

# Initial Environmental Examination

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June 2021

## CAM: Greater Mekong Subregion Health Security Project (including Additional Financing)

Prepared by the Ministry of Health, Cambodia, for the Asian Development Bank. This is an updated version of the draft originally posted in October 2016 available on <https://www.adb.org/projects/documents/gms-health-security-project-cam-oct-2016-iee>



## **CURRENCY EQUIVALENTS**

(as of 30 June 2021)

Currency unit – riel (KR)

KR1.00 = \$0.000245

\$1.00 = KR4,079.52

## **ABBREVIATIONS**

ADB	–	Asian Development Bank
CDC	–	Communicable Diseases Control
CEP	–	Commitment on Environmental Protection
COD	–	Chemical oxygen demand
CPMU	–	Central Project Management Unit
EA	–	Environmental assessment / Executing Agency
EIA	–	Environmental Impact Assessment
EIAR	–	Environmental Impact Assessment Report
EID	–	Emerging Infectious Diseases
EMP	–	Environmental Management Plan
GOL	–	Government of Lao People's Democratic Republic
GMS	–	Greater Mekong Subregion
HIV	–	Human Immunodeficiency Virus
GMS-HSP	–	Greater Mekong Sub-region-Health Security Project
ICU	–	incentive care unit
IEE	–	Initial Environmental Examination
IP	–	Indigenous peoples
IPC	–	Infection Prevention and Control
Lao PDR	–	Lao People's Democratic Republic
MOE	–	Ministry of Environment
MOH	–	Ministry of Health
PMU	–	Project Management Unit
PHD	–	Provincial Health Department
PIA	–	Provincial Implementing Agency
PPMU	–	Provincial Project Management Unit
REA	–	Rapid Environmental Assessment
SWM	–	Solid Waste Management
WHO	–	World Health Organization

## **NOTE**

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## I. INTRODUCTION

### A. Background of the Project

1. **The original project.** The Asian Development Bank (ADB) approved the GMS Health Security Project on 22 November 2016, for a total of \$125 million equivalent comprising: (i) four concessional loans to Cambodia (\$21 million), the Lao People's Democratic Republic (\$4 million), Myanmar (\$12 million), and Viet Nam (\$80 million) from its ordinary capital resources; and (ii) a grant to the Lao People's Democratic Republic (\$8 million) from its Special Funds resources. The Cambodia loan became effective on 24 January 2017.

2. The GMS Health Security Project has three outputs: (i) regional cooperation and communicable disease control in border areas improved, (ii) national disease surveillance and outbreak response systems strengthened, and (iii) laboratory services and hospital infection prevention and control improved. In Cambodia, the project is implemented in 14 provinces and includes investment for infection prevention and control (IPC) and laboratory equipment in 53 provincial and district referral hospitals. The implementation of the original project in Cambodia is already at advanced stage, with facility refurbishment works and equipment installation already completed as of April 2021.

3. **Proposed additional financing.** Given the sustained threat posed by COVID-19 in Cambodia, the MOH requested ADB in 2021 to provide \$25 million additional loan financing for the ongoing project. The project will include \$5 million grant financing from the Japan Fund for Poverty Reduction (JFPR) to support interventions on COVID-19 surveillance, response and clinical care. The JFPR grant will finance ICT and oxygen therapy equipment; ambulances; consulting services and specified training, workshops and community mobilization expenditure. The proposed additional financing will support the Ministry of Health (MOH) in responding to the coronavirus disease (COVID-19). The additional financing will provide targeted investments for additional 81 provincial and district referral hospitals not covered under the original project. It will focus on upgrading of hospital clinical care, laboratory, infection prevention and control (IPC), and human resource capacity to respond to COVID-19 and other public health threats. The proposed additional financing loan will help strengthen surveillance, response, and risk communications capacity for COVID-19 and other communicable diseases nation-wide. The additional financing will complement ADB's support under the COVID-19 Active Response and Expenditure Support (CARES) Program.<sup>1</sup>

4. The impact and outcome of the overall project remain unchanged from the original project. The additional financing will contribute to Cambodia's progress towards compliance with the requirements of the IHR and the Asia Pacific Strategy for Emerging Diseases, in-line with the original project outcome indicators.<sup>2</sup> This will be achieved through a nationwide scale-up of investment at the subnational level across the priority capacity areas of: (i) surveillance and risk communications, (ii) laboratory and IPC; and (iii) health service provision. Activities under the additional financing will be delivered through existing project outputs 2, 3 and 4.

<sup>1</sup> ADB. 2020. [COVID-19 Active Response and Expenditure Support Program](#).

<sup>2</sup> WHO. 2017. [Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies](#). Geneva. The Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies provides a strategic roadmap to support country progress towards achieving the IHR core capacities.

5. **Output 2: National disease surveillance and outbreak response systems strengthened.** The project loan will finance (i) a nationwide program of trainings to strengthen subnational capacity for communicable disease prevention, detection and response; (ii) outbreak response vehicles for provincial and national agencies; and (iii) health education campaigns to enhance communities' preparedness for COVID-19 and other communicable disease threats.

6. The JFPR grant will finance computer hardware for central, provincial and district health agencies to enhance COVID-19 outbreak management and contact tracing efforts. It will support COVID-19 specific trainings for (i) surveillance staff on data management tools;<sup>3</sup> (ii) rapid response teams on outbreak management; and (iii) health and non-health staff on COVID-19 risk communications.

7. **Output 3: Laboratory services and hospital IPC improved.** The project loan will support 8 provincial hospitals and 73 district referral hospitals not included under the original project. It will (i) equip laboratories in these 81 hospitals for communicable disease diagnostics and clinical management, including COVID-19 rapid testing; (ii) renovate laboratories in 62 of these hospitals; (iii) install modern solid waste treatment systems to 42 hospitals; and (iv) supply medical waste treatment equipment, autoclaves, washing machines and other IPC equipment to hospitals where upgrading is required. Female and male hospital staff will be trained on laboratory and IPC practices.

8. **Output 4: Emergency preparedness and response capacity for COVID-19 strengthened.** The JFPR grant will enhance COVID-19 clinical care capacity in 14 provincial hospitals. It will equip hospitals with (i) oxygen plants for onsite generation of oxygen supply, (ii) clinical equipment for provision of oxygen therapy, and (iii) an ambulance for the transportation of COVID-19 patients requiring emergency care. Female and male clinical staff will be trained on oxygen therapy and the management for COVID-19 patients. Staff will also be trained to identify and provide support and referral options to persons affected by gender-based violence and mental health issues linked to the pandemic. Technicians will be trained in operation and maintenance of oxygen plants and ambulances.

## **B. Purpose and Structure of the Report**

9. The original project was classified as a Category B project in accordance with the ADB's 2009 Safeguards Policy Statement. The additional financing proposed in 2021 was also classified as Category B in accordance with ADB's SPS. The Initial Environmental Examination (IEE) presented in this report reflects both the scope of the original project (with IEE cleared in 2019), and the extended scope as proposed in 2021 under the Additional Financing (AF). The IEE assesses the environmental impacts of the project including the newly proposed activities under the AF, and identifies measures to mitigate negative impacts.

10. The following methodology has been implemented in the preparation of the original IEE in 2016 (and subsequently updated in 2019 and 2020) and the preparation of this updated IEE dated April 2021 that reflects the expanded scope supported under the AF:

- (i) Review of project-related documents and literature relevant to the project areas initially surveyed/assessment.

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<sup>3</sup> Including the Event Monitoring System, Media Screening System, and WHO's 'Go Data' tool.



- (ii) Targeted site visits to view the environmental conditions in all target project areas and the general location of the projects and the conditions of participating referral hospitals.
- (iii) Consultation with hospital management and staff through questionnaires, face-to-face meetings and online consultation (during COVID-19 pandemic given travel restrictions) to source information on project area characteristics, required refurbishment works and potential project impacts.
- (iv) Identification of existing environmental and socio-economic characteristics to develop project baseline.
- (v) Analysis of typical environmental impacts of project components and identification of required mitigation measures to minimize and mitigate potential impacts.
- (vi) Definition of grievance redress mechanism (GRM) to address possible community concerns and complaints during project implementation.
- (vii) Development of institutional arrangements for implementation of environmental management and monitoring requirements, as defined in the environmental management plan (EMP).

### **C. Conclusion**

11. This updated IEE for the original project and the proposed Additional Financing confirms that project classifies as category B for environment as per ADB's Safeguard Policy Statement. The proposed project under the AF has a similar scope as the original project and does not affect the project's environment safeguards categorization. During project implementation, some structures of the laboratories will need to be repaired and refurbished before assembly of the equipment. Small shelters (7x7m) will be built for the medical waste storage and treatment equipment. Negative environmental impacts and risks during this phase will be minor, localized and temporary. Such impacts include generation of noise, dust and construction waste, and minor and risks to community and occupational health and safety. These can readily be mitigated to acceptable levels through implementation of standard environmental management practices. No sensitive sites such as wetlands, rivers or natural forest that may classify as critical or natural habitat will be affected.

12. During operation stage, solid waste generated by the operation of the hospitals are likely to be the sources of negative impacts on the environment if they are not managed properly. These pollution sources are long-term and consecutive, and therefore, mitigation measures have been incorporated in the project design. Technical systems for the collection and treatment of medical waste will be provided to those referral hospitals where service gaps have been identified. The project will also provide capacity building in basic operation and maintenance (O&M) environmental management of these solid waste treatment facilities. Overall, the project including its AF component is expected to significantly improve infection prevention and control (IPC) as well as waste management capacities and practices in referral hospitals of Cambodia. Upon project completion, all referral hospitals in Cambodia will be equipped with (or have access to nearby) modern, non-incineration based medical waste treatment facilities, either financed through the GMS Health Security Project and its Additional Financing, or other projects supported by the World Bank and the Global Fund.

## II. POLICY AND LEGAL FRAMEWORK

13. This chapter discusses the policy and legal framework as well as the institutional set-up relevant to the environmental assessment of the project.

### A. ADB Safeguard Policy Framework

#### A1. *Safeguard Policy Statement*

14. This IEE has been prepared in accordance with the ADB's Safeguard Policy Statement, 2009 (SPS) which governs the environmental and social safeguards of ADB' operations. Environmental Safeguard Requirements 1 of the SPS outlines the requirements the borrowers/clients are required to meet when delivering environmental safeguards for projects supported by ADB. These requirements include assessing impacts, planning and managing impact mitigations, preparing environmental assessment reports, disclosing information and undertaking consultation, establishing grievance redress mechanism (GRM), and monitoring and reporting. Safeguard Requirements<sup>1</sup> (SR1): environment of SPS 2009 also includes specific environmental safeguard requirements pertaining to biodiversity conservation and sustainable management of natural resources, pollution prevention and abatement, occupational health and safety, and conservation of physical cultural resources.

#### A2. *Screening and categorization*

15. At an early stage of the project, ADB screens and categorizes proposed projects based on the significance of potential project impacts and risks. Screening and categorization is undertaken to (i) reflect the significance of potential impacts or risks that a project might present; (ii) identify the level of assessment and institutional resources required for the safeguard measures; and (iv) determine disclosure requirements. A project's category is determined by the category of its most environmentally sensitive component, including direct, indirect, cumulative, and induced impacts in the project's area of influence. The nature of the environmental assessment required for a project depends on the significance of its environmental impacts, which are related to the type and location of the project; the sensitivity, scale, nature, and magnitude of its potential impacts; and the availability of cost-effective mitigation measures. Projects are screened for their expected environmental impacts, and are assigned to one of the following four categories:

- (i) **Category A.** Projects could have significant adverse environmental impacts. An EIA is required to address significant impacts.
- (ii) **Category B.** Projects could have some adverse environmental impacts, but of lesser degree or significance than those in category A. An IEE is required to determine whether significant environmental impacts warranting an Environmental Impact Assessment (EIA) are likely. If an EIA is not needed, the IEE is regarded as the final environmental assessment report.
- (iii) **Category C.** Projects are unlikely to have adverse environmental impacts. No EIA or IEE is required, although environmental implications are reviewed.
- (iv) **Category FI.** Projects involve a credit line through a financial intermediary or an equity investment in a financial intermediary. The financial intermediary must apply an environmental management system, unless all projects will result in insignificant impacts.

16. The Rapid Environmental Assessment (REA) checklist for the original project and the preparation of the original IEE was completed on 14 June 2019. A more detailed REA was conducted in 2019 the 27 referral hospitals included in the scope of the original project. A second REA checklist was completed on 20 April 2021 for the additional scope proposed under the Additional Financing. The REAs concluded that the original project and the additional financing classified as category B for environment safeguards as per ADB's SPS, requiring the preparation of an IEE.

## **B. Cambodia Environmental Laws and Guidelines**

17. Implementation of the project is governed by the environmental acts, rules, policies and regulations of the Government of Cambodia. These regulations impose restrictions and guidelines on the activities to minimize and/or mitigate likely impacts to the environment. The original project and the AF involve minor building refurbishment activities on existing hospital components. New buildings are limited to small structures for the housing of medical waste storage and treatment equipment (7x7m). Key laws, regulations and decrees of relevance to the project (including AF) are described below.

### ***B1. Key Environmental Laws and Regulation***

18. The **Law on Environmental Protection and Natural Resources Management** (NS/RKM/1296/36) was enacted in 1996 and is the main law for protection of the environment in Cambodia. Article 6 of the law requires that environmental impact assessment (EIA) be undertaken for proposed projects with the Ministry of Environment designated as the authority to review EIAs prior to submission of project proposals to the Government for approval.

19. The original project was subject to **Sub-Decree on Environmental Impact Assessment and Process** (Sub-Decree 72, 11 August 1999) which supports the Law of Environmental Protection and Natural Resources and sets out institutional responsibilities, impact assessment requirements and the procedures for undertaking the environmental assessment process. The annex to the sub-decree lists all projects (public or private) for which an environmental assessment is required. A project such as the GMS Health Security Project including the Additional Financing as documented in this IEE, involving the construction of small buildings and minor repairs of existing facilities, is not required to undertake an environmental impact assessment (EIA) or an Initial EIA (IEIA) because only buildings that have a height greater than or equal to 12m or floor area greater than or equal to 8,000m<sup>2</sup> are subject to IEIA. For types of projects that are not included in the annex, a Project Description and an Environmental Protection Contract (EPC) is to be submitted to MOE for screening.

20. Under the Sub-decree, the MoE is responsible for review of IEIAs and EIAs and to collaborate with the line ministries. The MoE has the authority to approve or reject a project. The Council for the Development of Cambodia (CDC) has overall jurisdiction over projects and has the power to comment and require amendments or additions to IEIAs and EIAs. The MoE has further responsibility in the monitoring of project implementation. The MoE implements these responsibilities through its Department of Environmental Impact Assessment and Monitoring. Besides the MoE, other ministries with responsibility for the project have the right to examine and approve projects, following MoE review.

21. Article 1 of the Sub-decree states that public participation is to be encouraged in the implementation of the IEIA process so that the conceptual inputs and suggestions of the public are to be taken into account for consideration prior to the implementation of any project.

22. On 3rd February 2020, the Ministry of Environment (MOE) issued **Prakas No. 021 on Classification of Environmental Impact Assessment for Development Project** (Prakas No.021). This regulation serves as an update to Sub-Decree No. 72 on the Environmental Impact Assessment dated 11 August 1999 (Sub-Decree No. 72); Joint-Prakas No. 1428 on public service fees dated 20 November 2014 issued by the Ministry of Economy and Finance (MEF) and MOE (Prakas No. 1428).

23. Prakas No. 021 aims to classify whether infrastructure projects should be subject to IEIA; or full EIA based on the nature and/or scale of the project. This new regulation also lists projects that are required to prepare an environmental protection contract (EPC) together with an Environmental Management and Monitoring Plan (EMMP) where there is minimal impact on the environment.

24. The Additional Financing is subject to Prakas No. 021, and thus subject to EPC and EMMP. The EPC is an agreement between the project owner (MOH) and MOE to protect the environment and manage natural resources. Given the range of construction/renovations required under the Additional Financing, it is assumed that a blanket EPC, covering all identified requirements would suffice. This IEE has been prepared to serve as EPC and EMMP.

25. Other environmental laws and regulations applicable during the construction activities in the small buildings are the following:

26. **Sub-Decree ANK/BK No. 42 (July 2000) - The Control of Air Pollution and Noise Disturbance.**<sup>4</sup> The sub-decree aims to protect the environment quality and public health against air pollutants and noise pollution through monitoring, prevention and mitigation activities. For dust control, there should be no visible emissions from stockpiles of materials, crushers or batching plants. At sensitive receptors a standard of Total Suspended Particles (TSP) < 0.33 mg/m<sup>3</sup> 24-hour average should be met.<sup>5</sup> All vehicles should be well maintained and comply with the air quality regulations.

27. **Noise.** The regulation stipulates maximum permitted noise levels in residential and public areas as following: 75 dB between 6 am and 6 pm, 70 dB between 6 pm and 10 pm and 50 dB between 10 pm and 6 am.<sup>6</sup> This project adopts noise level standards as set out in World Health Organization (WHO) Air Quality Guidelines (2005): one-hour noise at daytime <55 dBA and nighttime 45 dBA, which are more stringent than the national standards. Noise level standards relevant to this project are: one-hour noise at daytime < 55 dBA and nighttime 45 dBA.

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<sup>4</sup> Sub-Decree on Control of Air Pollution and Noise Disturbance, N0 42 ANRK.BK, 10 July 2000.

<sup>5</sup> The World Health Organization guideline (2005) for 24 h is 50 µg/m<sup>3</sup> for PM10 and 25 µg/m<sup>3</sup> for PM2.5.

<sup>6</sup> The IFC EHS guidelines give stricter noise level standards for community noise (at daytime < 55 dBA and nighttime 45 dBA).

**Table 1: Noise level guidelines of IFC**

<b>Table 1.7.1- Noise Level Guidelines<sup>54</sup></b>		
<b>Receptor</b>	<b>One Hour L<sub>Aeq</sub> (dBA)</b>	
	<b>Daytime 07:00 - 22:00</b>	<b>Nighttime 22:00 - 07:00</b>
Residential; institutional; educational <sup>55</sup>	55	45
Industrial; commercial	70	70

Source: IFC Environmental, Health and Safety General Guidelines, 2007 (from Guidelines for Community Noise, World Health Organization (WHO))

28. **Vibration.** There is no standard for vibration in Cambodia. The following standard is recommended: the vibration levels at any vibration sensitive property or location should be less than 1mm/second peak particle velocity (ppv). The level of 1mm/second ppv is derived from the US Bureau of Mines publications for avoidance of damage and the United Kingdom Greater London Council (GLC) standard for avoidance of nuisance. The General EHS Guidelines mentions but does not recommend a limit value for vibration.

29. **Solid waste management** is primarily regulated through the Law on Environmental Protection and Natural Resources Management (1996), **Sub-Decree No. 36 on Solid Waste Management (1999)** and **Sub-Decree No. 113 on Urban Solid Waste Management (2015)**. Cambodia's Law on Environmental Protection and Natural Resource Management (1996) designates the MOE as the leading agency tasked with formulating policies, issuing regulations and coordinating actions on waste management and pollution control. Sub-Decree No. 36 on Solid Waste Management stipulates that the collection, transportation, recycling, minimization and disposal of waste in provinces and cities is the responsibility of provincial and city authorities. Sub-Decree No. 113 on Urban Solid Waste Management confirms this administrative organizational structure.

30. Sub-Decree 36 defines what fractions of solid waste classify as hazardous wastes. Infectious waste and waste from production of drugs and medicines as well as expired drugs are classified as hazardous waste. The sub-decree specifies that any treatment or disposal facility for hazardous waste is subject to prior approval from the MOE. Per sub-decree, the monitoring of packing, storage, transport, recycling, treatment and disposal of hazardous waste is the responsibility of the MOE.

31. The MOE issued the **Environmental Guidelines (Ordinance) on Solid Waste Management in the Kingdom of Cambodia (2006)**.<sup>7</sup> These guidelines apply to all activities related to discarding, storage, collection, transport, recycling, treatment, composting and disposal of all kinds of solid waste. The Ordinance includes guidelines specific to medical waste management. It classifies medical waste into three categories, including general non-hazardous

<sup>7</sup> Ministry of Environment, Cambodia. 2006. Environmental Guidelines on Solid Waste Management in the Kingdom of Cambodia. Phnom Penh.

waste, sharp waste, and infectious waste, and provides directives on segregation, packaging, temporary storage, and treatment. The Ordinance also specifies medical waste monitoring requirements at point of production, during transport, and at point of treatment/disposal. According to the Ordinance, three treatment options are possible for medical waste, including incineration, disinfection, and sterilization. The type of treatment also affects acceptable disposal options. The disposal in landfills of untreated medical waste including sharp waste and infectious waste is not permitted.

32. **Sub-Decree ANK/BK No. 27 (April 1999) - Water Pollution Control.**<sup>8</sup> The purpose of the sub-decree is to regulate water pollution control in order to prevent and reduce the water pollution of public water bodies so that the protection of human health and the conservation of biodiversity can be ensured. It also applies to all sources of pollution and all activities causing pollution of public water areas. Additionally, it also gives the pollution types, effluent standards, and water quality standards in different areas.

33. As a minimum, all discharges of liquid wastes from construction camps, work sites or operations, to streams or water courses should be: biological oxygen demand (BOD) < 50mg/L; Turbidity <5 NTU; SS <50 mg/L; Temperature <45°C; pH = 6-9; Oil & Grease <5 mg/L and Dissolved Oxygen >4 mg/L.

34. There is no legal standard for performance of onsite septic tanks, but these should be checked for correct operation to avoid smell, overflowing and surface water logging.

35. **Sub-Decree ANK/BK No. 86 (Construction permits).** Chapter 1, Article 2 of the Sub-Decree ANK/BK No. 86 (December 1997) indicates that reconstruction, renovation, expansions and floor additions of existing building shall be subject to construction permit, which applies to public and private facilities of more than 3,000m<sup>2</sup> of floor space and extension including existing buildings of a surface of more of 3,000m<sup>2</sup>. The project including the AF component is thus not subject to construction permit by the Ministry of Land Management, Urban Planning, and Construction. The construction and/or refurbishment activities are on existing referral hospital compounds which are government-owned land, with a footprint significantly lower than 3,000m<sup>2</sup>.

## ***B2. Other relevant laws and regulations***

36. **Royal Decree “Protected Natural Areas”** issued in November 1993 gives protection to environment, land, forests, wetlands and coastal zones. The decree covers twenty-three (23) locations representing 18% of Cambodia’s total area and is under the jurisdiction of the Ministry of Environment.

37. The Prakas on Prohibition of Hunting and Catching Wildlife Animals, 1996 specifically bans hunting of animals and birds for food. All contractor’s workers must observe this law.

38. In 2008, Cambodia introduced the **Protected Area Law** (No. NS/RKM/0208/07), which explicitly defines protected areas as (i) national parks; (ii) wildlife sanctuaries; (iii) protected landscapes; (iv) multiple use areas; (v) Ramsar sites; (vi) biosphere reserves; (viii) natural heritage sites; and (ix) marine parks.

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<sup>8</sup> Sub-Decree on Water Pollution Control, No. 27 ANRK.BK issued 6 April 1999.

39. The **Labor Law** of 1997 governs relations between employers and workers resulting from employment contracts to be performed within Cambodia.<sup>9</sup> The key sections relevant to this project include:

- Chapter VIII Health and Safety of Worker. The key provisions relate to the quality of the premises; cleaning and hygiene; lodging of personnel, if applicable (such as workers camp); ventilation and sanitation; individual protective instruments and work clothes; lighting and noise levels in the workplace.
- Article 230: Work places must guarantee the safety of workers.
- Article 248: All occupational illness, as defined by law, shall be considered a work-related accident. The law also sets out how accidents should be managed in terms of compensation.

### ***B3. Applicable Prakas and Guidelines from Ministry of Health (MOH)***

40. MOH provides the legal framework for managing the environmental and social risks in the health sector and issues regulations relating to medical waste management through sub-decrees and technical guidelines on waste segregation, collection, storage, transportation, treatment and disposal. In 2008, the MOH issued the **Regulation (Prakas) on Healthcare Waste Management in Cambodia**.<sup>10</sup> The Prakas defines medical waste as waste which consists wholly or partly of human or animal tissue, blood or other body fluids, excretions, drugs, or other pharmaceutical products, swabs or dressings, syringes, needles or other sharp instruments. The Prakas provides definitions of all categories of medical waste; the requirements for the identification, labelling and classification of medical waste; and technical requirements for segregation, collection, storage, handling, transportation, treatment, and disposal of all categories of wastes generated from healthcare establishments in Cambodia.

41. Based on Article 18 of the Prakas, treatment and disposal of medical waste may be through high temperature incineration, sterilization chemical treatment, dry and wet treatment, microwave, landfilling, or inertization and encapsulation. The emissions from incineration must comply with the maximum allowable discharge levels of particulate matter and the maximum allowable concentration of hazardous substance in ambient air in accordance with MOE Sub-Decree ANK/BK No. 42 (July 2000) on the control of air pollution and noise disturbance. Per sub-decree, incinerators should be designed with combustion temperature ranging from 800°C – 1200 °C.

42. The **Technical Guideline on Healthcare Waste Management (2012)** issued by the MOH provide technical specifications for specific components of medical waste management.<sup>11</sup> The guideline operationalizes the MOH Prakas on Healthcare Waste Management (2008) as well as the MOE Law on Environmental Protection and Natural Resource Management (1996) and its Sub-Decree 36 on Solid Waste Management (1999). The guideline defines subcategories of medical waste, including: infectious waste, pathological waste, sharp waste, pharmaceutical waste, genotoxic waste, chemical waste, waste with high content of heavy metals, pressurized containers and radioactive waste. The guideline provides technical specifications for specific components of medical waste management, including (i) segregation, packaging, labelling and temporary storage for medical waste; (ii) medical waste transportation; (iii) local pre-treatment

<sup>9</sup> Labour Law (1997) Decree No. CS/RKM/0397/01.

<sup>10</sup> Ministry of Health, Cambodia. 2008. Prakas on Health-Care Waste Management in Cambodia. Phnom Penh.

<sup>11</sup> Ministry of Health, Cambodia. 2011. Technical Guidelines on Healthcare Waste Management. Phnom Penh.

and/or disposal (encapsulation); and (iv) treatment and safe disposal (landfilling). The guideline also defines medical waste management policy requirements for health care facilities (HCF) (section 5).

