beneficiaries for safe-handling of waste to prevent the COVID-19 risks.

The project will ensure safe treatment of medical waste related to COVID-19 for target hospitals and waste management service providers, thus contributing to public health and environmental risk mitigation in the context of the pandemic. The project also supports the development of guidelines and provision of training based on experiences and expertise from China. They will be implemented at health facilities to ensure safe treatment of medical waste as well as for proper operation of equipment.

Parameters of high temperature steam sterilizer equipment with integrated shredder (Myanmmar)

Product model	YTJ-1.9
Total volume	1.9m^3
Transportation cart capacity	0.35m^3
Disposal capacity	50-100kg/h
Designed pressure	0.3MPa
Working pressure	0.23MPa
Designed temperature	144℃
Working temperature	134℃
Sterilization condition	15 minutes at 138±2℃, or 45 minutes at 134±2℃

Power	26kw
Full load weight	5T
Overall dimension	2890mm×3450mm×3300mm

Parameters of other related equipment:

Washing machine	Model: SWA802-100GL; washing capacity: 100-150kg; net weight: 1200kg; power supply voltage: 380V; rated power: 4.4KW; overall dimension: 1550*1750*2300mm

The beneficiaries of the intervention include the hospital staff (total number of 1450 people), waste management service providers (estimated number of 40 people) including informal waste pickers (estimated number of 50 people), patients and visitors of the selected health care facilities (estimated number of 100-1,000 depending on the future spread of the COVID-19 cases).

Nepal

In Nepal, this project will support three hospitals a) Narayani Sub-Regional Hospital, Birgunj b) Mid-Western Regional Hospital, Surkhet and c) Nepal Army Hospital, Chauni to design and implement a safe health care waste management system in the hospitals through provision of high temperature steam sterilizer equipment with integrated shredder (Parameters are listed in below, the equipment involved are non-standard products, so the product models only indicate the model of the equipment produced by a selected manufacturer), technical expertise and logistic requirements. Also supports will be provided to increase their laundry facilities with logistics support for proper management of the waste laundry of the hospital. Similarly, it will support in development of training materials and capacity building of the health professional and other staffs along with the local stakeholders regarding proper management of health care waste and its impact on community and environment.

Parameter of high temperature steam sterilizer equipment with integrated shredder (Nepal)

Product model	YTJ-0.7
Total volume	0.7m^3
Transportation cart capacity	0.09m^3
Disposal capacity	20-30kg/h
Designed pressure	0.3MPa
Working pressure	0.23MPa
Designed temperature	144℃
Working temperature	134℃
Sterilization condition	15 minutes at 138±2℃, or 45 minutes at 134±2℃
Power	13.35kw
Full load weight	2T
Overall dimension	2460mm×1820mm×1940mm

Parameter of other related equipment:

Trolley	Model: LH-ET007; dead weight: 47kg; maximum load: 59kg; Worktable: 600*450*990mm
Constant temperature incubator	Model: BJPX-HT100; volume: 100L; working room size (mm): 500*350*600; input power: 1200W; power supply voltage:AC220V/110V/ 50HZ/60HZ
Washing	Model: SWA802-100GL; washing capacity: 100-

machine	150kg; net weight: 1200kg; power supply voltage: 380V; rated power: 4.4KW; overall dimension: 1550*1750*2300mm
Weighing machine	Model: SL605; measurement: electronic; weighing range: 0-300kg; overall dimension: 1*1m; power supply voltage: 220V

Training courses for the health professionals and support staffs in candidate facilities aim to strengthen their knowledge and capacity to properly deal with health care waste. 350 health professionals and support staffs are expected to be reached. And in the training courses for the local government, 100 local officials will be covered to help them better handle health emergency situation. A national workshop will also be held to share experience with related stakeholders, and 100 representatives from partner agencies, local government, health facilities will participate.

Likewise, under this project, various video documentaries and infographics will be developed as a tool to create awareness about the health care waste management and for the purpose of training. Online platform to serve as a communication and database management will be developed with close collaboration with Chinese experts and experience. Various online trainings and webinars will be organized for sharing of the Chinese expertise on these issues. Similarly, volunteers will be mobilized to organize campaigns in 283 regions to share information regarding health care waste management in social media. Moreover, to using China's mature AI technology, Xiao Qing, a virtual host, provides epidemic prevention and control information in public places in local language.

Similarly training modules will be prepared for various level of trainings. Which will be planned for the health professionals, support staffs and the local government. These trainings will be provided for all the relevant stakeholders to enhance their knowledge and work efficiency for better management of waste generated and prevent and contain the COVID-19.

Lao PDR

MoH lacks financial resources and technical/operational capacities to safely manage the medical waste to cover the entire/expected amount of waste at the national and sub-national level. Opportunities exist for enhanced high-quality training provided for hospitals or medical waste transportation staff.

The average medical waste generated in Vientiane Capital was approximate 300kg per day (Survey on waste management conducted by UNDP Lao PDR Accelorator Lab, 2019). Based on the China's experience, if a second wave of COVID-19 infections outbreaks in Lao PDR, the peak of medical waste generated in Vientiane could be 1,800kg/day, and in provinces the average amount could be approximate 322kg/day. Some provincial hospitals have autoclaves that can treat 15kg medical waste/hour, but most provinces lack capacities to deal with the expected excessive amount. EU has provided 14 sets of autoclaves and 11 sets of shredders in target hospitals, and provided 13 autoclaves and shredders to specialized and provincial hospitals. Charcoal incinerators are used in all provinces but medical waste is not treated separately. Based on the statistics of WHO and MoH, there are 5 national hospitals, 3 specialized hospitals, 4 district level hospitals, 13 provincial level hospitals and 136 city level hospitals. Even with the 14 autoclaves donated by EU, the needs for medical management is far more than enough. According to the guidance from the WHO, the infectious medical waste of COVID-19 need to be sterilized before being disposed. Hence, the medical waste management in Lao PDR needs to be further supported.

At the sub-national level, a provincial general hospital typically generates 0.64 kg/bed/day of general HCW and 0.14 kg/bed/day of hazardous HCW, while a district hospital typically generates 0.62 kg/bed/day of general HCW and 0.11 kg/bed/day of hazardous HCW. In terms of the relative proportion of hazardous waste generated, infectious waste and pathological waste represents about 15%, sharps represent about 1%, chemical and pharmaceutical waste represents about 3%, other waste such as waste with high content of heavy metals, and pressurized containers shares represent less than 1%." (Surveys on Healthcare waste (HCW) management conducted by the MoH and WHO, 2017)

Another important lesson from China is to impart information to the general public. The best time to inform people about the disease is before the epidemic. People need access to the latest updates on the government announcement, which is most evident in rural populations, particularly illiterate ethnic communities in remote areas living below the poverty threshold.

In addition, the Lao PDR is experiencing high numbers of migrants and returnees at seven of its international PoEs with Thailand in addition to other PoEs with Vietnam and China. From 11 March to 15 April 2020, approximately 78,322 migrants (23,405 female) returned formally through the seven

PoEs and are expected to continue to return once the borders officially reopen. This project anticipates several vital challenges the country may face at all PoEs. While official border crossings are closed, the rate of returns has not subsided. Instead, there has been a subsequent increase in crossings at unofficial border crossing points. From observations conducted at the Friendship Bridge in Vientiane, there are significant concerns regarding the potential emergence of new clusters of COVID-19 in areas of return, transmission among returnees while travelling in crowded buses, and while waiting in public places during border control procedures. Currently, the country does not have sufficient resources or expertise available to treat such a potentially high caseload and, therefore, must look to reduce the spread of the virus as much as possible. Therefore, access to the information on preventive measures and up-to-date government announcements will be required for PoEs. The GoL plans to maintain check points at 5 official border crossings.

To address the above-mentioned challenges, the project aims to strengthen COVID-19 preparedness in Lao PDR through providing 2 sets of high temperature steam sterilizer equipment with integrated shredder (Parameters are listed in below, the equipment involved are non-standard products, so the product models only indicate the model of the equipment produced by a selected manufacturer) enhanced capacities for safe medical waste management and access to information in the selected provinces/districts.

Parameter of high temperature steam sterilizer equipment with integrated shredder (Lao PDR)

Product model	YTJ-0.7
Total volume	0.7m^3
Transportation cart capacity	0.09m^3
Disposal capacity	20-30kg/h
Designed pressure	0.3MPa
Working pressure	0.23MPa
Designed temperature	144℃
Working temperature	134℃

Sterilization condition	15 minutes at 138±2℃, or 45 minutes at 134±2℃
Power	13.35kw
Full load weight	2T
Overall dimension	2460mm×1820mm×1940mm

The project plans to provide training for 15 MoH staff (training of trainers) in central, provincial and district level on the database and maintenance of the system; training of Trainer for 25 staff from MoH on medical waste management; training on Medical Waste Management for 1 central hospital (103 hospital), 7 provincial hospitals (Xiengkhouang, Houphanh, Bolikhamxay, Xaysomboun, Phongsaly, Salavan and Attapue), and 13 district hospitals (42 hospital staff and 42 waste collection workers will benefit from the training); train core staffs from 2 selected hospitals for operation and maintenance of the equipment.

In addition, the parameters of the PPEs provided to the five countries are in below:

Gloves	Material: PVC resin, plasticizer; color: transparent; length: 240mm; size: S/M/L/XL; elongation at break: 300%; tensile strength: 11MPa；
Masks	Model: A9501; net weight: 0.5kg; package specification: 145*130*280
PPE clothing	Model: Tyvek 1422A; material: proprietary fabric; net weight: 0.16kg; size: 400*300*15
Goggles	Model: 10434; material: PVC; net weight: 0.02kg; size: 250*250*200
Disinfectant	Dosage form: colorless and transparent liquid; specification: 100ml, 500ml, 5L; main component

		and content: hypochlorous acid (effective chlorine content: 80-100mg/L)	

4. Project Implementation Strategy and Content

4.1 Project Goals

Clarify the 2030 sustainable development goals and sub-goals related to the project, as well as the specific objectives of the project (including but not limited to social, economic, environmental, and technological advancement, sustainable impact, etc.).

The project goals are aligned with the SDGs to strengthen the five countries' capacity in response to COVID-19 and at the same time, share the experiences with other countries in the Region and around the world and support ASEAN integration. The project contributes towards implementation of the 2030 Agenda for Sustainable Development, particularly, resistance to disasters(SDG 1), reduce the number of deaths and illness from containment and strengthen capacity of all countries for early warning, risk reduction and management of global health risks(SDG 3), greater adoption of clean and environmentally sound technologies and increase access to information(SDG 9), achieve environmentally sound management of all wastes; and reduce waste generation (SDG 12), South-South cooperation on technology and capacity building through SSC(SDG 17).

This project will focus on four strategic areas: 1) improving the medical waste management capacity technically and operationally to prevent the further containment of COVID-19 and to respond the increasing medical waste and enhancing the technical capacities of health care workers and service providers to treat medical waste; 2) providing advocacy, information sharing and communication supports on COVID-19 to the poor population and vulnerable groups (including women headed households, persons with disabilities and HIV/AIDS) to ensure they are not left behind and can equally benefit from response, recovery and resilience building interventions for staying safe and healthy; 3) provision of capacity development (provision of technical training materials and training courses) on general health precautionary measures to health care professionals, local government staff and others that carry out essential services (transportation, energy, water, waste, food delivery).; 4) sharing good practices and experiences at the regional and global level for future responses and preparedness for related pandemics.

Most importantly, the project will share China's experiences and solutions, through peer-learning and knowledge exchange among the five countries and the counterparts in China. The Chinese partners and

experts supporting implementation will have relevant experiences in responding to COVID-19.

4.2 Adopted Technologies and Standards (if any)

It is recommended to combine Chinese technologies and standards with realities of recipient countries, with special attention to comply with local mandatory legal regulations.

This project will review design and technical criteria and procure different medical waste disposal equipment based on each countries' situation. The following scenarios will be considered.

- Philippines which has established tens of facilities for medical waste disposal all over the country, will be introduced to mobile disposal equipment for emergency medical waste disposal during COVID-19 in the capital city of Manila and surrounding area. The mobile equipment could be easily moved to other remote areas after COVID-19 for normal medical waste disposal. Considering the national legislation on strict control on incineration, non-incineration technologies will be used in Philippines, namely high temperature shredder and steam sterilization technology. The mobile integrated equipment will treat wastewater and exhaust air emission, which can meet the requirements of both Chinese and Philippines environmental standards.
- Cambodia and Nepal which have some medical waste disposal facilities but with not up-to-date technologies, will be introduced to several demonstration equipment in selected hospitals. These on-site treatment facility equipment will include washing machine to wash potentially infected clothes, supplies and gears which can be easily reused after laundry; high temperature shredder and steam sterilization equipment for disposal infectious medical waste which cannot be reused; and small-scale waste water treatment on-site facility to treat wastewater after laundry. The high temperature shredder and steam sterilization equipment will have functions to control exhaust air emission. All the equipment could meet the requirements of both Chinese and receipt countries' environmental standards.
- Lao PDR and Myanmar which have very few medical waste disposal facilities and limited legislations on medical waste management, will undertake needs assessment on national medical waste management, and draft an action plan or strategy. Small scale high temperature shredder and steam sterilization equipment will be installed in selected hospitals in the two countries. The high temperature shredder and steam sterilization equipment will have the functions to control exhaust air emission. All the equipment could meet the requirements of both Chinese and recipient countries' environmental standards.

Based on the assessment of by technical experts, autoclaves are recommended to the five countries, instead of the incinerators to handle medical waste for the following reasons: first, the amount of medical waste produced in each country is comparatively small. Hence, incineration process is not suitable, which will produce a large number of pollutants such as dioxin if the incinerator malfunctions.

Microwaves, autoclaves and other processes are more suitable for the treatment of small amount of medical waste, among which the price of autoclave steam disinfection equipment is even cheaper. Second, except for the Philippines, the regulatory system of medical waste has basically not been established, which cannot guarantee that the risks of incinerators are controllable in the process of medical waste transportation. Therefore, it is not suitable to build centralized disposal facilities, and it is suggested to adopt in-situ treatment in hospitals.

4.3 Content of Implementation

The content of implementation should include specific inputs, outputs (or activities), and evaluation indicators, please briefly describe the implementation content and compile the logical framework of the project (Attachment 1), and the evaluation indicators should correspond with the Sustainable Development Goals and all the goal targets related to the project.

Output 1: Philippines' response to COVID-19 in the areas of medical waste management and preparedness effectively improved

Activity 1.1: Provision of technical support on COVID-19 healthcare waste treatment to contain the epidemic and protect the environment

Indicators:

- Provision of 2 mobile autoclaves with integrated air pollution control equipment, including the transportation, installation and life cycle maintenance costs
- Training for 15 or more local personnel on use and maintenance of above treatment facilities
- Provision of 30 equipment for segregation and collection of wastes (e.g. trolleys, and storage bins)
- Provision of 164 sets of PPEs and consumables for safe segregation and handling of waste for waste handlers, including 16400 pairs of gloves, 8200 masks and 16400 biohazard bags.

Activity 1.2: Provision of training on waste management to health care professionals, local government staff and others that carry out essential services (transportation, energy, water, waste, food delivery).

Indicator:

- The number of training activities combining online and on-site sessions.
- The number of seminars on sharing and localizing in selected hospitals and facilities.

- The number of digitally recorded and distributed training activities or sessions.
- The number of shared the updated local guidelines with other hospitals and facilities through material distribution.
- Materials will be distributed to 100 or more hospitals and health facilities.
- A digital HCW registry system is developed and deployed at least in 2 or more pilot hospitals and facilities.

Activity1.3 Communication and visibility of the project at local level

Indicators:

- 3 successful stories, 1 video, 5 reports(with photos), published on social media and related posters and brochures printed to advocate the project
- "China Aid" logo exist on all visibility materials and above HCW treatment facilities, in accordance to the "China Aid" logo usage conditions
- 1 Launch and 2 hand-over events, as well as joint UNDP and Embassy of China field visits or similar as relevant.

Major inputs: To achieve the above outputs the project will have the following set of main inputs:

- Equipment and services for medical waste and wastewater treatments and PPE
- International and local consultants
- Chinese experts on medical waste
- International and national consultants on medical waste, wastewater and air pollution control for incinerators
- National coordinator to coordinate all the technical inputs to meet project timelines and targets
- Project technical and management supports
- Communication and awareness raising efforts

Output 2: Myanmar's response to COVID-19 in the areas of medical waste management and public knowledge and preparedness effectively improved

Activity 2.1: Provision of technical support on healthcare waste treatment to contain the epidemic and protect the environment

Indicator:

- Number of reports on the capacity, technology gaps and needs
- Number of professional and support staffs from the hospital and health facilities trained to comply with the revised SOP/guideline
- Provision of 2 mobile autoclaves with integrated air pollution control equipment, including the transportation, installation and life cycle maintenance costs
- Provision of 200 boxes of colour coded plastic bags(box of 200), 1200 boxes (box of 50) of masks, 300 boxes (box of 100) of hand sanitizers, 500 boxes(box of 200) of gloves and 300 sets of PPE gowns for safe segregation and handling of waste for waste handlers
- Number of technical and other relevant staff trained on HCW management

Activity 2.2: Provision of advocacy, information sharing and communication support on COVID-19 to the poor and vulnerable groups

Indicator:

- Number of communication and advocacy materials on COVID-19 information and prevention developed and disseminated

Activity 2.3: Provision of training courses on advocacy and information sharing to the targeted groups

Indicator:

- Number of persons trained

Activity 2.4: Communication and visibility of the project at local level

Indicator:

- 1 launch and 1 hand-over events
- "China Aid" logo exist on all visibility materials and above HCW treatment facilities, in accordance to the "China Aid" logo usage conditions
- 3 successful stories, 1 videos, 5 reports(with photos), published on social media and related posters and brochures printed to advocate the project

Major inputs: To achieve the above outputs the project will have the following set of main inputs:

- Equipment and services for medical waste and wastewater treatments and PPE

- Chinese experts on medical waste
- International and national consultants on reviewing and revising SOP/guideline and training
- National consultant on designing awareness campaign materials
- National expert and equipment for virtual training
- Communication and awareness raising efforts

Output 3: Cambodia's capacity on medical waste management to respond to COVID-19 improved

Activity 3.1: Provision of technical support on COVID-19 healthcare waste treatment to contain the epidemic and protect the environment

Indicator:

- The selected 3 hospitals will be provided with health care waste management equipment
- Procurement of 1 Steam sterilizer with an integrated shredder for Khmer-Soviet Friendship Hospital (e.g. Sterilwave 440), 1 Steam sterilizer with an integrated shredder for National Pediatric Hospital (e.g. Sterilwave 250 for medium size institutions), 4 washing machines for sanitizing the clothes and bedding of the patients and HCW for reuse , 2 medical wastewater treatment equipment for on-site treatment of medical waste and wastewater, 3 disinfecting guns, 50 boxes(box of 200) of Medical disposable sterilization test pack.
- Provision of 6 trolleys, 12 reusable containers, 27 disposal bins and 50 boxes(box of 200) color-coded plastic bags/disposal bins for segregation and collection of wastes
- Procurement of 200 boxes of masks(box of 50), 60 boxes of hand sanitizers(box of 200), 100 sets of protective suits and goggles and 200 boxes of gloves(box of 150) for 3 hospitals for safe segregation and handling of waste for waste handlers

Activity 3.2: Provision of training courses on waste management to the targeted groups