43. **The National Guidelines for IPC in Health Facilities (2017)** issued by MOH provide detailed measures and procedures for standard precautions, transmission-based precautions and specific procedures for managing patients in isolation unit/centers.<sup>12</sup> The guidelines also specify requirements for safe medical waste handling and storage within HCF, in line with the MOH Technical Guideline on Healthcare Waste Management (2012). The national guidelines are consistent with World Health Organization (WHO)'s guidelines for IPC in health facilities.

44. **COVID-19 related laws and guidelines.** The Government of Cambodia issued a law on Prevention of COVID-19 Pandemic on 12 March 2021. The law sets forth health, administrative and other measures to be taken in order to combat and prevent the spread of COVID-19 and other severe and dangerous contagious diseases for the purpose of protecting people's lives, public health, and public order. The Government of Cambodia also worked closely with WHO to develop guidelines for combating the COVID-19 pandemic, and has established a hotline (115) that is free of charge.

#### ***B4. International Conventions***

45. The Government of Cambodia is signatory to the following relevant environmental treaties and conventions:

- UNESCO World Heritage Convention, 1991;
- UN Framework Convention on Climate Change (UNFCCC), ratified in 1995;
- Kyoto Protocol, ratified in 2002;
- Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal, 2001;
- Vienna Convention for the Protection of the Ozone Layer and its Montreal Protocol on Substances that Deplete the Ozone Layer, 2001;
- Stockholm Convention on Persistent Organic Pollutants, 2001;
- Convention on Biological Diversity, 1995;
- Cartagena Protocol on Biosafety, 2003;
- UN Convention to Combat Desertification (UNCCD), ratified in 1997;
- Ramsar Convention on Wetlands, 1999; and
- CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), 1997.

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<sup>12</sup> Ministry of Health, Cambodia. 2017. National Guidelines for IPC in Health Facilities. Phnom Penh.



### III. DESCRIPTION OF THE PROJECT

#### A. Original Project

##### ***A1. Impact, Outcomes, Project Overview***

46. The original project is helping Cambodia, the Lao People's Democratic Republic (Lao PDR), Myanmar, and Viet Nam comply with the International Health Regulations (IHR) and the requirement to develop core health system capacities to respond to public health threats of national and international concern.<sup>13</sup> Project investments support three outputs: (i) regional cooperation and communicable disease control in border areas improved, (ii) national disease surveillance and outbreak response system strengthened, and (iii) laboratory services and hospital infection prevention and control (IPC) improved. The Asian Development Bank (ADB) approved the original project on 22 November 2016, for a total of \$125 million equivalent to Cambodia, the Lao PDR, Myanmar, and Viet Nam.

47. The project is aligned with the following impact: GMS public health security strengthened.<sup>14</sup> The project will have the following outcome: GMS health system performance with regard to health security improved.

##### ***A2. Subproject locations***

48. The original project is being implemented in 14 provinces, including investments for 53 provincial and district referral hospitals. The proposed provinces include: at the northeast border with Lao PDR and Viet Nam: Preah Vihear, Stung Treng, Ratanakiri, Monduliri and Kratie; at the northwest border with Thailand: Battambang, Pailin, Banteay Meanchey; and at the southeast border with Viet Nam: Kandal, Kampot, Prey Veng, Svay Rieng and Tboung Khmum. These are poor border districts hospitals in provinces in terms of shortage of equipment for infection prevention and control (IPC) and Laboratory bio-safety. The northeastern provinces are indigenous peoples populated area. The main focus of the original project is on the border provinces and districts. The map below shows the provinces including the referral hospitals included in the original project.

<sup>13</sup> World Health Organization (WHO). 2016. *International Health Regulations (2005). Third Edition*. Geneva.

<sup>14</sup> Defined by the Greater Mekong Subregion Health Security Project.



### A3. Project Outputs

49. The original project includes 3 outputs, as described below.

50. **Output 1: Strengthening regional, cross-border, and inter-sectoral CDC.** MOH has made progress with regional information sharing and inter-sectoral and cross-border cooperation for CDC. In border areas, MEVs are more likely to get and spread infectious diseases and are less using formal health services. Under this component, the Project supports (i) regional, cross-border, and inter-sectoral information sharing and coordination of outbreak control among GMS countries, (ii) regional capacity for evidence-based CDC, (iii) development of better disease control strategies for MEVs in border areas, and (iv) increased CDC for MEVs in hotspots along economic corridors in targeted border areas. Support is needed for information exchange, simulation exercises, joint outbreak control, strategic planning for MEV disease control strategies in border areas, outreach to MEVs, and improving access of MEVs to CDC.

51. **Output 2: Strengthening national disease surveillance and outbreak response.** MOH has a functioning surveillance system for notifiable diseases in place, and surveillance of HIV, malaria and tuberculosis is strong. However, the system needs to be further computerized, extended to reach all health centers and communities by employing syndromic reporting, and data management has to be improved. Linkages or integration among surveillance systems with Health Management Information System/District Health Information System will also be considered. MOH also needs to improve capacity for risk analysis, community preparedness, and

disease outbreak response. Under this output, the Project supports: (i) syndromic reporting at community level; (ii) web-based reporting including information technology support; (iii) linking of disease surveillance systems, including linking clinical and laboratory surveillance; (iv) improving capacity for risk analysis, risk communication, and community preparedness; (v) improving capacity of outbreak response teams including transport; and (vi) improving screening and quarantine capacity at border points of entry and quarantine centers. Support is needed for system design, training information technology equipment, vehicles, training, and equipment for screening and outbreak control.

**52. Output 3: Improving laboratory services and hospital infection prevention and control.** District facilities are unable to comply with internationally acceptable levels of biosafety or to guarantee the accuracy of their laboratory testing. Underlying problems are substandard training of laboratory staff, lack of quality control, and insufficient facilities, equipment, and supplies. The quality assurance systems are in a nascent stage, and there are no national laboratory audit systems. Nosocomial or hospital-acquired infections are becoming a major public health threat. Under this component, it is proposed that the Project supports improving biosafety and quality of laboratory services and expanding services for CDC. Inputs will be (i) staff training for provincial and district hospitals for internal quality improvement, (ii) preparing standard operating procedures, (iii) providing basic equipment, supplies and minor repairs for laboratory facilities, (iv) setting up external quality assurance and audit system for compliance with national biosafety and quality guidelines, and (v) setting up a laboratory network. For infection control in hospitals, the Project will support roll out of IPC through training in hospital hygiene and special case management, provision of basic equipment and minor repairs of wards.

**53.** A more detailed description of the activities under the original project which involve (or involved) minor construction works and/or equipment installation is presented in **Appendix 1**. The description includes the full list of participating referral hospitals including a description of existing services, and works (to be) executed in those facilities.

## **B. Additional Financing**

**54.** Cambodia's early efforts to build preparedness and response capacity for COVID-19 were guided by MOH's Response Plan for COVID-19: March 2020 to February 2021.<sup>15</sup> The one-year plan prioritized nine focus areas for health system strengthening specific to COVID-19 readiness.<sup>16</sup> In 2021 MOH incorporated the roll-out of COVID-19 vaccination as a key pillar of the country's response strategy.<sup>17</sup> However, with a third of the population under the age of 16, efforts to achieve herd immunity will be hindered until vaccines are approved for use in this age group. Variants of the virus have the potential to further impede the efficacy of vaccination as a sole control strategy. MOH recognize a parallel need to accelerate efforts to build health system capacity in-line with the IHR.<sup>18</sup> The IHR require State parties to develop minimum core public health capacities to detect, assess, report, and respond to public health events of national and international concern. Despite progress towards these requirements, Cambodia's compliance

<sup>15</sup> MOH. *Cambodia Response Plan for COVID-19. March 2020 to February 2021*.

<sup>16</sup> The plan was aligned with the focus areas under WHO's Strategic Preparedness and Response Plan for COVID-19. WHO. 3 February 2020 (Draft). [2019 Novel Coronavirus \(2019 nCoV\): Strategic Preparedness and Response Plan](#). Geneva.

<sup>17</sup> Ministry of Health. 2021. *National Deployment and Vaccination Plan For COVID-19 Vaccines*. Phnom Penh.

<sup>18</sup> Government of Cambodia. 2016. *Cambodian National Work Plan for Emerging Diseases and Public Health Emergencies to Achieve IHR Core Capacities 2016–2020*. Phnom Penh

across the 13 IHR core capacity areas is 50%.<sup>19</sup> Deficiencies are most pronounced at the subnational level, particularly across the IHR core capacity areas of health service provision, laboratory, surveillance and risk communications.

55. In early 2021, the Government of Cambodia has requested \$25 million additional financing for the GMS Health Security Project to strengthen preparedness and response capacity of the health system for COVID-19 and other emerging disease threats. The project will include \$5 million grant financing from the Japan Fund for Poverty Reduction (JFPR) to support interventions on COVID-19 surveillance, response and clinical care. The JFPR grant will finance ICT and oxygen therapy equipment; ambulances; consulting services and specified training, workshops and community mobilization expenditure. The proposed additional financing will support the Ministry of Health (MOH) in responding to coronavirus disease (COVID-19). The additional financing will provide targeted investment for 81 provincial and district referral hospitals not supported under the original project requiring immediate upgrading of hospital clinical care, laboratory, IPC, and human resource capacity to respond to COVID-19 and other future public health threats. Further, the proposed project will strengthen for surveillance, response, and risk communications capacity for COVID-19 and other epidemic prone diseases nation-wide. The additional financing project remains aligned with the outcome of the original project: Greater Mekong Subregion (GMS) health system performance with regard to health security improved.

56. The impact and outcome of the overall project remain unchanged from the original project. The additional financing will contribute to Cambodia's progress towards compliance with the requirements of the IHR and the Asia Pacific Strategy for Emerging Diseases, in-line with the original project outcome indicators.<sup>20</sup> This will be achieved through a nationwide scale-up of investment at the subnational across four IHR core capacity areas (i) health service provision, (ii) laboratory, (iii) surveillance and (iv) risk communications. Activities under the additional financing will be delivered through existing project outputs 2, 3 and 4.

57. **Output 2: National disease surveillance and outbreak response systems strengthened.** The project loan will finance (i) a nationwide program of trainings to strengthen subnational capacity for communicable disease prevention, detection and response; (ii) outbreak response vehicles for provincial and national agencies; and (iii) health education campaigns to enhance communities' preparedness for COVID-19 and other communicable disease threats.

58. The JFPR grant will finance computer hardware for central, provincial and district health agencies to enhance COVID-19 outbreak management and contact tracing efforts. It will support COVID-19 specific trainings for (i) surveillance staff on data management tools;<sup>21</sup> (ii) rapid response teams on outbreak management; and (iii) health and non-health staff on COVID-19 risk communications.

59. **Output 3: Laboratory services and hospital IPC improved.** The project loan will support 8 provincial hospitals and 73 district referral hospitals not included under the original project. It will (i) equip laboratories in these 81 hospitals for communicable disease diagnostics and clinical management, including COVID-19 rapid testing; (ii) renovate laboratories in 62 of

<sup>19</sup> WHO. [Electronic State Parties Self-Assessment Annual Reporting](#) (accessed 28 April 2021).

<sup>20</sup> WHO. 2017. [Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies](#). Geneva. The *Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies* provides a strategic roadmap to support country progress towards achieving the IHR core capacities.

<sup>21</sup> Including the Event Monitoring System, Media Screening System, and WHO's 'Go Data' tool.

these hospitals; (iii) install modern solid waste treatment systems to 42 hospitals; and (iv) supply medical waste treatment equipment, autoclaves, washing machines and other IPC equipment to hospitals where upgrading is required. Female and male hospital staff will be trained on laboratory and IPC practices.

60. **Output 4: Emergency preparedness and response capacity for COVID-19 strengthened.** The JFPR grant will enhance COVID-19 clinical care capacity in 14 provincial hospitals. It will equip hospitals with (i) oxygen plants for onsite generation of oxygen supply, (ii) clinical equipment for provision of oxygen therapy, and (iii) an ambulance for the transportation of COVID-19 patients requiring emergency care. Female and male clinical staff will be trained on oxygen therapy and the management for COVID-19 patients. Staff will also be trained to identify and provide support and referral options to persons affected by gender-based violence and mental health issues linked to the pandemic. Technicians will be trained in operation and maintenance of oxygen plants and ambulances.

61. A more detailed description of the activities under the additional financing loan which involve minor refurbishment works and/or equipment installation is presented in **Appendix 2**. The description includes the full list of participating referral hospitals including a description of sensitive receptors, flood history, existing services, and works to be executed or equipment to be provided in those facilities.

### **C. Project Outputs with Environmental Implications**

62. The need for an IEE under the original project is triggered by project output 3, which includes minor works, provision of laboratory and treatment equipment, and training for equipment for infection prevention and control (IPC) including laundry services and waste disposal. Outputs 1 and 2 have no significant environment implications and are not further discussed in this IEE.

63. The activities supported through the Additional Financing under outputs 3 and 4 will also require minor refurbishment works and the installation of equipment for intensive care units (ICU), diagnostic laboratories, and solid waste treatment equipment.

64. The IEE thus focuses on those potential impacts related to relevant project activities under the loan project, namely: (i) minor repair and improvement works; (ii) laboratory equipment commissioning; (iii) and installation and operation of solid waste management facilities, as described below:

65. **Project Activity 1 – Minor repair and refurbishment works.** This activity includes the minor repair and improvement works of the hospital facilities for laboratories, installation of new or upgraded equipment and auxiliary devices, IPC equipment and devices including laundry equipment, computer systems, etc. The laboratories will comply with BSL-2 or BSL-3 standard requirements for laboratories (see Table 2). All laboratory facilities will be rehabilitated in conformance with the *Building Brief for Referral Hospitals* developed by the Civil Works Group of the MOH with technical support of the World Bank and JICA, to fit the CPA guidelines for referral hospitals and to meet the minimum requirements of developing countries as recommended by the World Health Organization.<sup>22</sup>

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<sup>22</sup> Civil Works Group, Ministry of Health. 2003. *Building Brief – Referral Hospitals*. Phnom Penh.

**66. Project Activity 2 – Laboratory equipment commissioning including IPC services.**

This activity includes the mobilization, equipment installation, commissioning, demobilization, recurrent maintenance checks by the suppliers/contractors, and the operation from installation and during the life of the equipment. The equipment means the totality of the laboratory equipment, auxiliary equipment, laundry and washing/drying equipment, and relevant IPC devices and supplies, laundry equipment including the transport vehicles for the transport of laboratory specimen procured under the Project.

**67. Project Activity 3 - Waste Management facilities.** The collective activity indicates existing activities that include: (1) the storage and segregation (as applicable) of medical infectious/hazardous and non-infectious/non-hazardous wastes; (2) collection and transfer for disposal or recycling (as applicable); (3) internal and external transportation of medical waste; recycling or composting of non-hazardous wastes; and (4) disposal at: (i) an approved and dedicated disposal facility such as a provincial hospital. Under the additional financing, 42 microwave-based waste treatment systems will be installed in referral hospitals where treatment capacity gaps have been identified (see Appendix 2). The proposed microwave-based waste management will transform the medical waste from hospitals into a compact, dry, inert material, with a weight reduction of 25% and a volume reduction of 80% and it can be disposed as normal solid waste to public dumping site of municipalities.

**68.** The drawing of shelters to be constructed for the waste treatment equipment is provided in Figure 1. A microwave-based waste treatment system (STERILWAVE 100) will be applied (Figure 2). The system allows for on-site conversion of bio-hazardous medical waste including sharps into ordinary municipal waste. The waste is sterilized using microwaves and converted into inert municipal waste, reducing its volume by more than 80% and its weight by 25%. The Sterilwave 100 is particularly suited to medical facilities generating small amounts of waste. This biomedical waste management system can treat up to 20kg of waste per hour. The Sterilwave 100 was approved by the French Ministry of Health in 2017 and complies with the strictest environmental and bacteriological reduction standards. It uses a suspended vessel and rotating grinder blades to grind down all types of waste, including metallic objects. Biohazardous waste is sterilized using microwaves and converted into inert municipal waste, reducing its volume by more than 80% and its weight by 25%. Its environmental impact and operating costs are reduced while ensuring the safety of the operator. As it uses microwave technology, the Sterilwave does not need a steam generator, so there is no risk from excess pressure and no liquid effluent is produced. The system can reach a bacterial inactivation higher than international regulatory standards (up to 8log10). It is relatively safe as does not involve pressurization unlike in an autoclave.

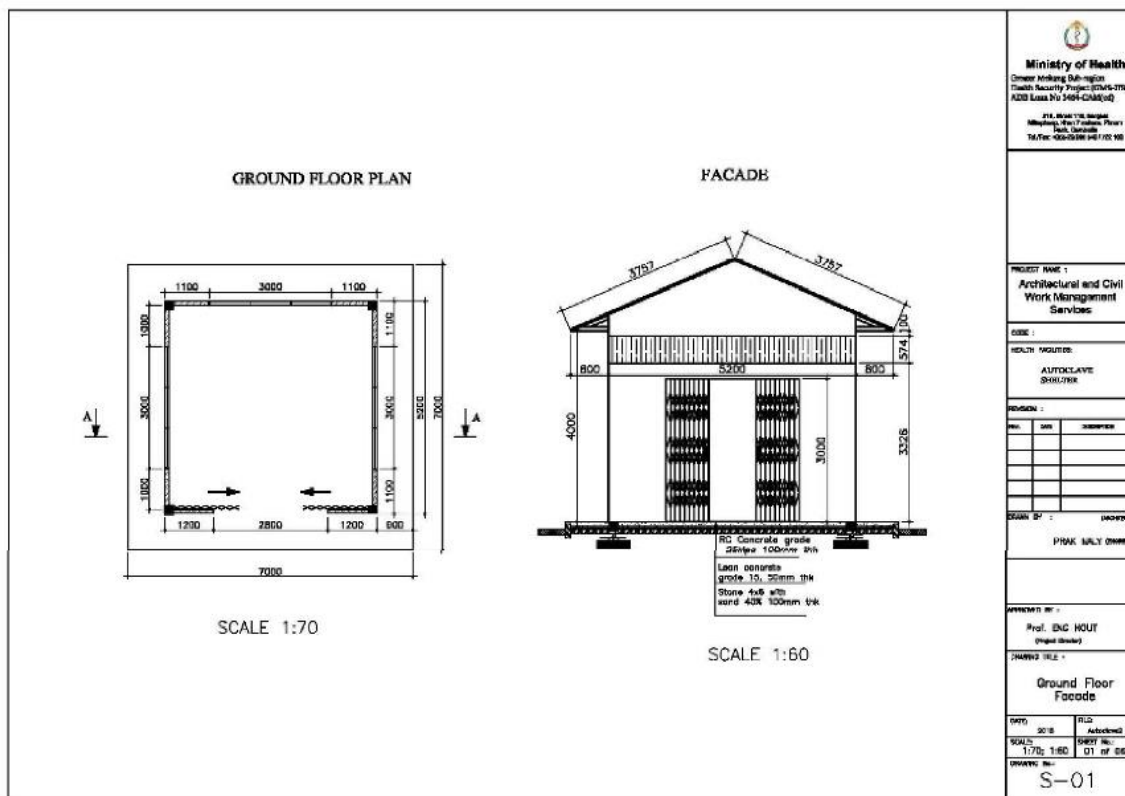


Figure 1: Layout of shelters to be built for medical waste storage and treatment



Figure 2: STERILWAVE 100 medical waste treatment system



**Table 2: Biosafety Level (BSL) requirements for laboratories****BSL-1**

As the lowest of the four, biosafety level 1 applies to laboratory settings in which personnel work with low-risk microbes that pose little to no threat of infection in healthy adults. An example of a microbe that is typically worked with at a BSL-1 is a non-pathogenic strain of *E. coli*.

This laboratory setting typically consists of research taking place on benches without the use of special contaminant equipment. A BSL-1 lab, which is not required to be isolated from surrounding facilities, houses activities that require only standard microbial practices, such as:

- Mechanical pipetting only (no mouth pipetting allowed)
- Safe sharps handling
- Avoidance of splashes or aerosols
- Daily decontamination of all work surfaces when work is complete
- Hand washing
- Prohibition of food, drink and smoking materials in lab setting
- Personal protective equipment, such as; eye protection, gloves and a lab coat or gown
- Biohazard signs
- 

BSL-1 labs also require immediate decontamination after spills. Infection materials are also decontaminated prior to disposal, generally through the use of an autoclave.

**BSL-2**

This biosafety level covers laboratories that work with agents associated with human diseases (i.e. pathogenic or infections organisms) that pose a moderate health hazard. Examples of agents typically worked with in a BSL-2 include equine encephalitis viruses and HIV, as well as *Staphylococcus aureus* (*staph infections*).

BSL-2 laboratories maintain the same standard microbial practices as BSL-1 labs, but also includes enhanced measures due to the potential risk of the aforementioned microbes. Personnel working in BSL-2 labs are expected to take even greater care to prevent injuries such as cuts and other breaches of the skin, as well as ingestion and mucous membrane exposures. In addition to BSL 1 expectation, the following practices are required in a BSL 2 lab setting:

- Appropriate personal protective equipment (PPE) must be worn, including lab coats and gloves. Eye protection and face shields can also be worn, as needed.
- All procedures that can cause infection from aerosols or splashes are performed within a biological safety cabinet (BSC).
- An autoclave or an alternative method of decontamination is available for proper disposals.
- The laboratory has self-closing, lockable doors.
- A sink and eyewash station should be readily available.
- Biohazard warning signs
- 

Access to a BSL-2 lab is far more restrictive than a BSL-1 lab. Outside personnel, or those with an increased risk of contamination, are often restricted from entering when work is being conducted.

**BSL-3**

Again building upon the two prior biosafety levels, a BSL-3 laboratory typically includes work on microbes that are either indigenous or exotic, and can cause serious or potentially lethal disease



through inhalation. Examples of microbes worked with in a BSL-3 includes; yellow fever, West Nile virus, and the bacteria that causes tuberculosis.

The microbes are so serious that the work is often strictly controlled and registered with the appropriate government agencies. Laboratory personnel are also under medical surveillance and could receive immunizations for microbes they work with. Common requirements in a BSL-3 laboratory include:

- Standard personal protective equipment must be worn, and respirators might be required
- Solid-front wraparound gowns, scrub suits or coveralls are often required
- All work with microbes must be performed within an appropriate BSC
- Access hands-free sink and eyewash are available near the exit
- Sustained directional airflow to draw air into the laboratory from clean areas towards potentially contaminated areas (Exhaust air cannot be re-circulated)
- A self-closing set of locking doors with access away from general building corridors

Access to a BSL-3 laboratory is restricted and controlled at all times.

69. Equipment purchases will be in accordance with established MOH standards and will partly replace old and non-functioning equipment, upgrade technology for existing procedures, or provide new services. The Project including the Additional Financing will also support the purchase of an initial inventory of reagents and other supplies needed to properly utilize the new equipment. Procurement and supply of equipment will be closely coordinated with the other components of the project implementation.

70. Once completed, the newly improved and renovated facilities and supplies, equipment and related devices, computers and related systems, and transport vehicles that are part of the Project need to be properly maintained to realize benefits and justify investments. The Project will ensure that hospital personnel are properly trained to use the equipment and operating manuals are supplied in the Cambodian language. The Government of Cambodia shall support the preparation of guidelines for preventive maintenance and training of hospital personnel in preventive maintenance procedures.

71. The Government of Cambodia has also assured that the supplies needed to operate the equipment, as well as the costs of maintenance will be provided during and beyond the project period through recurrent costs and adequate increases in operation and maintenance budgets.

72. Investments will be made with the assurance from the Government of Cambodia that all facilities included in this Project including the Additional Financing have adequate safe water, sanitation, and medical waste management systems, including waste water systems, proper containers to segregate contaminated and hazardous waste, proper collection and storage facilities, and access to modern medical waste treatment and disposal facilities in compliance with the country's environmental laws and the safeguards policy of the ADB. It is incumbent upon the Government of Cambodia that hospital personnel in all facilities covered by the project will be trained in the theory, methodologies, and supervision of modern medical waste and waste water management practices.

#### **D. Implementation Schedule, Institutional Arrangements**

73. The Ministry of Health (MOH), through its Department of Planning and Health Information (DPHI), is the executing agency for the original project and the additional financing. The

Communicable Diseases Control Department (CDCD) in MOH is the coordinating IA. The Director of CDCD is the Project Manager. The existing CDC2 PMU in the coordinating IA will be continued for day-to-day project implementation. The provincial health departments also serve as IAs.

74. The project management unit (PMU) of the original project will support the implementation of the additional financing, supplemented by a national IPC, a national environment consultants and a national civil engineer to coordinate EMP implementation. Implementing agencies are the Department of Communicable Disease Control, the Department of Hospital Services, the National Institute for Public Health, and provincial health departments (PHD). IPC focal points will be identified in each participating PHD and referral hospital, who will be in charge for day-to-day EMP implementation supervision. The additional financing will be implemented from 1 January 2022 to 31 December 2023.

## IV. DESCRIPTION OF THE ENVIRONMENT

### A. Overview

75. Cambodia lies in the southwestern part of the Southeast Asian peninsula and has a land area of 181,035 km<sup>2</sup>. International borders are shared with Thailand to the west, the Lao People's Democratic Republic (Lao PDR) to the north, and the Socialist Republic of Viet Nam to the east and southeast. The country has a coastline of 440 km.

76. There are three distinct topographic regions: the central plains, the flat coastal areas, and the mountain ranges with high plateaus. Two-thirds of the country's population live in the central lowlands. The country is also classified into four environmental regions, i.e. Plain, Tonle Sap, Coastal, and Plateau and Mountainous. The capital city Phnom Penh and the provinces of Tboung Khmum, Kandal, Prey Veng, Svay Rieng are situated in the Plain Region; Kratie, Monduliri, Ratanakiri, Stung Treng and Preah Vihear Provinces are in the Plateau and Mountainous Region; Kampot in the Coastal Region; and Banteay Meanchey, Battambang, and Pailin Provinces are in the Tonle Sap Region. Cambodia faces high disaster risks from flood and drought, due both to high levels of exposure and vulnerability.

77. The population of Cambodia was 16 million in 2017, with 76% living in rural areas but a very rapid rate of urbanization. Cambodia's population relies heavily on agriculture and fisheries, providing 25% of GDP but employing 49% of the country's labor force. Industry and services form rapidly growing sectors of the economy. The rate of undernourishment in Cambodia remains high, at around 15%, as does the national poverty rate. Natural resource dependence is also high, and the changes in the dynamics of the Mekong River, expected due to the largescale damming which is ongoing in most of the Mekong countries, may have negative ramifications for precarious livelihoods in Cambodia.

**Table 3: Key country indicators**

INDICATOR	VALUE
POPULATION UNDERNOURISHED <sup>23</sup>	15.3% (2014-2016)
NATIONAL POVERTY RATE <sup>24</sup>	14% (2014)
NET ANNUAL MIGRATION RATE <sup>25</sup>	-0.2% (2010-2015)
INFANT MORTALITY RATE (BETWEEN AGE 0 AND 1) <sup>25</sup>	2.99% (2010-2015)
AVERAGE ANNUAL CHANGE IN URBAN POPULATION <sup>26</sup>	1.78% (2010-2015)
DEPENDENTS PER 100 INDEPENDENT ADULTS <sup>25</sup>	84.6 (2015)
URBAN POPULATION AS % OF TOTAL POPULATION <sup>27</sup>	23.4% (2018)
EXTERNAL DEBT RATIO TO GNI <sup>28</sup>	54.4% (2016)

<sup>23</sup> FAO, IFAD, UNICEF, WFP, WHO (2017) *The state of food security and nutrition in the world. Building Resilience for peace and food security*. FAO. Rome.

<sup>24</sup> ADB (2018a) Basic Statistics 2018. Available at: <https://www.adb.org/publications/basic-statistics-2018> [accessed 11/01/19]

<sup>25</sup> UNDESA (2017) World Population Prospects 2017. Available at: <https://population.un.org/wpp/Download/Standard/Population/> [accessed 11/01/19]

<sup>26</sup> UNDESA (2018) World Urbanization Prospects 2018. Available at: <https://population.un.org/wup/Download/> [accessed 11/01/19]

<sup>27</sup> CIA (2018) *The World Factbook*. Central Intelligence Agency. Washington DC.

<sup>28</sup> ADB (2018b) Key Indicators for Asia and the Pacific 2018, 49<sup>th</sup> Edition. Asian Development Bank.

78. The site description of the 27 hospitals included in the original project scope, including photographs and maps of hospitals, access roads and topography and soils, is presented in **Appendix 1**. The description of the referral hospitals included in the Additional Financing loan is included in **Appendix 2**. None of the participating referral hospitals is located in a protected area and none is in an area of ecological interest or environmental sensitivity. The hospital campus areas do not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campuses and most are at low risk of flooding. All hospitals have direct access to double bituminous sealed treatment (DBST) roads.

## B. Climate

79. **Overview.** Cambodia's climate is tropical, with high temperatures, and two distinct seasons: a monsoon-driven rainy season (May-October) with south-westerly winds ushering in clouds and moisture that accounts for anywhere between 80-90% of the country's annual precipitation, and a dry season (November-April), with cooler temperatures, particularly between November and January. Average temperatures are relatively uniform across the country, but are highest in the early summer months before the rainy season begins, when maximum temperatures often exceed 32°C. Temperatures remain between 25-27°C throughout the rest of the year. The wet season arrives with the summer monsoon, in May through November, bringing the heaviest rainfall to the southeast and northwest. The annual average rainfall is typically 1,400-2,000mm with higher rates in the coastal and highland areas and lower rates in other inland regions. Inter-annual variations in climate result from the El Niño Southern Oscillation, which influences the nature of the monsoons in the region. El Nino events generally bring warmer and drier than average winter conditions across Southeast Asia, while La Niña episodes bring cooler than average conditions.

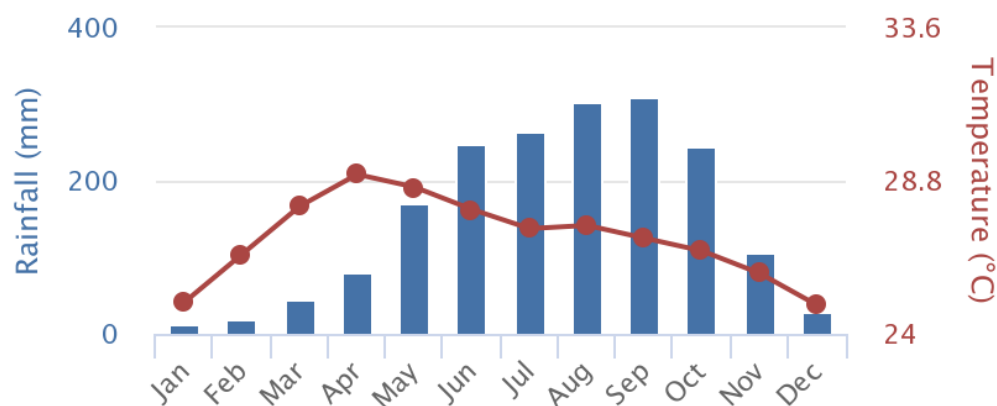


Figure 3: Average monthly temperature and rainfall in Cambodia (1901-2015)<sup>29</sup>

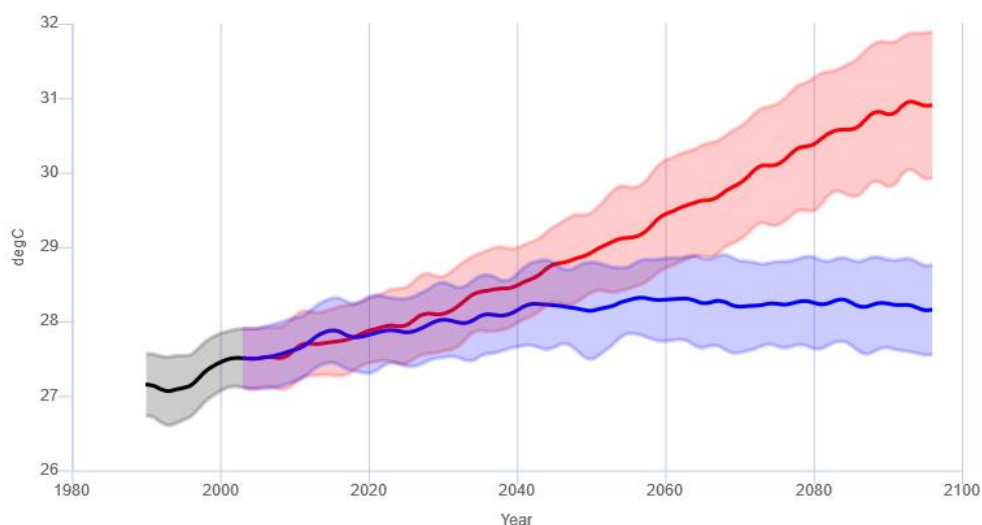
80. **Historic temperature trends.** The Berkeley Earth dataset suggests Phnom Penh has experienced around 1°C of warming over the 20<sup>th</sup> century, based on the change between 1900-

<sup>29</sup> World Bank Climate Change Knowledge Portal (2018). Climate Data: Historical. URL: <https://climateportal.worldbank.org>.

1917 and 2000-2017. Most of this warming took place in the latter half of the century, with 0.8°C reported between 1960 and 2003.<sup>30</sup> Warming is strongest in the dry season (Nov-Apr) at 0.2-0.23°C per decade, compared to 0.13-0.16°C in the wet season.

81. **Historic precipitation trends.** No statistically significant changes in precipitation were detected over the 20<sup>th</sup> century, either in terms of annual rainfall or extreme events.<sup>30</sup> Precipitation variability is linked to the El Niño Southern Oscillation phenomenon, with years of strong El Niño correlated with years of moderate and severe drought over the 20<sup>th</sup> century.<sup>31</sup>

82. **Project temperature changes.** Cambodia faces temperature rises of up to 3.1°C by 2080-2099 on the highest emissions pathway (RCP8.5), compared with the 1986-2005 baseline. The lower rates of warming projected under lower emissions pathways highlight the potential benefits of aggressive global emissions reductions over the 21<sup>st</sup> century. The projected warming is slightly below the global average of 3.7°C. There is a distinct difference between average temperature rises and rises in minimum and maximum temperatures. Annual minimum and maximum temperatures are typically projected to rise 10-20% faster than average temperatures.



**Figure 4: Historic and projected average annual temperature in Cambodia under RCP2.6 (blue) and RCP8.5 (red) estimated by the model ensemble. Shading represents the standard deviation of the model ensemble.<sup>32</sup>**

83. **Projected precipitation changes.** Most models in the ensemble project greater annual rates, with increasing levels under higher emissions pathways. However, uncertainty remains high. The poor performance of global climate models in consistently projecting precipitation trends has been linked to their poor simulation of the El Niño phenomenon,<sup>33,34</sup> an important area for future development. While considerable uncertainty surrounds projections of local long-term future precipitation trends some global trends are evident. The intensity of sub-daily extreme

<sup>30</sup> UNDP (2006) UNDP Climate Change Country Profiles: Cambodia. United Nations Development Programme

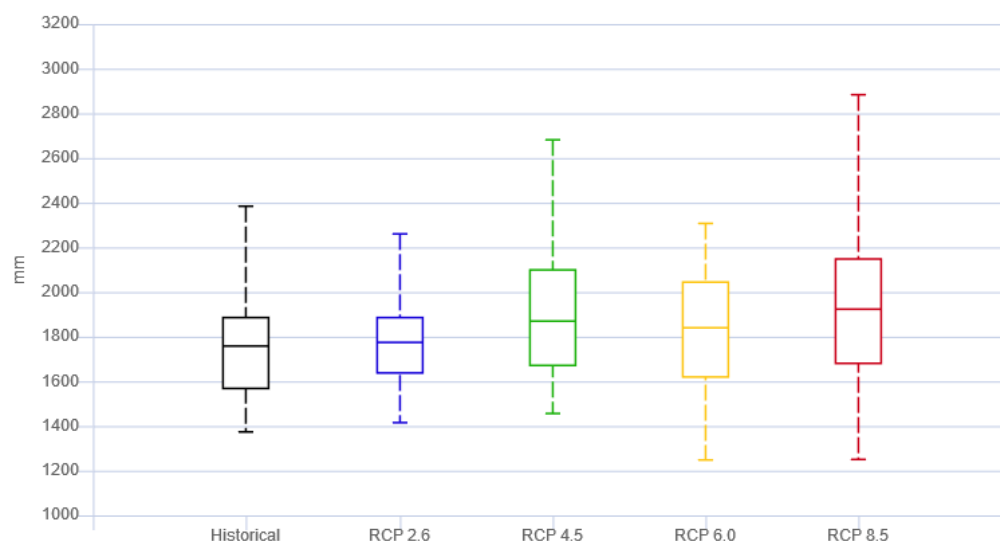
<sup>31</sup> Lyon, B. (2004). The strength of El Niño and the spatial extent of tropical drought. *Advances in Geosciences*, 31

<sup>32</sup> World Bank Climate Change Knowledge Portal (2018). Climate by Sector: Interactive Climate Indicator Dashboard. URL: <https://climateportal.worldbank.org>.

<sup>33</sup> Yun, K.S., Yeh, S.W. and Ha, K.J. 2016. Inter-El Niño variability in CMIP5 models: Model deficiencies and future changes. *Journal of Geophysical Research: Atmospheres*, 121, 3894-3906.

<sup>34</sup> Chen, C., Cane, M.A., Wittenberg, A.T. and Chen, D. 2017. ENSO in the CMIP5 simulations: life cycles, diversity, and responses to climate change. *Journal of Climate*, 30, 775-801.

rainfall events appears to be increasing with temperature, a finding supported by evidence from different regions of Asia.<sup>35</sup> The limited available research specific to Cambodia broadly supports this trend. However, further research is required.



**Figure 5: Projected average annual precipitation for Cambodia in the period 2080-2099.** <sup>36</sup>

84. **Disaster risk.** Cambodia faces high disaster risk levels, ranked 53 out of 191 countries by the 2019 Inform Risk Index (**Table 4**), driven particularly by its exposure to flood hazard. Cambodia has extremely high exposure to flooding (ranked joint 4<sup>th</sup>), including, riverine and flash flooding. Cambodia also has some limited exposure to tropical cyclones and their associated hazards (ranked 39<sup>th</sup>). Drought exposure is slightly lower (ranked 54<sup>th</sup>), but is still significant as highlighted by the severe drought of 2015-2017. Cambodia's overall ranking on the INFORM risk index is somewhat exacerbated by its lack of coping capacity and to a lesser extent by the vulnerability of the population.

**Table 4: Selected indicators from the INFORM 2019 Index for Risk Management for Cambodia**

FLOOD	TROPICAL CYCLONE	DROUGHT	VULNERABILITY	LACK OF COPING CAPACITY	OVERALL INFORM RISK LEVEL	RANK
(0-10)	(0-10)	(0-10)	(0-10)	(0-10)	(0-10)	(1-191)
9.5 [4.5]	4.0 [1.7]	4.7 [3.2]	3.8 [3.6]	6.6 [4.5]	4.8 [3.8]	53

Note: For the sub-categories of risk (e.g. "Flood") higher scores represent greater risks. Conversely the most at-risk country is ranked 1<sup>st</sup>. Global average scores are shown in brackets.

85. **Heat waves.** Cambodia regularly experiences high maximum temperatures, with an average monthly maximum of around 31.6°C and an average April maximum of 34.4°C. The current median probability of a heat wave (defined as a period of 3 or more days where the daily

<sup>35</sup> Westra, S., Fowler, H. J., Evans, J. P., Alexander, L. V., Berg, P., Johnson, F., Kendon, E. J., Lenderink, G., Roberts, N. (2014). Future changes to the intensity and frequency of short-duration extreme rainfall. *Reviews of Geophysics*, 52, 522–555.

<sup>36</sup> World Bank Climate Change Knowledge Portal (2018). Climate by Sector: Interactive Climate Indicator Dashboard. URL: <https://climateportal.worldbank.org>.

temperature is above the long-term 95th percentile of daily mean temperature) is around 3%.<sup>37</sup>

86. **Flood risk.** The World Resources Institute's AQUEDUCT Global Flood Analyzer can be used to establish a baseline level of flood exposure. As of 2010, assuming protection for up to a 1-in-25 year event, the population annually affected by flooding in Cambodia is estimated at 90,000 people and expected annual urban damage is estimated at \$105 million. Economic development and climate change are both expected to increase these figures. The climate change component can be isolated and by 2030 is expected to increase the annually affected population by 70,000 people, and urban damage by \$226 million under the RCP8.5 emissions pathway (AQUEDUCT Scenario B).<sup>38</sup>

87. Paltan et al. (2018) demonstrate that even under lower emissions pathways, consistent with the Paris Climate Agreement almost all Asian countries face an increase in the frequency of extreme river flows.<sup>39</sup> What would historically have been a 1-in-100 year flow, could become a 1-in-50 year or 1-in-25 year event in most of South, Southeast, and East Asia. There is good agreement among models about this trend.

88. In terms of the proportion of the population affected Cambodia is one of the world's most flood-exposed countries in the world.<sup>40</sup> Willner et al. (2018) suggest that around 4 million people, or 25% of the population, are affected when an extreme river flood strikes.<sup>41</sup> Another study conducted by the World Bank put the increase in the population exposed to flood by 2050 at 19%.<sup>42</sup> The UNISDR estimate that Cambodia experiences over \$250 million in average annual losses (just over 1% of GDP). Vastila et al. (2010) show that increases in rainfall during the wet season (i.e. increasing extremes) resulting from climate change have strong potential to increase the peak discharge of the Mekong river and hence increase the population exposed to river flooding in the vicinity of its floodplains.<sup>43</sup> However, the impact of upstream hydropower development along the Mekong and its tributaries may act to offset the climate change signal, causing dry season flows to increase and wet season flows to reduce.<sup>44</sup>

### C. Air Quality

89. At the beginning of 2021, Cambodia was experiencing a period of "Moderate" quality air, according to recommended levels by the World Health Organisation (WHO). The concentration

<sup>37</sup> World Bank Climate Change Knowledge Portal (2018). Climate by Sector: Interactive Climate Indicator Dashboard. URL: <https://climateportal.worldbank.org>.

<sup>38</sup> WRI (2018) AQUEDUCT Global Flood Analyzer. Available at: <https://floods.wri.org/#> [Accessed: 22/11/2018]

<sup>39</sup> Paltan, H., Allen, M., Haustein, K., Fuldauer, L., & Dadson, S. (2018). Global implications of 1.5°C and 2°C warmer worlds on extreme river flows Global implications of 1.5°C and 2°C warmer worlds on extreme river flows. *Environmental Research Letters*, 13. <https://doi.org/10.1088/1748-9326/aad985>

<sup>40</sup> Kundzewicz, Z. W., Kanae, S., Seneviratne, S. I., Handmer, J., Nicholls, N., Peduzzi, P., ... Sherstyukov, B. (2014). Flood risk and climate change: global and regional perspectives. *Hydrological Sciences Journal*, 59(1), 1–28

<sup>41</sup> Willner, S., Levermann, A., Zhao, F., Frieler, K. (2018) Adaptation required to preserve future high-end river flood risk at present levels. *Science Advances*: 4:1

<sup>42</sup> Winsemius, Hessel C.; Jongman, Brenden; Veldkamp, Ted I.E.; Hallegatte, Stephane; Bangalore, Mook; Ward, Philip J.. 2015. Disaster risk, climate change, and poverty : assessing the global exposure of poor people to floods and droughts (English). Policy Research working paper; no. WPS 7480. Washington, D.C. : World Bank Group.

<sup>43</sup> Vastila, K., Kumm, M., Sangmanee, C., & Chinvarno, S. (2010). Modelling climate change impacts on the flood pulse in the Lower Mekong floodplains. *Journal of Water and Climate Change*, 1(1), 67–86

<sup>44</sup> Lauri, H., de Moel, H., Ward, P. J., Rasanen, T. A., Keskinen, M., & Kumm, M. (2012). Future changes in Mekong River hydrology: impact of climate change and reservoir operation on discharge. *Hydrology and Earth System Sciences*, 16(12), 4603–4619



of the PM<sub>2.5</sub> pollutant was 20.9 µg/m<sup>3</sup>.<sup>45</sup> According to figures from 2019, Phnom Penh, the capital city, experienced “Moderate” quality air for 11 months of the year with figures between 12.1 and 35.4 µg/m<sup>3</sup>. Only during August was the quality any better with a “Good” reading of 10.2 µg/m<sup>3</sup>. Looking back over the years, the air quality is getting slightly worse. In 2017 it was 20.8 µg/m<sup>3</sup>, 2018 - 20.1 µg/m<sup>3</sup> and in 2019 it was 21.1 µg/m<sup>3</sup>.

90. Because of the climate and the cycle of the seasons, the quantity of dust in the air is significantly higher in the dry season. Most of Cambodia is agricultural land covered with sparse vegetation. As most of it is relatively flat, the winds pick up the dry dust from the land and carry it towards the cities. As the wind meets a building or other object it loses its ability to carry as much, consequently, it drops its contents, i.e. the dust. The dry season can last between 5 to 6 months.

#### **D. Water resources**

91. In rural area of Cambodia, people traditionally use rivers, lakes, ponds and shallow dug wells for their domestic water needs. In the rainy season, people mainly use rainwater for drinking and cooking. Access to clean water drinking (piped water supply) varies significantly throughout the country. From socio-economic survey of National Road No.56, 2012 shows that 37% sourced their drinking water from ponds or lakes while 34% have piped water supply and 16% fetched their drinking water from tube wells. Others 13% use river/canal or buy or catch rainwater for their daily consumption. Generally, in Cambodia only 30% of rural populations have access to safe drinking water.

92. The referral hospitals are connected to and accessing public municipal water supply systems, with some relying on groundwater through drilled wells/boreholes wells.

93. The Mekong River is a prominent geographical feature of the country, flowing from Lao PDR in the north to the Mekong Delta of Viet Nam in the south and feeding the Tonle Sap lake. The Tonle Sap is a vital natural resource, covering almost 10% of the nation’s surface area during the peak of the Southwest Monsoon season and constituting the nation’s primary protein source. Cambodia’s topography includes the low-lying central plains of the Mekong, which are surrounded by mountainous and highland regions.

94. Groundwater in Cambodia is plentiful but water quality is important as current and future development projects include accessing groundwater resources for drinking and irrigation. Additionally, various chemicals present in the groundwater can cause serious health problems or water that tastes unpleasant. Since 2005, Rural/research Development Institute (RDI) has tested over 10,000 wells as part of a program to characterize water quality throughout Cambodia. More than fifty percent of Cambodians rely on groundwater for drinking in the dry season (2008 census).

#### **E. Ecological resources**

95. Cambodia is rich in biodiversity. It is home to the third-largest lowland dry evergreen forest in Southeast Asia, with 2,300 plant species, 14 endangered animals, and one of seven elephant corridors left in the world.<sup>46</sup>

<sup>45</sup> <https://www.igair.com/cambodia>

<sup>46</sup> <https://www.usaid.gov/cambodia/environment-and-global-climate-change>



96. Nearly 40 percent of Cambodia's land is protected. Many protected areas were created by royal decree in 1993 to protect ecologically and culturally important places. More detailed guidelines on managing the country's protected areas came in the 2008 Protected Areas Law. By late 2017, Cambodia had almost 50 protected areas. These covered more than 7.5 million hectares – the equivalent of 41 percent of the country's total land. In October 2017 it was reported that the environment ministry was preparing to recommend a further six areas for protection.<sup>47</sup> In early 2017 the government announced a new sub-decree that protects almost 1.5 million hectares as "Biodiversity Conservation Corridors".<sup>48</sup> The new corridors connect existing protected areas, allowing species migration. They are found in Keo Seima and Snuol districts, the Phnom Proek forest, along the Phnom Kravanh mountains in Pursat and Koh Kong province, and in the Prey Lang and Kulen Prum Tep forests.



**Figure 6: Network of protected areas in Cambodia<sup>49</sup>**

97. According to the royal decree and sub-decrees, no clearance or building is allowed in the core or conservation zones, and development within the sustainable use or community zones

<sup>47</sup> <https://opendevelopmentcambodia.net/topics/protected-areas/>

<sup>48</sup> Touch Sokha. 2017. Newly protected areas to span 1.5 m hectares. *Phnom Penh Post*, 30 January 2017.

<sup>49</sup> <https://www.ibat-alliance.org/>

requires government approval. Any development in these areas or in adjacent areas is subject to an environmental and social impact assessment.<sup>50</sup>

98. However, illegal timber harvesting and wildlife poaching remain serious threats to preserving Cambodia's precious natural resources. Additionally, forest land conversion for agriculture, overexploitation of key species, mine exploration and undervaluing of ecological services such as soil fertility, carbon sequestration and watershed stability also contribute to Cambodia's rapid deforestation rate. Deforestation not only threatens biodiversity; it can have devastating effects of increasing flooding and erosion in the Mekong river basin, endangering livelihoods from fishing and rice cultivation, and reducing water storage and availability in the dry season.

## **F. Reference Baseline Data for Health Care Waste Management in Cambodia**

### ***F1. IPC scoring of referral hospitals***

99. A key component of the project is the improvement of health care waste management practices in the project areas. The results of a review of existing health care waste management practices in the project areas are summarized below.

100. The baseline data from IPC assessing group conducted during June 2018 is presented here. The assessment team met first with the hospital management team, especially the RH Directors and the IPC focal points/IPC committees. The team was split into 2 sub-groups (sub-team) of 3 persons in the way that each sub-group was assessing IPC and another sub-group was conducting assessment of laboratory.

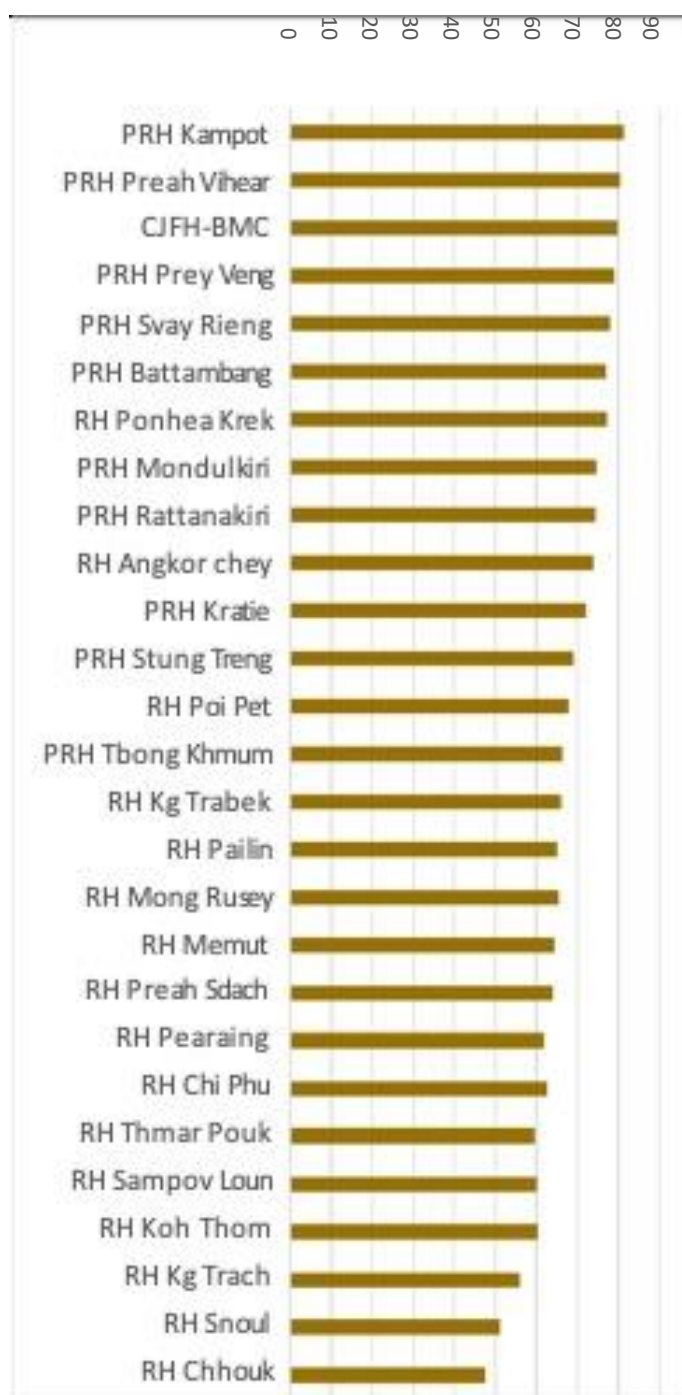
101. The assessment consisted of interviewing the concerned staff and then observing/inspecting inside the wards and outside the wards as per module (or vice-versa). All hospital units, wards, e.g. laboratory, wastes management location, garbage disposal, incinerators, washing location, laundry etc., were visited.