Indicator:

- Provision of three sets of training materials, one for medical professionals/one for support staffs/one for local governments and relevant stakeholders about the collection, storage, treatment, and disposal of waste in place
- Number of trainings on WHO guidelines provided to relevant stakeholders (professional, support staffs and local government staffs) and number of staffs trained
- Provision of three levels of training materials,one for medical professionals,one for support staffs,one for local governments and relevant stakeholders about proper management of

equipment to treat infectious solid waste and wastewater

- Number of trainings on proper management of equipment to treat infectious solid waste and wastewater provided to relevant stakeholders (professional, support staffs and local government staffs) and number of staffs trained
- Provision of 90 boxes of masks(box of 50), 60 boxes of hand sanitizers(box of 200), 60 sets of protective suits and goggles and 150 boxes of gloves(box of 150) for safe segregation and handling of waste for waste handlers
- Provision of one set of training material for waste management service providers, informal waste pickers and social workers, about safe-handling waste to avoid the COVID-19 risks;
- The number of trainings delivered, and number of men and women trained (including health care professionals and support staffs) as well as waste management service providers, informal waste pickers and social workers about safe-handling waste to avoid the COVID-19 risks

Activity 3.3: Communication and visibility of the project at local level

Indicator:

- 1 launch event and 2 hand-over events
- 3 success stories, 1 video, 5 news(with photos) in socials media and posters and brochures
- All materials and equipment supported by the project will have logos of China Aid to ensure visibility

Major inputs: To achieve the above outputs the project will have the following set of main inputs:

- Equipment and services for medical waste and wastewater treatments and PPE
- Chinese experts on medical waste
- National expert to procure equipment and PPEs and provide technical supports
- International and national consultants on guideline and training materials development on proper management of equipment to treat infectious solid waste and wastewater and proper operation of existing incinerators to minimize environmental hazards
- International and national consultants for the training to health care professionals on the abovementioned types of technology and equipment
- National and international consultants for the training to health precautionary measures to waste collection workers and other exposed populations
- Communication and awareness raising efforts

Output 4: Nepal's response to COVID-19 in the areas of medical waste management and public knowledge and preparedness effectively improved

Activity 4.1: Provision of technical support on COVID-19 healthcare waste treatment to contain the epidemic and protect the environment

Indicator:

- Provision of 3 autoclaves have function to control exhaust gas emission （20kg/hr）, including the transportation, installation and life cycle maintenance costs
- Provision of 3 washing machines for the proper washing of the dirty and the potentially infected clothes, supplies and gears for reuse
- Provision of 6 weighing machines
- Provision of 3 segregation chambers

  Provision of 12 trollies, 984 buckets, 75 needle cutters, 5000 polyethylene bags 300 sets of PPEs, 300 chemical disinfectants, 60 trollies with storage bins and 5000 labels for the HCWM segregation system of the model units and replication to more wards and units of the 3 hospitals
- Provision of 3 sets of testing equipment and accessories to test the performance of autoclaves with various indicators to monitor autoclaves working under the required sterilization
- Standard Operating Procedures for safe health care waste management

Activity 4.2: provision of advocacy, information sharing and communication support on COVID-19 to the poor and vulnerable groups

Indicator:

- Number of videos or communication materials in relevant local languages developed
- Number of local governments and other key stakeholders trained
- Number of information and news A.I. Anchor Xiao Qing [11] broadcasted at the International Airport.

Activity 4.3: Provision of training courses on waste management to the targeted groups

[11] AI Anchor Xiao Qing is developed by Xunfei, China, which has been used by UNDP China on COVID-19 advocacy and prevention. Xiao Qing, who can speak 36 languages/ethnic languages, can broadcast the news and information simultaneously with the input of text into the system.

Indicator:

- Technical training materials and courses developed for health care professionals,
- Technical training materials and courses developed on general health precautionary measures to local government staff and others
- Number of the health care waste handlers of the hospitals trained
- Number of medical professionals/support staffs/local government staffs trained
- At least one knowledge sharing workshop with Chinese experts

Activity 4.4: Communication and visibility of the project at local level

Indicator:

- 7 meetings and hand-over events with the 7 hospitals
- 3 success stories, 1 video, 5 news(with photos) in socials media and posters and brochures
- All materials and equipment supported by the project will have logos of China Aid to ensure visibility

Major inputs: To achieve the above outputs the project will have the following set of main inputs:

- Equipment and services for medical waste treatments and PPEs
- Chinese experts on medical waste
- International and national consultants on SOPs development to support operation of health care waste management system by hospital
- National consultant on awareness campaign materials
- International and national consultants for the training to local governments and other key stakeholders on communication
- Social workers to organize campaigns to share information on health care waste management in social media.
- National consultant on preparation reports and communication materials
- National consultants to medical professionals/support staffs/local government staffs trained
- National consultant to health care waste handlers of the hospitals
- Project technical and management supports
- Communication and awareness raising efforts

Output 5：Lao PDR's response to COVID-19 in the areas of medical waste management and public

knowledge and preparedness effectively improved

Activity 5.1. Provision of technical support on COVID-19 healthcare waste treatment to contain the epidemic and protect the environment

Indicator:

- Basic web-based consolidated database developed, on national medical waste load, management capacity and waste management personnel capacities
- At least 67 staffs from MoH and selected hospitals develop and strengthen their capacities for safe medical waste management
- Waste disposal guidelines developed
- Provision of 2 autoclaves have function to control exhaust gas emission（20kg/hr）including the transportation, installation and life cycle maintenance

Activity 5.2. Provision of advocacy, information sharing and communication support on COVID-19 to the poor and vulnerable groups

Indicator:

- Number of information and programs released through Youth Media and Community Radio (
- Number of audios desseminated on COVID-19 prevention
- Number of to advocacy materials for People with Disabilities
- Provision of 3 COVID-19 public health promotion billboards
- Number of COVID-19 prevention information of A.I. Anchor Xiao Qing broadcasted at the International Airportand border check points.
- Number of COVID-19 prevention information made available in Lao and 11 ethnic languages
- Number of volunteers and community officials trained on COVID-19 prevention information and advocacy methods

Activity 5.3: Communication and visibility of the project at local level

Indicator:

- 1 launch event and 1 hand-over events
- 3 success stories, 1 video, 5 news(with photos) in socials media and posters and brochures
- All materials and equipment supported by the project will have logos of China Aid to ensure

visibility

Major inputs: To achieve the above outputs the project will have the following set of main inputs:

- Equipment and services for medical waste treatments
- Chinese experts on medical waste
- National and International consultants on data collection and training for MoH staffs
- National consultant to design/draft/support the implementation of Capacity Development Plan on Medical Waste Management for MoH
- National firm/consultant for the training on Medical Waste Management
- National consultant on Ethnic Community Advocacy & Communication
- National firms/consultants to design and produce the information to broadcast on Youth Media and Community Radio
- National firm/consultant to develop advocacy material for People with Disabilities
- National firm/consultant to design and produce COVID-19 public health promotion billboard
- Equipment for advocacy campaign at the airport and border check points
- Communication and awareness raising efforts

Output 6: Strengthen the countries' capacities through awareness campaigns and trainings and share the experiences at the <u>regional level</u>

Activity 6.1 Summarize and share China's experience on medical waste management with five project countries

Indicator:

- Report on "Management, treatment and disposal of medical waste techniques and equipment in China" and its applicability in the 5 countries

Activity 6.2 Provision of technical support on knowledge publicity and information sharing in the five countries for the poor and vulnerable groups to respond to COVID-19

Indicator:

- Number of supported advocacy materials to the 5 countries

Activity 6.3 Provision of relevant online training courses for target groups involved in epidemic

prevention and control

Indicator:

- English version of regional online training platform established
- 5 sets of medical waste management training materials finished
- 2-3 times of live training

Activity 6.4 Strengthen the capacity of countries to respond to COVID-19 through the regional platform in cooperation with ASEAN Secretariat

Indicator:

- Field trips by the international consultant and project task force members to the 5 countries finished
- Support ASEAN integration and regional strategic plan finished
- 1 project wrap-up meeting

Activity 6.5 Publicity, coordination and experience sharing of the regional project

Indicator:

- 10 success stories, 2 videos, 25 news (with photos) in socials media and posters and brochures

Major inputs: To achieve the above outputs the project will have the following set of main inputs:

- Chinese experts to provide technical inputs on medical waste management
- Chinese experts to provide technical inputs on awareness campaign
- English training platform at the regional level
- Consultants on regional strategic plan
- Project management support
- Communication and awareness raising efforts at the regional and global level

4.4 Implementation Plan

The project will be implemented under the UNDP Direct Implementation Modality (DIM), i.e. the responsibility for the execution is with UNDP. UNDP has the technical and administrative capacity to support the mobilization, procurement, and provision of quality assurance for the effective implementation of the project.

To support more comprehensive implementation and avoid duplication, the project will assemble a multi-stakeholder partnership of UN Agencies, Governments, private sector, and civil society organizations, and each partner category will be engaged as follows:

1) UN Agencies: UNDP will work closely with WHO to ensure that contents of online trainings are compliant with WHO standards and guidance and provide appropriate instructions for the prevention of COVID-19 infections and the disposal of Personal Protective Equipment (PPE).
2) Governments: UNDP will closely work with Government authorities, such as Ministries of Health and municipalities, during the implementation period.
3) Private Sector: UNDP, will engage the private sector to provide digital solutions to increase connectivity, increase the capacities of national and local stakeholders, and increase public awareness.
4) Civil Society Organizations (CSOs): UNDP will extend the reach and effectiveness of this emergency work by leveraging the capacities of CSOs that are already active on healthcare waste management issues, and engaging communities to increase public awareness for COVID-19 response.

Funds and Resources Management: UNDP will be responsible for the administration, procurement, and disbursement of overall project funds as per the UNDP standard policy and practices. To speed up procurement turnaround and project delivery UNDP will seek the support of additional partners. UNDP will also be responsible for reporting on donor funds as per standard practice and as agreed with the donor.

In order to ensure that the equipment to be provided for the project can not only learn from Chinese experience, but also meet the local actual needs, as part of the development of the project, UNDP China engaged a team of experts from MEESCC and THU/BCRC China, with hands on knowledge of COVID-19 medical waste management in the epicenter of China. These experts designed the questionnaire accordingly based on the objectives of the project and played a key role in assessing the medical waste management capacities, current conditions and the prevention needs in the five countries and further discussed with the countries. The specifications of the medical waste management and equipment were based on the assessment results, combined with the Chinese experiences and country capacities.

During the procurement, installation and the equipment operation process, Chinese experts will provide technical inputs and management advice and coordinate with equipment suppliers, along with

the national experts from the five countries recruited by the project.

For the awareness campaign and related trainings, in addition to the participation of the experts from MEESCC and THU/BCRC China, experts from the NHC will also be involved in the development and design of the advocacy and training materials. The experts from China will provide technical inputs on advocacy materials and trainings based on local conditions.

Output 1: Philippines' response to COVID-19 in the areas of medical waste management and preparedness effectively improved

Activity 1.1: Provision of technical support on COVID-19 healthcare waste treatment to contain the epidemic and protect the environment

Activity 1.1.1: Provision of mobile treatment facilities, using appropriate technologies

1) Based on the need and the recommendations of Chinese experts, 2 mobile autoclaves will be procured to disinfect the medical waste (1-2 t/d) before disposal in a traditional landfill or further treatment. Autoclaves are unlikely to combust or give off substantial off-gas;
2) 1 National experts will be responsible for selecting equipment model, verifying compliance with project needs and legal requirements, guidance for installation and operation as well as transportation, along with the Chinese experts.

Activity 1.1.2: Provision of equipment for segregation and collection of medical wastes (e.g. trolleys, storage bins)

1) 30 equipment for segregation and collection of wastes (e.g. trolleys, and storage bins) will be procured to ensure safe handling of COVID-19 contaminated waste.
2) The project will assist the establishment of clear procedures and mechanisms for how and where to carry out collection and segregation, where the storage facilities are prepared and how different types of waste including the COVID-19 contaminated waste should be treated.

Activity 1.1.3: Provision of PPEs and consumables for safe segregation and handling of waste for waste handlers

1) 164 sets of PPEs and consumables including 16400 pairs of gloves, 8200 masks and 16400 biohazard bags will be procured not only for health care professionals but also for cleaners, waste collectors and other workers inside the hospitals potentially susceptible to COVID-19 infections to safely treat the medical waste and prevent from contamination.

Activity 1.1.4: Training of health care wastes personnel in operations and management of equipment

1) Based on the condition of Philippines, Chinese experts and national experts will develop "easy-to-implement" technical guidelines and "easy to understand" simple communication materials (e.g. posters and leaflets) about proper management of equipment to treat infectious solid waste and proper operation of the treatment equipment on the national guideline;

2) The target groups for this activity include operators of equipment, health care professionals, cleaners and waste handlers and general worker at the hospitals. The project will also conduct close monitoring, regular check-ups, and after-care services to ensure proper usages of equipment;

3) Three sessions of online training will be provided and the training materials will include the lessons learned from China. Two national experts will be hired to update the existing module.

Activity 1.1.5: Project technical and management support

1) To ensure the implementation of Activity 1.1, a task force will be established to provide management and technical support, including 1 Project Manager (20 days), 1 M&E Officer (15 days) and 1 Administration Assistant (20 days)

Activity 1.2: Provision of training courses on waste management to the targeted groups

Activity 1.2.1: Develop training materials for sanitation workers in health care facilities on the collection, storage, treatment, and final disposal of wastes

1) Based on the condition of Philippines, 1 national expert will develop training materials on proper and sustainable management of health care waste, including waste minimization, segregation, collection, treatment, storage and disposal, in combination with China's successful experiences and align with DOH's *Health Care Waste Management Manual* as well as other local guidelines.
2) The national expert will localize China's guidance, training materials.

Activity 1.2.2: Conduct training of health care facility workers

1) 100 Health care facility personnel will be trained (6 trainings) from Government hospitals and quarantine facilities, waste handlers, and national and local government officials on health care waste management.

2) The training activity combines both online and on-site methods based on China's successful experiences. The selected training activities are recorded and ready to distribute digitally.

Activity 1.2.3: Production of basic guidelines and materials for sharing with other hospitals and facilities in the Philippines

1) Guidelines and materials will be developed by national and Chinese experts for sharing with other hospitals and facilities in the Philippines.
2) China's successful experiences and updated local guidelines are shared to other one hundred (100) or more hospitals and facilities.

Activity 1.2.4: Develop a long-term resilience plan for health care wastes management

1) Based on the local condition of Philippines, Chinese and 2 national experts will developed long-term resilience plan for health care wastes management, using digital approaches.
2) The plan will be developed by national experts to construct baseline data on selected hospitals and facilities.
3) 2 workshops (50 participants each) will be held for developing the long-term resilient plan with the online participation of the Chinese experts
4) A digital HCW registry system, based on open-source software, is developed as a part of the resilience plan and deployed in 2or more pilot hospitals and facilities. It will enable the government on monitoring and tracing HCW.

Activity 1.2.5: Project technical and management support

1) To ensure the implementation of Activity 1.2, a task force will be established to provide management and technical support, including 1 Project Manager (20 days), 1 M&E Officer (10 days) and 1 Administration Assistant (20 days)

Activity1.3: Communication and visibility of the project at local level

1) During the project implementation, the project will produce various forms of project promotional materials and media press releases such as photo collections, videos, brochures, posters, publications, etc.;
2) 1 launch and 2 hand-over events, as well as joint UNDP and Embassy of China field visits will be organized;
3) 3 success stories, 1 videos, 5 news(with photos) in socials media and posters and brochures
4) Project experiences will be shared at the local level.

Output 2: Myanmar's response to COVID-19 in the areas of medical waste management and public knowledge and preparedness effectively improved

Activity 2.1: Provision of technical support on medical waste treatment to contain the epidemic and protect the environment

Activity 2.1.1: Validation of capacity, technology gaps and needs for HCW Management

1) Recruit 1 International and 1 national consultant to conduct validation exercise and confirm HCW management need. The needs assessment will include the technical inputs from Chinese experts based on the condition of Myanmar;
2) A two-day online workshop will be organized by UNDP to discuss the technology gaps and local needs which could be improved through the project implementation. Chinese experts will participate the discussion sharing the Chinese experiences and their recommendations.

Activity 2.1.2: Operationalization of the MOHS's SOP and National Guidelines on the HCW Management

1) Recruit 1 national and 1 international consultant together with Chinese experts for reviewing and revising SOP/guideline and guiding implementation/compliance. The guideline/SOP will include the technical inputs from Chinese experts, based on the condition of Myanmar;
2) A one-day online workshop will be organized by UNDP to discuss revised SOP/guideline and guiding implementation/compliance. Chinese experts will participate the discussion sharing the Chinese experiences and their recommendations.

Activity 2.1.3: Procurement of essential and appropriate technology to manage both hazardous and non-hazardous HCW based on the findings of the need assessment

1) Based on the actual need of Myanmar and recommendations from Chinese experts, 2 autoclaves (20kg/hr) will be procured as heat treatment processing units to destroy microorganisms before disposal in a traditional landfill or further treatment. Autoclaves are best for wastes that are unlikely to combust or give off substantial off-gas;
2) Identifying and installation of autoclaves for the treatment of the waste generated by two hospitals as per WHO standards, the equipment has function to control exhaust gas emission.
3) The Chinese experts will provide technical inputs for the installation and operation of the equipment.

Activity 2.1.4: Procurement of appropriate PPE for the safety of all handlers of HCW in selected hospitals and YCDC

1) The project will provide a full set of PPEs including 40,000 color coded plastic bags, 60,000 surgical masks, 30,000 hand sanitizers (80 or 100ml), 50,000 pairs of gloves and 300 PPE gowns and goggles not only for health care professionals but also for cleaners, waste collectors and other workers inside the hospitals(Waibargi hospital and South Okkalapa Hospital catering to more than 60% of

the country's COVID-19 patients in Yangon) and YCDC potentially susceptible to COVID-19 infections.

Activity 2.1.5: Development of virtual training platforms, and materials for relevant personnel (health care setting and at YCDC) on HCW management

1) Applying China's experiences and technologies and UNDP's experiences in other countries, the development of a virtual training platform on medical waste management will introduce a user-friendly data collection/management tool such as a monitoring matrix that can be integrated into the existing HIS (Hospital Information System). The platform will capture relevant details on the waste management capacity, such as the number of staff, capacities of the facilities, treatment/disposal amount etc., for evidence-based planning and management;
2) The training materials will be developed by Chinese experts based on local realities and needs in Myanmar. Training materials will be translated into local languages;
3) Online training courses developed by Chinese experts will be uploaded to the platform;
4) 6 sessions of training will be organized on HCW management. Chinese experts will participate sharing Chinese experiences and provide technical support;
5) 3 laptops and 3 smart TVs will be provided to support the smooth operation of the training platform;
6) In order to better ensure sustainability what is developed will be worked into existing systems; strengthening the system, training for staff will be provided using audio/visual training materials and the training will be rolled out at the sub-national level.