102. The graph below shows the acceptable minimum scores rank from the highest 81% to lowest 48%. There are 11 hospitals out of 27 hospitals assessed having received scores more than 70%.

103. Formally in the IPC National Guidelines, the IPC M&E assessment tools are composed of 9 components which requires scores equal or more than 70%. The component no. 9 related to "Isolation Precautions" is excluded from interpretation for the gap, due to this component is not common for all hospitals, mainly not related to Complementary Package Activities (CPA-1) and (CPA-2).<sup>51</sup> It is identified the gaps only within 8 components, focusing mainly on those whose scores are lower than scoring of 70%. The gaps are identified in 4 components, (1) IPC program (organization and structure); (2) cleaning– Sterilization; (3) Health care wastes management; (4) Personal Protective Equipment (PPE). Figure 7 below shows the gaps to be addressed in the 4 components:

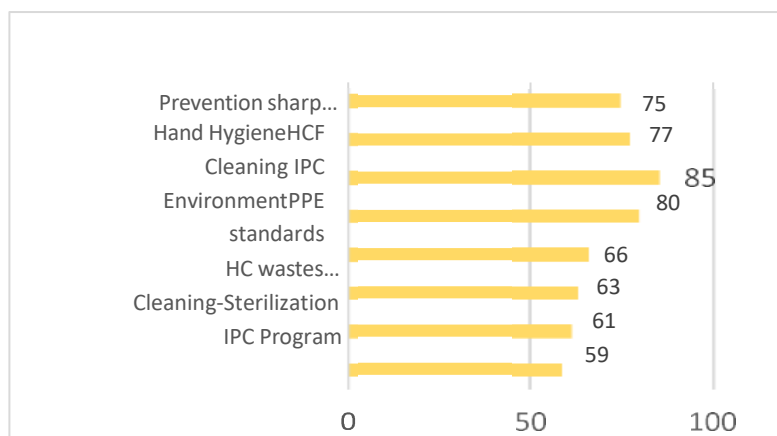
<sup>50</sup> Protected Areas Law 2008, Articles 36 & 44.

<sup>51</sup> CPA is a classification of hospitals in terms of equipment and services including CPA1, CPA2, CPA3. The CPA1 is lowest level of hospital.



**Figure 7: IPC scoring of referral hospitals**

	IPC Components	Scores
1	IPC Program	59
6	Cleaning-Sterilization	61
7	HC wastes management	63
5	PPE standards	66
2	IPC Environment	80
3	HCF Cleaning	85
4	Hand Hygiene	77
8	Prevention sharp injuries	75



**Figure 8: IPC scoring for various IPC elements**

104. Based on the average score per Referral Hospital (RH), three categories of RH were established in terms of gaps filling intervention priority. The RH with a score lower than 60% should be the 1<sup>st</sup> group priority, in terms of equipment and consumables, as well as capacity building. Priority no. 2 goes to hospitals whose scores are between 60% and 69% and priority no.3 for those whose scores are equal or above 70%. Consequently, 3 of 27 assessed RHs were in the first (1<sup>st</sup>) priority group, 13 RHs were in the second (2<sup>nd</sup>) priority group, and 11 RHs were in the third (3<sup>rd</sup>) priority group. Additional criteria priority should be for RH located closer to the border area and/or economic corridor. These findings should be taken into account while developing IPC improvement plan, e. g. proposed IPC activities and training plan and the establishment of the supply list of equipment and consumables.

## **F2. Healthcare Waste Generation**

105. Healthcare waste (medical waste) generated from hospitals includes both non-hazardous waste and hazardous waste. No quantification of non-infectious and infectious waste components of medical waste has been available in the project areas surveyed. WHO estimates that about 85% of the medical waste from developing countries is non-infectious or generally risk-free healthcare waste, which is comparable to domestic waste. The remaining 15% of healthcare waste is regarded as hazardous and may create a variety of health risks. The MOH in Cambodia states that about 80% of the medical waste generated in a health care facility is general waste while the remaining 20% comprises wastes that contain harmful microorganisms that can cause infections and outbreaks while other hazardous substances can affect human/animal lives and cause toxicity and environmental pollution, respectively. Hazardous healthcare waste can be classified into the following categories: infectious waste, highly infectious waste, sharps, pathological/anatomical waste, pharmaceutical waste, genotoxic waste, chemical waste, waste with high content of heavy metals, pressurized containers, and radioactive waste.

106. The amount of medical waste generated depends on the hospital size and its scope of services. There has been no data recorded of medical waste generation rates in Cambodia. According to surveys on medical waste management conducted by the MOH in Viet Nam and WHO, a provincial general hospital typically generates 0.64 kg/bed/day of general medical waste and 0.14 kg/bed/day of hazardous medical waste, while a district hospital typically generates 0.62 kg/bed/day of general medical waste and 0.11 kg/bed/day of hazardous medical waste.

Assuming each provincial hospital has 200 beds, hence  $0.64\text{kg} \times 200 = 128\text{kg/day/hospital}$  and hazardous medical waste  $= 0.14\text{kg} \times 200 = 28\text{kg/day}$ . 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 share represent less than 1%.

### ***F3. Healthcare Waste Prevention and Minimization***

107. The prevention of waste production and/or its reduction/minimization is not regularly practiced by healthcare establishments in Cambodia. Measures such as source reduction (modification of purchasing procedures, control of inventory, and production of less toxic materials), good management and control practices applied particularly to the purchase and use of chemicals and pharmaceuticals, and using of recyclable materials are not typically implemented.

108. Healthcare waste contains quantities of valuable and recyclable materials such as plastic, metals, paper and carton. However, waste recycling is not centrally implemented at hospital level despite the fact that it is carried out unofficially by the different offices.

### ***F4. Healthcare Waste Segregation***

109. Cambodia has not formally implemented segregation of wastes into color-coded bags or containers. Within the hospitals that received supports (mainly IPC) from MOH, basic segregation has been introduced but without standard operating procedures or regular training provided. Other countries like Vietnam, for example have institutionalized the segregation of three separate containers into different colors: general waste in green bags, clinical waste in yellow bags, and toxic wastes in black bags. The MOH has started to develop its own system, contained in their National Guideline on Health Care Waste Management under the leadership of the MOH and in coordination with the relevant regulations by the MOE as the regulatory body. In other developing countries, sharps are segregated and placed into rigid containers with certain specifications to avoid accidental punctures or spillage during handling. In Cambodia, the provincial hospitals who were interviewed to be accountable for the sharps. However, their treatment and ultimate disposal has not progressed into something environmentally acceptable. The provincial hospitals after collecting the hazardous wastes from the district hospitals, either incinerate them using low-temperature open incinerators or bury them at unsecured waste pits within their property boundaries. The successful practice of waste segregation and disposal is one of the biggest challenges in medical waste management in most developing countries such as Cambodia. There are limitations reported, as follows:

- (i) Knowledge, attitude and practices among waste generators including hospital staff, patients and visitors are unsatisfactory
- (ii) Supply of equipment for waste segregation, especially sharp containers is insufficient in both the district hospitals and health centers as a consequence of inadequate funding
- (iii) No system has been generally introduced as a policy by the relevant authorities for enforcement

### ***F5. Healthcare Waste Storage***

110. All of the visited district hospitals do not have a formally designated places to store healthcare waste except for different cans and bags of different sizes and materials. Most of the storage containers in district hospitals, do not meet design and operating regulations because of the following shortcomings:

- (i) The storage areas do not incorporate separate places for different categories of healthcare waste. As a result, general waste and clinical waste that were segregated at sources and separately collected and transported are mixed again at storage places. Chemical waste is not collected and centrally stored. Liquid wastes are disposed of in the sinks although some of the hospitals have separate septic vaults for liquid wastes for wastes are disposed.
- (ii) The storage areas do not have roofs and locks. Unauthorized people and animals can easily access hazardous waste.
- (iii) Storage duration often exceeds 24 hours in hot weather.

### ***F6. Healthcare Waste Collection***

111. All target provincial and district hospitals were surveyed, the staff assigned to be responsible for collecting healthcare waste from the generation point to interim storage points in the departments have been generally on an ad-hoc basis. No institutionalized committees have been formed to take on the function. Some weaknesses in collection have been observed in the region as follows:

- (i) Provision of equipment, waste containers in different sizes are not sufficient.
- (ii) There is no budget appropriation for staff nor equipment and materials to meet these recurring needs.
- (iii) Design of hazardous waste containers do not meet requirements.
- (iv) Codification and labeling, waste bags and containers, especially those for clinical waste and chemical waste are not properly color-coded and labeled.

### ***F7. Healthcare Waste Transportation***

112. Some primary health care workers are made responsible for internal collection from the district hospitals. All of the district hospitals visited lack specialized equipment for waste transportation. Hazardous waste is often transported by hand causing spillage and spread of disease throughout the hospital. Internal transportation plans in which the timetable and route of transportation are clearly identified are not available.

113. No private contractors or responsible government agency transports general waste out of the hospitals to a disposal facility. The district hospitals themselves manage their medical waste internally, except for donor-provided sharps safety boxes and certain anatomical wastes that the districts send to the provincial hospitals for disposal.

### ***F8. Healthcare Waste Treatment***

114. No models for health care waste treatment were observed in the district hospitals visited.

115. Healthcare waste treatment technologies applied in the region are (i) medium temperature incineration, (ii) low temperature incineration, (iii) waste burial, (iv) steam autoclave, (v) chemical disinfection:

- (i) Medium temperature incineration: Pyrolytic incinerators that incinerate waste at 800 – 900°C are reported to be used at the provincial hospitals but these have not been confirmed by actual visits. The emissions from incinerators have not been monitored since they were installed, but polluting gas emissions and high operating costs are reported.
- (ii) Low temperature incineration: Drum incinerators, brick incinerator or one chamber, open incinerators are still common in district hospitals even though their design is out of date. Because of low effectiveness and high environmental impacts, such incinerators are no longer recommended. The gas emissions from these incinerators have reportedly been very polluted.
- (iii) Waste burial: District hospitals bury healthcare waste on their premises. Safe burial of healthcare waste is recommended by WHO. However, in comparison with requirements of sanitary landfill, the bury pits observed in hospitals often have the following shortcomings: (i) inadequate sealing of base and sides to minimize the movement of wastewater or leachate off site, (ii) no presence of site personnel capable of effective control of daily operations, (iii) no surface water collection, (iv) access to site and working areas difficult for waste delivery and site vehicles, (v) lack of surface water collection trenches around site boundaries, (vi) lack of a final cover to minimize rainwater infiltration when each phase of the landfill is completed
- (iv) Wet thermal disinfection: Steam autoclaves are commonly used by hospitals to primarily treat highly infectious waste. Although wet thermal disinfection has been introduced in Cambodia at present, application of autoclave for healthcare waste treatment is still limited to microbiological laboratories where highly infectious waste is mostly generated.
- (v) Chemical disinfection: Using disinfectants to treat contaminated materials is very common in provincial and district hospitals. However, application of chemical disinfection for healthcare waste treatment, particularly for highly infectious waste treatment is still limited to microbiological laboratories and in areas of infectious disease outbreaks.

#### ***F9. Wastewater Collection and Treatment***

116. Hospital wastewater includes wastewater generated from healthcare activities and wastewater from toilets. Old hospitals often have a collection system for storm water, a collection system and septic tanks for wastewater from toilets but only a few of those visited have separate collection lines and separate septic tanks for wastewater generated from healthcare activities. In consequence, wastewater from healthcare activities with a high content of pathogens and certain amount of pharmaceuticals and chemicals is discharged into the stormwater system line or discharged onto the land without any treatment. Beside these weaknesses in design, there are weaknesses in operation and maintenance in terms of wastewater collection and treatment as follows:

- (i) Hospital staff often discharge chemical and pharmaceutical waste into wastewater collection systems. This practice can harm the wastewater treatment plant, if any.
- (ii) In the district hospitals areas visited, staff and patients do not know how to properly

maintain toilet and sanitary facilities in the hospitals. This often results in blockages of the wastewater collection system. Regular and corrective maintenance of wastewater collection system is rarely carried out.



## V. POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### A. Rapid Environmental Assessment, Categorization

117. In order to identify potential environmental impacts of the project components, an initial environmental screening was first carried out using the ADB rapid environmental assessment forms (REAs) to screen the proposed activities required for the installation of new or improved laboratory facilities/equipment such as minor repair, construction of building for microwave-based waste management and improvement works on the provincial and district hospitals at border provinces. The REA was conducted for the original project and the Additional Financing loan. See **Appendix 3** for forms used. While the district and provincial hospitals are all existing facilities and whatever improvements are introduced bring mostly positive health and environment impacts, the REAs concluded that some activities categorized as Category B because the project involves minor refurbishment works, the construction of small shelters, the management of infectious, hazardous, medical solid waste and wastewater, and the risks inherent in the handling of laboratory wastes.

118. The ADB safeguard policy statement 2009 requires that the project's activities need to be carefully considered to avoid and/or to minimize the negative impacts on the natural environment and social environment (including environmental public health and occupational health), and provide the appropriate measures to mitigate such impacts. In accordance with the ADB guidelines, the potential impacts of medical solid and liquid wastes including laboratory wastes, being hazardous along with deficient sanitation and laundry facilities and the lack of effective wastewater equipment and treatment systems categorizes the health facilities as having potential for negative environmental impacts that need to be mitigated.

119. The TOR initially categorized this project as requiring an Initial Environmental Examination (IEE) Report and an Environmental Management Plan both of which are required for a Category B Project. It is understood that this project was tentatively classified as a Category B from the ADB project documents during an initial screening of anticipated potential environmental impacts based on the concept document. This categorization was examined through the representative visits to the different project sites and the proposed project component descriptions and how the project proponent intends to mitigate the potential negative environmental impacts of the project.

120. In accordance with the ADB's *Safeguards Policy Statement* (2009), Category B Projects are those judged to have some adverse environmental impacts, but of lesser degree and/or significance than those for Category A projects that require a full-blown Environmental Impact Statement arising from major adverse impacts on the environment. For a Category B project, an IEE is required to determine whether or not significant environmental impacts warranting an Environmental Impact Assessment (EIA) are likely. If an EIA is not needed, the IEE is regarded as the final environmental assessment report.

### B. Environmental Assessment Methodology

121. For the original project, a survey was conducted by the safeguards consultant and the IPC consultant team in all 27 target provincial and district referral hospitals. The assessment methodology for the 81 referral hospitals included in the scope of the Additional Financing had to be adjusted given travel restrictions related to the COVID-19 pandemic. For these facilities, the

assessment was based on a questionnaire survey with participating referral hospitals and various online meetings with relevant staff. The main objectives of the field and online surveys were to:

- (i) Assess the current practices and environmental conditions, focused on the medical waste (solid and liquid) management of the health care facilities (provincial and district referral hospitals);
- (ii) Meet and discuss with hospital management, involved staff and IPC focal points, consult them about their needs and plans about the environmental management of the sub-components of the original project and the additional financing, to institute environmental safeguards from the impacts of laboratory waste, infectious disease bio-hazards, hospital safety and hygiene for infection prevention and control, and medical solid and liquid waste management; and
- (iii) Collect environmental baseline data of the representative provinces included in the target areas.

122. The surveys were carried out by a combination of methods, i.e. observation, photo-documentation, data/document review and analysis, and interview with hospital management, involved staff and IPC focal points. The survey team earlier developed sets of Rapid Environmental Assessment (REA) checklists for health care facilities. The data and information on environmental issues focused on medical solid and liquid waste management and hospital safety and hygiene for infection prevention and control of participating hospitals.

123. The Safeguards Consultant and IPC team conducted the meetings with the Provincial and district referral hospital management, staff and Laboratory staff/IPC focal points were held with participation of the relevant staff to discuss the environmental situation in their respective areas focusing on the medical and laboratory waste management.

### ***B1. Scoping of Potential Environmental Impacts and Mitigating Measures***

124. For the purposes of the assessment, the following categories of impacts have been developed:

- (i) **NO IMPACT:** The potential impact of the project is assessed as NO IMPACT if the project activity is physically removed in space or time from the environmental component, or if the impact is so small as to be un-measurable (i.e. negligible).
- (ii) **MAJOR IMPACT – POSITIVE OR NEGATIVE:** An impact is said to be MAJOR if the project has the potential to affect an environmental component. The following criteria were used to determine whether a given impact is MAJOR:
  - a. spatial scale of the impact (site, local, regional, or national/ international);
  - b. time horizon of the impact (short, medium, or long term);
  - c. magnitude of the change in the environmental component brought about by the project activities (small, moderate, large);
  - d. importance to local human populations;
  - e. compliance with international, national, provincial, or district environmental protection laws, standards, and regulations;
  - f. compliance with ADB guidelines, policies, and regulations.
- (iii) **MINOR IMPACT – POSITIVE OR NEGATIVE:** If an impact occurs but does not

meet the criteria for a Major Impact it is assigned the category MINOR. Minor impacts occur along a spectrum ranging from those impacts that are close to being major impacts to those that are close to being negligible impacts. The judgments made in relation to the position of specific impacts along this spectrum are discussed in the text accompanying the environmental screening.

- (iv) **UNKNOWN IMPACT:** The potential impact of the project will be assessed as being UNKNOWN if the magnitude of the effect cannot be predicted for any of the following reasons:
- a. the nature and location of the project activity is uncertain;
  - b. the occurrence of the environmental component within the study area is uncertain;
  - c. the time scale of the effect is unknown; or
  - d. the spatial scale over which the effect may occur is unknown.

125. These categories have been applied to other ADB infrastructure projects and have been adapted from ADB, *Safeguard Policy Statement (2009)*. The following key is used in the environmental screening.

NO impact	O
MINOR NEGATIVE impact	X
MAJOR NEGATIVE impact	XX
MINOR POSITIVE impact	+
MAJOR POSITIVE impact	++
UNKNOWN impact	?

### C. Results of Impact Assessment

126. The purpose of this section is to undertake further assessment of likely environmental impacts of the project components/sub-components based on the scoping exercise which addresses the potential impacts of the structural processes to be implemented and relevant activities under the loan program, namely: (i) minor repair and improvement works; (ii) laboratory equipment commissioning including infection prevention and control (IPC) services; (iii) operations of the existing solid waste management facilities and (iv) operation of existing wastewater treatment facilities. Since the project does not involve major civil works, the environmental assessment covers the pre-procurement, procurement/minor repair (including the commissioning stage), and the operation stage of the project (including additional financing). Only potential impacts that have direct and relevant significance are further assessed and addressed.

**Table 5: Environmental impacts and risks, mitigation measures**

Potential Impact and/or risk	Design Stage	Implementation Stage	Operation Stage	Description of Impacts and Mitigation Measures
Dust generation and air emissions	O	X	O	<p><b>Activity/Component:</b> Minor repair works and the construction of small shelters for microwave-based waste management</p> <p><b>Impact:</b> During minor repair works and the construction of small shelters for microwave-based waste management, localized, temporary negative impacts may result from dust generation from removal and installation of existing equipment, frames, cabinets, and supports to clear the way for new laboratory improvements and equipment. No impacts are expected during the operation stage.</p> <p><b>Mitigation measures</b> will include use of wet rags and vacuum cleaners for dust suppression, containment and minimization of work areas, and utilizing temporary protective curtains on existing facilities and equipment.</p>
	O	X	++	<p><b>Activity/Component:</b> Laboratory Equipment Commissioning including IPC.</p> <p><b>Impact:</b> Negative Impact as above for dust emissions during equipment installation. No significant impacts anticipated during equipment operation.</p> <p><b>Mitigation measures:</b> As a mitigating and control measure, emissions from the labs will be collected and treated to ensure the compliance with relevant environmental standards of Cambodia as current regulations on air (poison gases and odor). IPC “standard precautions” to be implemented to enhance positive impact during operations.</p>
	O	O	X	<p><b>Activity/Component:</b> Medical waste treatment equipment</p> <p><b>Impact:</b> Negative impact as above for dust emissions during equipment installation. During operation, emissions from malfunctioning medical waste treatment equipment/</p> <p><b>Mitigation measures:</b> For IPC, autoclaves will be designed and controlled to ensure compliance with relevant Cambodia air quality emissions standards namely criteria contained in MOE regulations on: air (odor and particulates) and water quality – for steam condensate of medical liquid waste from autoclaves permitted level. Non-incinerator technology will be applied for medical solid waste management facilities to ensure</p>

Potential Impact and/or risk	Design Stage	Implementation Stage	Operation Stage	Description of Impacts and Mitigation Measures
				compliance with relevant the environmental standards of Cambodia on air quality, particulates and odor.
Odor generation	O	O	O	<p><b>Activity/component:</b> Minor repair works and construction of small shelters for microwave-based waste management</p> <p><b>Impact:</b> No impact</p>
	O	O	X	<p><b>Activity/component:</b> Laboratory equipment commissioning including IPC Services.</p> <p><b>Impact:</b> During operation improper use or maintenance of lab facilities and equipment may result in minor, localized impacts from odor generation.</p> <p><b>Mitigation measures</b> will include development and implementation of guidance and action for operation of the labs and training of personnel in proper operation of the labs and microwave- based waste management.</p>
	O	O	X	<p><b>Activity/Component:</b> Medical waste treatment equipment</p> <p><b>Impact:</b> During operation improper use or maintenance of waste storage areas may result in minor, localized impacts from odor generation.</p> <p><b>Mitigation measures</b> will include development of operational procedures for temporary and permanent waste storage areas, regular removal of waste from temporary storage areas and training of personnel in proper waste management practices.</p>
	O	O	X	<p><b>Activity/Component:</b> Wastewater Treatment Facilities</p> <p><b>Impacts:</b> During operation improper use or maintenance of wastewater treatment facilities may result in minor, localized impacts from odor generation.</p> <p><b>Mitigation measures</b> will include development of appropriate operational procedures and training for personnel.</p>
Noise generation	O	X	O	<p><b>Activity/Component:</b> Minor repair works, and construction of small shelter for microwave-based waste management</p>

Potential Impact and/or risk	Design Stage	Implementation Stage	Operation Stage	Description of Impacts and Mitigation Measures
				<p><b>Impacts:</b> During minor repair and improvement work, minor, localized, temporary impacts may result from noise generation from use of tools and installation of equipment. No impacts are expected during the operation phase of the works.</p> <p><b>Mitigation measures</b> will include restriction of noisy activities to day time hours, installation of noise dampers, proper maintenance of tools and equipment, erection of temporary acoustic shields in the vicinity of sensitive receivers and notification of the affected rooms of the duration and extent of installation works.</p>
	O	X	O	<p><b>Activity/Component:</b> Laboratory equipment commissioning including IPC Services and ICUs.</p> <p>Impacts: Minor, localized, temporary impacts may result from noise generation from use of tools and installation of equipment. No impacts are expected during the operation phase.</p> <p><b>Mitigation measures:</b> same as above.</p>
	O	O	X	<p><b>Activity/Component:</b> Solid waste and wastewater management facilities</p> <p><b>Impacts:</b> During collection, transport and disposal operations, minor, localized, temporary impacts may result from noise generation from use of containers, vehicles and equipment.</p> <p><b>Mitigation measures</b> will include restriction of noisy activities to day time hours, installation of noise dampers, proper maintenance of equipment, erection of temporary acoustic shields in the vicinity of sensitive receivers and notification of the affected areas of the duration medical waste management activities.</p>
Surface water quality deterioration	O	X	O	<p><b>Activity/Component:</b> Minor repair works and the construction of small shelters for microwave-based waste management</p> <p><b>Impacts:</b> Minor negative impacts on surface water quality as a result of dirt and sediment laden drainage water from cleaning during minor civil works. This may include</p>

Potential Impact and/or risk	Design Stage	Implementation Stage	Operation Stage	Description of Impacts and Mitigation Measures
				<p>cleaning chemicals, fuels or oils used and disposal of litter and general solid waste.</p> <p><b>Mitigation measures</b> will include preparation of temporary drain containment or basins, and keeping left-over scrap materials in locations removed from the drainage ways.</p>
	O	X	X	<p><b>Activity/Component:</b> Laboratory equipment commissioning including IPC services and ICUs.</p> <p><b>Impacts:</b> Minor negative impact and mitigating measures same as above during installation stage. During operation stage, surface water quality may be adversely affected as a result of spills or leakage of chemicals generated from the laboratory activities including bio-wastes and laundry water emissions.</p> <p><b>Mitigation measures</b> will include development and operation of the O&amp;M for the labs. Wastewater from the labs will be collected and treated to ensure compliance with the current standards for the medical wastewater.</p>
	O	O	+(X)	<p><b>Activity/Component:</b> Solid Waste Management Facilities</p> <p><b>Impacts:</b> Overall, significant benefit expected from the project by improving medical waste treatment capacities of participating referral hospitals. During operation stage, surface water quality could be adversely affected by improper disposal of solid waste</p> <p><b>Mitigation measures</b> will include maintenance of storage areas and provision of bins for solid waste collection and training of solid waste collectors and hospital staff in proper health care waste management to protect waterways. Discharge from solid waste facilities will comply with criteria contained in the applicable Cambodia MOE and MOH regulations.</p>
	O	O	++(X)	<p><b>Activity/Component:</b> Laboratory wastewater treatment facilities</p> <p><b>Impacts:</b> Overall, significant benefit expected from the project by improving wastewater treatment capacities of participating referral hospitals. Negative impacts during operations of sub-standard wastewater collection and</p>

Potential Impact and/or risk	Design Stage	Implementation Stage	Operation Stage	Description of Impacts and Mitigation Measures
				<p>treatment facilities in existing provincial and district hospitals.</p> <p><b>Mitigating measures</b> will include the proper design and improvement in operations of laboratory wastewater disposal facilities with discharge that complies with the criteria contained in the current applicable MOE standards for medical wastewater.</p>
Groundwater quality deterioration, soil contamination	O	X	O	<p><b>Activity/Component:</b> Minor repair works and construction of small shelter for microwave-based waste management</p> <p><b>Impacts:</b> Minor negative impacts on groundwater quality as a result of dirt and sediment laden drainage water from cleaning during minor works and preparation for lab equipment installation that will seep through ground water sources or wells. This may include cleaning chemicals, fuels or oils used and disposal of litter and general solid waste.</p> <p><b>Mitigation measures</b> will include preparation of temporary drain containment or basins, and keeping left-over scrap.</p>
	O	X	X	<p><b>Activity/Component:</b> Laboratory equipment commissioning including IPC Services and ICUs.</p> <p><b>Impacts:</b> Minor negative impact and mitigating measures same as above during installation stage. During operation stage, groundwater quality may be adversely affected as a result of spills or leakage of chemicals generated from the laboratory activities including bio-wastes and laundry water emissions.</p> <p><b>Mitigation measures</b> will include protecting groundwater sources permanently and the development and operation of the O&amp;M for the labs. Wastewater from the labs will be collected and treated to ensure compliance with the current standards for the medical wastewater before discharging to the environment.</p>
	O	O	+ (X)	<p><b>Activity/Component:</b> Solid Waste Management Facilities</p> <p><b>Impacts:</b> Overall, significant risk reduction benefit expected from the project by improving medical waste treatment capacities of participating referral hospitals. During operation stage, ground water quality could be adversely affected by improper disposal of solid waste.</p>



Potential Impact and/or risk	Design Stage	Implementation Stage	Operation Stage	Description of Impacts and Mitigation Measures
				<b>Mitigation measures</b> will include maintenance of storage areas and provision of bins for solid waste collection and training of solid waste collectors and hospital staff in proper health care waste management to protect ground water sources. Discharge from solid waste facilities will comply with criteria contained in the applicable Cambodia MOH and MOE regulations.
	O	O	++ (X)	<p><b>Activity/Component:</b> Wastewater treatment facilities</p> <p><b>Impacts:</b> Overall, significant benefit expected from the project by improving wastewater treatment capacities of participating referral hospitals. Negative impacts during operations of sub-standard wastewater facilities in existing provincial and district hospitals with emissions that could affect groundwater quality.</p> <p><b>Mitigating measures</b> will include the proper design and improvement in operations of wastewater disposal facilities with discharge that complies with the criteria contained in the current applicable MOE standards for medical wastewater.</p>
Soil contamination	O	X	O	<p><b>Activity/Component:</b> Minor repairs and construction of small shelters for microwave-based waste management</p> <p><b>Impacts:</b> During minor works, minor impacts of cleaning activities resulting in contamination of soils with cleaning chemicals and agents from repair and improvement activities.</p> <p><b>Mitigation measures</b> will include ensuring that a barrier between the working surfaces and the soil are used to avoid contamination during the works.</p>
	O	O	++ (X)	<p><b>Activity/component:</b> Solid Waste Management Facilities</p> <p><b>Impacts:</b> Overall, significant risk reduction benefit expected from the project by improving medical waste treatment capacities of participating referral hospitals. During operation stage, soil could be adversely affected by improper disposal of solid waste particularly for hospitals that bury medical wastes into their own grounds.</p> <p><b>Mitigation measures</b> will include ensuring sealing and</p>

Potential Impact and/or risk	Design Stage	Implementation Stage	Operation Stage	Description of Impacts and Mitigation Measures
				containment of burial pits or dumping grounds prior to external municipal disposal. Discharge from solid waste facilities will comply with criteria contained in the applicable Cambodia and MOE regulations.
	O	O	X	<p><b>Activity/Component:</b> Laboratory wastewater treatment facilities</p> <p><b>Impacts:</b> Negative impacts during operation of sub-standard wastewater facilities in existing provincial and district hospitals with emissions that could affect surrounding soils.</p> <p><b>Mitigating measures</b> will include the proper design and improvement in operations of wastewater disposal facilities with discharge that complies with the criteria contained in the current applicable MOE standards for medical wastewater.</p>
Amenity of surrounding land use	O	X	O	<p><b>Activity/Component:</b> Minor repair and construction of building for microwave-based waste management</p> <p><b>Impact:</b> During implementation very minor, localized and temporary impacts to amenity of surrounding land use may occur in the form of dust and noise generation.</p> <p><b>Mitigation measures:</b> Such impacts will be readily mitigated through the range of measures previously described on dust, odor and noise.</p>
Risks to public health and safety	O	X	O	<p><b>Activity/Component:</b> Minor repairs and construction of shelters for microwave-based waste management</p> <p><b>Risks:</b> Some demolition or disassembly of existing fixtures in preparation for laboratory equipment and ICU installation may cause risks in public safety for patients and nearby receivers if not properly managed.</p> <p><b>Mitigating measures</b> include adopting and ensuring that the suppliers and works contractors comply with safety guidelines established by the provincial and district hospitals.</p>
	O	O	++	<p><b>Activity/Component:</b> Laboratory equipment and ICU commissioning including IPC services</p> <p><b>Risks:</b> Positive impact from enhance ICU capacities,</p>

Potential Impact and/or risk	Design Stage	Implementation Stage	Operation Stage	Description of Impacts and Mitigation Measures
				improved laboratory equipment and safer laboratory diagnostic services for hospital staff and the public.
	O	O	++ (X)	<p><b>Activity/Component:</b> Solid Waste Management Facilities</p> <p><b>Risks:</b> Overall, significant risk reduction benefit expected from the project by improving medical waste treatment capacities of participating referral hospitals. Deficient or improperly managed solid waste facilities from storage, collection to disposal could result in risks to public health and safety.</p> <p><b>Mitigating measures</b> include ensuring that the applicable Cambodian regulations on SWM are complied with. The supplier of medical waste treatment equipment will develop SOP in Khmer and provide training to facility operators.</p>
	O	O	++ (X)	<p><b>Activity/Component:</b> Wastewater Treatment Facilities</p> <p><b>Risks:</b> Overall, significant risk reduction benefit expected from the project by improving wastewater management capacities of participating referral hospitals. Deficient or improperly managed wastewater facilities or the lack of it by the hospitals could have risks to public health and safety.</p> <p><b>Mitigating measures</b> include ensuring that systems are properly operated and maintained, and that the applicable Cambodian regulations on wastewater discharge are complied with.</p>
Occupational health and safety risks	O	X	O	<p><b>Activity/Component:</b> Minor repairs and construction of shelters for microwave- based waste management.</p> <p><b>Risks:</b> Some demolition or disassembly of existing fixtures in preparation for laboratory equipment installation may cause risks for construction workers in the form of dust and noise.</p> <p><b>Mitigating measures</b> include adopting and ensuring that the hospitals health and safety guidelines are established and practiced by the provincial and district hospitals. Workers will be provided with appropriate personal safety equipment and will be trained in its use prior to commencement of works on the site.</p>

Potential Impact and/or risk	Design Stage	Implementation Stage	Operation Stage	Description of Impacts and Mitigation Measures
	O	O	++	<p><b>Activity/Component:</b> Laboratory equipment commissioning including IPC Services and ICUs</p> <p><b>Risks:</b> Positive impact from improved laboratory equipment and safer laboratory diagnostic services for hospital staff, the patients and the public.</p>
	O	O	++ (X)	<p><b>Activity/Component:</b> Solid Waste Management Facilities</p> <p><b>Risks:</b> Overall, significant risk reduction benefit expected from the project by improving medical waste treatment capacities of participating referral hospitals. Deficient or improperly managed solid waste facilities from storage, collection to disposal could result in risks to workers.</p> <p><b>Mitigating measures</b> include ensuring that the applicable Cambodia regulations on SWM are complied with. The supplier of medical waste treatment equipment will develop SOP in Khmer and provide training to facility operators, also covering operational safety.</p>
	O	O	++ (X)	<p><b>Activity/Component:</b> Laboratory Wastewater Treatment Facilities</p> <p><b>Risks:</b> Overall, significant risk reduction benefit expected from the project by improving wastewater management capacities of participating referral hospitals. Deficient or improperly managed wastewater facilities or the lack of it by the hospitals will increase the risks to hospital staff.</p> <p><b>Mitigation measures</b> include ensuring that systems are properly operated and maintained, and that the applicable Cambodian regulations on wastewater discharge are complied with.</p>
Risk of COVID-19 virus	O	X	X	<p><b>Activity/Component:</b> all</p> <p><b>Risks:</b> Workers executing minor works and installing equipment may be exposed to or bring in COVID-19.</p> <p><b>Mitigation measures:</b> Works contractors and equipment suppliers to follow and implement MOH guideline and WHO public health and social measures</p>

Potential Impact and/or risk	Design Stage	Implementation Stage	Operation Stage	Description of Impacts and Mitigation Measures
				in the workplace in the context of COVID-19 (issued 10 May 2020)

## VI. ENVIRONMENTAL MANAGEMENT PLAN

### A. Institutional Arrangements for Project Implementation

127. Table 6 summarizes the proposed environmental management responsibilities of key parties involved in the project.

**Table 6: Environmental Management Institutional Arrangements**

Agency	Environmental Management Responsibilities
ADB	<ul style="list-style-type: none"> <li>• Sign loan agreement with Government of Cambodia including environment- related covenants</li> <li>• Review of site specific SEMP's and environmental monitoring reports</li> <li>• Review of EMP implementation</li> <li>• Disclosure of monitoring reports in ADB's website</li> </ul>
MOH	<ul style="list-style-type: none"> <li>• Responsibility for overall project implementation, including environmental management activities and implementation of EMP</li> <li>• Coordination of environment-related activities of project implementation units including implementation of aspects of EMP</li> <li>• Responsibility for project operation including operation stage environmental performance</li> <li>• Allocation of staff with responsibility for environmental issues during operation Preparation of monitoring reports on EMP implementation and submission to ADB</li> </ul>
PIU/PHD/ Hospitals	<ul style="list-style-type: none"> <li>• Responsibility for province level project implementation</li> <li>• Responsibility for implementing EMP including obtaining environmental approvals for works within province</li> <li>• Responsibility for pre-construction stage and construction stage environmental management, monitoring and reporting</li> </ul>
MOE	<ul style="list-style-type: none"> <li>• Provision of advice to PIUs as required on environmental issues</li> </ul>
MOE and ADB	<ul style="list-style-type: none"> <li>• Approval of IEE/EMP for works within districts</li> </ul>
Suppliers and contractors	<ul style="list-style-type: none"> <li>• Implementation of environmental management commitments contained in site specific EMPs</li> <li>• Monitoring and reporting of environmental performance</li> </ul>

ADB = Asian Development Bank, EARF = environmental assessment and review framework, EMP = environmental management plan, MOE = Ministry of Environment, MOH = Ministry of Health, PIU = project implementing units, SEMP = site-specific environmental management plan.

Source: Asian Development Bank.

128. Responsible personnel assigned by the MOH would have primary responsibility for environmental issues and activities during project implementation.

## **B. Environmental Management Plan**

129. Table 7 contains the environmental management plan (EMP) for the pre- construction, construction and operations stages of sub-components as assessed. During project implementation, the EA, through the project management unit and national consultants will validate the EMPs for the site specific project sub-components on a continuing process. When relevant, EMPs will be included in the bid and contract documents. Reference will be made to new site information obtained to update site specific mitigation measures for inclusion in the EMP.

**Table 7: Environmental Management Plan (EMP)**

<b>Issue</b>	<b>Performance Objective</b>	<b>Mitigation Measure</b>	<b>Responsibility for Implementation</b>	<b>Estimated Costs</b>
<b>Design, Pre-Implementation</b>				
Permits, environmental approvals for contractor	Ensure compliance with domestic requirements	Secure construction permit and ECC by relevant environment authority	Hospital management, PIU	PIU budget
EMP in Bidding Documents	Contractually binding environmental obligations of contractors	Ensure that the EMP is attached to and referred to in bidding documents	PIU	PIU budget
Assignment of safeguard staff	Adequate EMP implementation capacities in place	PIU to appoint qualified specialist to coordinate EMP implementation.  Ensure that each hospital has IPC focal point (in charge of EMP supervision during works).  PIU to recruit environment consultant to support project implementation and monitoring/reporting.	IPC focal point assigned to be responsible for implementing the EMP	PIU budget
Contractor EMP capacities strengthened	Good environmental management performance of contractors	Contractor to develop contractor EMP (CEMP) based on this IEE and EMP, including an emergency preparedness and response guideline for construction emergencies and site health and safety	Contractors	Contractor budget

Issue	Performance Objective	Mitigation Measure	Responsibility for Implementation	Estimated Costs
		<p>guidelines.</p> <p>Contractor to designate an Environmental Health and Safety officer (EHSO) to implement and monitor CEMP and health and safety guidelines.</p> <p>Contractor to orient/train workers regularly to ensure they know CEMP and health and safety requirements. Training shall be conducted by EHSO.</p>		
Construction support preparation	Environmental Education awareness	Environmental Protection Training: PIC Environment Consultant and/or PMU environment officer to provide on-the-job training on implementation & supervision of environmental mitigation measures to PMU, PIU and contractors.	PIU, PIC	Included in contract of PIC.
	Complaints procedures established	The Project Grievance Redress Mechanism will be established and contact persons for the sub-project provided to affected persons and included on sign boards at construction sites, camps and each village.	PIU, PIC	Included in contract of PIC.
Possible presence of UXOs at site (in case of construction of shelters)	UXO clearance certificate	Secure UXO clearance certificate from relevant authority prior to commencement of works.	MOH, PIU	MOH budget



Issue	Performance Objective	Mitigation Measure	Responsibility for Implementation	Estimated Costs
<b>Implementation Phase (minor works, equipment installation)</b>				
Dust emissions and generation	Minimize emissions of dust and other pollutants	<p>Use wet rags and vacuum cleaners for dust suppression</p> <p>Contain and minimize air pollution in work areas</p> <p>Ensure construction equipment and vehicles are maintained in good condition</p> <p>Utilize temporary protective curtains on existing facilities and equipment</p>	Supplier/contractor	Included in works contracts
Noise generation	Minimize noise generation	<p>Proper maintenance of tools and equipment</p> <p>Limit noisy construction activities to day time hours 7am-5pm</p> <p>Install noise dampers</p> <p>Notify affected rooms of schedule and duration</p> <p>Ensure noise levels are within stipulated requirements for health centers</p>	Supplier/contractor	Included in works contracts
Surface water and groundwater quality	Minimize generation of potential water pollutants	<p>Store chemicals in secure area, with concrete floor and weatherproof roof</p> <p>Prepare temporary drain containment or basins</p> <p>Keep left-over scrap materials in locations removed from the drainage ways</p> <p>Use prescribed O&amp;M standards for the labs</p>	Supplier/contractor	Included in works contracts

Issue	Performance Objective	Mitigation Measure	Responsibility for Implementation	Estimated Costs
Soil contamination	Avoid adverse impacts from disturbed soils	<p>Installing equipment and minor reparations will not create soil contamination.</p> <p>In any case the supplier and contractor will ensure that an impermeable barrier between the working surfaces and the soil are used to avoid contamination during the works.</p> <p>The solid and liquid waste will be managed, stored and disposed of according to the relevant national guidelines</p>	Supplier/contractor	Included in works contracts
Risks to public and worker health and safety	Minimize risk of accidents to public and workers	<p>Adopt and ensure that the hospitals health and safety guidelines are established and practiced</p> <p>Provide PPE and safety training to all workers</p> <p>Appropriate first aid measures are available on site and emergency contact numbers are clearly displayed on sites including emergency evaluation procedures and maps</p>	Supplier/contractor	Included in works contracts
COVID-19 risk	Prevention of COVID- 19	Follow and implement MOH guideline and WHO public health and social measures in the workplace in the context of COVID-19 (issued 10 May 2020)	Supplier/contractor	Included in works contracts
Access roads to construction site	Risk of accidents and disturbance during material and equipment delivery	Adopt alternative access road away from patients and ambulance access road, hauling construction material and equipment during low traffic time	Supplier/contractor	Included in works contracts
Site hand over	Site restoration to at least pre-project status	Remove debris, clean-up site to at least to pre-project status	Supplier/contractor	Included in works contracts

Issue	Performance Objective	Mitigation Measure	Responsibility for Implementation	Estimated Costs
<b>Operation Phase</b>				
Dust and other emission generation	Minimize emissions of dust and other pollutants	<p>Ensure compliance with relevant Cambodia air quality emissions standards</p> <p>Only non-incinerator technology should be considered for medical solid waste treatment facilities to ensure compliance with relevant environmental standards of Cambodia on air quality, particulates and odor</p>	MOH and MOE, waste treatment equipment supplier, hospitals	Overall project costs (equipment), Hospital operations budget (maintenance)
Odor generation	Minimize odor generation	<p>Develop and implement guidance and action for operation of the labs and training of personnel in proper operation of the labs</p> <p>Regularly remove waste from temporary storage areas and train personnel in proper waste management practices.</p>	MOH, waste treatment equipment supplier, hospitals	Overall project costs (equipment), Hospital operations budget (maintenance)
Noise generation	Minimize noise generation	<p>Ensure solid waste equipment and vehicles are maintained in good condition</p> <p>Install noise dampers or erect temporary acoustic shields at noise sources</p> <p>Limit noisy operational activities to day time hours</p>	Hospitals	Hospital operations budget (maintenance)
Surface water and groundwater quality	Minimize generation of potential water pollutants and maintain water quality	<p>Store chemicals in secure area, with concrete floor and weatherproof roof</p> <p>Keep left-over scrap materials in locations removed from the drainage ways</p> <p>Use prescribed O&amp;M standards for the labs</p> <p>Maintain storage areas</p>	Hospitals	Hospital operations budget

Issue	Performance Objective	Mitigation Measure	Responsibility for Implementation	Estimated Costs
		<p>and provide bins for solid waste collection and prevent leaching</p> <p>Train solid waste collectors and hospital staff in proper health care waste management to protect waterways.</p> <p>Ensure that discharge from solid waste and wastewater treatment facilities will comply with criteria contained in the applicable Cambodia and MOE regulations.</p> <p>Ensure that wastewater from the laboratories will be conveyed directly to a wastewater treatment facility or in its absence, will be collected, stored and treated/disposed of by a licensed waste management contractor</p>		
Soil contamination	Avoid adverse impacts from disturbed soils	<p>Ensure sealing and containment of burial pits or dumping grounds prior to external municipal disposal.</p> <p>Ensure that discharge from solid waste facilities will comply with criteria contained in the applicable Cambodia and MOE regulations.</p> <p>Improve operations of wastewater disposal facilities with discharge that complies with the current applicable MOE standards for medical wastewater.</p>	Hospitals	Hospital operations budget
Risks to public and worker health & safety, including COVID-19	Minimize risk of accidents involving public or health care workers	Secure access to all facilities, ensuring that only those with authorization have access to critical units (laboratories, ICUs, waste	Hospitals	Hospital operations budget

Issue	Performance Objective	Mitigation Measure	Responsibility for Implementation	Estimated Costs
		storage and treatment, etc). Provide no-access signs at strategic locations. Provide training to health workers on IPC, COVID-19. Develop operating procedures for health care waste management systems Train personnel in implementation of operating procedures Emergency evacuation procedures to be clearly signposted at appropriate locations.		

MOE = Ministry of Environment, MOH = Ministry of Health, SWM = solid waste management.

### C. Environmental Monitoring Plan

130. Table 7 contain the environmental monitoring plan for the pre-implementation, implementation and operation stages of the project components. Two types of environmental monitoring are required to be implemented:

- (i) Environmental effects monitoring is conducted to estimate the impacts of the sub-project on ambient environmental conditions.
- (ii) Project environmental performance monitoring is conducted to evaluate compliance with environment-related operating procedures, national standards, and/or supplier's specifications including the requirements of the EMP.

**Table 8: Environmental Monitoring Plan**

Mitigation Measure	Parameters	Location	Methods	Frequency	Responsibility
<b>During Project Implementation</b>					
Dust suppression	Visible dust	At all work areas (laboratory, ICUs, waste storage/ treatment building, wastewater treatment site)	Visual inspection	During windy conditions, in case of complaints	Contractor, PIC

Noise minimization	Noise levels near sensitive receivers (nearest patient rooms)	At all work areas (laboratory, ICUs, waste storage/ treatment building, wastewater treatment site) and adjoining rooms	Handheld noise meter [indoor ward room dB(A)=30]	During noisy activities	Contractor, PIC
Water quality protection	Visible sedimentation, waste or other pollutants in waterways	At surface waterways and wells in vicinity of the hospitals	Visual inspection	Weekly or after rain events	Contractor, PIC
Occupational health and safety	Wearing of PPE, accidents	At all work sites	Visual inspection	Daily and weekly	Contractor, PIC
Community health and safety	Access control, safety signage, GRM	At work site entrances	Visual inspection	Daily and weekly	Contractor, PIC
COVID-19 risks	Adherence to MOH and WHO guidelines for COVID-19 risk management	At all working areas	Hand hygiene Respiratory hygiene Physical distancing	Weekly	PIC
<b>Operation Phase</b>					
Infection prevention and control (IPC) performance	Adherence to national guidelines for IPC, handling, storage and disposal of laboratory samples	Ambient conditions at site and around	Visual inspection	Weekly for first 6 months and then monthly there after	MOH, hospitals
Water quality protection	Visible sediment, waste or other pollutants in waterways	In waterways and wells in vicinity of effluent discharge from solid waste or wastewater facilities	As specified in Cambodia standards	Semi-annually	MOE, MOH

Waste management performance	Performance of medical waste collection and treatment system	At medical waste shelter	Visual inspection	Monthly	Hospitals, MOH
Prevention of COVID-19	Temperature check and testing (if any)	At all working areas	Hand hygiene Respiratory hygiene Physical distancing	Daily	Hospitals

#### D. Environmental Reporting

131. Table 8 presents the environmental reporting system for the pre- construction, construction and operation stages of the project. The safeguards monitoring report (social and environmental) shall be prepared and submitted annually to ADB (as per loan covenant and PAM).

**Table 9: Environmental Reporting Requirements**

Report	By whom	To whom	Frequency	Content
Supplier/ Contractor's Environmental Performance Report	Contractors	PMU	Weekly	Status of works Reporting as per indicators in environment monitoring plan Trainings conducted Grievances received Accidents and incidents
Safeguards Monitoring Report	MOH/PMU	ADB	Annually until PCR is issued	As per format agreed with ADB, but covering items above plus compliance with environment covenants of the loan agreement, training activities conducted by PIU, unanticipated impacts, proposed corrective actions

## **VII. PUBLIC CONSULTATION AND INFORMATION DISCLOSURE**

### **A. Public Consultation Undertaken**

132. Public consultations for the original project were undertaken during June 2019 in 27 target hospitals. A total of 194 participants attended the consultations, included 48 female participants. The consultations included the following:

- (i) Meetings and consultations with hospital management-directors, laboratory staff and infection control and prevention (IPC) staff to inform them about the need for rapid environmental assessments and obtain the current status of the district hospital facilities and health centers and the upgrades or improvements that they are proposing based on their own diagnosis.
- (ii) Meetings and consultations with the District Health Office Director and/or Hospital Director together with their management and staff, laboratory and IPC staff representatives to brief them about the environmental assessments that each hospital has to undertake to identify the current status of environmental conditions in the vicinity of the health facilities and identify the scope of required project interventions.

133. The consultations showed a high level of acceptance of the project as the project will improve the hospitals' and health centers' current state and capability for improved laboratory services and IPC. Some suggestions were forwarded regarding the laboratory equipment needed, waste management containers, disposal technologies that are non-burn. Representatives of international non-government organizations were concerned about the health effects of incinerators. Some of the related environmental concerns included the lack of proper management of health care waste, the lack of adequate staff for operations and maintenance of the facilities, and the basic lack of medical and non- medical equipment. Such concerns were incorporated in the mitigation and monitoring plans.

134. The project management and MOH proposed installations and operations of microwave-based healthcare waste management in 27 hospitals since healthcare waste management in hospitals faced difficulties with the obsolete/old incinerators.

135. Public consultation during preparation of the additional financing loan was affected by the COVID-19 pandemic and related traveling and gathering restrictions. Meetings and consultations with hospital management-directors and infection control and prevention (IPC) staff were held virtually. A questionnaire survey was conducted to assess current practices and gaps in referral hospitals, and to identify required project interventions. This also included interventions related to solid and liquid waste management. In total, 80 hospital staff participated in the consultation. As for the original project, the management of participating referral hospitals confirmed their preference for non-incineration based medical waste treatment systems.

136. The consultation for the additional financing also identified some site-specific sensitivities. Out of the 81 hospitals that will receive some form of support under the Additional Financing, 15 are located near rivers and/or forested areas, and 5 referral hospitals reported flooding events in the last 10 years. All referral hospitals confirmed that there was adequate space within existing hospital compounds for the construction of new small structures (i.e. for the waste storage and



treatment shelter), and that no land acquisition was required.

## **B. Future Public Consultations and Information Disclosure**

137. Public consultation is an on-going process and the consultations will continue with the project affected communities and interested non-government organizations, if any, during the implementation phases of the project. Project information including schedule and scope of minor works will be disclosed at project sites.

138. District level workshops will be undertaken to discuss project interventions, potential environmental impacts of project activities and required mitigation measures. Representatives at the workshops will include MOH and hospital management, mass organizations (Women's Union, Youth Union and Farmers Association), other relevant district level organizations such as the District Committee for Ethnic Minorities, Commune People's Committee and other relevant stakeholder representatives.

139. Meetings with potentially affected households, sensitive receivers (schools, temples etc.) and nearby landowners will be held to discuss specific issues of concern and mitigation measures. The grievance redress mechanism (GRM) including access points will also be disclosed. The PIC and MOH will conduct informal interviews with nearby communities and hospital staff during periodic site visits. The results of such consultations will be documented in the annual safeguards monitoring reports to ADB. The original IEE was disclosed on the ADB website before the ADB Board consideration of the original project. This updated IEE will be disclosed on the ADB website before ADB approval of the additional financing loan. All safeguards monitoring reports will be disclosed on the project website.