Activity 2.2: Provision of advocacy, information sharing and communication support on COVID-19 to the poor and vulnerable groups

Activity 2.2.1: Development and production of visual awareness campaign materials on COVID-19 information and prevention

1) Development and production of multi-media awareness and advocacy materials on COVID-19 prevention and contained to the poor and vulnerable groups (including women headed households, persons with disabilities and HIV/AIDS) to ensure they are not left behind and can equally benefit from response, recovery and resilience building interventions for staying safe and healthy;
2) Recruit 1 National consultant for developing and production of the video. Chinese experiences will be shared;
3) Recruit 1 National consultant for developing the content of the posters (including the poster in activity 2.3.2) based on the needs of vulnerable groups; Chinese experiences will be shared;
4) All the materials, video and posters will be translated into local languages, braille and sign language;
5) 400 posters and 400 brochures will be distributed to rural areas and vulnerable groups to increase

their access to epidemic prevention knowledge.

Activity 2.3: Provision of training courses on advocacy and information sharing to the targeted groups
Activity 2.3.1: Development and provision of virtual training courses and materials on general health precautionary measures to local governments, private health centers, others that carry out essential services during COVID-19 (transportation, energy, water, waste, food delivery)

1) The training materials will be developed by Chinese experts based on local realities and needs in Myanmar. Training materials will be translated into local languages;
2) 8 on-line sessions of training will be organized for those working on essential services during COVID-19 ((transportation, energy, water, waste, food delivery). Chinese experts will participate sharing Chinese experiences and provide technical support;
3) 200 posters and 200 brochures will be distributed target groups to increase their access to epidemic prevention knowledge.

Activity 2.4: Communication and visibility of the project at local level

Activity 2.4.1: Launch and hand-over events, by UNDP and Embassy of China

1) A project launch and an equipment handover ceremony will be held with the participation of relevant UN agencies, representatives of Chinese Embassy in Myanmar, representatives of relevant departments of the central and local governments of Myanmar, representatives of selected hospitals and media.

Activity 2.4.2: Publicity and communication

1) Produce media advisories, press releases, human-interest feature stories in local languages, English and Chinese for wider dissemination;
2) 3 success stories, 1 videos, 5 news(with photos) in socials media and posters and brochures;

Output 3: Cambodia's capacity on medical waste management to respond to COVID-19 improved

Activity 3.1: Provision of technical support on COVID-19 healthcare waste treatment to contain the epidemic and protect the environment

Activity 3.1.1: Provision of appropriate equipment for treatment of solid waste and wastewater using non-incineration and non-chemical technologies in accordance with WHO standards

1) A full set of up-to-date equipment for on-site treatment of medical waste and wastewater using non-incineration and non-chemical technologies. Considering the number of working (1400 staffs for Soviet Friendship Hospital which is large sized facility, 395 staffs for National Pediatric

Hospital, which is medium sized facility) and the actual needs, the project will provide each hospital with: 2 washing machine to fully wash and disinfect patient bedsheet, pillowcase, blanket, patient uniform, healthcare professional uniforms/glasses/shoes (120-130kg for Khmer-Soviet Friendship Hospital, 100kg for National Pediatric Hospital), 1 Steam sterilizer with an integrated shredder (70kg.hr for Khmer-Soviet Friendship Hospital, 50kg/hr for National Pediatric Hospital) to disinfect infectious waste including sharps, 1 wastewater treatment equipment to treat wastewater;

2) 1 National consultant to coordinate all the technical inputs of the Chinese experts, MoH, WHO and the three hospitals, and ensure the timely delivery of equipment to 2 designated hospitals;
3) The project will also closely monitor, examine and maintain the equipment to ensure their operation.

Activity 3.1.2: Provision of equipment for collection of wastes and construction of storage facilities

1) 6 trolleys, 12 reusable containers, 3 disinfecting guns, 10000 color-coded plastic bags, 27 disposal bins, and 10000 medical disposable sterilization test packs to ensure safe handling of COVID-19 contaminated waste. At the same time, the project will assist the establishment of clear procedures and mechanisms for how and where to carry out collection and segregation, where the storage facilities are prepared and how different types of waste including the COVID-19 contaminated waste should be treated (linked to the activity 3.2);

Activity 3.1.3: Providing appropriate personal protective equipment (PPEs) to ensure the safety of the waste handling, disposal, transport and incineration

1) A full set of PPEs including 10000 masks, 12000 hand sanitizers (80-100ml), 20000 protective gears, and 20000 of gloves will be provided not only for health care professionals but also for cleaners, waste collectors and other workers inside the hospitals potentially susceptible to COVID-19 infections;
2) Under the overall guidance of the assigned programme analyst, a national coordinator will work closely with the WHO, MoH, Chinese experts and three hospitals for timely delivery of equipment and PPEs for the three hospitals.

Activity 3.2: Provision of training courses on waste management to the targeted groups

Activity 3.2.1: Develop guidelines and communication materials for health care facilities, service providers about the collection, storage, treatment, and disposal of waste

1) In close collaboration with WHO, MoH and Chinese experts, the project will develop "easy-to-implement" operational guidelines and "easy to understand" simple communication materials (e.g. posters, leaflets) about the collection, storage, treatment, and disposal of waste, fully building on the national guideline;
2) Recruit 1 national consultants and 2 international consultants to provide technical inputs for developing guidelines and communication materials for health care facilities, service providers, about the collection storage treatment and disposal of waste;
3) The material will be translated into Khmer.

Activity 3.2.2: Provide training for health facility workers based on the WHO guidelines

1) The project will provide 3 sessions of trainings (2 trainings/session) to 3 hospitals for the target beneficiaries to COVID-19 designated health care professionals, waste handlers, general workers and waste management service providers, along with Chinese experts;
2) Recruit 1 national consultant and 1 international consultant to provide training for health facility workers based on the WHO guidelines.

Activity 3.2.3: Develop guidelines and training materials for proper management of equipment to treat infectious solid waste and wastewater and proper operation of existing incinerators to minimize environmental hazards

1) Guidelines and training materials on proper management of equipment to treat infectious solid waste and wastewater and proper operation of existing incinerators to minimize environmental hazards will be developed by Chinese, national and international experts, based on the condition of Cambodia;
2) Recruit 2 national consultants and 2 international consultants to provide technical medical waste inputs for guidelines and training materials;
3) The guidelines and training materials will be translated into Khmer;
4) Training materials (simple booklet) as well as posters will be distributed to healthcare workers;

Activity 3.2.4: Provide technical training materials and courses for health care professionals about the abovementioned types of technology and equipment

1) 3 sessions of trainings (2 trainings/session) and training materials will be delivered to health care professionals in 3 hospitals about the abovementioned types of technology and equipment with the technical inputs and participation of the Chinese experts.

2) Recruit 1 national and 1 international expert on the medical waste of the abovementioned types of technology and equipment; 1 international expert on the wastewater, 1 international air quality and incineration expert and 1 national waste water/air quality.

Activity 3.2.5: Provide PPEs to sanitation and waste collection workers to protect against the risk of infection to ensure safe waste handling, disposal, transport and off-site incineration

1) Procurement of PPEs, including 4500 masks, 12000 hand sanitizers, 12000 protective suits and goggles, 22500 gloves will be procured for sanitation and waste collection workers to protect against the risk of infection to ensure safe waste handling, disposal, transport and off-site incineration.

Activity 3.2.6: Provide technical training materials and courses on health precautionary measures to waste collection workers and other exposed populations

1) 3 sessions of trainings (2 trainings/session) and training materials on health precautionary measures will be delivered to waste collection workers and other exposed populations with the technical inputs and participation of Chinese experts;
2) Recruit 1 national and 1 international consultants to provide technical training materials and courses on health precautionary measures to waste collection workers and other exposed populations; The Chinese experts will be joining the training, share the Chinese experiences and provide technical supports.

Activity 3.2.7: Procurement of audio and communication equipment

1) 2 sets of audio and communication equipment (computers and printers) will be procured for the guidelines development, training materials development and training design.

Activity 3.3: Communication and visibility of the project at local level

Activity 3.3.1: Launch and hand-over events, by UNDP and Embassy of China

1) A project launch and 2 equipment handover ceremonies will be held with the participation of relevant UN agencies, representatives of Chinese Embassy in Cambodia, representatives of relevant departments of the central and local governments of Cambodia, representatives of selected hospitals, villages and media.

Activity 3.3.2: Publicity and communication

1) Produce media advisories, press releases, human-interest feature stories in local languages, English and Chinese for wider dissemination;
2) 3 success stories, 1 videos, 5 news(with photos) in socials media and posters and brochures

Output 4: Nepal's response to COVID-19 in the areas of medical waste management and public knowledge and preparedness effectively improved

Activity 4.1: Provision of technical support on COVID-19 healthcare waste treatment to contain the epidemic and protect the environment

Activity 4.1.1: Needs Assessment

1) The Chinese experts will Identify the needs and areas for improvement regarding the current practices of waste management, with the national experts. The assessment will be conducted in 7 hospitals, namely Narayani Sub-Regional Hospital in Birgunj, Mid-Western Regional Hospital in Surkhet, Nepal Army Hospital in Chauni, Janakpur Zonal Hospital in Janakpur, Rapti Zonal Hospital in Dang, Bheri Zonal Hospital in Nepalgunj and Seti Zonal Hospital in Dhangadhi.

Activity 4.1.2: Institutionalization

1) 7 training events(10 committee members/training) will be co-delivered by Chinese national experts to train focal person and committee members for preparedness and implementation of health care waste management system.

Activity 4.1.3: Construction of Laundry/HCWM Treatment Center

1) A critical care unit will be selected as model ward and all the waste generated in this ward will be segregated properly at source and treated and disposed. Prior to establishment of model ward, all the staffs will be trained. Once the model ward starts to function, properly, all the staffs of the hospital will be trained, and the system will be replicated in the whole hospital. Based on the needs of the hospitals and the recommendations of the Chinese experts, 1 washing machine to sterilize the clothes of HCW, 1 autoclave have function to control exhaust gas emission（20kg/hr）, 2 weighing machines, 1 segregation chamber will be procured for the model units to isolate the contaminated items for Mid-Western Regional Hospital, Narayani Sub-Regional Hospital and Army Hospital.

Activity 4.1.4: Transportation HCW with trollies in designed routes

1) Provide 12 trolleys for 3 hospitals (4 trolleys/hospital), to safely collect and transport medical wastes.

Activity 4.1.5: Model unit setup (Critical Care Unit)

1) Based on the needs of the hospitals and the recommendations of the Chinese experts, 454 buckets, 25 needle cutters, 2500 polyethylene bags, 150 sets of PPE, 150 chemical disinfectant, 30 medication trolleys with bins, 2000 labels will be procured for proper HCMW segregation system in the above three hospitals.

Activity 4.1.6: Technology supporting for the operation of health care waste management system

1) 1 national consultant will be hired to provide technical support, along with Chinese experts, for the Medical Waste Management system.

2) Procure a set of testing equipment(3 incubators, 200 biological spore, 10 Helix test indicator, 15 Bowie Dick simulator, 20 autoclave tapes) and using them regularly to test the performance of autoclave with various indicators to monitor autoclave working under the required sterilization for each autoclave.

Activity 4.1.7: Replication of HCWM system from model units to more wards and units

1) The HCWM system in model units will be replicated to more other wards and units within the three hospitals and 530 buckets, 50 needle cutters, 2500 polyethylene bags, 150 sets of PPE, 150 chemical disinfectant, 30 medication trolleys with bins, 3000 labels will be procured for proper HCMW segregation system in more units in the three hospitals.

Activity 4.1.8: Development of SOPs to support operation of health care waste management system by hospital

1) The SOP for safe health care waste management (SOPs for waste handling, waste segregation, waste transportation, autoclaving and others) will be developed and one-day training the medical staff in three polit hospitals (50 staffs each) to enhance their understanding and implementation ability of SOPs.

Activity 4.1.9: Project technical and management support

1) To ensure the implementation of Activity 4.1, a task force will be established to provide management and technical support, including 1 Project Manager (15 days), 1 Technical Specialist (15 days) and 1 Project Specialist (24 days)

2) 7 hospital workers (1 for each hospital) will be hired to provide coordination with the hospitals and monitor the implementation of the SOP and equipment installation over 9 months.

Activity 4.2: Provision of advocacy, information sharing and communication support on COVID-19 to the poor and vulnerable groups

Activity 4.2.1: Producing video or communication materials on health precautions and containment measures in relevant local languages with high visibility of collaboration with the Government of China for medical waste management in Nepal

1) With the technical inputs of Chinese experts, videos or communication materials (through whatever medium is most useful according to local needs: TV, radio, cell phones, social medium platforms etc.) on health precautions and containment measures in relevant local languages with high visibility will be produced and at least 3 public service announcements will be developed and broadcasted. These developed PSAs will be displayed in local television and public spaces;
2) Recruit 1 National consultant to prepare advocacy materials.

Activity 4.2.2: Procurement of required equipment

1) 7 equipment(laptops) will be procured for 7 hospitals for online training

Activity 4.2.3: Various visibility materials will be developed and distributed

1) Visibility items such as pen, clocks, calendar, t-shirts during campaigns and other will be developed and distributed to the public.

Activity 4.2.4: Provision of needed training materials on communication and delivery of trainings to local governments and other key stakeholders (on-line).

1) With the technical inputs and participation of Chinese experts, communication online training and production of communication training materials and delivery of trainings to medical staff and HCWM collectors in polit hospitals, and related local governments are invited to the online meeting;
2) Recruit 1 national expert to develop training materials;
3) Recruit 2 national experts to co-deliver trainings with Chinese experts.

Activity 4.2.5: Mobilization of volunteers to organize campaigns to share information on health care waste management in social media.

1) An online campaign will be organized to cover all 283 municipalities in Nepal, especially the rural areas will be given higher priority. Each municipality have a focal person help to translate communication materials into local languages and organize local people to join the campaign.

Activity4.2.6: Employ A.I. Anchor Xiao Qing to share COVID 19 protection guidance and HCWM skill at international airport

1) A.I. Anchor Xiao Qing who can speak almost 36 language will be installed at the International Airports to educate the international travellers on the knowledge of infectious waste management and healthy protection measures against COVID 19.

Activity 4.2.7: Project technical and management support

1) To ensure the implementation of Activity 4.2, a task force will be established to provide management and technical support, including 1 Project Manager (15 days), 1 Technical Specialist (15 days) and 1 Project Specialist (24 days)

Activity 4.3: Provision of training courses on waste management to the targeted groups

Activity 4.3.1: Development of different training modules for various levels of stakeholder

1) Based on the condition of Nepal, the Chinese experts will develop technical training materials for 3 trainings with national experts.

Activity 4.3.2: Train health care professionals and support staffs

1) With the technical support and participation of the Chinese experts, 1 training session on safe HCWM and its implementation will be provided to the staffs of the 7 hospital, 50 staffs each hospital.

Activity 4.3.3: Train staffs of local government

1) With the technical support and participation of the Chinese experts, 1 training session on the role of local government in HCWM practices will be organized to 100 local government staffs.

Activity 4.3.4: Organize workshop and conference among relevant stakeholders

1) 1 national workshops of 100 participants will be organized for sharing of the outcomes and progress and sensitization, to promote more relevant stakeholders to better understanding of

HCWM system with the technical support and participation of the Chinese experts.

Activity 4.3.5: Project technical and management support

1) To ensure the implementation of Activity 4.3, a task force will be established to provide management and technical support, including 1 Project Manager (15 days), 1 Technical Specialist (15 days) and 1 Project Specialist (24 days)

Activity 4.4: Project best practices on medical waste management timely and widely disseminated

Activity 4.4.1: Launch and hand-over events, by UNDP and Embassy of China

1) One event with each polit hospital, 10 staff from UNDP, WHO, Ministry of Health and Population, local government and other stakeholders, 10 from each hospital.

Activity 4.4.2: Communication and visibility of the project at local level

1) Produce media advisories, press releases, human-interest feature stories in local languages, English and Chinese for wider dissemination;
2) 3 success stories, 1 videos, 5 news(with photos) in socials media and posters and brochures

Output 5：Lao PDR's response to COVID-19 in the areas of medical waste management and public knowledge and preparedness effectively improved

Activity 5.1. Provision of technical support on COVID-19 healthcare waste treatment to contain the epidemic and protect the environment

This activity aims to enhance technical and operational capacities for safe medical waste management capacities at the national and sub-national levels in order to be prepared for the expected excessive amount of medical waste in case the 2nd surge of COVID-19 outbreaks. The main government partner/ counterpart is MoH and provincial/district level hospitals located in Vientiane Capital, Xiengkhouang (n/a), Houphanh (Xamtai, Xiengkhor), Bolikhamxay (n/a), Xaysomboun (n/a), Phongsaly (Kua), Salavan (Samouy, Laongarm), Attapue (Sanamxay), Vientiane province (Vangvieng), Luangprabang (Nambak), Savannkhet (Artsaphangmor, Xaybouly, Songkhone), Champasak (Bachieng), and Xaysomboun. These sites were identified and selected, considering several factors including

COVID-19 outspread risk, MoH's demands and implementing possibility in close consultation with the Ministry of Health.

Activity 5.1.1 Develop a basic web-based consolidated database on medical waste management for MoH (to be integrated into the existing reporting & HIS system)

Applying China's experiences and technologies and UNDP's experiences in other countries, the development of a web-based database on medical waste management will introduce a user-friendly data collection/management tool such as a monitoring matrix that can be **integrated into the existing MoH's reporting and HIS (Hospital Information System)**. It is expected that this will be adopted with the protocol of the existing reporting system and HIS. The database will capture relevant details on the waste management capacity, such as the number of staff, capacities of the facilities, treatment/disposal amount etc., for **evidence-based planning and management**. In order to better ensure sustainability what is developed will be worked into existing systems and processes within the MoH; strengthening the system, training for MoH staff will be provided using audio/visual training materials and the training will be rolled out at the sub-national level.

1) Develop a basic and user-friendly data management matrix with audio/visual training materials and a guideline (to be integrated into the existing reporting and HIS systems): Outsourced service provider;
2) Coordinate and support MoH on data collection: 1 national expert will closely work with MoH, Chinese experts and the database development company to develop the template of data martrix, and provided technical support to MoH staff to collect data;
3) Training for 15 MoH staff (training of trainers) in central, provincial and district level on the database and maintenance of the system.

Activity 5.1.2: Develop and support the implementation of Capacity Development Plan for MOH and the selected hospitals

Support will be provided for the development and implementation of Capacity Development Plan. It will be conducted for MoH and the selected hospitals based on identified gaps and needs of institutional/individual/regulatory capacity using the existing regulations and guidelines. It will strengthen technical and operational capacity such as generation, separation, disposal of medical waste as well as status of human resources and equipment etc. Technical inputs can be sought from other UN agencies, such as WHO and/or UNIDO, and will process the information to gain a deeper understanding on gaps and needs that have to be fulfilled in the long term.

1) Recruit 1 international consultant to design the draft/implement capacity development plan & training materials;

2) Training of Trainer for 25 staff from MoH (supported by a national consultant and Chinese experts);

3) Training on Medical Waste Management for 1 central hospital (103 hospital), 7 provincial hospitals (Xiengkhouang, Houphanh, Bolikhamxay, Xaysomboun, Phongsaly, Salavan and Attapue), and 13 district hospitals. (42 hospital staff and 42 waste collection workers will benefit from the training);

4) Develop a waste disposal system including the principles of Reduce, Reuse, and Recycle & M&E (supported by 2 national consultants and Chinese experts);

5) Training materials/instructors materials including audio/visual training materials, textbooks, supplies, and translation;

6) Conduct a waste disposal system monitoring and evaluation (supported by 1 international, 1 national and Chinese consultants).