## **C. Grievance Redress Mechanism (GRM)**

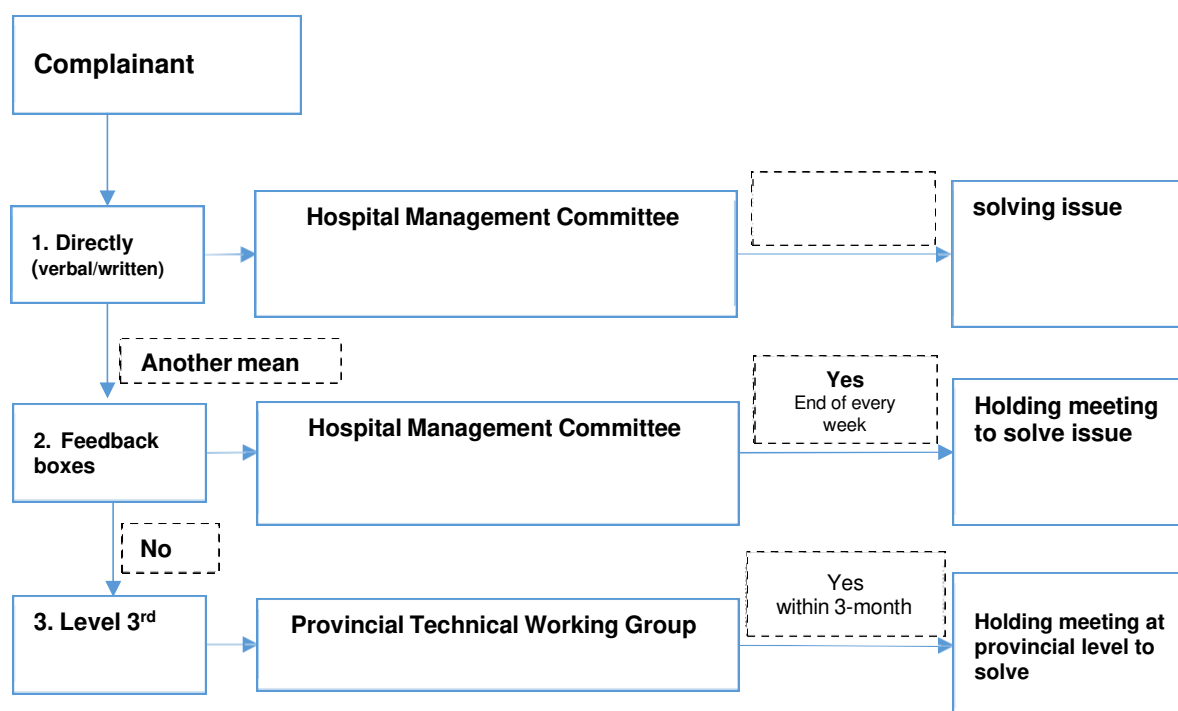
140. A grievance redress mechanism will be established for the project, with GRM sub-systems to be established in each hospital. If any affected person (AP) wishes to express her/his concerns about the minor repair/refurbishment of hospital facilities and microwave-based waste management system installation, they will be advised to go through the following steps:

141. **Step 1: The hospital management committee** (consisting of hospital director, deputy director, chief of services and chief of wards): The complainant can express her/his concerns by submitting the letter of complaint to the hospital committee; then the hospital management committee has to deal with issues immediately.

142. **Step 2: Feedback boxes.** Alternatively, the complainant can use feedback boxes attached in each hospital building. The hospital management committee must check the feedback boxes at the end of every week and conduct a meeting among their members to address any of the issues.

143. **Step 3: Provincial Technical Working Group** (consisting of representatives from provincial department of health, provincial hospital management, operational districts referral hospital, district hospitals). The complaint can be dealt with and decision at this stage. The Provincial Technical Working Group holds its meeting every 3 months and shall implement the decision.

144. **Stage 4: PIU at national level (10 working days).** If no solution is found under Step 3, the complainant may address his/her complaint to the PIU. This level has 10 working days within which the PIU meets with the aggrieved party and tries to resolve the situation. Within 10 working days of submission of the grievance, the PIU must make a written decision and submit copies to the Department of Hospital/MOH and the APs.



**Figure 9: Grievance Redress Mechanism in Hospitals**

## VIII. CONCLUSION AND RECOMMENDATIONS

145. The proposed original project including the additional financing loan includes minor repair/renovation and refurbishment works of existing hospital laboratories, and construction of small shelters (7x7m) for microwave-based medical waste treatment (integrated biomedical waste treatment) within the participating hospitals' campuses and away from patient's wards.

146. The assessment conducted for the project including the additional financing loan as presented in this IEE concludes that environmental impacts will be highly localized (i.e. within existing hospital compounds), very short-term (i.e. during short minor repair/refurbishment phase) and reversible.

147. Some structures of the laboratories of the hospitals need to be repaired and upgraded before assembly of the equipment. However, the negative impacts during project implementation will be minor due to the limited scale of the activities, and these negative impacts will be localized and temporary. Such impacts include generation of noise and dust, deterioration of water quality through sediment laden runoff or improper management of construction debris. Risks to community and occupational health and safety will need to be properly managed, including the safety and comfort of patients during minor repair works. COVID-19 risk management protocols as established by the MOH and WHO will need to be adhered to. Most impacts can be readily mitigated to acceptable levels through implementation of standard environmental management practices. There is no protected area of area of ecological or cultural interest sensitive area, cultural, historical and archeological area within hospitals' campuses/premises.

148. The environmental mitigation measures and environmental monitoring plan, as presented in this updated IEE and EMP shall be attached to the bidding documents for works contractors, who shall develop their own contractor EMP, including Occupational Health and Safety and Community Health and Safety plans, including COVID-19 risk management and prevention.

149. During operation stage, waste generated by the operation of the hospitals are likely to be the sources of negative impacts on the environment if they are not managed properly. These pollution sources are long-term and consecutive, and therefore, mitigation measures have been incorporated in the project design. Laboratories will comply with standardized biosafety level 2 or 3 for the provincial referral hospitals and the district referral hospitals, as per WHO standards.<sup>52</sup>

150. Technical systems for the collection and treatment of hazardous medical waste will be provided to those referral hospitals where service gaps have been identified. As a result of the project, Cambodia will reach 100% hazardous medical waste treatment coverage for CPA-1 to CPA-3 referral hospitals outside of Phnom Penh. The project will also provide capacity building in basic operation and maintenance (O&M) environmental management of these solid waste treatment facilities. Overall, the project including its AF component is expected to significantly improve infection prevention and control (IPC) as well as waste management capacities and practices in referral hospitals of Cambodia.

151. Consultations conducted during project preparation confirms the support from local

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<sup>52</sup> Biosafety Level 3 is applicable to clinical, diagnostic, teaching, research, or production facilities where work is performed with indigenous or exotic agents that may cause serious or potentially lethal disease through the inhalation route of exposure. WHO. 2004. Laboratory Biosafety Manual. Third edition. Geneva.

authorities and the hospitals' management for the project. Consultation with and information dissemination to potentially affected people will be conducted prior to and during minor works. Such information will include project schedule and scope, and the grievance redress mechanism (GRM) access points and procedure. Good cooperation between all stakeholders, especially hospital management and awarded contractors will need to be ensured during project implementation.

152. MOH, through its PMU and the consultants, shall monitor the project to ensure compliance with the ADB SPS 2009, the Cambodian regulatory and policy framework, and this IEE/EMP. Annual safeguards monitoring reports will be prepared and disclosed on the project website.

153. The GMS health security project, including the additional financing loan, will bring forth more positive than negative environmental impacts and greater national health security. Overall the project will significantly improve healthcare waste management capacities and this will mean a reduced risk of environmental pollution and health impacts to staff and people living near the hospitals.

## Appendix 1: Description of referral hospitals included in the original project scope

### A. Overview, categorization

1. The original project covers 27 provincial and district referral hospitals. A rapid assessment of the target hospitals was conducted by interviewing hospitals management and IPC focal points/staff dealing with environmental management. The findings on the practices in hospital safety and sanitation, infection prevention and control (IPC), and risk of accidents and spills during storage, transfer, transport and containment of bio-hazards, and the rapid environmental assessment confirmed the project to be category B for environmental safeguards, with some of the interventions in participating referral hospitals classifying as category C.

2. The following table indicates the environmental categorization/sensitivities for each hospital based on screening of 27 hospitals, showing current conditions as a result of field visits. The safeguards assessment is based on updated ADB screening checklists to identify the potential impact of current operations assuming no mitigation measure.

**Table-1: Summary results of screening of 27 Hospitals Greater Mekong Sub-Region Health Security Project (GMS-HSP), original project**

No.	Name of Hospital	Location/ address	Environment category	
			Category	Notes
1	Kaoh Thom RH	Prek Thmei village and commune, Kaoh Thom district, Kandal province	C	None
2	Angkor Chey RH	Pou village, Phnum Kong commune, Angkor chey district , Kampot province	C	None
3	Kampong. TrachRH	Kampong Trach Ti Mouy village, Kampong Trach khang lech, Kampong trach district, Kampot province	B	Improper waste managementand waste water discharge
4	Kampot Provincial RH (PRH)	Kampong Bay Khan Tboung village, Sangkat Kampong Bay, Kampot City, Kampot Province-	B	LAB liquid waste discharges to municipal sewer system, close to Prek Kandal estuary, and may be connecting to the sea water.
5	Chhuk RH	Krasang Village, Chhuk commune, Chhuk District,Kampot Province	B	Improper waste management and wastewater discharge. Flooding during rainy season may need to elevate 1 meter in height.

No.	Name of Hospital	Location/ address	Environment category	
			Category	Notes
6	RH Pea Reang	Snay Pul village, Roka commune, Pea Reang district, Prey Veng province	B	Smog from incinerator to hospital, smell, improper waste management and waste water discharge. Settling pond, incinerators and placenta pitare close to water sourced for hospital. The waste water fromsettling pond may be spilling over to outsiders during rainy season/heavy rain.
7	Prey Veng PRH	Phum Bei village, SangkatKampong Leav, Prey Veng municipality andprovince	C	None
8	Preah Sdach RH	Krasang Tung village, Angkor Reach commune, Preah Sdach district, Prey Veng province	C	None
9	Kampong Trabaek RH	Cham Bak village, Prasat commune, Kampong Trabaek district, Prey Veng province	C	Issues of desludging of individualcesspits.
10	Svay Rieng PRH	Srah Vong village, Sangkat Svay Rieng, Svay Rieng municipality and province	C	None
11	Chi Phu RH	Chrey Thom village, Sangkat Prey Angkonh, Bavet municipality, Svay Rieng province	B	Improper waste managementand waste water discharge.
12	Ponhea Krek RH	Pou Srok village, Koang Kang commune, Ponhea Krek district, Tboung Khmum province	C	Settling pond is shallow, the waste water intended to spill over outside the hospital campus. The hospital has its own dumping site, outside the hospital campus for general solid waste disposal.
13	RH Memot	Tboung Wat village, Memot commune and district, Tboung Khmum province	C	None
14	NSHN TboungKhmum	Soung Leach village, Sangkat Soung, Soung municipality and Tboung Khmum province	C	Sharp waste and medical waste sent to incinerate at Ponhea Krek hospital.

No.	Name of Hospital	Location/ address	Environment category	
			Category	Notes
15	Kratie PRH	Kracheh village, Sangkat Kracheh and Kracheh municipality, Kratie province	C	None
16	Snoul RH	Kbal Snoul village, Snoul commune and district, Kratie province	B	Landmines and UXOs within the hospital premise. Improper waste management and waste water discharge. Dusty, dirty and muddy.
17	Mondulkiri PRH	Cham Bak village, Sangkat Spean Mean Chey, Senmonorom municipality, Mondulkiri province	B	Densely populated area, smog from incinerator, sludge from toilets and smell within campus.
18	Ratanakiri PRH	Boeng Kanseng village, Sangkat Boeng Kanseng, Krong Banlung, Ratanakiri province	C	None
19	Stung Treng PRH	Prek village, Sangkat Stung Treng, Stung Treng municipality, Stung Treng province	B	Mekong river water flooding every 5 to 10 years, need to elevate to the level of safety (for integrated microwave waste management), issue of sludge and effluents within the hospital premise
20	16 Makara PRH	Andoung Pou village, Sangkat Kampong Pranak, Preah Vihear municipality and province	C	None
21	Battambang PRH	Prek Moha Tep village, Sangkat Svay Pao, Battambang municipality and province	C	None
22	Pailin PRH	Phum Wat village, Sangkat Pailin, Krong Pailin and Pailin province	C	None
23	Sampao Lun RH	Tasda village and commune, Sampao Lun district, Battambang province	B	Improper waste management and waste water discharge. Cesspit close to water sources/ground water

No.	Name of Hospital	Location/ address	Environment category	
			Category	Notes
24	Poipet RH	Prochea Thorm village, Sangkat Phsa Kandal, Poipet municipality, Bantea Meanchey province	C	Settling pond intended to spill- over outsider during rainy season, when heavy raining.
25	Thma Pouk RH	Kak Sen village, Thma Pouk commune and district, Banteay Meanchey province	B	Rain water flooding/water puddle, water supply is not leaned/muddy, Improper waste management and waste water discharge.
26	CJFH PRH BMC	Koh Keo village, Ruessey Kroak commune, Mongkul Borey district, Banteay Meanchey province	C	None
27	Moung RusseyRH	Moung village and commune, Moung district, Battambang province	B	Improper waste management and waste water discharge, densely populated area

Source: Field assessment May-June 2019

## B. Subproject Descriptions, Proposed Scope of Works and Environmental Baseline

3. Safeguards specialist together with infection prevention and control (IPC) consultant conducted field visits to 27 hospitals in relation to IPC/environment and social safeguard issues, to assess and screen. Table below delineated the survey results.

**Table 2: Land Area and Buildings and proposed works at 27 Hospitals**

No.	Hospital Name	Land Area, m <sup>2</sup>	Number of existing buildings	Proposed Civil Works and Equipment under Original Project
1	Kaoh Thom district RH	45,288	9	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
2	Angkor Chey RH	10,864	7	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
3	Kampong Trach RH	9,840	7	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>



No.	Hospital Name	Land Area, m <sup>2</sup>	Number of existing buildings	Proposed Civil Works and Equipment under Original Project
4	Kampot Provincial referral hospital (PRH)	45,383	14	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
5	Chhuk RH	9,098	6	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
6	RH Pea Reang RH	13,454	9	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
7	Prey Veng PRH	17,195	13	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
8	Preah SdachRH	15,330	12	<ul style="list-style-type: none"> <li>- Refurbish lab</li> <li>- Install microwave-based waste management equipment</li> </ul>
9	Kampong Trabaek RH	32,000	7	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
10	Svay RiengPRH	12,760	9	<ul style="list-style-type: none"> <li>- Refurbish lab</li> <li>- Install microwave-based waste management equipment</li> </ul>
11	Chi Phu RH	5,456	5	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
12	Ponhea KrekRH	26,482	13	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
13	Memot RH	23,236	16	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>

No.	Hospital Name	Land Area, m <sup>2</sup>	Number of existing buildings	Proposed Civil Works and Equipment under Original Project
14	NSHN Tboung Khmum PRH	45,126	9	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
15	Kratie PRH	19,259	20	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
16	Snoul RH	25,399	6	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
17	Mondulkiri PRH	17,462	14	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
18	Ratanakiri PRH	46,304	11	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
19	Stung Treng PRH	14,232	14	<ul style="list-style-type: none"> <li>- Refurbish lab</li> <li>- Install microwave-based waste management equipment</li> </ul>
20	16 Makara PRH	57,748	9	<ul style="list-style-type: none"> <li>- Refurbish lab</li> <li>- Install microwave-based waste management equipment</li> </ul>
21	Battambang PRH	54,695	19	<ul style="list-style-type: none"> <li>- Refurbish lab</li> <li>- Install microwave-based waste management equipment</li> </ul>
22	Pailin PRH	14,770	6	<ul style="list-style-type: none"> <li>- Refurbish lab</li> <li>- Install microwave-based waste management equipment</li> </ul>
23	Sampao Lun RH	26,815	12	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
24	Poipet RH	19,960	7	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>

No.	Hospital Name	Land Area, m <sup>2</sup>	Number of existing buildings	Proposed Civil Works and Equipment under Original Project
25	Thma Pouk RH	21,941	9	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
26	CJFH PRH-BMC	53,989	16	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>
27	Moung Ruessey RH	11,611	13	<ul style="list-style-type: none"> <li>- Minor repairs to laboratory facility</li> <li>- Construction of small building (7x7m) for installation of microwave-based waste management</li> </ul>

Source: Field assessment and Detailed Engineering Designs (DED) May-June 2019

4. The following sections are describing of each subproject locations and proposed works.

5. **Kaoh Thom district referral hospital** is located in Prek Thmei village and commune, Kaoh Thom district, Kandal province. This hospital is on state-owned land, and belongs to the Kandal Provincial Department of Health. The civil works under the project/program will include minor repairs of the existing laboratory facility within the existing building and the construction of a small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is currently incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. Liquid waste from the laboratory is discharged into individual cesspits within the hospital campus. There is no settling pond in the hospital. Each toilet has its own cesspit.

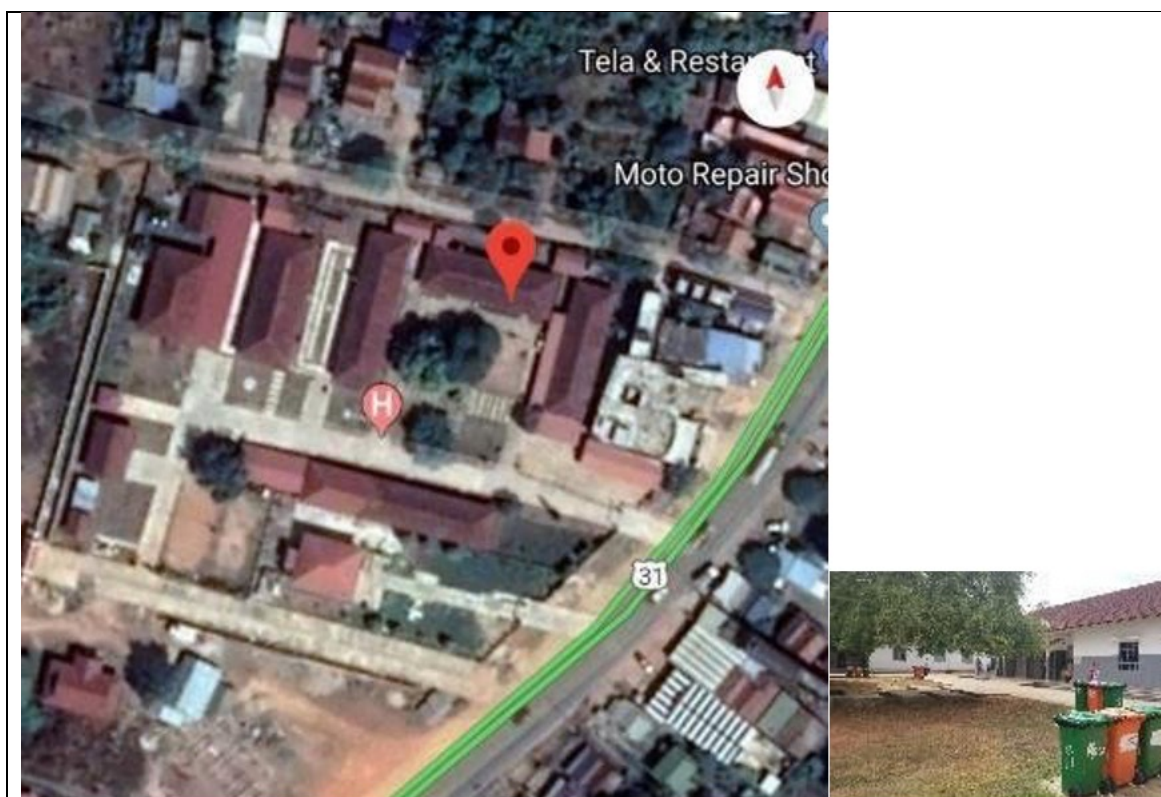
6. The hospitals campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 21. The hospital is situated in the Plain Region and is on a floodplain and nearby geology of organic deposits (swamps). The following is the aerial hospital site/map.



Figure 1: Kaoh Thom district referral hospital

7. **Angkor Chey district referral hospital** is located in Pou village, Phnum Kong commune, Angkor Chey district, Kampot province. This hospital is on state-owned land, has fencing enclosure, belonging to the Kampot Provincial Department of Health. The civil works under the project will include minor repairs of the existing laboratory facility within the existing building and the construction of a small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is currently incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. Liquid waste from the laboratory is discharged into individual cesspits within the hospital campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. There is a septic tank within hospital campus. Each toilet has its own cesspit.

8. The hospitals' campus is not in a protected area, and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospitals' campus, and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 31. The hospital is situated in the Coastal Region and the geology of hospital is coastal plain deposits and sandstone. The following is the aerial hospital site/map.



**Figure 2: Angkor Chey district referral hospital**

9. **Kampong Trach district referral hospital** is located in Kampong Trach Ti Mouy village, Kampong Trach Khang Lech commune, Kampong trach district, Kampot province. This hospital is on state-owned land, and belongs to the Kampot Provincial Department of Health. The civil works under the project/program will include minor repairs of the existing laboratory facility within the existing building and the construction of a small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

10. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 31. The hospital is situated in the Coastal Region and the geology of hospital is coastal plain deposits and sandstone. The following is the aerial hospital site/map.





Figure 3: Kampong Trach district referral hospital

11. **Kampot provincial referral hospital** is located in Kampong Bay Khang Tboung village, Sangkat Kampong Bay, Kampot municipality, Kampot Province. This hospital is on state-owned land, and belongs to the Kampot Provincial Department of Health. The civil works under the project/program will include refurbishment of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

12. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 3. The hospital is situated in the Coastal Region and the geology of hospital is coastal plain deposits and sandstone. The following is the master plan of hospital.



Figure 4: Kampot provincial referral hospital

13. **Chhuk district referral hospital** is located in Krasang village, Chhuk commune, Chhuk district, Kampot province. This hospital is on state-owned land, and belongs to the Kampot Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

14. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 3. The hospital is situated in the Coastal Region and the geology of hospital is coastal plain deposits and sandstone. The following is the aerial hospital site/map.



Figure 5: Chhuk district referral hospital

15. **Pea Reang district referral hospital** is located in Snay Pul village, Roka commune, Pea Reang district, Prey Veng province. This hospital is on state-owned land, and belongs to the Prey Veng Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. There are settling pond is existed within the hospital campus. Each toilet has its own cesspit.

16. The hospital's campus is not in a protected area and is not in an area of ecological interest



or environmental sensitivity. The hospitals campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 8. The hospital is situated in the Plain Region. The following is the aerial hospital site/map.



**Figure 6: Pea Reang district referral hospital**

17. **Prey Veng provincial referral hospital** is located in Phum Bei village, Sangkat Kampong Leav, Prey Veng municipality and province. This hospital is on state-owned land, and belongs to the Prey Veng Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

18. The hospitals campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or U X O s within the hospital campus and it is at low risk of flooding. Medical waste (sharp/hazardous) is segregated from general waste. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 11. The hospital is situated in the Plain Region. The following is the aerial hospital site/map.



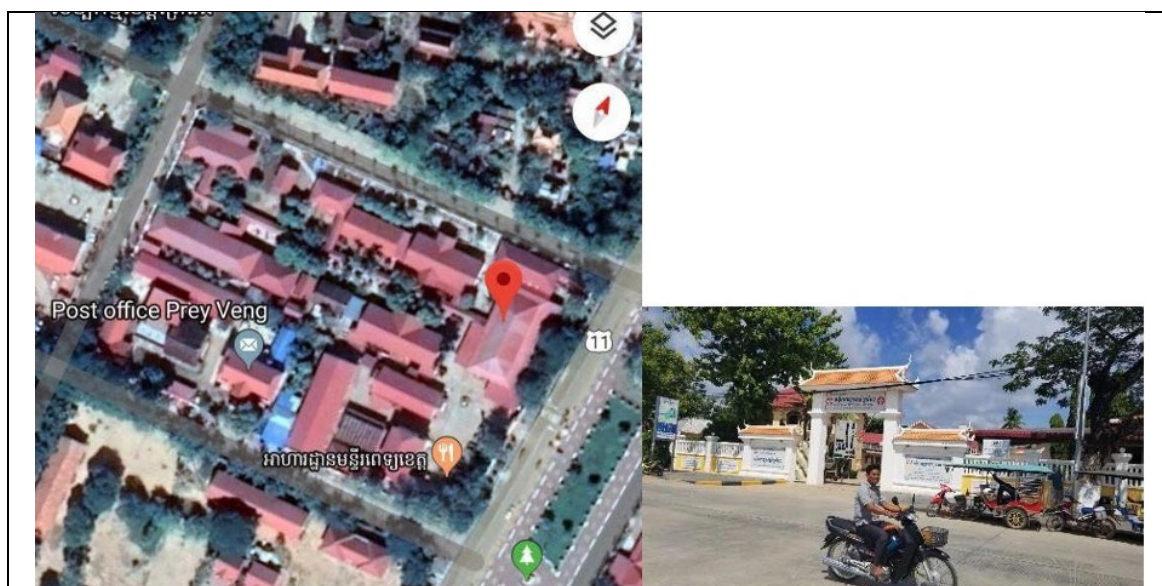


Figure 7: Prey Veng provincial referral hospital

19. **Preah Sdach district referral hospital** is located in Krasang Tung village, Angkor Reach commune, Preah Sdach district, Prey Veng province. This hospital is on state-owned land, and belongs to the Prey Veng Provincial Department of Health. The civil works under the project/program will include refurbishment of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. There are settling pond is existed within the hospital campus. Each toilet has its own cesspit.

20. The hospitals campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 1. The hospital is situated in the Plain Region. The following is the aerial hospital site/map.



Figure 8: Preah Sdach district referral hospital

21. **Kampong Trabaek district referral hospital** is located in Cham Bak village, Prasat commune, Kampong Trabaek district, Prey Veng province. This hospital is on state-owned land, and belongs to the Prey Veng Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. There are settling pond is existed within the hospital campus. Each toilet has its own cesspit.

22. The hospitals campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 1. The hospital is situated in the Plain Region. The following is the aerial hospital site/map.

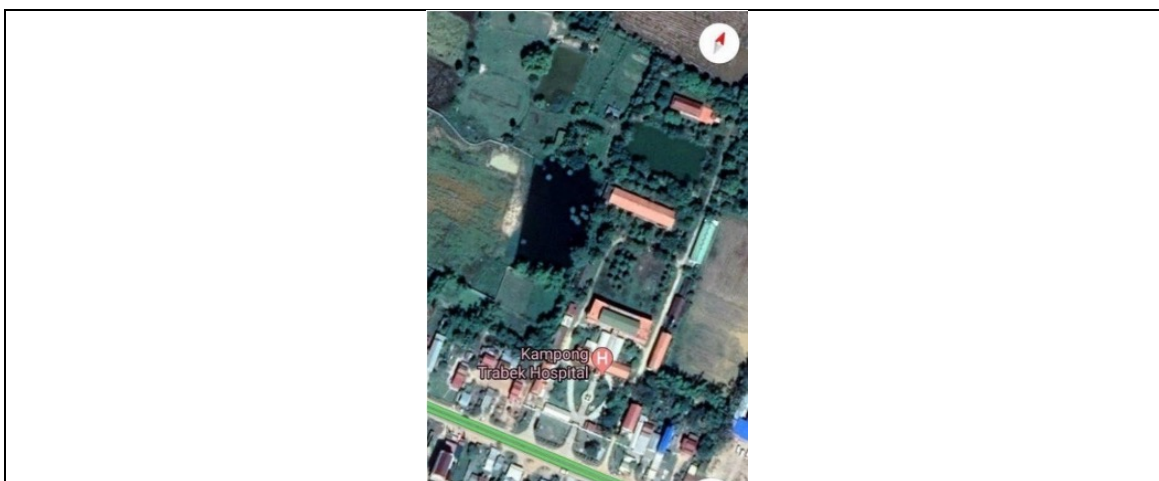
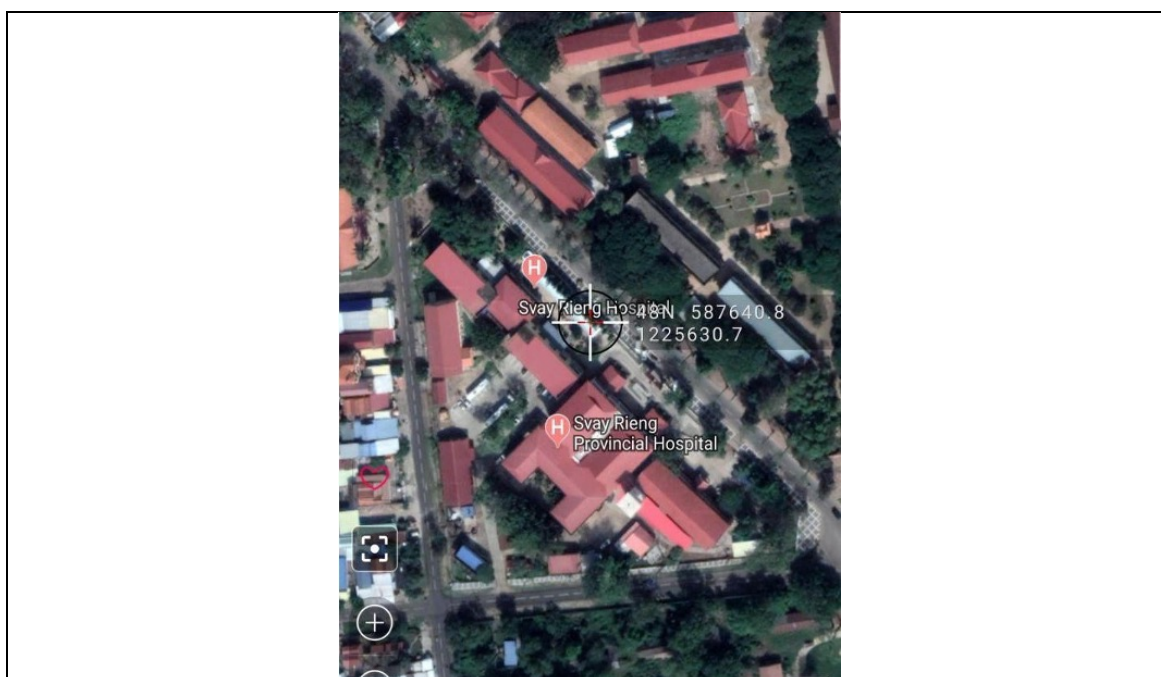


Figure 9: Kampong Trabaek district referral hospital

23. **Svay Rieng provincial referral hospital** is located in Srah Vong village, Sangkat Svay Rieng, Svay Rieng municipality and province. This hospital is on state-owned land, and belongs to the Svay Rieng Provincial Department of Health. The civil works under the project/program will include refurbishment of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

24. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area doesnot contain cultural, historical and archeological features. There are no landmines or UXOs withinthe hospital campus and it is at low risk of flooding. Medical waste (sharp/hazardous) is segregated from general waste. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 1. The hospital is situated in the Plain Region. The following is the aerial hospital site/map.



**Figure 10: Svay Rieng provincial referral hospital**

25. **Chiphou/Bavet referral hospital** is located in Chrey Thom village, Sangkat Prey Angkonh, Bavet municipality, Svay Rieng province. This hospital is on state-owned land, and belongs to the Svay Rieng Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has it own cesspit.



26. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 1. The hospital is situated in the Plain Region. The following is the aerial hospital site/map.

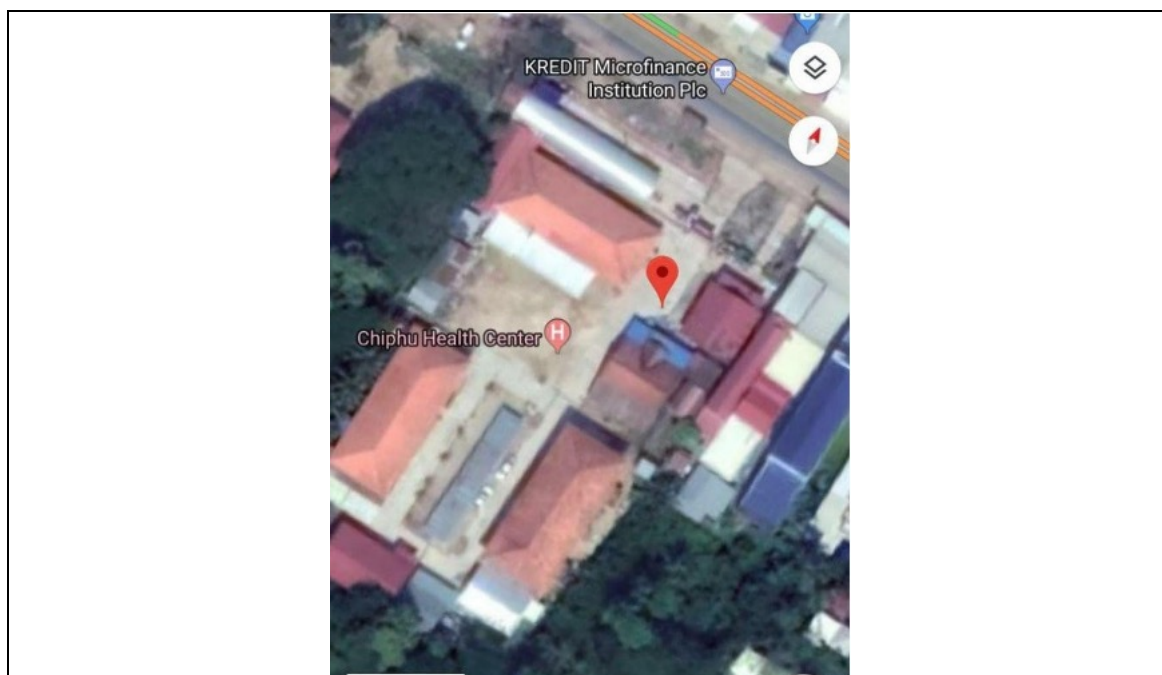
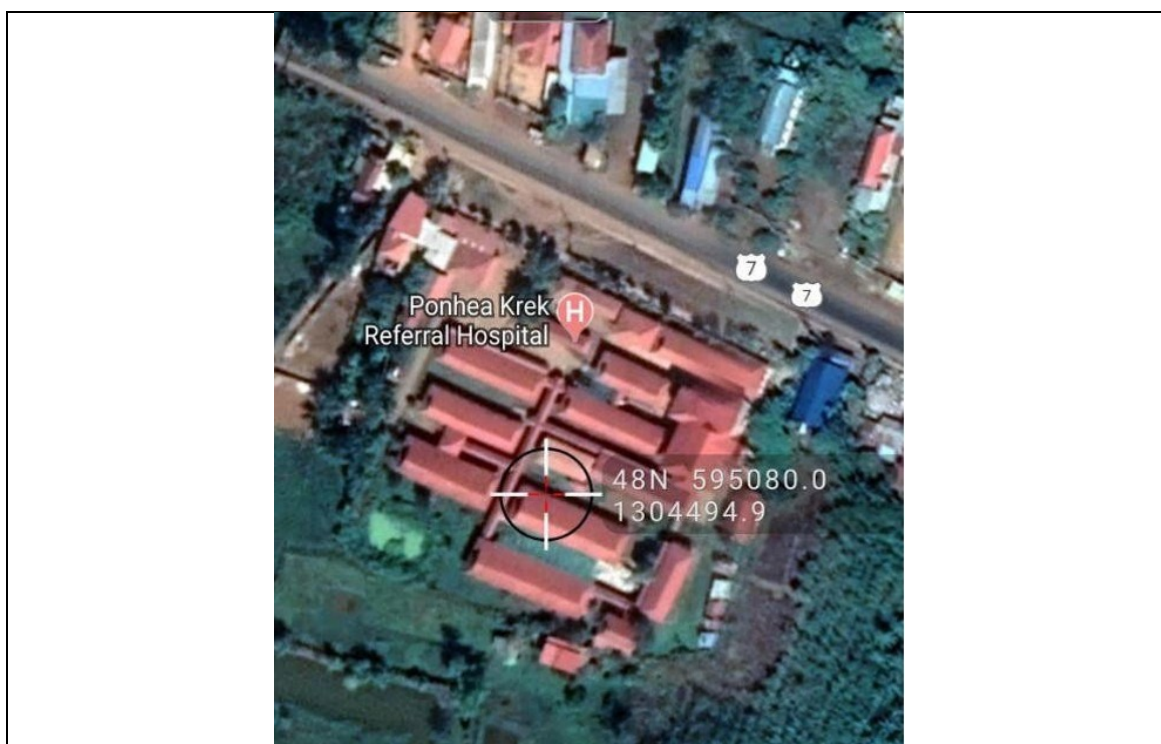


Figure 11: Chiphou/Bavet referral hospitals

27. **Ponhea Krek district referral hospital** is located in Pou Srok village, Koang Kang commune, Ponhea Krek district, Tboung Khmum province. This hospital is on state-owned land, and belongs to the Tboung Khmum Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. There are settling pond is existed within the hospital campus. Each toilet has its own cesspit.

28. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 7. The hospital is situated in the Plain Region. The following is the aerial hospital site/map.



**Figure 12: Ponhea Krek district referral hospital**

29. **Memot district referral hospital** is located in Tboung Wat village, Memot commune and district, Tboung Khmum province. This hospital is on state-owned land, and belongs to the Tboung Khmum Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

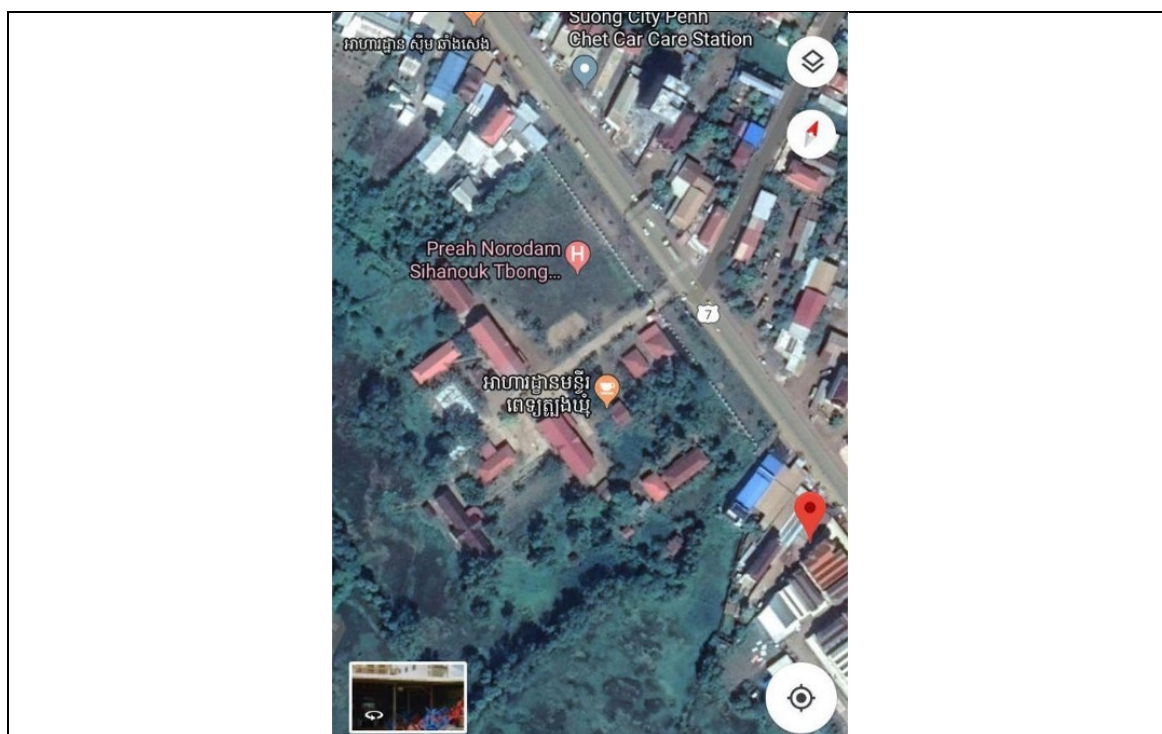
30. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 7. The hospital is situated in the Plain Region. The following is the aerial hospital site/map.



Figure 13: Memot district referral hospital

31. **Preah Norodom Sihanouk Tboung Khmum referral hospital** is located in Soung Leach village, Sangkat Soung, Soung municipality and Tboung Khmum province. This hospital is on state-owned land, and belongs to the Tboung Khmum Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

32. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 7. The hospital is situated in the Plain Region. The following is the aerial hospital site/map.



**Figure 14: Preah Norodom Sihanouk Tboung Khmum referral hospital**

33. **Kratie provincial referral hospital** is located in Kracheh village, Sangkat Kracheh and Kracheh municipality, Kratie province. This hospital is on state-owned land, and belongs to the Kratie Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

34. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 7. The hospital is situated in the Plateau and Mountainous Region. The following is the aerial hospital site/map.





Figure 15: Kratie provincial referral hospital

35. **Snoul district referral hospital** is located in Kbal Snoul village, Snoul commune and district, Kratie province. This hospital is on state-owned land, and belongs to the Kratie Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Regarding solid waste management is segregated from medical waste (sharp/hazardous). The medical waste is incinerated within the hospitals' campus while the general waste is stored and collected/transported to outsider. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

36. The hospital's campus is not in a protected area, and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. Landmines or UXOs is within the hospitals' campus, it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 7. The hospital is situated in the Plateau and Mountainous Region. The following is the master plan of hospital.

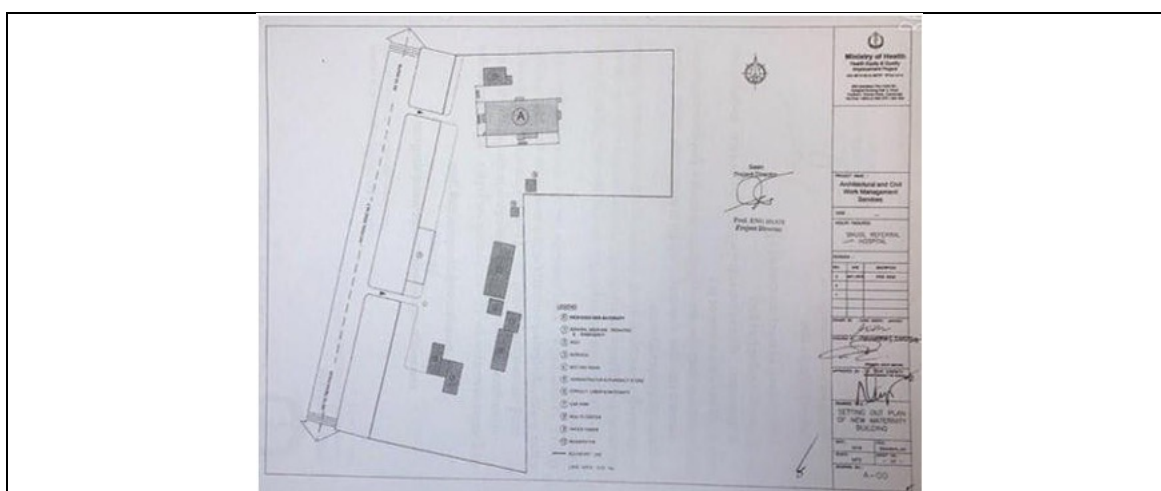


Figure 16: Snoul district referral hospital



37. **Mondulkiri provincial referral hospital** is located in Cham Bak village, Sangkat Spean Mean Chey, Senmonorom municipality, Mondulkiri province. This hospital is on state-owned land, and belongs to the Mondulkiri Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

38. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 76. The hospital is situated in the Plateau and Mountainous Region. The following is the aerial hospital site/map.



**Figure 17: Mondulkiri provincial referral hospital**

39. **Ratanakiri provincial referral hospital** is located in Boeng Kanseng village, Sangkat Boeng Kanseng, Krong Banlung, Ratanakiri province. This hospital is on state-owned land, and belongs to the Ratanakiri Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the

hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

40. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 78. The hospital is situated in the Plateau and Mountainous Region. The following is the aerial hospital site/map.



**Figure 18: Ratanakiri provincial referral hospital**

41. **Stung Treng provincial referral hospital** is located in Prek village, Sangkat Stung Treng, Stung Treng municipality, Stung Treng province. This hospital is on state-owned land, and belongs to the Stung Treng Provincial Department of Health. The civil works under the project/program will include refurbishment of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

42. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at risk of Mekong river water flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 7. The hospital is situated in the Plateau and Mountainous Region. The following is the aerial hospital site/map.

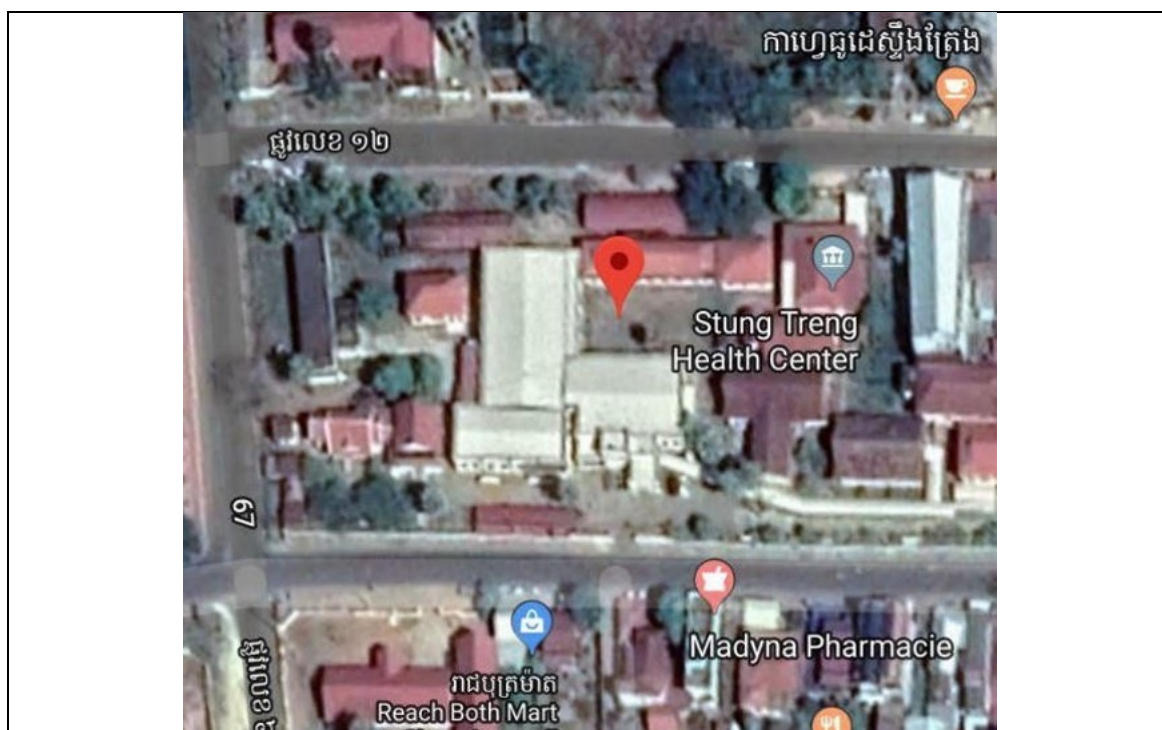
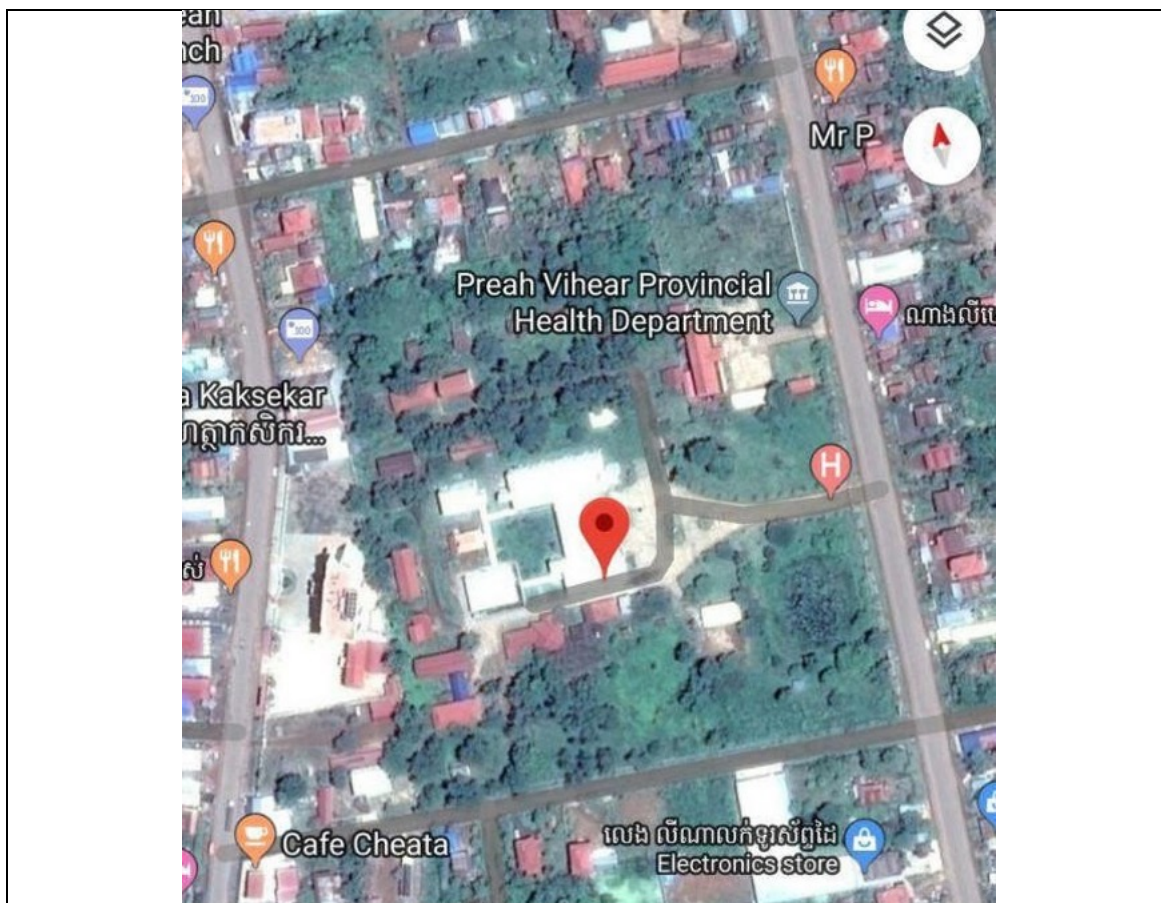


Figure 19: Stung Treng provincial referral hospital

43. **Preah Vihear provincial referral hospital** is located in Andoung Pou village, Sangkat Kampong Pranak, Preah Vihear municipality and province. This hospital is on state-owned land, and belongs to the Preah Vihear Provincial Department of Health. The civil works under the project/program will include refurbishment of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

44. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 62. The hospital is situated in the Plateau and Mountainous Region. The following is the aerial hospital site/map.