Activity 5.1.3: Provide the treat and disposal equipment

In close consultation with MoNRE and China's experiences and support from THU/BCRC China, purchase essential and appropriate equipment 2 autoclaves to 2 pilot hospitals(1 for each hospital) with needs of 20 kg/hr.With technical support from THU/BCRC China, procure and install an essential set of necessary equipment such as autoclave having function to control exhaust gas emission for 2 pilot hospitals(transportation, construction, installation included) Autoclave having function to control exhaust gas emission:

1) Autoclaves will be used as heat treatment processing units to destroy microorganisms before disposal in a traditional landfill or further treatment;

2) Train core staff for operation and maintenance of the equipment;

Activity 5.2. Provision of advocacy, information sharing and communication support on COVID-19 to the poor and vulnerable groups

This output intends to increase access to information on COVID-19 and medical waste for communities with a special focus on vulnerable groups including the poor, women, ethnic groups, youth and People with Disabilities before the epidemic for COVID-19 prevention and preparedness. The project will utilize existing media channels, this includes the Lao National Radio, Youth Media, Community Radio, to disseminate information about the latest updates on the government announcement; to learn to wash their hands often and to avoid touching their face etc. Also, the enhanced awareness of people will be raised on the issues related to medical waste at the community level.

In addition, this output will also disseminate information at 5 border checkpoints to effectively target high numbers of expected migrants, returnees and visitors, which will address significant concerns regarding potential emergence of new clusters of COVID-19 in areas of return, transmission among

returnees while travelling in crowded buses, and while waiting in public places during border control procedures.

Activity 5.2.1 advocate and sharing of information about COVID-19 protection guidance, government announcement and medical waste with people in Lao PDR, utilizing existing channels, with a special focus on disadvantaged groups including the poor, women, ethnic groups, youth and People with Disabilities

1) A community Advocacy & Communication Specialist will be recruited to prepare advocacy material and coordinate overall advocacy & communication work;
2) Materials will be produced based on WHO's guidance, central government announcement, local government announcement and Chinese experiences (11 target provinces);
3) By Jingle Introduction after every news hour, the project could broadcast COVID-19 & medical waste-related information through Lao National Radio 10 times/day in next 9 months.
4) Promote the advocacy in target areas through **Youth Media** (Capital, 10 medical waste management target provinces, Xiengkhouang, Houphanh, Bolikhamxay, Xaysomboun, Phongsaly, Salavan and Attapue, and advocacy target provinces Salavan, Attapue Luang Prabang) in collaboration with UNICEF.
5) Utilise the existing Youth Media network to produce the youth radio based on the script and rebroadcast the radio programme that Vientiane Capital team produced.
6) Broadcast COVID-19 relevant information and medical waste issues through **Community Radio** (including production of radio spots, magazines, broadcasting, community volunteers, operation support for radio stations) for 9 stations in 6 provinces;
7) Utilising the existing Community Radio network, 2 times per day (in Lao and ethnic languages);Develop a set of advocacy materials for public and people with disabilities (such as video with sign language) to post on social media platform, billboard or TV Channel in Lao PDR;
8) 3 electronic advocacy billboards will be produced and installed at the Highway traffic arteries.

Activity 5.2.2 Employ A.I. Anchor Xiao Qing who can 'speak' 36 languages/ethnic languages (developed by iFlytek which is a partner of UN China), to share COVID-19 protection guidance and government announcement at airport, and border checkpoints

Based on the Lao PDR's policy, people need to get be tested and quarantined for 14 days when entry the country, by using this technology, can support authority to explain the policy to Lao nationals and foreigners appropriately and reduce the risk of potential conflicts caused by misunderstanding. This

technology will be installed at Wattey international airport, Lao-Thai friendship bridge I (Vientiane)and II(Savannakhet), Luang Prabang International airport, Pakse international airport.

1) With the support of iFlytek, translate the prepared COVID-19 relevant information into different languages (Chinese, Korean, Japanese, French, etc.); Purchase 5 sets of PC with 60 inches monitor (smart TV), and set up at Vientiane capital and Champhasack airport and road border checkpoint.;
2) Circular broadcast COVID-19 relevant information to people crossing the border.

Activity 5.2.3 Circulate information in ethnic languages for remote areas using loudspeakers for the district and villages

1) Procure portable loudspeakers for 16 villages;
2) Identify the focal point in each village and provide the prepared COVID-19 relevant information to them;
3) Provide trainings to volunteers and community officials in the 16 villages on COVID-19 prevention information and advocacy methods.

Activity 5.3: Communication and visibility of the project at local level

Activity 5.3.1: Launch and hand-over events, by UNDP and Embassy of China

1) A project launch and an equipment handover ceremony will be held with the participation of relevant UN agencies, representatives of Chinese Embassy in Laos, representatives of relevant departments of the central and local governments of Laos, representatives of selected hospitals, villages and media.

Activity 5.3.2: Publicity and communication

1) Produce media advisories, press releases, human-interest feature stories in local languages, English and Chinese for wider dissemination;
2) 3 success stories, 1 videos, 5 news(with photos) in socials media and posters and brochures

Output 6: Strengthen the countries' capacities through awareness campaigns and trainings and share the experiences at the regional level

Activity 6.1: Summarize and share China's experience on medical waste management with five project countries

Activity 6.1.1: Share China's experience on medical waste management, treatment and disposal

1) Recruit 6 researchers to carry out literature research and data sorting on the management, treatment and disposal of medical waste in China and the "existing technology and equipment for treatment and disposal of medical waste in China", including management, technology, equipment and other relevant contents;

2) Summarize the experience of life cycle management of medical waste in China, conduct research and analysis from the production, collection, transportation, treatment and disposal of medical waste, as well as the successful management experience of China;

3) Sort out the existing medical waste treatment and disposal technologies in China. For example, sterilization, high temperature incineration, plasma method, pyrolysis method, sanitary landfill, high temperature steam, microwave treatment, etc. Analyze the advantages and disadvantages of each method and its application scope;

4) Summarize China's advanced medical waste treatment and disposal equipment. Based on the investigation of the existing medical waste treatment and disposal enterprises in China, summarize the currently common equipment types, such as centralized high-temperature steam medical waste treatment equipment, mobile emergency medical waste treatment equipment, special crusher, etc.;

5) A field research will be organized to China's advanced medical waste treatment and disposal enterprises;

6) Two online seminars will be held to demonstrate the research results and invite 40 experts from MEESSC and BCRC to attend.

Activity 6.1.2: Provision of technical support for equipment procurement in the five countries

1) Provide necessary consulting services when procuring equipment in regional countries, such as equipment selection, technical parameters, how to avoid environmental risks, and local practical application, etc.;

2) Invite Chinese experts to conduct equipment operation training and on-site guidance in 5 countries.

Activity 6.1.3: Project coordination & management support

1) In order to ensure the smooth coordination and implementation of Activity 6.1, 1 Programme Assistant (30 days) will be assigned to support the events, procurement, finance and operations of the activity.
2) In order to ensure the smooth coordination and implementation of Activity 6.1, 1 Project Coordinator(30 days) will be assigned to provide coordination support among the partner countries and project stakeholders.
3) In order to ensure the smooth coordination and implementation of Activity 6.1, UNDP China will

provide support on daily communication and coordination, support on finance and procurement support on project documents and reports preparation and translation, support on project quality assurance and oversight.

Activity 6.2: Provision of technical support on knowledge publicity and information sharing in the five countries for the poor and vulnerable groups to respond to COVID-19

Activity 6.2.1: Provision of technical support to local publicity materials for vulnerable groups based on China's experience

1) Provide technical support and share Chinese experiences to local videos or promotional materials on epidemic prevention and control measures in local languages;
2) Provide technical support for the dissemination by TV, radio, mobile phone or social media, which is most suitable for the local media based on countries' situation;

Activity 6.2.2: Project coordination & management support

1) In order to ensure the smooth coordination and implementation of Activity 6.2, 1 Programme Assistant (30 days) will be assigned to support the events, procurement, finance and operations of the activity.
2) In order to ensure the smooth coordination and implementation of Activity 6.2, 1 Project Coordinator(30 days) will be assigned to provide coordination support among the partner countries and project stakeholders.
3) In order to ensure the smooth coordination and implementation of Activity 6.2, UNDP China will provide support on daily communication and coordination, support on finance and procurement support on project documents and reports preparation and translation, support on project quality assurance and oversight.

Activity 6.3: Provision of relevant online training courses for target groups involved in epidemic prevention and control

Activity 6.3.1: Develop and record online training materials or courses in English

1) Develop and record online professional training courses for medical and health personnel in hospitals and clinics, as well as local government staff and basic life support service personnel (such as transportation, energy supply, water supply, waste treatment, food transportation);
2) Develop medical waste management experience sharing and online training courses for local

medical waste management departments;

3) For local medical waste treatment and disposal institutions, invite Chinese experts to develop and record online training courses (BCRC) for treatment and disposal experience sharing.

Activity 6.3.2: Upgrade the existing platform and release the online courses

1) Upgrade BCRC's existing Chinese training platform (COVID-19 emergency medical waste disposal and management technology online expert support platform), to create English interface, with account login, expert Q&A and other functions;

2) The above training courses will be released and opened to the public.

Activity 6.3.3: Organize online trainings for target groups

1) NHC will organize 2-3 online trainings to target groups from 5 project countries and china to guide the implementation progress and solve problems in the implementation process;

2) Provide COVID-19 prevention and control training materials and online professional training courses to medical and health professionals;
3) Provide necessary COVID-19 prevention and control training materials and online courses to local government staffs and frontline social service personnel (such as transportation, energy supply, water supply, waste disposal, food delivery, etc.).

Activity 6.3.4: Project coordination & management support

1) In order to ensure the smooth coordination and implementation of Activity 6.3, 2 Programme Analysts (25 days/person) will be assigned to provide management supports.
2) In order to ensure the smooth coordination and implementation of Activity 6.3, 1 Project Coordinator(30 days) will be assigned to provide coordination support among the partner countries and project stakeholders.
3) In order to ensure the smooth coordination and implementation of Activity 6.3, UNDP China will provide support on daily communication and coordination, support on finance and procurement support on project documents and reports preparation and translation, support on project quality assurance and oversight.

Activity 6.4: Strengthen the capacity of countries to respond to COVID-19 through the regional platform

Activity 6.4.1: Identify good practices and existing mechanisms that countries can build upon to

strengthen their responses to COVID-19, and develop and implement a regional strategy through a regional platform.

1) Conduct field research and investigate the situation of COVID-19 in the 5 countries;
2) Summarize national experiences and response mechanism;
3) Formulate regional strategic plan based on China's experience.

Activity 6.4.2: Wrap-up a meeting on the regional project to support ASEAN integration

1) A two-day wrap-up meeting/workshop will be organized by UNDP in Bangkok, co-hosted by ASEAN Secretariat;
2) 60 representatives from five countries of the project and other countries in the region as well as representatives from ASEAN Secretariat will participate to share the achievement and summarize the successful experience of the project;
3) Chinese experts will be invited to share Chinese experiences;
4) The meeting/workshop will funded by the South-South Cooperation Assistance Fund and UNDP, and as the co-host, ASEAN Secretariat will cover the expense of its representatives to the meeting/workshop.

Activity 6.4.3: Project management support

1) In order to ensure the smooth coordination and implementation of the project, a Team Leader (15 days) will be assigned to the project to coordinate and manage.
2) In order to ensure the smooth coordination and implementation of Activity 6.4, 1 Project Coordinator(30 days) will be assigned to provide coordination support among the partner countries and project stakeholders.
3) In order to ensure the smooth coordination and implementation of Activity 6.4, UNDP China will provide support on daily communication and coordination, support on finance and procurement, support on project documents and reports preparation and translation, support on project quality assurance and oversight.

Activity 6.5: Publicity, coordination and experience sharing of the regional project

Activity 6.5.1: Communication and visibility of the project at local level

1) Develop advocacy strategy through the regional platform and specific publicity materials to be uploaded on the UNDP DRR website, the China CO website, and for wider dissemination;
2) Project album, videos, brochures will be developed and disseminate to countries in the region.

3) In order to ensure the smooth coordination and implementation of the project, 1 Project Communication Officer(50 days) will be assigned to provide technical support on project communication events.

4.5 Project Implementation Progress

Refer to the implementation cycle of similar projects in and out of the country, the project implementation cycle shall be estimated combing with the characteristics of the project. Clarify the implementation schedule of each output or activity and prepare the project Gantt chart (Attachment 2).

The project shall be implemented over a period of 12 months including country activities and regional activities.

Philippines

This project will be implemented roughly in two phases. During the first phase from July 2020 to December 2020, the project will set up the necessary management/oversight structures and focus on procurement, localizing training materials of China's successful experience and conducting training sessions. During the first three month of implementation (July-September 2020), the project will establish a project National Advisory Committee with stakeholders representing each partner organizations, and hire personnel, consultants/experts. The project launch will be broadly communicated to the government counterparts, business community, civil society and public in general. The project also plans to initialize provision of mobile treatment facilities and equipment for handling wastes through Fast-Track procedures. Equipment will be distributed upon need, and training sessions in operations and management of equipment will be provided to local health care wastes personnel when mobile treatment facilities are delivered. In parallel, the project plans to localize training materials, which share China's successful experiences and stories, conduct three (3) training sessions and produce simple guidelines and materials for sharing with other hospitals and facilities in the Philippines in Q3 2020.

The second phase, from January 2021 to March 2021, will include the distribution of training materials and procured equipment as well as the development of a long-term resilience plan for HCW management. In Q4 2020 and Q1 2021, the project plans to distribute remaining equipment, PPEs and consumables to medical waste workers; all mobile treatment facilities will be delivered, and local personnel will be trained properly; guidelines and materials will be revised and distributed digitally;

three (3) training sessions will be conducted. The project also plans to develop a long-term resilience plan for HCW management, including waste audits for selected hospitals and facilities to construct baseline data, and to develop a digital HCW registry within this period. The HCW registry will be deployed in two (2) or more pilot hospitals and facilities for at least one month.

Q2 2021 will be a final period of the project implementation when all project activities will be completed, and the project staff will start the project closure procedures, including organization of the project evaluation, audit, preparing reports, etc.

The project communication and advocacy support will be provided during the one-year project cycle.

Launch and hand-over events, as well as joint UNDP and Embassy of China field visits, are expected in Q3 2020 and Q2 2021.

Myanmar

During the first four months of implementation (July-October **Q3 and Q4, 2020**), the project will establish the project advisory committee with stakeholders representing each partner organizations, and hire personnel, consultants/experts, and confirm the capacity, technology gaps, needs for HCW management, advocacy strategy, and virtual training plan.

In parallel, in Q3 2020, the project also plans to complete operationalizing the MOHS's SOP and National Guidelines on the HCW Management, produce at least 3 PSA and disseminate them widely through various communications channels. Meanwhile, procurement of essential and appropriate technology as well as appropriate PPE for waste pickers, and development of virtual training platforms and materials for relevant personnel on HCW management will get under way.

In Q4 2020, the project plans to complete all material procurement, and finalize the development of training materials and delivery platforms development informed through a training needs assessment. For promoting activity 3, the project will continue providing training courses to the targeted groups.

Q1 2021 will witness the totally completion of the procurement of appropriate PPE for the safety of all handlers of HCW in selected hospitals and YCDC, to make sure at least 70% of health care workers and non-health care workers handling HCW in the pilot facilities receive adequate number of appropriate

PPE for waste pickers. At the same time, the project will also finish virtual courses training and materials providing on general health precautionary measures to local governments, private health centers, others that carry out essential services during COVID-19 (transportation, energy, water, waste, food delivery).

The project communication and advocacy support will be provided during the one-year project cycle.

Cambodia

During the first three months of implementation (**Q3, 2020**), the project will organize a launch and hand-over event, by UNDP and Embassy of China as well as WHO and MoH. The project will recruit key personnel for the project including one national coordinator (consultant), and a set of international and national experts (consultants) with specialized expertise related medical waste management, wastewater treatment and environmental safety for incinerators for the project.

In Q3, Q4 and Q1 2020, with the support from Chinese experts, the project will ensure delivery of all procured equipment for the target beneficiaries. The project will engage the recruited international and national technical experts in designing training and communication materials and providing capacity building support for the project beneficiaries starting with health care professionals. These trainings focus on medical waste and wastewater treatment, safe handling of waste, and operation of different types of equipment provided by China. Through communication consultants, the project will also document lessons learned, and best practices for dissemination and media coverage. Also, with the support from Chinese experts, the project will continue to provide capacity building support for the target beneficiaries, ensuring full support for waste management service providers and informal waste pickers.

The project communication and advocacy support will be provided during the one-year project cycle.

Nepal

Q3 2020:

During this quarter most of the pre-requisite for the project will be completed and the task will be initiated. The activities are listed out for each output.

Activity 4.1:

Initially assessment will be conducted in all the hospitals. Two checklists will be designed one for the cluster of three hospitals, where full-fledge health care waste management system will be supported. These are Narayani Sub-Regional hospital, Army hospital and Mid-Western Regional hospital. Other 4 hospitals are Janakpur, Rapti, Bheri and Seti Zonal hospitals. These assessments will support in proper identification of the areas for improvement. Likewise, health care waste management committee will be established in each hospital with designated focal person. Similarly, the required construction of waste storage and treatment area, designing and development of waste transportation routes and trollies, along with the installation of autoclaves and washing machine will be done in Narayani Sub-Regional hospital, Army hospital and Mid-Western Hospital. Furthermore, a model ward, especially the critical care unit established for COVID patients will be chosen and the segregation practices will be changed with proper color-coded waste buckets, with label and medication trollies with bins for segregation along with needle cutters.

Activity 4.2:

Procurement of equipment required for this project, such as autoclaves, washing machine, buckets, needle cutters and other will be completed in this quarter. The procured equipment will be handed over to the hospitals. Similarly, Public Service Announcement (PSA) will be developed to raise awareness among the communities as well as promoting visibility of the project and its activities. Different sort of visibility materials will be developed (such as pen, cups, wall clocks, t-shirts others) during the whole project all three quarters are required.

Likewise, various online training will be conducted with support of Chinese experts. Also, talk program regarding exchange of information of Chinese front-liners and Nepali front-liners will be organized. Social workers will be mobilized for the promotion of project activities through various social media.

Activity 4.3:

During the first quarter training modules will be designed and developed. Three training packages will be developed. One for the medical professionals, one for the support staffs and one for the local stakeholders. These packages will be documented and published. Likewise, staffs of the selected model wards in three hospital (Narayani Sub-Regional, Army and Mid-Western Regional Hospital) will be trained, along with the waste transporters, autoclave operators and others.

Similarly training for local level stakeholders will be conducted, mostly to sensitize the local government on their roles on proper management and potential hazards on environment and community due to its mismanagement.

Quarter 4 2020:

During this quarter all the activities initiated in the first quarter will be followed up and monitored. The activities as the output are as follows:

Activity 4.1

During this quarter the operation of the waste treatment in Narayani Sub-Regional, Wid-Western Regional and Army hospital will be initiated. Similarly, the sterilized waste along with the general waste will be sent to recycling. Further, the wards and unit with improved waste segregation system will be replicated with the experience of the model ward. Laundry facility with the newly installed washing machine will be in operation. Regular testing of the technology will be conducted during this period to ensure the effective sterilization and operation of the technologies.

Activity 4.2:

Development of visibility materials will be continued during this quarter. Similarly, online-trainings and webinars will be conducted with support of Chinese expert to train the health professionals and local stakeholders regarding health care waste management issues. Nepal team will support the local team during such events. Likewise, various information exchange events will be organized among experts, medical professionals and local government of both countries for experience sharing. Also, more PSAs will be developed to be displayed in the local televisions, public spaces and others.

Activity 4.3:

Further trainings to the staffs of Narayani Sub-Regional, Mid-Western Regional and Army hospital will be conducted. Likewise, staffs of the Janakpur Zonal, Rapti Zonal, Seti Zonal and Bheri Zonal too will trained on health care waste management issues during this quarter. Local government will be sensitized on those issues through various training and orientations. Province level workshops will be conducted to enhance visibility and participation of all the related stakeholders and sharing of the progress of the project.

Quarter 1 2021:

All activities will be completed and will be handed over to the hospitals and its sustainability will be ensured during this quarter.

Activity 4.1:

The improved segregation system will be replicated in all units and wards of the hospitals (Narayani Sub-Regional, Mid-Western Regional and Army Hospital). Similarly, the laundry services in those three hospitals will be functional. The technologies will be tested in regular interval to ensure it effective sterilization of the waste. Finally, the system will be handed over and commitment of the

hospital management will be taken to ensure the sustainability of the operation of the system.

Activity 4.2:

Further online training and exchange program will be organized during this quarter. Similarly, more visibility materials will be developed and distributed. PSAs will be displayed in the local television, public spaces and others. Likewise, mobilization of the social workers to enhance visibility and communication through social media will be continued until of the end of the project.

Activity 4.3:

All staffs of the selected seven hospital will be trained on health care waste management issues. Likewise, at least one workshop will be organized in each province by the end of this quarter to ensure the participation of all the related stakeholders. Chinese experts will too be invited either for participation and sharing or through online medium for experience sharing.

The project communication and advocacy support will be provided during the one-year project cycle.

Lao PDR

In Q3 and Q4 2020, UNDP will support MoH to develop a database, develop and undertake an infectious medical waste management assessment, conduct infectious medical waste disposal training and purchase appropriate equipment, the advocacy will be supported by WHO, MoH and other private sectors across the project implementing duration. At the same time, the COVID-19 prevention audios, programs will be produced and the billboards and communication and advocacy materials will be designed, produced and disseminated in public. In addition, in Q3 2020, the consultants on development of advocacy materials for ethnic communities will be hired. The discussion with Youth Media will be initiated and procure equipment for advocacy. The officials of MoH will visit to the provinces and local areas to discuss and make plans on the advocacy campaign. In Q4 2020, the trainings on the management of the database to national, provincial and local officials will be held.

In Q1 2021, the trainings on medical waste management will be held. The medical waste management equipment will be monitored. The prevention information will be continued to be disseminated through billboards, at the airports, border check points and by social workers. The advocacy will be supported by WHO, MoH and other private sectors throughout the project implementing duration. The project monitory and evaluation will conduct in every quarter.

The project communication and advocacy support will be provided during the one-year project cycle.

Given the relatively short project duration, the project will draw from the experience of China and UNDP in medical waste management and advocacy on COVID-19 related issues. It will facilitate the exchange of knowledge and experiences through South-South and Triangular Cooperation with China. The China experience will be localized, taking into consideration of the Lao PDR context through the joint work of Lao and Chinese experts together with UNDP.

Asia and Pacific Region

Q3 2020- Q1 2021: The existing training platform will be updated. Th Chinese experts will provide technical supports to medical waste management trainings to the five countries, as well as participate in the medical waste management SOP, guidelines, training materials development, based on the experiences of China. At the same time, the experts from NHC will provide supports to the development of COVID-19 advocacy and communication campaign materials.

Q3 2020- Q4 2020: The regional strategic plan will be developed and the project will also begin to develop advocacy strategy for the regional platform and publicize news, photo, and other materials on the UNDP relevant websites.

In Q1-Q2 2021, the project communication materials will be developed and upload to the website and social media of UNDP. In Q2 2021, a regional level project summarize and wrap-up meeting will be organized to share the project experiences to more regions.

For details please check the attached Gantt chart [Attachment 2].

4.6 Project Institutions

4.6.1 Institutions' implementation capability and division of work

Describe the technical capabilities of the reporting agency and partners to implement the project and

its division of work in detail (cooperation agreements can be provided).

UNDP: The United Nations Development Programme in China is the overall applicant and will coordinate with UNDP RBAP to manage and implement the project. UNDP RBAP will coordinate among 5 UNDP Country offices to execute the project and will manage day-to-day implementation as well as monitoring and oversight for the achievement of the project goals. As such, UNDP China together with UNDP BRH and the 5 countries offices will be responsible for the project and will ensure that the project is implemented effectively, meeting UNDP quality standards and financial regulations.

UNDP China has a dedicated project oversight and support mechanism through the UNDP China South South Facility (CSSF) with dedicated staff and an accountability framework for supporting South South and Triangular Cooperation projects involving China as a donor and/or partner. The CSSF provides overall quality assurance and monitoring, partnership and liaison with the SSCAF and relevant Chinese stakeholders, communication and visibility support (including translations), as well as reporting responsibilities to the SSCAF (narrative and financial). A global oversight function – a SSCAF Focal Point System - across UNDP geographical bureaux ensures involvement of global advisors as needed.

During the implementation of the project, UNDP BRH, with 25 Country Offices covering work in 36 countries and decades of experience in the region, will also be responsible for identify the good practices and existing regional mechanisms that countries can build upon to, develop a Post Pandemic Recovery Plan, summarize and share the experiences of the project and advocate publicity and communication at the regional and global level, along with UNDP China.

Solid Waste and Chemicals Management Center, Ministry of Ecology and Environment of China (MEESCC): MEESCC, as a professional and academic support to central environmental authority of China, was in charge of the development of *"COVID-19 Medical Waste Emergency Management National Technical Guidance(Trail)"* and other national guidance on medical waste management during COVID-19. MEESCC is also in charge of coordinate the medical waste equipment within the country and provide on-site technical support in Wuhan. In this project, MEESCC is supposed to be working with THU/BCRC China to share the Chinese experiences to and provide technological supports on medical waste treatment for the five countries, including coordination of the medical waste management equipment supplier, recommend equipment for the countries based on the local needs, support installation, operation and maintenance of the equipment. In addition, MEESCC will also assign experts to attend technological consultation, organized by THU/BCRC China, and training programs on medical waste emergency response, as well as provide inputs on the development of training materials,

guidelines and SOPs of the five countries.

Before the design of the project, MEESCC, along with THU/BCRC, has investigated and assessed the conditions of the five countries and make recommendations of medical waste management based on local needs.

Tsinghua University/Basel Convention Regional Center for Asia and the Pacific (THU/BCRC China):. BCRC China is authorized by MEESCC to establish and operate ”COVID-19 medical waste management technical experts online platform”, which published 12 video courses, 104 online technical experts and provide technical support to the provincial and local environment department. In this project, BCRC is supposed to be working with MEESCC to share the Chinese experiences to and provide technological supports on medical waste treatment and disposal for the five countries, including coordination of the medical waste management equipment supplier, recommend equipment for the countries based on the local needs, support installation, operation and maintenance of the equipment. In addition, BCRC will also organize meetings and training programs on medical waste emergency response, as well as provide inputs on the development of training materials, guidelines and SOPs of the five countries. BCRC will also be in charge of mobilize the resources of Chinese experts, including MEESCC.

Before the design of the project, THU/BCRC, along with MEESCC, has investigated and assessed the conditions of the five countries and make recommendations of medical waste management based on local needs.

Health Development Research Center, National Health Commission of the People’s Republic of China： The Center is responsible for summarizing and sharing Chinese experiences, providing technical supports in assessment of the local conditions of the five countries, producing awareness campaign materials and providing training on awareness campaign, as well as trainings to local social workers, government staffs and healthcare workers on COVID-19 preventions.

DOH and DENR Philippines: UNDP Philippines will implement the project in close coordination with DOH and DENR. In the Philippines, DENR is the environmental management authority for HCW management and DOH is the primary health authority for HCW management.

Other implementing partners in Philippines: Additionally, local authorities have mandates related to key activities of this project, and Department of the Interior and Local Government (DILG) is the executive department responsible for strengthening local government capability aimed towards the effective delivery of basic services to the citizenry. Through this department, UNDP Philippines will collaborate with other relevant government task teams.

Ministry of Health and Sports Myanmar: MoHS is the nodal agency for the COVID-19 prevention and response, and issues technical guidelines for safe HCWM as a compulsory policy for both hospitals and non-hospital type PHCs. UNDP will collaborate closely with MoHS for the achievement of the project results.

Environmental Conservation Department, Ministry of Environmental Conservation and Natural Resources Myanmar: MoNREC is the umbrella entity responsible for integrating environmental concerns in the country's development process, and for formulating national and regional policies and strategies related to environmental conservation and management through its Environmental Conservation Department. In 2018, formulated the National Waste Management Strategy and Action Plan for Myanmar. The Strategy seeks to address waste management in a more holistic and integrated manner covering waste in all its forms.

Yangon City Development Committee is the main authority with the responsibility of managing solid waste in the Yangon region and covers its 33 townships, and all Yangon based hospitals.

Ministry of Health Cambodia: The MoH has played a central role in overseeing and containing the spread of COVID-19, and in providing medical advice and training to hospitals and health workers. The MoH will support coordination with local governments including the Phnom Penh city hall, and health care facilities to ensure effective implementation of the project.

Ministry of Environment Cambodia: UNDP Cambodia will work closely with MoE to provide technical assistance for medical waste management as well as wastewater treatment for the hospitals in accordance with existing national guidelines and infrastructures.

Ministry of Health and Population Nepal: Environmental Health and Health Care Waste Management Section of Ministry of Health will support in coordination with the local government and hospital

management committees for design and installation of health care waste management facilities and for ensuring effective implementation of the project.

German Development Cooperation: GIZ is currently working with MoHP Nepal in 12 of the hub hospitals and in some instances, there are gap in the support for the implementation of safe health care waste management system in hospitals. UNDP Nepal will collaborate and coordinate with GIZ and support four hospital (Janakpur Zonal, Rapti Zonal, Bheri Zonal and Seti Zonal Hospital) for construction of anaerobic biodigesters for treatment of biodegradable health care waste and in providing trainings to their health professionals and support staffs.

Hospital Management Committees Nepal: The hospital management committees of all 7 hospitals: Narayani Sub-Regional Hospital, Mid-Western Regional Hospital, Army Hospital, Janakpur Zonal, Rapti Zonal, Bheri Zonal and Seti Zonal Hospital will provide their support in implementation of the proposed activities and continue operation and maintenance of the system beyond the project period. The commitment of the hospital will be a key indicator for the sustainability of the project.

Department of Hygiene and Health Promotion (DoHHP), Ministry of Health (MoH), Lao PDR: The DoHHP, MoH is responsible for maintaining the good health, quality of life and longevity of the citizens, aiming at the reduction of the rates of morbidity and mortality; prevention of diseases of all types; internal, regional and international integrations; and access to networks of hygiene, disease prevention and health promotion for reaching international standards and contribution into the national protection and development.

The Ministry of Planning and Investment, Lao PDR: MPI is the focal point for all ODA in Lao PDR and the main interlocutor for development partners. As part of the GoL's response to COVID-19, the MPI was appointed to lead an economic impact assessment in collaboration with the Ministry of Finance, Ministry of Industry and Commerce, Bank of the Lao PDR, Lao National Chamber of Commerce and Industry, business owners and other concerned agencies and propose mitigation policies to the Government urgently. As the UN's technical lead agency on socio-economic impact and recovery, UNDP – in its integrator role as highlighted by the Deputy Secretary General – will support with a socio-economic impact assessment of the effects of the virus alongside the Centre for Development Policy Research under the MPI.

The ASEAN Secretariat: The ASEAN Secretariat was set up in February 1976 by the Foreign Ministers of

ASEAN. It was then housed at the Department of Foreign Affairs of Indonesia in Jakarta. The existing ASEAN Secretariat at 70A Jalan Sisingamangaraja, Jakarta was established and officiated in 1981 by the then President of Indonesia, H.E. Soeharto.

The ASEAN Secretariat's basic function is to provide for greater efficiency in the coordination of ASEAN organs and for more effective implementation of ASEAN projects and activities

The ASEAN Secretariat's vision is that by 2015, it will be the nerve centre of a strong and confident ASEAN Community that is globally respected for acting in full compliance with its Charter and in the best interest of its people.

The ASEAN Secretariat's mission is to initiate, facilitate and coordinate ASEAN stakeholder collaboration in realising the purposes and principles of ASEAN as reflected in the ASEAN Charter.

The ASEAN SEC can co-host the forum or meeting on information sharing of best practice and lessons leant for COVID-response.

4.6.2 Project Implementation Management Team Leader and Core Personnel (can add additional forms)

Asia and Pacific Region

Background			
Role in the team	Team Leader, BRH		
Name	Sanny Ramos Jegillos	Nationality	Filipino
Working Language(s)	English	Date of Birth	N/A
Telephone Number	+66 80-076-0646	Email Address	Sanny.jegillos@undp.org
Address	Rajadamnern Nok Avenue, Bangkok 10200, Thailand	Area of Work	Climate/Disaster Resilience and Recovery
Name of organization	UNDP BRH	Job Title	Senior Advisor/Team Leader
Area of Expertise and Specialty	Disaster risk reduction and recovery		
Professional	DRR		

Background	
Educational Background	DRR

A Senior Advisor/Team Leader, Sanny Ramos Jegillos, will be in charge of overall project management and quality assurance. He will be supported by a Programme Analyst who will undertake day-to-day management and coordination with relevant agencies such as WHO to provide technical assistance and online trainings to build capacities of national and local stakeholders.

Philippines

Background			
Role in the team	Project Manager		
Name	To be designated	Nationality	Filipino
Working Language(s)	English	Date of Birth	To be determined
Telephone Number	To be determined	Email Address	To be determined
Address	To be determined	Area of Work	Project Management
Name of organization	UNDP	Job Title	Project Manager
Area of Expertise and Specialty	Project Management, Environment Management,		
Professional Background	Social Sciences, Environmental Engineer, Chemical Engineer, Environment Planner, and the like		
Educational Background	MS or advance degree in Environmental Management, Environment Engineering, Environment Planning, and any related field		
Experience in Project Implementation	At least 3 years experience in Project Implementation, experience in UN agency projects an asset		
Working Experience in	At least 5 years work experience in field demonstration projects; development projects and the like		

Project Fields	

Background			
Role in the team	Monitoring and Evaluation Officer		
Name	To be recruited	Nationality	Filipino
Working Language(s)	English	Date of Birth	To be determined
Telephone Number	To be determined	Email Address	To be determined
Address	To be determined	Area of Work	
Name of organization	UNDP	Job Title	M&E Analyst
Area of Expertise and Specialty	Project Monitoring and Evaluation		
Professional Background	Monitoring and Evaluation, Economics, Management and the like		
Educational Background	Bachelor's degree in Social Sciences, Management and the like		
Experience in Project Implementation	At least 5 years in project monitoring and evaluation experience, with experience in UN projects an asset		
Working Experience in Project Fields	At least 5-year experience in field demonstration projects		

Background			
Role in the team	Administrative Support (2)		
Name	To be recruited	Nationality	Filipino
Working Language(s)	English	Date of Birth	To be determined
Telephone Number	To be determined	Email Address	To be determined
Address	To be determined	Area of Work	TBD

Name of organization	UNDP	Job Title	Administrative Assistant
Area of Expertise and Specialty	Administrative and Finance Support		
Professional Background	Social Science, Finance, Management and the like		
Educational Background	Bachelor's degree in Natural Sciences, Social Sciences, Finance and the like		
Experience in Project Implementation	At least 3 years in project implementation experience, with experience in UN projects an asset		
Working Experience in Project Fields	At least 3-year experience in field demonstration projects		

Myanmar

Background			
Role in the team	Project leader		
Name	Dawn Del Rio	Nationality	USA
Working Language(s)	English	Date of Birth	
Telephone Number		Email Address	
Address	UNDP, 6 Natmauk Road Tamwe Township Yangon, Myanmar	Area of Work	Climate change Agricultural Development, Poverty Reduction
Name of organization	UNDP	Job Title	Office-in-Charge/Deputy Resident Representative
Area of Expertise and Specialty	Climate change Agricultural Development		

	Poverty Reduction
Professional Background	Climate change Agricultural Development Poverty Reduction
Educational Background	

Background			
Role in the team	Lead Project Focal Point		
Name	Biplove Choudhary	Nationality	Burmese
Working Language(s)	English	Date of Birth	
Telephone Number		Email Address	
Address	UNDP, 6 Natmauk Road Tamwe Township Yangon, Myanmar	Area of Work	Climate change Agricultural Development, Poverty Reduction
Name of organization	UNDP	Job Title	Chief of Unit, Sustainable and Inclusive Growth
Area of Expertise and Specialty	Climate change Agricultural Development Poverty Reduction		
Professional Background	Climate change Agricultural Development Poverty Reduction		
Educational Background	Master Decree in Public Administration and Public Policy from the University of Oregon		

Cambodia

Background			
Role in the team	Team Leader		
Name	Amara BOU	Nationality	Kampuchean
Working Language(s)	English	Date of Birth	
Telephone Number	+855-12613940	Email Address	amara.bou@undp.org
Address	53 Pasteur Street, BKK1 Phnom Penh, Cambodia	Area of Work	Supervision/Quality Assurance
Name of organization	UNDP	Job Title	Programme Analyst
Area of Expertise and Specialty	Health and Development, Youth participation, Governance and Inclusive Growth		
Professional Background	Over 10 years of working experience in the health sector. She has been a Programme Specialist providing technical support to the government and local NGOs to ensure conformity to international/national guidelines, frameworks and policies. She has also contributed to the development of relevant Standard Operating Procedures, curricula, strategies and guidelines.		
Educational Background	Master's degree of Arts in Health Social Science, Mahidol University, Thailand, Bachelor's degree of Public Health from the University of Cambodia and a secondary nurse diploma from the Technical School for Medical Care in Cambodia.		
Experience in Project Implementation	Over more than 7 years with UNDP Cambodia, she has provided oversight and quality assurance to the CO programme/projects across thematic areas including youth employment, local governance, HIV/AIDS and Disabilities, cassava development, gender equality, youth employment/Civic Engagement and CSOs engagement.		
Working Experience in Project Fields	Over 10 years of working experience in the health sector. She has been a Programme Specialist providing technical support to the government and local NGOs to ensure conformity to		

	international/national guidelines, frameworks and policies. She has also contributed to the development of relevant Standard Operating Procedures, curricula, strategies and guidelines.

Nepal

UNDP Nepal country office will build a project implementation Management Team that have enough capacity to meet the core competencies required for project implementation to guarantee the implementation quality, according to the specific condition and requirement of this project. The core member of the implementation team will include a project manager (team leader), a technical specialist, a project specialist, 6 community volunteers and several experts when needed.

Background			
Role in the team	Team leader (Service Contract)		
Name	TBD	Nationality	Nepalese
Working Language(s)	English	Date of Birth	TBD
Telephone Number	TBD	Email Address	TBD
Address	TBD	Area of Work	TBD
Name of organization	UNDP	Job Title	Project Manager
Area of Expertise and Specialty	Environment, health care management; governance and local community development, crisis response		
Professional Background	Minimum of 7 years of experience in environment, health care management; governance and local community development, crisis response or other relevant fields.		
Educational Background	Master's degree in health care waste management, medical, economics, social sciences, development, political sciences, management or other relevant science.		
Experience in Project Implementation	Experience in programme/project design, execution and financing with UNDP, WHO, public health agencies or other related organizations will be considered as an asset.		
Working Experience in Project Fields	Minimum of 3 years of experience in social, disaster or public health issue response content and programme development in		

	challenging environments.

Background			
Role in the team	Technical specialist (Service Contract)		
Name	TBD	Nationality	Nepalese
Working Language(s)	TBD	Date of Birth	TBD
Telephone Number	TBD	Email Address	TBD
Address	TBD	Area of Work	TBD
Name of organization	UNDP	Job Title	Technical specialist
Area of Expertise and Specialty	Health care waste management, medicine, environment, development, management.		
Professional Background	Familiar with working environment in international organizations.		
Educational Background	Master's degree in health care waste management, medicine, environment, chemistry or other relevant science.		
Working Experience in Project Fields	Working experience as project manager/specialist in heath waste management or other relevant projects.		

Background			
Role in the team	Project management specialist		
Name		Nationality	Nepalese
Working Language(s)	English	Date of Birth	
Telephone Number		Email Address	
Address		Area of Work	
Name of organization	UNDP	Job Title	Project management specialist
Area of Expertise and Specialty	Health care waste management, medicine, environment, development, management.		

Professional Background	Familiar with working environment in international organizations.
Educational Background	Bachelor's degree in health care waste management, medicine, environment, development, management or other relevant science.
Experience in Project Implementation	Support in project management, finance, finalize contractual agreements, communication and reporting; Coordinate the training and online campaign
Working Experience in Project Fields	Experiences in project management, finance, finalize contractual agreements will be considered as an asset.

Lao PDR

Background			
Role in the team	Project Manager		
Name	TBD	Nationality	Laotian
Working Language(s)	English	Date of Birth	TBD
Telephone Number	TBD	Email Address	TBD
Address	TBD	Area of Work	DRR
Name of organization	delegated by MoH	Job Title	Project Manager
Area of Expertise and Specialty	Programme Management and Coordination; Public Health		
Professional Background	Provide strategic support to the planning of programme/project activities; Manages coordination and programming to ensure the timely delivery of quality results; Facilitation of the sustainability of the initiatives;		
Educational Background			

Background

Role in the team	Project coordination and partnership specialist		
Name	TBD	Nationality	Chinese will be strongly encouraged to apply, or Laotian
Working Language(s)	English	Date of Birth	TBD
Telephone Number	TBD	Email Address	TBD
Address	TBD	Area of Work	Public Health
Name of organization	UNDP	Job Title	IC specialist
Area of Expertise and Specialty	Programme coordination; Public Health; M&E		
Professional Background	Provide technical support to the project activities; Closely work with MoH project team and UNDP Lao PDR; Develop the TORs of relevant activities; Draft quarterly report to CDICA; Coordinate with all project consultants to ensure the implementation of every activity; Set up a monitoring and evaluation framework with a baseline, indicators and targets indicators; Regularly liaise with partners, to share lessons and resolve common challenges;		
Educational Background	Experience in community infrastructure rehabilitation projects will be an asset.		

5.Project Investment Estimation

5.1 Investment/Budget Estimation Basis

Briefly describe the basis for the calculation of investment estimates (corresponding standards, etc.), please provide attachment if there are any relevant documents (Attachment 4 and 5).

Budget planning will be informed by UNDP´s guidelines as outlined in the Programme and Operations

Policies and Procedures (POPP) and implemented through UNDP´s financial and planning tool, ATLAS. The standard corporate and local pro-forma costs will apply. In all its financial investments, UNDP applies value for money principles and aligns with international best practice on procurement, human resources management and risk assessment [*annual financial and performance audits*].

List of materials are provided in annex. Technical specifications will be determined in tight coordination with the local government authorities and local community association in the 5 project countries, in consultation with the Chinese experts and align with the policies and regulations of the project countries. This guarantees that materials purchased meet the needs and expectations of local authorities and project beneficiaries. In the advocacy campaign and trainings, the training materials and courses will be localized based on the Chinese experiences and provided to frontline medical professionals, social service providers and local government.

5.2 Investment estimation

Estimate the financial input of each output or activity and outline the structure of the total estimated investment. Please attach the relevant estimation schedule (Attachment 5).

In addition, providing composition and basis of the management fee shall also be considered.

Output 1: Philippines' response to COVID-19 in the areas of medical waste management and preparedness effectively improved. The financial input for this is USD 1,025,375 and accounts for 20.51% of the total project investment. This will contribute to support government efforts in the sustainable management of the increasing volume of HCW in COVID-19 response hospitals, quarantine facilities, and communities, to prevent environmental pollution caused by Health Care Waste (77.54% of Output 1), to strengthen capacities on sustainable Health Care Waste management system and dissemination of new policies and disseminate policies (20.61% of Output 1), and to promote communication and visibility on the project at country level and support project management (1.85% of Output 1).

For output 1, 74.02% will be used for equipment procurement and technical support and training constitute 20.49%.

Output 2: Myanmar's response to COVID-19 in the areas of medical waste management and public knowledge and preparedness effectively improved. The financial input for this is USD

760,600 and account for 15.21% of the total investment. This will contribute to provide technical support on healthcare waste treatment to contain the epidemic and protect the environment (76% of Output 2), to provide advocacy, information sharing and communication support on COVID-19 to the poor population and vulnerable groups (6% of Output 2), and to provide training courses to the targeted groups (15% of Output 2). In addition, there will be a cost of communication and visibility of the project at local level (2% of Output 2).

For output 2, 58% of the budget will be used for equipment procurement, while 40% is used for technical support and training activities.

Output 3: Cambodia's capacity on medical waste management to respond to COVID-19 improved. The financial input for this is USD795,000and account for 15.90% of the total investment. This will contribute to properly manage the increasing volume of medical waste and wastewater in hospitals working with COVID-19 patients, as well as in the city's communities (73.61% ofOutput 3), to develop and strengthen the technical capacities of health care workers and service providers to treat solid waste (24% of Output 3), and to advocate communication and visibility of the project at local level (2.39% of Output 3).

For output 3, 78.01% will be used for equipment procurement and technical support and training constitute 19.60%.

Output 4: Nepal's response to COVID-19 in the areas of medical waste management and public knowledge and preparedness effectively improved. The financial input for this is USD 907,112 and account for 18.14% of the total investment. This will contribute to provide technical and logistical support on establishing safe health care waste management system in the selected health care facility to contain the epidemic and protect the environment (82.87% of Output 4), to provide advocacy, information sharing and communication support on COVID-19 to the poor population and vulnerable groups (9.74% of Output 4), and to provide training courses to the targeted groups (4.82% of Output 4). In addition, there will be a cost of communication and visibility of the project at local level (2.57% of Output 4).

For output 4, 71.23% of the budget will be used for equipment procurement, while 17.91% is used for technical support and training.

Output 5： Lao PDR's response to COVID-19 in the areas of medical waste management and public knowledge and preparedness effectively improved. The financial input for this is USD 624,050 and account for 12.48% of the total investment. This will contribute to enhance technical and operational capacities for safe medical waste management capacities at the national and sub-national levels (71.52% of Output 5), and to increased access to information on COVID-19 and medical waste for communities with a special focus on disadvantaged groups including the poor, women, ethnic groups, youth and people with disabilities (25.92% of Output 5). In addition, there will be a cost of communication and visibility of the project at local level (2.56% of Output 5).

For output 5, 41.66% of the budget will be used for equipment procurement, while 55.77% is used for technical support and training.

Output 6: Strengthen the countries' capacities through awareness campaigns and trainings and share the experiences at the regional level. The financial input for this is USD 649,796 and account for 13% of the total investment. This will contribute to summarize and share China's experience and evaluate regional policy strategy (30.94% of Output 6), to share knowledge and information to support the poor and vulnerable groups to respond to COVID-19 (7.13% of Output 6), to provide relevant online training courses for target groups involved in epidemic prevention and control (28.72% of Output 6), to strengthen the capacity of countries to respond to COVID-19 through the regional platform (26.28% of Output 6), to publicize the project at the regional and global level (6.93% of Output6).

Among the budget of output 6, UNDP takes up USD334,576, the budget of MEESCC is USD109,089, THU/BCRC takes up USD119,516 and NHC is responsible for USD86,588.

The UNDP **administration fee** will be 5%, which is USD 238,095.

5.3 Project Fundraising and Usage Plan

Briefly describe the project financing plan and annual fund use plan and prepare the project fundraising and usage plan (Attachment 3).

The total investment of the project is USD5,000,000. The SSCAF will provide USD5,000,000, while the financial support and the items provided by UNDP will be determined after the finalization of the activities.

6. Project Financial Analysis (if required)

For PPP projects, financial analysis is required for the project, which generally includes profitability analysis, solvency analysis, financial viability analysis and sensitivity analysis. Financial cash flow statement, profit and loss statement, capital cash flow statement, and loan repayment are required to be prepared. Other financial analysis forms may be added as the case may be.

NOT APPLICABLE

7. Project Comprehensive Benefit Analysis

7.1 Provide an analysis of the beneficiaries and benefit effects of the project; if possible, please provide specific quantitative indicators for benefit effects. Describe how the local institutions' ability of implantation and participation is advanced. Describe the impact on policies, standards and specific target groups.

Philippines

The project will strengthen healthcare waste management systems and benefit local communities from two aspects: medical resources and capacity building. It will focus on 2 selected cities / municipalities, while more than 2 million people are projected to benefit from this project indirectly.

Direct beneficiaries:

- At least 2 LGUs in National Capital Region and 1 LGUs in BARMM
- At least 2 government hospitals and quarantine facilities in NCR and 2 hospitals in BARMM
- At least 300 healthcare and LGU personnel and waste handlers trained
- At least 200 healthcare personnel and waste handlers provided with PPEs

- Department of Health, Department of Environment and Natural Resources, and BARMM Government

Output 1 focuses on medical resources. Mobile autoclaves will be set up in 2 government hospitals / quarantine facilities; 15 operators at least will be trained on use and maintenance of equipment; and medical wastes, generated by 200-300 beds from surrounding healthcare facilities, can be treated. In addition, 200 healthcare staff and waste handlers will benefit from the PPE sets and each set is expected to provide basic protection for 30-50 days. After the pandemic, mobile autoclaves are expected to be transferred to BARMM and 2 hospitals there will become beneficiaries.

Output 2 focuses on capacity building. It is projected that 300 healthcare and LGU personnel and waste handlers will benefit from 6 training sessions. Simple guidelines and materials will be distributed to 500 healthcare workers, LGU personnel and waste handlers, while policy materials will be distributed to 100 hospitals, facilities and TSD service providers. In addition, DOH and DENR will benefit from the development of long-term resilience plan. The waste audits will help the national government to construct a reliable baseline and the digital registry pilot will promote the long-term digital governance transformation progress.

Myanmar

The project is well timed to support the UNCT's Country Preparedness and Response Plan, UN Framework for the immediate socio-economic response to COVID-19, COVID-19 Economic Relief Plan launched by the Government of Myanmar, Myanmar Sustainable Development Plan, and the overall Government of Myanmar's preparedness and response efforts. It will benefit the Ministry of Health and Supports and support the operationalization of its SOP and guidelines on the HCW management across hospitals and health care centres across Myanmar, while also strengthening HCW handling and disposal by authorities such as the YCDC and private companies.

The project will contribute to safer working environments and clean and environmentally safe living environments by reducing potential COVID-19 exposure through mishandling and inappropriate disposal of HCW.

The facilities set up at the hospital identified for this project and with the YCDC will serve as model for HCW management in the country, with spill over benefits and lessons for expansion and replications to other states and regions across Myanmar.

Cambodia

The project aims to ensure safe treatment of medical waste related to COVID-19 for target hospitals and waste management service providers, thus contributing to public health and environmental risk mitigation in the context of the pandemic.

The project also supports the development of guidelines and provision of training based on experiences and expertise from China. They will be implemented at health facilities to ensure safe treatment of medical waste as well as for proper operation of equipment.

The total estimated number of direct beneficiaries of the current project is 1,925. These beneficiaries include:

Hospital staff including cleaners (estimated total number of 1,835 people, around 40 % of which is women) from three COVID-19 designated hospitals in Phnom Penh (the capital city of Cambodia),

Waste management service providers for these hospitals (estimated number of 40 people) and

Informal waste pickers (estimated number of 50 people).

The total estimated number of indirect beneficiaries (due to the prevention of possible COVID-19 infections from designated hospitals) is 100-1,000 or more depending on the future spread of the COVID-19 cases. They include patients, visitors and family members of health care professionals of the selected health care facilities.

The direct beneficiaries of the projects will be at least 70% health care personnel and non-health care personnel with the responsibility of handling HCW in one hospital in Yangon, and at least 70% YCDC personnel responsible for the collection and disposal of HCW from hospitals across Yangon. 80% of wider local communities will benefit from greater general awareness on COVID-19 prevention and containment and reduced exposure to COVID-19 related infections.

Nepal

Nepal's weak health care waste management system carries the potential risk of human-to-human transmission of COVID-19 through increased exposure of frontline staff such as health care professionals and

workers, and health care waste handlers, who will be directly benefit from training and health care waste management systems installed in 7 pilot hospitals. In addition, the patients of COVID-19 pandemic and the suspects visiting the hospitals will benefit from risk-free environment of the hospitals. Likewise, the officials of local governments will benefit from training, communication and awareness raising. The project targets these groups to make them aware of the risks; and train and equip them to safely handle the hazardous wastes.

The project will benefit more extensively to a large group of people **indirectly** as outlined below.

- Nepal being a prime destination for international tourists, expects increased number of foreign visitors coming to Nepal once the lock down is over and the international flights are resumed, including those Nepali, who plan to come back home from foreign employment. The A.I. anchor facility deployed at International Airport in Kathmandu will help them receive first-hand information about the pandemic, how to protect from possible risks and where to go for safer treatment.
- Up to now (19th May 2020), the number of infected patients has increased to 304 and more than 12,700 people are under quarantine and medical observation. The number is on increase every day. Many of these people are likely to be placed in the pilot hospitals supported by the project where they will learn about how to manage the risks and help each other to prevent its further spread to their families and near-by population.
- Though the project does not aim to work extensively with the scavengers and their families, who are dependent on health care waste generated from the hospitals for livelihood, but the project will contribute to create a safer working environment for these people by preventing the hazardous medical waste being mixed with the solid waste through better treatment and recycling facility installed in the pilot hospitals.
- The national on-line information sharing campaign will cover the entire country with specific attention paid to the most marginalized and vulnerable groups. Videos and communication materials translated into local languages will help them access information easily. For people living in remote areas, who could not directly access information through TV or social media, special radio program will be organized.

Lao PDR

The project directly benefits the healthcare and wastes disposal system and people, especially the vulnerable groups in Lao PDR. Specifically, it provides direct benefits to people who work in healthcare, waste management and tourism sectors, as well as to the institutions directly responsible for providing the management and disposal of medical waste.

The MoH will be provided with enhanced capacity to better manage medical waste. It will receive appropriate technical support to continue its medical waste management strategy in an efficient and effective way, thus providing benefits to both healthcare institutions and the environment. Stronger medical waste management will also benefit people in Lao PDR as result of reduced hazards associated with the removal and disposal of the waste.

Provincial/district level hospitals will be equipped with an increased number of trained human resources and operational capacity with essential sets of equipment. Waste disposal organizations and workers in Lao PDR will gain better awareness and understanding of infections related to medical waste and relevant potential environmental pollution, which will be transformed as a long-term benefit for both the people and the environment in Lao PDR.

It is anticipated that at least 1 capital city and 10 provinces will benefit from the current project through social and economic development boosted by the tourism sector as it returns post COVID-19, the promotion of waste management will have a positive impact on tourism ensuring greater confidence for visitors to the Lao PDR. Rural communities and 11 ethnic groups will receive appropriate information to support them to prevent and be prepared for COVID-19 and recover from any associated economic crisis through the innovative advocacy modality, raising the awareness of digital transformation to Lao PDR.

Other Partnering organizations and institutions, including advocacy partners, equipment suppliers, etc will also benefit from the project. This will take the shape of capacity strengthening, knowledge transfer and facilitating the development of partnership among key stakeholders, lessons learned, knowledge and information sharing and better understanding of issues, solutions and best practices; improved working conditions, modern equipment, accessibility and job satisfaction.

4,782,504 including (more than 2/3 of population) approximately 50% women,31.9% youth and 24.83% poor individuals will benefit from the current project,21 hospitals will be supported on medical waste management (assuming average family size of 4 people).

Asia and the Pacific Region

Governments in the Asia and the Pacific Regions can accelerate their efforts to respond to and recover from COVID-19 as the impacts of the pandemic can be reduced through the dissemination of accurate information and public advocacy materials from China and other countries in the region which have implemented effective response measures. Materials will be translated into local languages to support effective dissemination.

The infectious rate of frontline workers, informal workers who may not have access to proper medical care, local government officials, volunteers community transmission will be reduced or prevented through increased public awareness of preventative measures.

Except for the 5 countries, other 20 countries within the region could also benefit from the project through the regional platform.

7.2 Analysis of the beneficial effects of special groups (including the assistance of women, children, people in poverty and other groups to obtain development capacity, there should be quantitative indicators)

Philippines

This project shall protect the health of exposed population from the risk of infection and prevent environmental pollution caused by HCW, which will benefit all healthcare workers equally. Therefore, the project will specifically benefit girls and women, noting that females make up 66% of health and social work employees in the Philippines.

Additionally, a better HCW management helps flatten the curve. Noting that people in poverty in high population-density urban areas are more vulnerable than others in such a pandemic, the project indirectly helps the most vulnerable communities within urban areas like NCR, with a population of about 12 million.

Mobile HCW treatment facilities and additional medical waste bins would be transferred to needed areas with the most vulnerable communities and the least HCW treatment capacity, e.g. BARMM, after the pandemic to provide basic HCW treatment capacity and serve the most vulnerable communities.

The Autonomous Region of Muslim Mindanao (ARMM); portions of which now belong to BARMM region, has a population of 3.7 million people.

Myanmar

At least 368,035 including (up to 60%) women, children and person with disabilities are expected to directly benefit, and close to 700,000 indirectly benefit from greater general awareness on COVID-19 prevention and containment and reduced exposure to COVID-19 related infections.

Cambodia

All health care workers, women included, will benefit from safer and more environmentally friendly treatment of medical waste and from mitigation of the risks of COVID-19. Waste service providers and informal waste pickers, most of which are women, will also benefit from learning how to safely handle medical waste and from limiting exposure to the risk of COVID-19.

Nepal

It is expected that altogether **3000 people** in following categories will be directly benefitted by the project.

- **Health care staff and health care waste collectors (more than 2000 people, 50% women).** They will benefit from enhanced safe and risk-free working environment and improved occupational health and safety status in the hospitals. The health care waste collectors are most vulnerable to risks as they collect waste without much personal protection skills and equipment.
- **Local government officials (at least 200, 20% women).** These officials will be trained on general awareness and effective emergency communication skills about the epidemics that will enable them to provide needed support to the people at the time of public distress.
- **Health care management experts, hospital managers, representatives of national, provincial and local governments and other stakeholders (at least 500).** These events will be useful to share the technology and system of hospital waste management to persuade for replications of the approach through improvements in regulations and readiness for purchase of equipment and support for necessary logistics.
- **On-line volunteers (300).**

Lao PDR

An estimated 2,391,252 women and 1,187,495 people in poverty living in Vientiane Capital and the 11 provinces will benefit from the project results, particularly through access to information provided and the impact on social economic status of these provinces with the provision of safer and sustainable working environments and a potential return of and increase in the tourism sector and economic development.

Rural communities will receive appropriate targeted information to support them to prevent and be prepared for COVID-19 and recovery through the innovative advocacy modality, also raising the awareness of digital transformation with the government.

A special focus will be made on youth and ethnic groups through Youth Media, in collaboration with UNICEF, and the Community Radio network. The total number of direct/indirect target beneficiaries to be reached would be estimated around 2,300,000, including approx. 300,000 listeners (including 11 ethnic groups) of Community Radio from 8 districts in 5 Provinces, which includes 240 Community volunteers (approx. 40% women, 48% youth and 91% ethnic groups).

Asia Pacific Region

This project aims to identify and provide inclusive public education strategies and solutions that will deliver essential healthcare information to people in poverty, and those from remote rural areas who have no digital access. This project will also benefit other vulnerable groups, including people with disabilities, people with HIV/AIDS, the elderly, and women-headed households, who are more likely to be left behind socially and economically, and thus have less access to essential healthcare information.

7.3 Please describe how the project will enhance project implement and management capacity of cooperative partners in the recipient country?

Philippines

The project will enhance project management capacity of local partners as UNDP will seek to work collaboratively with the relevant departments in all elements of implementation and transfer of responsibility for ongoing monitoring. In addition, UNDP will utilize a mix of delivery modalities that primarily will rely on existing national capacities to implement the project components. Such modalities may include working with private sector, CSOs/NGOs, think tanks (e.g. universities) and local governments to ensure timely implementation.

Myanmar

The project will contribute to enhanced capacities at MoHS, piloting hospitals and YCDC in the comprehensive management of HCW in Myanmar. Communications channels between the experts in China and focal points at the MoHS and YCDC will be established for continued knowledge exchange and technical guidance.

Cambodia

This project will work closely with the Ministry of Health to provide guidelines and capacity building training to the five target hospitals. The core aim of this activity is to improve the capacity of these health facilities to meet adequate standards of medical waste management in order to prevent the spread or exposure of COVID 19.

Nepal

This project will involve various level of health care personnel during the implementation process of health care waste management system. Likewise, health care personnel will be in regular coordination with the Chinese experts and their technology and knowledge through various online programs and access to various webinars.

This project will also introduce technologies for health care waste treatment in Nepal, which has already been proven as a successful technology for the containment of COVID 19.

Lao PDR

This project will very much enhance the capacity of its institutional stakeholders, namely MoH, pilot provincial focal department, health facilities (hospitals), and rural and remote communities. Project will support the MoH to develop a database which will provide accurate data and information for decision makers and also support the capacity strengthening of medical waste management of MoH and target hospitals.

Rural and remote communities will enhance their capacities of COVID-19 response and recovery, meanwhile with suitable and portable equipment to broadcast disaster early warnings or community announcement, the communities will access to modern systems and processes.

Asia and the Pacific Region

Within the Region, the project will liaise the 5 countries with the relevant ministries and institutions in China, i.e. Ministry of Ecology and Environment and National Health Commission and build a network among the countries and China, which will benefit the future connectivity.

7.4 Please describe the demonstration, replication, and promotion value of this project for the development of recipient countries, regions, and similar countries and regions around the world.

Philippines

The project will facilitate the dissemination and implementation of HCW management standards which can be applied to similar situations. It will also demonstrate how effective partnerships can be utilized to leverage skills and expertise. Localized training materials will be stored and distributed digitally after the pandemic, and provide long-term benefit to healthcare workers in the Philippines.

Myanmar

Two hospitals in Yangon and the Yangon City Development Committee will be supported through the project and will serve as model facilities for the effective and efficient HCW management.

The project will support the application and use of already proven and tested technology for COVID-19 HCW management, treatment and disposal and facilitate its adaptation to the local context China's experience in effectively managing COVID-19 and contributing to its containment.

Cambodia

Through provision of needed equipment and technical support for the target hospitals, the project will provide a best management example and a role model for safe and environmentally sustainable treatment of medical waste in Cambodia. Beyond the target hospitals, guidelines for the safe management of medical waste and wastewater will be widely disseminated through the Ministry of Health with a view to improving the overall performance and capacities of hospitals across the country.

Nepal

These hospitals intervened can be developed as a role model hospital for safe health care waste management issues. The SOPs developed during the implementation process will aid as supporting documents to various other organization working in these issues. The experience and technologies learning from China during in this project will be popularized to help improve the capacity of health care waste management.

This project can also provide the valuable practice experience that how to find an efficient way to help the less develop countries to promote the development of health care waste management system by supporting with Chinese experience and technology.

Lao PDR

The project lessons and experience should be easily replicated across the country and to other interested countries. The issue of medical waste especially infectious medical waste remains is one of the most critical challenges facing health systems in many developing countries.

This joint Lao PDR-China-UNDP experience shall provide a useful model for other places as to how to promote innovative advocacy in times of crisis response and recovery like the COVID-19 pandemic. To facilitate the experience sharing, the project will document and record all knowledge, lessons and materials and will make it proactively available through UNDP corporate communication channels.

Asia and the Pacific Region

The project can be effectively replicated across Asia-Pacific and other regions. A regional strategy that is developed by and implemented through a regional platform can be easily contextualized for other contexts. Good practices and existing mechanisms identified by the regional platform will also enable countries to strengthen their response to COVID-19. Furthermore, the advocacy strategy and publicity materials developed through the regional platform will be uploaded on the UNDP DRR website, the China CO website, and disseminated widely through other means as well.

7.5 Sustainability analysis of the project (e.g. whether it can produce mutually beneficial and win-win cooperation mechanisms and models; whether there is the possibility of commercial and market-oriented operation; whether it have effects on policies, systems, standards, etc.; whether cooperation formed in the project can continue to function; whether the project will continue to receive funding to maintain the project's effectiveness after the project is over, etc.)

Philippines

The project will strengthen the current scope of China-Philippines cooperation, and sharing Chinese experiences in HCW management - related fields. Sustainability in the project will be guaranteed by the leadership role of government, in particular DOH and DENR, working in coordination with experts and other partners. The project will ensure compliance with national policies and legislations. In addition, sustainability will also be enhanced by sharing the project experiences to benefit other hospitals. Finally, prospects of sustainability will be improved through the development of long-term resilience program in the health sector and incorporating this in the National DRRM Plan of government.

Myanmar

The project contributes to the implementation of the UNCT's CPRP and the GoM's COVID-19 prevention and response initiatives. The lessons learned as a result of the project interventions are positively anticipated to provide opportunities for expansion and replication to the other states and regions across Myanmar, and will play a key role in determining how Myanmar responds and manages not only to the COVID-19 pandemic but also build its resilience and strengthen its systems for the containment of future potential pandemics.

Cambodia

The project will strengthen the current scope of China-Cambodia cooperation to contain the COVID-19 pandemic.

Project sustainability will be ensured by the Ministry of Health and WHO, which will continue to work to ensure proper handling of medical waste with the target hospitals, and others, beyond the project duration.

The project will ensure compliance with national guidelines, regulations and standards as well as international WHO standards on health care waste management by closely working with the MoH and WHO. WHO will provide regular monitoring.

Nepal

The project will strengthen the current scope of China-Nepal cooperation. Sustainability in the project will be guaranteed by the leadership role of government in particular the Ministry of Health and

Population. Each hospital will make commitments for operation of the health care waste management system installed in the hospitals including regular maintenance of equipment and fund allocation for health care waste management.

The project will ensure compliance with national guidelines, regulations and standards on health care waste management and WHO standard and WHO will provide regular monitoring. In addition, sustainability will also be enhanced by the technology established in the health care facilities. The health care facilities will allocate funds for recycling of the waste after sterilization and liaison with the local government and municipalities for safe disposal of treated health care waste by the hospitals and health care facilities.

Lao PDR

The design of the project interventions are aligned with the GoL strategy and plan. Therefore, the overall results of the project, including equipment, will be handed over on completion of the project to MoH who are responsible for its ongoing maintenance - and supported/sustained by national Budget. Capacity strengthening sessions for core government staff will be organized for the facilities to be well operated and maintained.

Sustainability of this initiative should be ensured by the developed regulations and advocacy channels in the Lao PDR, the project implementation team will focus full attention to both the sustainability and replicability of the interventions. UNDP Lao PDR will assist the MoH to enhance infectious medical waste management, and the project will be implemented in the pilot provinces by taking into account all environmental and human risks.

Engagement with Businesses and Policy-Makers will ensure that the project approach is widely known across society and is being replicated by others in practice of the concrete policies, guidelines, and methodologies which are in place.

Asia Pacific Region

The regional platform developed through the project will enable countries to share their experiences, build upon each other's work, and identify effective solutions that could be mutually beneficial. The sustainable platform can support the mainstreaming and upscaling of identified solutions through subnational, national, sub-regional, and regional mechanisms. The regional platform will also develop

a regional plan for Post Pandemic Recovery (PPR) based on the impact assessments of the CIDCA project in the project countries and analysis to identify their recovery needs, to ensure that the platform can continue to operate and provide support to countries and strengthen regional connectivity to respond to and recover from COVID-19. The project will also strengthen the current scope of China-South-South cooperation to reduce the impacts of the COVID-19 pandemic.

8.Project Administration and Supervision Arrangements

8.1 Project Supervision and Evaluation

Project Implementation Institution carries out internal quality supervision of the project and cooperate with management institutions entrusted by the fund to conduct external independent supervision, evaluation and audit of the project in accordance with administrative regulation.)

All project supervision and evaluation components will comply with UNDP rules and regulations as outlined in the POPP in the section on programme and project management, including submission of project progress reports (Quarterly Project Reports, Annual Project Reports and End of Project reports). The project team will be accountable under the existing Early Recovery Sector Committee and also existing inter-cluster recovery coordination mechanisms under the RCO. For day to day operations, the project team will report to the Early Recovery Advisor and will be integrated within the routine programme coordination architecture of the UNDP Country Office. The normal annual audit schedule for independent review of projects supported by UNDP will be adhered to. As per project evaluation standard, a project should be independently evaluated at least once in its life cycle. Hence, a terminal evaluation of the project will be included in the existing M&E Plan 2020-2021, as part of decentralized independent evaluation of project results, efficiency and effectiveness.

All UNDP programming activities are required to adhere to monitoring standards and policies, for which managers of regional and country programme and all projects are accountable, in line with the UNDP policy on monitoring.

UN entities are audited under their own audit arrangement, following the 'Single Audit' principle.

Audit results are publicly available and CIDCA will receive these in a timely manner. In line with the UNDP Financial Regulations and Rules for the Harmonized Approach to Cash Transfer (HACT) assurance activities, in particular Scheduled audit, which refer to systematic and independent examination of data, statements, records, operations and performance of an implementing partner and Special audits,

which refer to audits performed following significant issues and concerns identified during the programme cycle, may be carried out if deemed relevant. For UNDP, a scheduled audit is an internal control audit.

8.1.1 Are there any anti-corruption mechanisms or internal inspection and supervision systems?

□No ■**Yes** please explain

If “yes”, please write down the names of documents or chapters uploaded from the concept note.

The Office of Audit and Investigation's (OAI) main mission is to help UNDP to perform effectively in its critical work to fight global poverty and promote development. OAI is responsible for the internal audit of all of UNDP's activities. It is also responsible for assessing and investigating allegations of fraud, corruption and other wrongdoing.

OAI provides assurance on the use of UNDP’s resources to the Administrator and senior managers as well as to Member States and donors. OAI supports UNDP in fostering a culture of accountability and transparency. It helps UNDP in enforcing zero tolerance for misconduct, thus safeguarding the integrity and reputation of the organization.

Additionally, the Independent Evaluation Office (IEO) reports to the UNDP Executive Board. The IEO is governed by the organization's Evaluation Policy and the UNDP Executive Board is the custodian of the policy. The core function of the Independent Evaluation Office is to conduct independent thematic and programmatic evaluations. The Independent Evaluation Office also prepares the Annual Report on Evaluation, sets standards and guidelines on evaluation, monitors compliance on evaluation and shares lessons for improved programming.

8.1.2 Are there any service or hardware procurement systems?

□No ■**Yes** please explain

If “yes”, please write down the names of documents or chapters uploaded from the concept note.

UNDP permits the application of Fast Track procedures in crisis scenarios to advance rapid recruitment of critical professionals, securing of services and procurement of necessary goods. It provides for waivers and shortens recruitment of local personnel and fast track procurement process through the regional procurement authorization [RACP] up to the value of $500,000, where need be. In addition, UNDP will utilize existing Long-Term Agreements (LTAs) for goods and services, which will also facilitate the rapid implementation under crisis conditions.

8.1.3 Other systems related to project administration and project activities?

□No ■**Yes** please explain

If "yes", please write down the names of documents or chapters uploaded from the concept note.

UNDP will follow the corporate rules and regulations on Project Management to ensure good governance and effective monitoring as well as ownership of the project and related outputs by the beneficiaries. UNDP´s rules are defined in the UNDP Programme and Operations Policies and Procedures (POPP) document. The recently revised POPP provides for more flexibilities and broadens partnerships options for UNDP to embrace the private sector, academia and wider CSOs. The newly upgraded programme and project management policies and procedures were rollout in 2019. They have helped simplify engagement strategy with various partners using more flexible tools and streamlined business processes. That should support efficient implementation of project activities as scheduled.

8.2 Project Procurement Plan (if required)

Projects that require procurement of materials and equipment should specify the procurement method to be adopted, whether specific product origin or designated supplier is required and whether there is any special qualifications required of the manufacturer or supplier.

UNDP procurement policies are clearly defined in the UNDP Programme and Operations Policies and Procedures (POPP) document. Procurement planning will be done in parallel with the annual work plan and included in the UNDP County Office consolidated procurement plan for 2020. This is now managed online using the platform known as Procurement Management Platform [PROMPT]. The system assists the programme and procurement team to track the procurement process, ensure seamless and timely availability of required project inputs. Most recently, UNDP has also rollout e-Tendering for the on-line

management of all international competitive procurement valued at USD 150,000 and above. The use of e-Tendering innovation will become mandatory from 01 September 2019. It is in line with industry best practice to promote value for money and transparency in the procurement of good and services.

To ensure the quality of waste management, the equipment is preferably procured from the designated suppliers that provides related equipment to the hospitals in China for COVID-19 medical waste. The experts from the Solid Waste and Chemicals Management Center, Ministry of Ecology and Environment of People's Republic of China and Tsinghua University/Basel Convention Regional Center for Asia and the Pacific have made tailored recommendations based on the requirements of the countries and the experiences of China. The procurement plan on medical waste in below with specifications, suppliers, quantities and purposes:

1) Philippines who has established tens of facilities for medical waste disposal all over the country, will be introduced mobile disposal equipment for emergency disposal during COVID-19 in the capital city Manila surrounding area, and the mobile equipment could be easily move to other remote areas after COVID-19 for normal medical waste disposal. Considering national legislation on strict control to incineration, non-incineration technologies will be used in Philippines, namely high temperature shredder and steam sterilization technology. The mobile integrated equipment will have function to treat waste water and exhaust air emission, which can meet the requirements of both Chinese and Philippines environmental standards. So Philippines will procure two mobile integrated equipment with the specification is 1-2t/d from China.

   The mobile autoclaves equipment (1-2t/d disposal capacity, about 280,000 USD per equipment, each equipment needs an additional 30% of the equipment fee as the life cycle maintenance costs) includes flat transport vehicle (with carriage), medical waste sterilizer, feeder and unloader. The whole system is concentrated in a container that can be transferred at any time. It only occupies a small area, and has strong mobility and needs little extra work. The power of the equipment is provided by diesel generator. The equipment is equipped with temporary water tank, so the water of the equipment is recyclable. It is also equipped with steam generator, which can meet the needs of its own without external steam source. Air compressor is also equipped to provide clean compressed air. The waste gas and waste water produced in the sterilization process are discharged after sterilization treatment. The sterilization treatment method is not affected by the composition of waste, and the sterilization effect is not affected by the heat value of the waste.

Name	Specification/Size	Amount*	Unit*	Unit Price*	Subtotal (USD)

				(USD)	
Mobile autoclaves installation cost, transportation, including the transportation, installation and life cycle maintenance costs	1-2 t/d	2	Pcs	364,000	**728,000**
Trolleys and storage bins	/	30	Pcs	200	**6,000**
Gloves	Box of 100	164	Box	25	**4,100**
Masks	Box of 50	164	Box	50	**8,200**
Biohazard bags	Box of 200	82	Box	100	**8,200**

2) Cambodia and Nepal who have some medical waste disposal facilities but not up-to date technologies, will be introduced several demonstration equipment in selected hospitals. These on-site treatment facility set will include one washing machine to wash potentially infected clothes, supplies and gears which can be easily reuse after laundry, one high temperature shredder and steam sterialization equipment to disposal infectious medical waste which cannot be reused, one small scale waste water treatment on-site facility to treat wastewater after laundry. The high temperature shredder and steam sterialization equipment will have function to control exhaust air emission. All the equipment could meet the requirements of both Chinese and receipt countries' environmental standards.

   The treatment process of the high temperature steam sterilizer equipment with integrated shredder equipment (about 100,000-150,000 USD per equipment, each equipment needs an additional 30% of the equipment fee as the life cycle maintenance costs) is loading – crushing – heating – sterilization – cooling – discharging – vacuum – unloading. The equipment can be used in all levels of medical facilities to shred and sterilize infectious medical waste. The main features are: it integrates shredding and high-temperature sterilization together, which shreds firstly and then sterilizes, and its design is compact and suitable for a variety of occasions; the shredder is installed in middle and lower installation, with double shaft structure; the shell of the shredder adopts split assembly structure, which is easy for maintenance; the door drive adopts cylinder structure, which will automatic return in case of obstacles; after the door is closed in place, the

cylinder lock works for protection, to ensure the safety of operation; the door can still be kept in the state of sealing in case of power fault of the sealing.

3)

The main procurement on medical waste in Cambodia

	Name	Specification/Size	Amount*	Unit*	Unit Price*	Subtotal
1	High temperature steam sterilizer equipment with integrated shredder for Khmer-Soviet Friendship Hospital, including the transportation, installation and life cycle maintenance costs	70kg/hr	1	Pcs	208,000	**208,000**
2	High temperature steam sterilizer equipment with an integrated shredder for National Pediatric Hospital, including the transportation, installation and life cycle maintenance costs	50 kg/hr	1	Pcs	169,000	**169,000**
3	Washing Machines for Khmer-Soviet Friendship Hospital	120-130kg	2	Pcs	16,000	**32,000**
4	Washing Machines for National Pediatric Hospital	100kg	2	Pcs	12,000	**24,000**
5	Medical wastewater treatment equipment, including the transportation, installation and life cycle maintenance costs	/	2	Pcs	39,000	**78,000**
6	Trolley	/	6	Pcs	300	**1,800**
7	Reusable container	/	12	Pcs	100	**1,200**
8	Disinfecting gun	/	3	Pcs	1,500	**4,500**
9	Medical disposable sterilization test pack in the autoclave/sterilizer validation	Box of 200	50	Box	50	**2,500**

10	Color-coded plastic bag	Box of 200	50	Box	50	**2,500**
11	Color-coded waste bin	/	27	Pcs	100	**2,700**
12	Mask - surgical medical/surgical mask	Type IIR Box of 50	290	Box	50	**14,500**
13	Hand sanitizer 80 or 100 ml	Box of 200	120	Box	150	**18,000**
14	Protective suit and goggles	Box of 200	160	Box	200	**32,000**
15	Glove	Box of 100	350	Box	50	**17,500**

The main procurement on medical waste in Nepal

Name	**Specification/Size**	**Amount* Quantity**	**Unit***	**Unit Price* (US$)**	**Subtotal**
Washing Machine	100kg	3	Pcs	24,600	**73,800**
Autoclave have function to control exhaust gas emission, including the transportation, installation and life cycle maintenance costs	20kg/hr	3	Pcs	130,000	**390,000**
Weighing Machine	/	6	Pcs	410	**2,460**
Segregation Chamber	/	3	Set	8200	**24,600**
Trolley	/	12	Pcs	410	**4,920**
Bucket	5 ltr	244	Pcs	20.5	**5,002**
	20 ltr	300	Pcs	41	**12,300**
	50-75 ltr	380	Pcs	57.4	**21,812**

	110 ltr	60	Pcs	98.4	**5,904**
Needle Cutter	/	75	Pcs	98.4	**7,380**
Polythene bags	/	5,000	Pcs	0.328	**1,640**
PPE	/	300	Pcs	98.4	**29,520**
Chemical Disinfectant	/	300	Pcs	98.4	**29,520**
Medication Trollies with bin	/	60	Pcs	328	**19,680**
Incubator	/	3	Pcs	1,230	**3,960**
Biological Spore	/	200	Pcs	8.2	**1,640**
Helix Test Indicator	/	10	Pcs	287	**2,870**
Bowie Dick Simulator	/	15	Pcs	12.3	**184.5**
Autoclave Tape	/	20	Pcs	8.2	**164**

4) Lao PDR and Myanmar who have very few medical waste disposal facilities and also very few legislations on medical waste management, will make investigation and need assessment on national medical waste management, action plan or strategy will be drafted. Small scale high temperature shredder and steam sterilization equipment will be tried in selected hospitals in two countries. The high temperature shredder and steam sterilization equipment will have function to control exhaust air emission. All the equipment could meet the requirements of both Chinese and receipt countries' environmental standards.

The main procurement on medical waste in Myanmar

Name	**Specification/Size**	**Amount* Quantity**	**Unit***	**Unit Price* (US$)**	**Subtotal**
Autoclave , including the transportation, installation and life cycle maintenance costs	20kg/hr	2	Pcs	130,000	**260,000**
Color coded plastic bag	Box 0f 200	200	Box	100	**20,000**

Mask (surgical)	Box of 50	1200	Box	50	**60,000**
Hand sanitizer (80 or 100ml)	Box of 100	300	Box	150	**45,000**
Glove	Box of 200	500	Box	50	**25,000**
PPE gown	/	300	Unit	100	**30,000**

The main procurement on medical waste in Lao PDR

Name	**Specification/Size**	**Amount* Quantity**	**Unit***	**Unit Price* (US$)**	**Subtotal**
Autoclave , including the transportation, installation and life cycle maintenance costs	20kg/hr	2	Pcs	130,000	**260,000**

In terms of infrastructure construction, most of the equipment provided by the project can be used in the hospital. For example, the high temperature steam sterilizer equipment with integrated shredder can be applied to the crushing and sterilization of infectious medical wastes in medical facilities at all levels, so the medical waste generated in the daily life of the hospital can be treated. Autoclave is an emergency treatment equipment. The whole system is concentrated in a container that can be transferred at any time. It only occupies a small area, and has strong mobility and little extra work. It only needs water and electricity supply to operate, and only one person would be able to complete the entire operation. And the standard of water, electricity, gas required to operate the equipment are very low, the general national infrastructure can meet the requirements.

In terms of personnel management, the equipment suppliers will train the local medical waste disposal personnel in equipment installation and operation to ensure that the local people would be able to operate the equipment. After the installation of equipment, the supplier will continue to provide maintenance services during the life-cycle of the equipment, as well as providing on-line diagnosis, guidance to solve equipment problems and the engineers from the supplier would provide technical assistance on-site if needed.

8.3 Project Operation, Maintenance and Long-term Support Plan (if required)

Projects that require follow-up operation management should analyze the operational management

mode, operational management capabilities (incl. the source and management of operational funding etc.), and training of operation and maintenance personnel and so on upon completion of the project; if the project implementation institution or partners is required to provide long-term technical support, a long-term support plan should also be proposed.

The sustainability of the benefits arising from the project will be guaranteed through close collaboration with national entities and institutions, especially those responsible for disaster response, among them INGC, CSOs, Municipals and UN partners. Furthermore, the sustenance of the benefits from the project is anchored on project alignment to the ongoing UNDP Country Programme (2017-2020), which prioritize resilience building and early recovery. The emphasis of support has been strengthening national capacities for preparedness and effective response to recurrent disasters. The use of national coordination systems will also support synergies with work of other partners in the recovery efforts. In essence, the relevant skills for replications and maintenance of outputs from the project will be retained locally through such collaborative mechanisms.

According to the current needs of beneficiaries, medical waste management equipment is encouraged to be procured from China. The above equipment prices include the transportation fees by sea/land. The duration of the transportation to Lao PDR, Nepal and Myanmar, which is accessible by land, is 15 days and to Philippines and Cambodia, which is accessible by sea, is about a month. UNDP will be the first responsible party for the follow-up maintenance of the equipment, i.e. in charge of the life-cycle maintenance to the equipment procured under the project. When purchasing the equipment, it shall make clear the arrangement of quality assurance, warranty, maintenance and service outlets, the quality assurance period and maintenance period. Trainings and manuals on the equipment will be provided by the supplier to ensure that the recipient organization has operation and maintenance capacity. The service life of the two categories of the equipment, which are movable and immovable equipment, range from 8 to 10 years (the actual service life and warranty period depend on the purchased equipment model, parts specification and service frequency). In terms of installation, the equipment supplier will deploy 2 engineers to on-site guide the installation of equipment locally. The duration of installation, trial operation and training are expected to be 7 days. Meanwhile, the engineers will accompany the operation team of the customer for 14 days to ensure the stable operation of the system. The installation fee is included in the price of the equipment (either on-site training or online training will be determined based on the condition during the epidemic). In terms of maintenance, the equipment supplier will be responsible for repair and maintenance, provide necessary remote guidance to help solve the problem, or deploy engineers to the site to solve the problem if necessary. After the acceptance and handover of the project, the supplier will provide assistance to all the equipment operation and maintenance problems to the local

free of charge, and guide to solve the equipment fault. The supplier will provide a 2-year warranty to replace and repair the damaged parts, except for normal wear and tear. After the warranty, the cost of the life cycle maintenance accounts for about 30% of the equipment cost. The costs of the equipment in the budget include the logistics, installation and the lif-cycle maintenance costs.

The prices in the budget may fluctuate with the market change.

9. Environmental Impact and Risk Analysis

9.1 Environmental Impact Assessment

9.1.1 Analysis of Influencing Factors

Analyze types of pollutants, emissions, and emission concentrations that may be emitted during project implementation and operation (if any) and analyze the impact on the environment.

One of the main potential risks of the pollutant is the waste generation during the treatment of medical waste, which include

1) The waste gas

The most important secondary pollution in high temperature steam treatment is the odor generated during disposal. The equipment we plan to purchase are the European mainstream full closed integrated structure with built-in crusher. The whole sterilization process from feed to discharge is completed in a closed container without waste gas. Only after the sterilization after vacuum cooling drying stage of about 1 m^3 of gas needs outside, this part of the exhaust volume is small, and the sterilization and cooling, the smell will have little impact on the environment, so the totally enclosed one-piece high temperature steam treatment equipment in the world (including Europe and North America) a large amount of application in the hospital on the disposal of medical wastes, exhaust gas are direct discharge.

2) Waste water

The waste water of is mainly steam condensate water and cooling water injected into the cooling process. Since the steam condensate has undergone the entire sterilization process and the cooling water is only cooled for the waste residue after sterilization, the waste water is sterile and can be discharged directly into the hospital sewage disposal system or municipal sewage disposal system, which is the common treatment method for waste water from all such equipment in Europe and North America.

3) Noise

The noise mainly comes from the crusher. As the crusher is built into a container, its noise decibel is

much smaller than the ordinary crusher. The maximum noise at a distance of 1 meter from the equipment will not exceed 75 decibels, so the noise outside the room will be very small. Based on the experience with a large number of hospital installations, operating noise does not affect the hospital.

4) Waste residue

The waste residue is broken and sterilized fragments, which can usually be regarded as urban household garbage. After the disposal, waste residue can be connected with the garbage bin of ordinary municipal garbage, and then collected, transported and disposed of by the municipal household garbage collection and disposal department.

9.1.2 Environmental Protection Measures

Explain measures needed to mitigate and offset adverse environmental impacts, and analyze their feasibility and implementation effects, and propose relevant expense and sources (if required)

In order to mitigate **the environmental impact**s **during the project implementation phase, the following environmental protection measures will be taken:**

- The project will intervene with the solid waste management mechanism on the solid waste produced during the project.
- The transportation load of the equipment will be accurately calculated to maximize each load and avoid waste. Also, the transportation route will be planned to minimize the carbon emission.
- For the advocacy and communication, the advocacy campaign would be planned and digitalized methods are prioritized. The paper copy posters and publications would only by printed when necessary to minimize the printing activities
- The medical waste treatment and disposal equipment adopts high-temperature steam treatment technology, which is recognized as the technology with minimal secondary pollution to the environment. Waste gas produced by the equipment will be very little and can be directly discharged after sterilization and cooling. The waste water is mainly steam condensate, which is sterile and can be directly discharged into the municipal sewage treatment system. The noises

from the built-in crusher is negligible. The waste residue is also sterilized and can be disposed together with municipal wastes.

UNDP has adopted in 2014 and rollout the social and environmental safeguards to ensure minimization of any unforeseen harm to people and the environment. The UNDP's Social and Environmental Standards (SES) aim to:

- Strengthen the social and environmental outcomes of Programmes and Projects
- Avoid adverse impacts to people and the environment
- Minimize, mitigate, and manage adverse impacts where avoidance is not possible
- Strengthen UNDP and partner capacities for managing social and environmental risks
- Ensure full and effective stakeholder engagement, including through a mechanism to respond to complaints from project-affected people

The SES are an integral component of UNDP's quality assurance and risk management approach to programming. Most development projects have to undertake the Social and Environmental Screening Procedure before commencement. The findings from this desk review are included in the final project risk log that is tracked on periodically and more formally on annual basis through the Results Oriented Annual Reporting [ROAR].

9.2 Risk Analysis and Countermeasures

Arising from the design quality assurance standards and the screening procedure, mentioned above, the draft risk log proposed below will be enhanced. It is a requirement for UNDP-supported project to have a risk log that is reviewed periodically by the project team and steering committee to ensure that no harm is being done by the project as well as progressively addressing any adverse effects. Through the existing local grievance mechanisms, any arising concerns and complaints will have to be systematically logged and tracked for effective resolutions. Where any concerned party is not satisfied, UNDP provided for an independent procedure under the Office of Audit and Investigation [OAI], known as Social Environmental Compliance Unit [SECU] that is mandated to investigate eligible causes on infringement on social and environmental standards so defined.

Type of Risk	Risk Statement	Level of Risk(1 – High Risk; 3-	Countermeasures

		Low Risk)	
Operational risk	Rotation of staffs among stakeholders	3	During the training sessions, UNDP will encourage to involve multiple levels of staffs and leaderships. Obtain commitment from organizations (senior level, build capacity of large group – national advisory group and beyond, informational sessions/material for all staff members)
	Different level of delivery at the five countries	3	UNDP RBAP will coordinate among the five countries and monitor the project to ensure the delivery of the COs;
	Lack of enough providers or materials for experience sharing or procurement of treatment equipment	3	Credible service providers and vendors will be made aware of upcoming tender processes to encourage interest.
Financial Risk	Fluctuation of the exchange rate, which may affect project delivery	3	UNDP will make sure all budgets and purchases are settled in USD$ and continuously monitor on the financial and budget.
Technical Risk	Lack of expertise at the country level on medical waste management	3	UNDP China will mobilize related resources and involved the Chinese experts that have participated in the COVID-19 medical waste management in China to provide the most appropriate technology and equipment and provide capacity building support for all concerned stakeholders to learn about the proper operation of equipment as well as medical waste..
Project Risk (or	Perceived bias for selection of target	3	Develop communications strategy around planned project activities

Reputation Risk)	hospitals and facilities		and objectives Establish clear and transparent criteria for selection of beneficiaries with national and local government, and community leaders
	Capacity gaps within key stakeholders may affect timely formulation of jointly identified plans	2	Based on training needs analysis, provide special attention to communication of relevant knowledge and information Undertake needs assessment
Social and Environmental Risk	Waste service providers and informal waste workers working in hospital might be exposed for the COVID risk	3	UNDP will ensure that the waste service providers and informal waste sector workers dependent on particular hospital waste are incorporated in the system
Political Risk	A difference of approach between the national government and local authorities may result in challenges related to agreeing on priorities and approaches proposed.	2	UNDP will ensure that engagement at all levels has been undertaken.

10. Project Intellectual Achievements and Administration Plan

To propose expected intellectual achievements (including technical information, analytical research reports, solutions or intellectual property achievements) and their management plans, including professional review of intellectual achievements (if needed), the compilation, printing, professional review, acceptance (if any) of estimated intellectual achievements, as well as required expenses of transfer (if required).

The reports, publications and research achievements will indicate that the project is funded by the SSCAF and underline that the positions and views in those reports and publications do not represent the position and views of the Government of China. UNDP will provide CIDCA and recipient countries with project reports, research achievements, videos, pictures, and other visual materials. The Government of China and recipient countries may (for non-commercial purposes) use, copy, cite and disseminate without restrictions as long as proper citation is ensured. Relevant reports, publications and research achievements will be submitted to CIDCA in a timely manner.

11. Use of China Aid Logo and Project Communication Plan

11.1 Use of China Aid Logo

In accordance to the "China Aid" logo usage conditions in terms of the scope, material, size, color, and other special requirements, estimate the costs of design, production, installation, and maintenance of the logo (if needed), clarify the attitude of the recipient countries toward the installation and usage of the logo.

UNDP will ensure Government of China's visibility and publicity by including the logo of Chinese foreign aid branding (as per the requirements available at the link provided below). Procured materials will be wrapped showing Chinese foreign aid branding. Stickers will be put on transportation means and flags and posters will be made available. All important events will ensure logo visibility and acknowledgement of the support from the Government of China. Launch and hand-over ceremonies welcome the presence of the Chinese Embassy and MOFCOM representatives as well as when proposed assistance packages are delivered. A short-video clip documenting the relevance and value of Chinese relief support to communities in need will be produced.

China Foreign Aid logo will also be actively used on procured items, communications materials and related.

Logo of Chinese foreign aid will be used properly on the packages and products of assistance as well as under important occasions of the project. The regulations over the use of the Chinese foreign aid logo could be found at the following link:

http://en.cidca.gov.cn/2019-11/29/c_427670.htm

11.2 Project Communication Plan

Propose the main body, object, method or channel of communication/promotion activities, time

period, funding, etc.

The project is expected to be implemented over a 12-month period, and the communication plan will be incorporated into the Government's and UNDP´s wider advocacy strategies relating to resilience; South-South cooperation; and post disaster recovery, including video production.

The Project will aim at producing several knowledge products for both global and regional outreach and local use. It includes:

Specifically, UNDP will undertake the following communication activities:

• A detailed overarching communication strategy plan covering pre, during, and post project visibility needs;

• Organize launch and hand-over events to promote the project jointly with UNDP/Government of Cambodia/Embassy of China, UNDP/Government of Laos/Embassy of China, UNDP/Government of Nepal/Embassy of China, UNDP/Government of Myanmar/Embassy of China, UNDP/Government of Philippines/Embassy of China with media's presence;

• Joint UNDP/Embassy of China mission and potential media visits for field level monitoring and evaluation will be arranged. For joint missions and important events, engagement of Chinese, Cambodian, Laotian, Burman, Nepalese, Philippine and international media will be ensured.

• Photographs of the beneficiaries and project sites as well as beneficiary stories will be collected and translated into Chinese for sharing through press releases, social media and other media formats;

• Up to date news, press releases and progress stories be featured on the websites of UNDP Global, UNDP China and UNDP RBAP, UNDP Cambodia, UNDP Laos, UNDP Myanmar, UNDP Nepal, UNDP Philippines in the required language formats

• Posters, infographics, publications and a video produced to ensure high visibility of the contribution made by the Chinese government;

• Regular promotion on social media and through the various news outlets of UNDP RBAP, UNDP Cambodia, UNDP Laos, UNDP Myanmar, UNDP Nepal, UNDP Philippines and UNDP China. Such channels will include the dedicated international social media accounts of UNDP RBAP, UNDP Cambodia, UNDP Laos, UNDP Myanmar, UNDP Nepal, UNDP Philippines and UNDP China, as well as Sina Weibo and WeChat;

• A media summary produced to collect the news articles on China's support.

All relevant communication plans, reports, media summary, posters, publications will be submitted to CIDCA and can be used with attribution credits to UNDP.

No.	Attachment
1	Results-oriented project logic framework (must to be attached)
2	Project Gantt Chart (must to be attached)
3	Project Budget and detailed work plan (must to be attached)
4	Input/Procurement estimation descriptions (must to be attached)

Additional attachments may be added (if any).

13. Bank Details of the Reporting and Implementation Institution

- Reporting/Implementation Institution shall open an individual account (if not possible, the institution should have an independent account book) for receiving funding.
- If receiving funding for the first time or bank details has changed, the attachments listed below are to be provided.

1) An original copy of bank details explanation signed and sealed by the legal representative of the reporting and implementation institution; and

2) An original copy of bank detail confirmation issued by the bank.

DETAILS BELOW ARE FOR DEPOSIT IN $US CURRENCY

Name of Bank	Citibank N.A.	Address of Bank 111 Wall Street, New York, New York, 10043, USA
Account Name	UNDP Contributions Account	Currency: $USD
Account No./IBAN No.	36349562	SWIFT Code: CITIUS33

Other information	Routing No: 021000089

14. Declaration of the Legal Representative of the Reporting Institution:

I, *Beate Trankmann* on behalf of the reporting institution *UNDP China Country Office* and partners hereby confirm: the details contained in this project proposal and its attachments are complete, true and accurate; I fully understand that incomplete, untrue, and inaccurate information will result in delay of the application, including but not limited to request of supplementary information, refusal of the application and subsequent retrospective processing; I clearly understand the legal consequences of caused to the fund and third parties because of misinformation, concealment, forgery etc.; I clearly understand and accept regulations related to the fund and that the fund or its entrusted parties will conduct investigations and evaluations on the application and that I will actively cooperate fully; We will also comply with the laws of the country where the project is located and all project management and supervision regulations within the organization; I clearly understand that activities by the fund such as the acceptance of the application, communication, investigation, evaluation before official approval in writing, does not represent any promised funding commitments by the fund.

Signed:_____ (official seal of the organization)

Date: May 2020