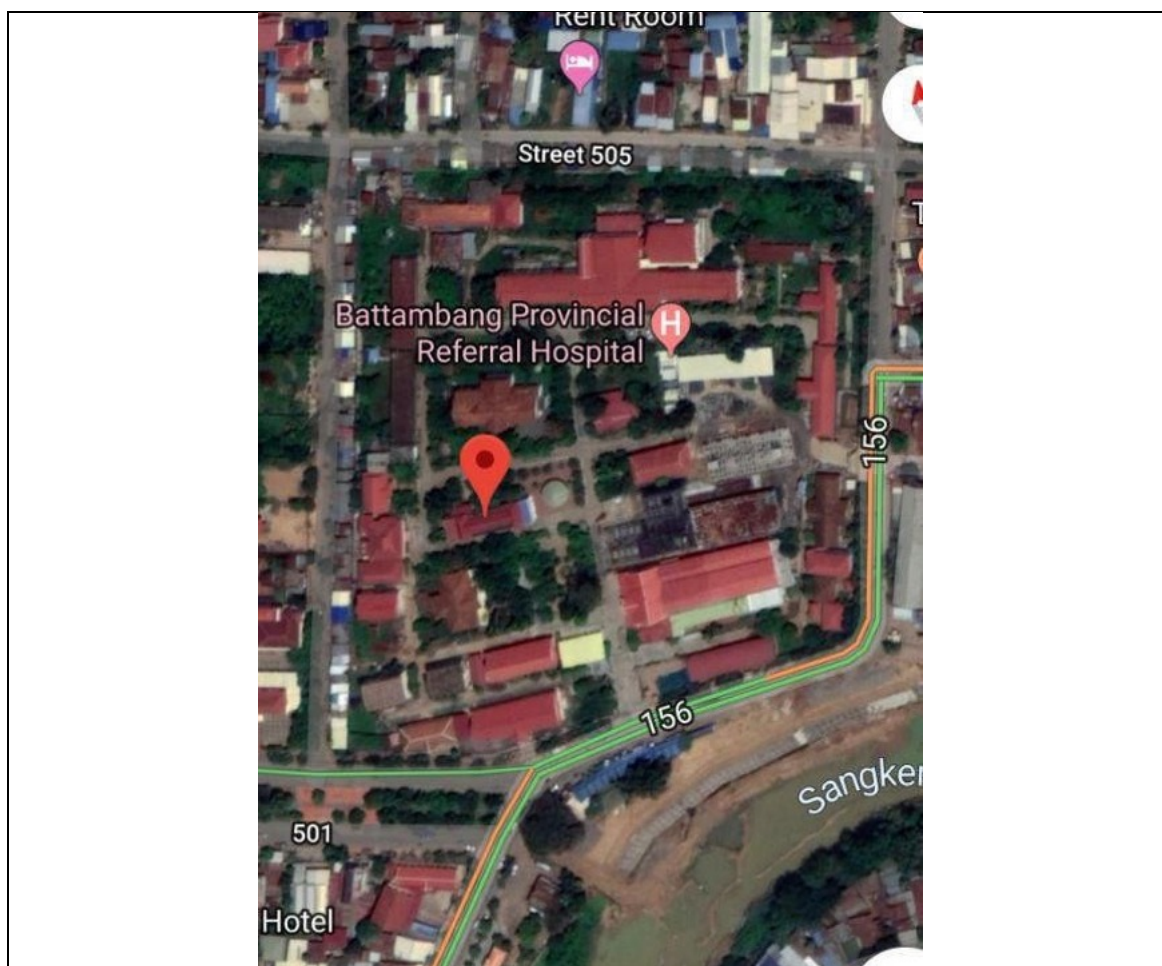




**Figure 20: Preah Vihear provincial referral hospital**

45. **Battambang provincial referral hospital** is located in Prek Moha Tep village, Sangkat SvayPao, Battambang municipality and province. This hospital is on state-owned land, and belongs to the Battambang Provincial Department of Health. The civil works under the project/program will include refurbishment of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

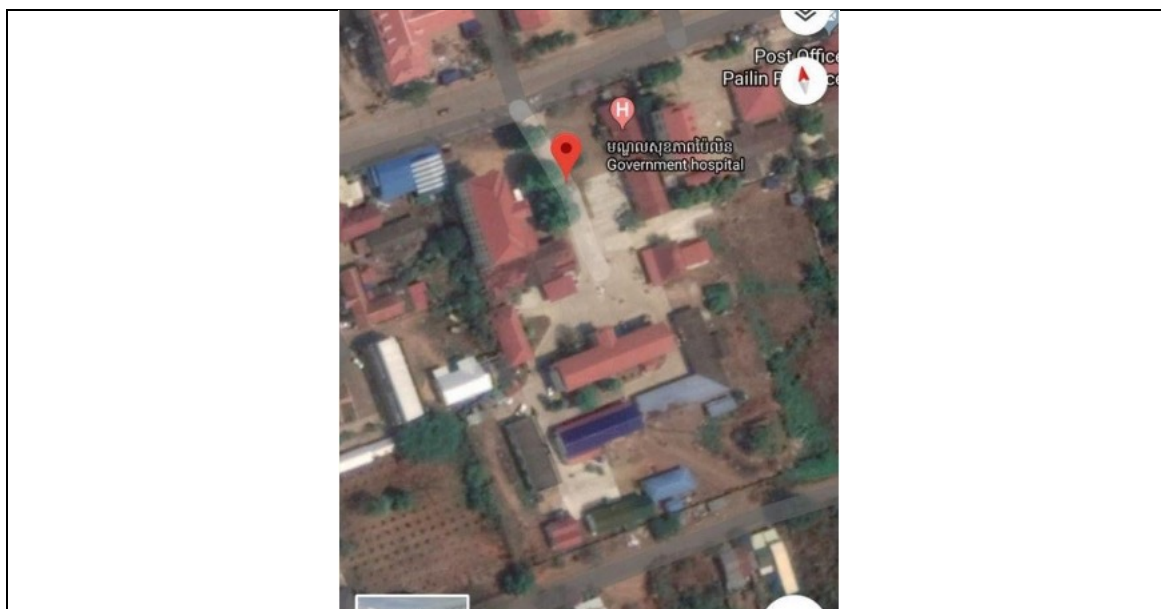
46. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus areadoes not contain cultural, historical and archeological features. There are no landmines or UXOswithin the hospital campus and it is at low risk of flooding. The common access road to this hospitalis double bituminous sealed treatment (DBST) road of National Road No. 5. The hospital is situated in the Tonle Sap Region. The following is the aerial hospital site/map.



**Figure 21: Battambang provincial referral hospital**

47. **Pailin provincial referral hospital** is located in Phum Wat village, Sangkat Pailin, Krong Pailin and Pailin province. This hospital is on state-owned land, and belongs to the Pailin Provincial Department of Health. The civil works under the project/program will include refurbishment of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

48. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 57. The hospital is situated in the Tonle Sap Region. The following is the aerial hospital site/map.



**Figure 21: Pailin provincial referral hospital**

49. **Sampao Lun district referral hospital** is located in Tasda village and commune, Sampao lun district, Battambang province. This hospital is on state-owned land, and belongs to the Battambang Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

50. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus areadoes not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospitalis double bituminous sealed treatment (DBST) road of National Road No. 59. The hospital is situated in the Tonle Sap Region. The following is the aerial hospital site/map.





**Figure 23: Sampao Lun district referral hospital**

51. **Poipet referral hospital** is located in Prochea Thorm village, Sangkat Phsa Kandal, Poipet municipality, Banteay Meanchey province. This hospital is on state-owned land, and belongs to the Banteay Meanchey Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. There are settling pond is existed within the hospital campus. Each toilet has its own cesspit.

52. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and

archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 5. The hospital is situated in the Tonle Sap Region. The following is the aerial hospital site/map.

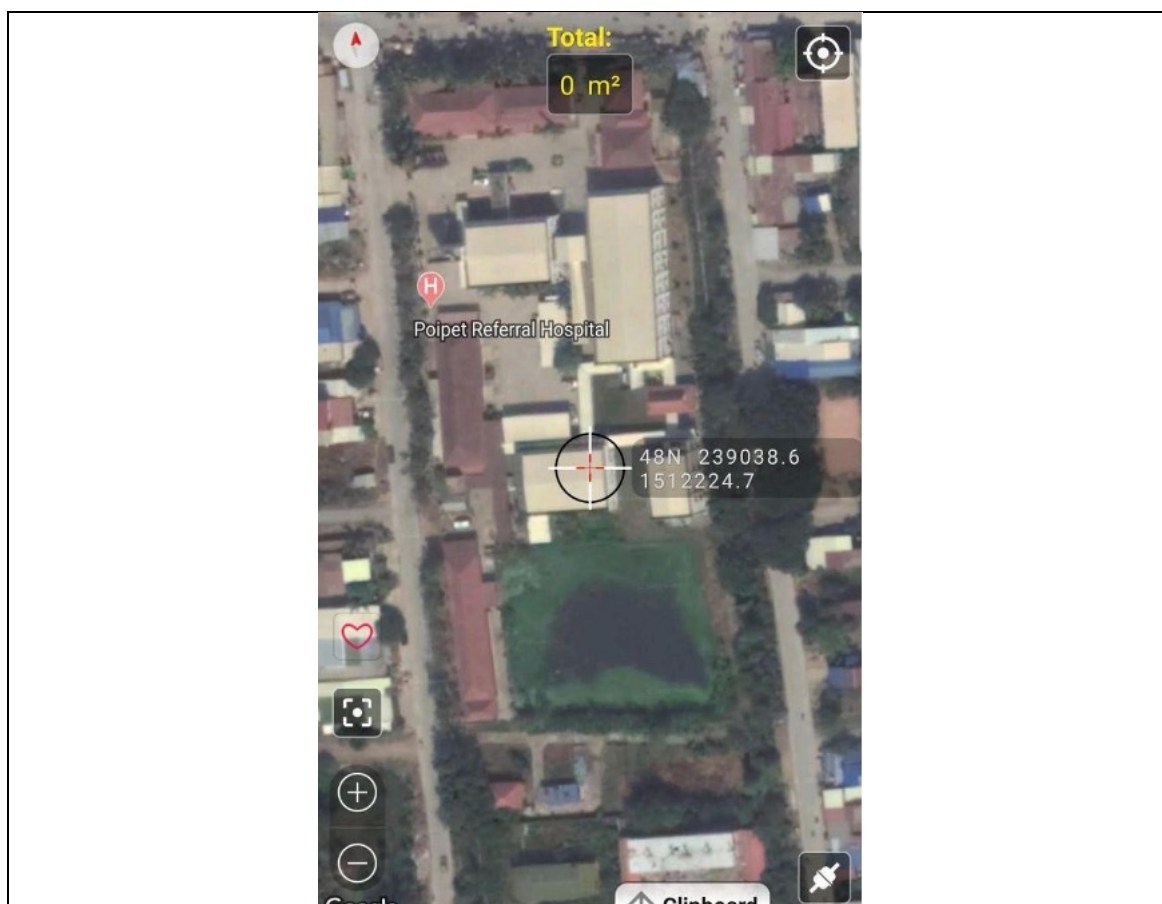


Figure 24: Poipet referral hospital

53. **Thma Pouk district referral hospital** is located in Kak Sen village, Thma Pouk commune and district in Banteay Meanchey province. This hospital is on state-owned land, and belongs to the Banteay Meanchey Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

54. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 56. The hospital is situated in the Tonle Sap Region. The following is the aerial hospital site/map.

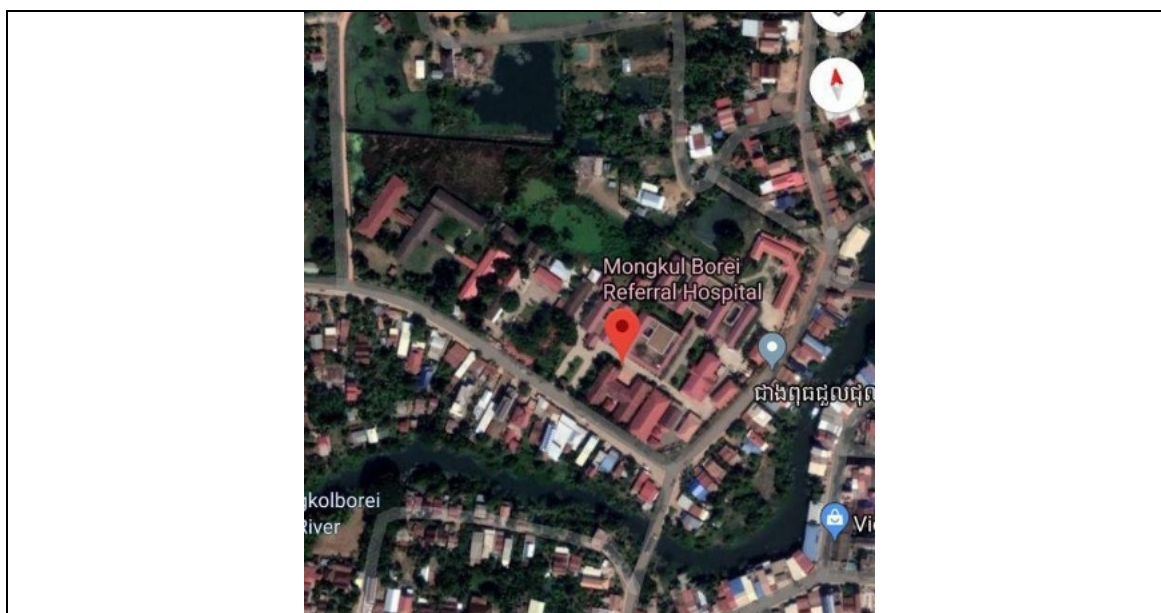




**Figure 25: Thma Puok district referral hospital**

55. **Cambodia-Japan Friendship provincial referral hospital (CJPRH)** is located in Koh Keo village Ruessey Kroak commune, Mongkol Borey district, Banteay Meanchey province. This hospital is on state-owned land, and belongs to the Banteay Meanchey Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. There are settling pond is existed within the hospital campus. Each toilet has its own cesspit.

56. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 5. The hospital is situated in the Tonle Sap Region. The following is the aerial hospital site/map.



**Figure 26: Cambodia-Japan Friendship provincial referral hospital**

57. **Moung Ruessey district referral hospital** is located in Moung village and commune, Moungdistrict, Battambang province. This hospital is on state-owned land, and belongs to the Battambang Provincial Department of Health. The civil works under the project/program will include minor repair of the existing laboratory facility within the existing building and the construction of small shelter (7mx7m) for microwave-based waste management (integrated biomedical waste treatment and disposal) within the designated area. Medical waste (sharp/hazardous) is segregated from general waste. The medical waste is incinerated within the hospital campus while the general waste is stored on site then and transported off-site for disposal. The liquid waste from laboratory is discharged into individual cesspits within the hospitals' campus. The settling pond of hospital is unavailable. Each toilet has its own cesspit.

58. The hospital's campus is not in a protected area and is not in an area of ecological interest or environmental sensitivity. The hospital campus area does not contain cultural, historical and archeological features. There are no landmines or UXOs within the hospital campus and it is at low risk of flooding. The common access road to this hospital is double bituminous sealed treatment (DBST) road of National Road No. 5. The hospital is situated in the Tonle Sap Region. The following is the aerial hospital site/map.

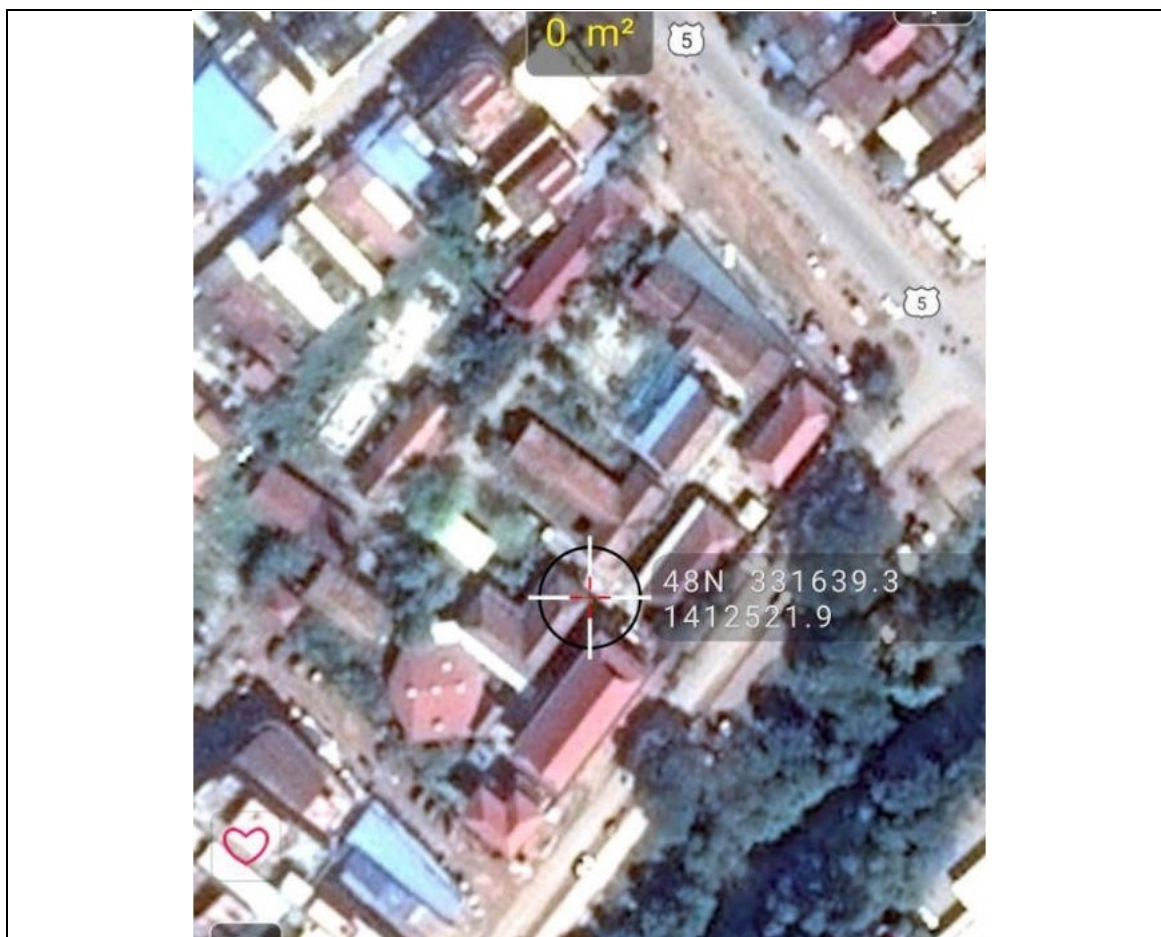


Figure 27: Moung Ruessey district referral hospital



## Appendix 2: Description of scope of works for the Additional Financing Loan

### C. Overview

59. The additional financing will contribute to Cambodia's progress towards compliance with the requirements of the IHR and the Asia Pacific Strategy for Emerging Diseases, in-line with the original project outcome indicators.<sup>1</sup> This will be achieved through a nationwide scale-up of investment at the subnational level across four IHR core capacity areas: (i) health service provision, including clinical care and IPC; (ii) laboratory; (iii) surveillance; and (iv) risk communications. Activities under the additional financing will be delivered through the existing project outputs 2, 3 and a new output 4.

**60. Output 2: National disease surveillance and outbreak response systems strengthened.** Country-wide training for rapid response teams (RRT) at central provincial, district and commune levels will ensure capacity for responding to COVID-19 and other emerging disease threats. Digital health investments will link a centralized communicable diseases dashboard to surveillance data from multiple sources and strengthen contact tracing systems. Risk communications campaigns will enhance the participation of communities in outbreak response.

**61. Outputs 3: Laboratory services and hospital IPC improved.** Laboratories in 81 referral hospitals will be equipped to support diagnostics for communicable disease threats, including capacity for COVID-19 testing in selected hospitals. Small-scale refurbishment works in 62 of those laboratories will ensure appropriate physical environment for the installation and operation of laboratory equipment. Provision of integrated biomedical waste treatment system (42), autoclaves (35), and washing machines (58) will enhance IPC and the management of infectious waste. Small structures (7x7m shelters) will be constructed to house medical healthcare waste treatment equipment. Personal protective equipment (PPE), in appropriate sizes, will be provided for female and male hospital staff members. Health staff across the 116 referral hospitals will be trained on laboratory and IPC practices.

**62. Output 4: Emergency preparedness and response capacity for COVID-19 strengthened.** Sixteen hospitals in key cross border locations will have intensive care units (ICU) renovated, including the provision of essential services such as oxygen supply, electricity, and water. These hospitals will be equipped to support the assessment, isolation, and treatment of patients with COVID-19 and associated comorbidities. Health staff across referral hospitals will be trained on clinical management for COVID-19.

63. The following section lists the referral hospitals involved in output 3 of the additional financing project. It provides information on location; land title; number of beds; remaining land size available for any expansion, as needed; and contact information of relevant staff (lab director, hospital director). It also lists identified sensitivities in proximity of the hospital compound (including river, wetland, forest or school) and flood history. It also provides information related to gender and indigenous peoples.

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<sup>1</sup> WHO. 2017. [Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies](#). Geneva. The Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies provides a strategic roadmap to support country progress towards achieving the IHR core capacities.

64. Tables 1 to 4 present facilities and equipment to be provided under the Additional Financing.

**A) BANTEAY MEANCHEY**
**1) Serey Sophorn**
**I) GENERAL INFORMATION**

Appendix 2

1	Date	23/03/2021	
2	Province	Banteay Meanchey	
3	District	Serey Sophorn	
4	Hospital	Banteay Meanchey Referral Hospital	
5	Land Title	N/A	
6	Remaining land size for new building	600m2	
7	Number of beds	40 Beds (CPA1)	
8	Lab director name	លោក ងារ ប៊ុនសាន (017 924 444)	
9	Hospital director	អ៊ាវ តារុដ (012 854 983)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	13.589640. 102.974636	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Located at the east of National Road 6, north of People's House, west of Street 56 and south of Street 56.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		

GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

## 2) Preah Neth Preah RH

### I) GENERAL INFORMATION

1	Date	24/03/2021
2	Province	Banteay Meanchey
3	District	Preah Neth Preah
4	Hospital	Preah Neth Preah Referral Hospital
5	Land Title	Hard Title
6	Remaining land size for new building	30m * 40m
7	Number of beds	80 Beds (CPA2)
8	Lab director name	លោក ក្រុង លី (089 460 047)
9	Hospital director	លោក វេជ្ជ. ម៉ាន់ ចន្ទា (017 710 683)
ITEM	QUESTIONS	ANSWER
		YES NO
ES	<b>Environment and Sensitive areas:</b>	
ES-A	Please provide the location coordinates (GIS) of the hospital	13.62529818218618, 103.17833663879708

ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Next to National Road 6	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?		✓
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

### 3) Phnom Srok RH

#### I) GENERAL INFORMATION

1	Date	10/05/2021
2	Province	Banteay Meanchey
3	District	Phnom Srok
4	Hospital	Phnom Srok Referral Hospital



5	Land Title	Hard Title	
6	Remaining land size for new building	2668m2	
7	Number of beds	70 Beds (CPA1)	
8	Name of lab director	លោក ស៊ី ផ្លួក (097 255 142 2)	
9	Name of hospital director	វេជ្ជ. ថុ សារីម (012 951 867/097 640 577 8 )	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	14.18797429793328, 103.51768404163703	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to a rural road, the back is next to a people's house, the west is next to a rural road and the east is next to a people's house.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓

GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

#### 4) Svay Check

##### I) GENERAL INFORMATION

1	Date	16/03/2021	
2	Province	Banteay Meanchey	
3	District	Svay Check	
4	Hospital	Svay Check Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	30m * 30m	
7	Number of beds	60 Beds (CPA1)	
8	Lab director name	លោក ភិន សៅវ៉ាត់ ( 017 840841 ) លោក ឌុក ប៉ាលី ( 069 636349 089 636349 )	
9	Hospital director	លោក ស៊ុន ម៉ាណូ ( 012 677868 )	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	13.805393911620845, 102.96500744064748	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Good environment, downtown area	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓

ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**5) O Chhrov RH****I) GENERAL INFORMATION**

1	Date	10/04/2021
2	Province	Banteay Meanchey
3	District	O Chhrov
4	Hospital	O Chhrov Refferal Hospital
5	Land Title	Hard Title
6	Remaining land size for new building	70m * 120m
7	Number of beds	60 Beds (CPA1)

8	Lab director name	លោក វ៉ាន់ ពៅ (012 60 90 82)	
9	Hospital director	លោក ម៉ុ សម្បត្តិ (017 53 02 53)	
ITEM	QUESTIONS		ANSWER
			YES NO
ES	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital		
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The south is next to the railway, north next to National Road 5, west is next to rural road.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?		N/A N/A
GE	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?		✓
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

## 6) Malay santhapheap RH

## I) GENERAL INFORMATION

1	Date	25/03/2021	
2	Province	Banteay Meanchey	
3	District	Malay	
4	Hospital	Malay santhapheap Refferal Hospital	
5	Land Title	N/A	
6	Remaining land size for new building	30m * 65m	
7	Number of beds	60 Beds (CPA1)	
8	Lab director name	លោកស្រី ជឿន វ៉ៃយ៉ា (078 70 51 87) , លោក ចី ឫកាន់ (011 39 36 31)	
9	Hospital director	កាំង គឹមអេង (012 33 63 64 / 097 77 76 476)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	Environment and Sensitive areas:		
ES-A	Please provide the location coordinates (GIS) of the hospital	N/A	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to the concrete road, the back and the west are next to the people's house, and the east is next to the village road.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓

ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**B) BATTAMBANG****7) Thmar Korl RH****I) GENERAL INFORMATION**

1	Date	26/03/2021	
2	Province	Battambang	
3	District	Thmar Kor	
4	Hospital	Thmar Kor Refferal Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	25m * 35m	
7	Number of beds	71 Beds (CPA1)	
8	Lab director name	វ៉ាក់ ស៊ីថា (012 207 800)	
9	Hospital director	វិជ្ជៈ គង់ ប៉ាក់ (012 701 160)	
ITEM	QUESTIONS	ANSWER	
		YES	NO

<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	N/A	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	North and east, next to the rural road, south, next to the drainage canal, and next to National Road 5	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

## 8) Bovel RH

## I) GENERAL INFORMATION

1	Date	11/04/2021
2	Province	Battambang

3	District	Bovel	
4	Hospital	Bovel Refferal Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	10m * 16m	
7	Number of beds	40 Beds (CPA1)	
8	Lab director name	លោក វី ពិសី (076 555 3434)	
9	Hospital director	វេជ្ជ: គី ណាងហ្វូរ (092 910 857)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	Environment and Sensitive areas:		
ES-A	Please provide the location coordinates (GIS) of the hospital	N/A	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The west is next to rural road, the south, the east and the north are next to the houses of villagers	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?	✓	
ES-D-1	If yes, what was the event and when?	2018	
GE	Gender and Ethnic minority issues:		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	



GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

## 9) Roka RH

## I) GENERAL INFORMATION

1	Date	04/10/2021	
2	Province	Battambang	
3	District	Sangkae	
4	Hospital	Roka Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	14m * 25m	
7	Number of beds	26 Beds (CPA1)	
8	Lab director name	លោក ធីន សុផា (098626267)	
9	Hospital director	លោកវេជ្ជ អេង សំណាង ( 096 324 282 5)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	N/A	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	the north is next to the asphalt road and the south is next to house and to the river, the west is next to the commune hall, and the east is next to the pagoda.	
ES-C	Is the hospital adjacent to:		

ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**10) Ek Phnom RH****C) KAMPONG CHAM****11) Kg. Cham PH****I) GENERAL INFORMATION**

1	Date	05/10/2021
2	Province	Kampong Cham
3	District	Kampong Cham City
4	Hospital	Kampong Cham Provincial Hospital
5	Land Title	Hard Title

6	Remaining land size for new building	8m * 10m	
7	Number of beds	280 Beds (CPA3)	
8	Name of lab director	លោកស្រី ឃ្លែង សុមារី (092 902903)	
9	Name of hospital director	យិន ស៊ីណាត (012 682 808)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.99297605403806, 105.46099883377536	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front and the north are next to the asphalt road, the back is next to the concrete road, and the south is next to the Kampong Cham Regional Training Center for Health.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	

GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**12) Chamkar Leu RH****I) GENERAL INFORMATION**

1	Date	26/03/2021	
2	Province	Kampong Cham	
3	District	Chamkar Leu	
4	Hospital	Chamkar Leu Referral Hospital	
5	Land Title	Soft Title	
6	Remaining land size for new building	N/A	
7	Number of beds	100 Beds (CPA2)	
8	Lab director name	លោកស្រី ហេង នីមល (090 25 3456 )	
9	Hospital director	វេជ្ជ: កាន់ គឹមឆេង (012 402 505)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	12.312542893824537, 105.27984004921086	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to National Road 71, and in front of Chamkar Leu District Police Inspectorate	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	

ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?	✓	
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**13) Choeung Prey RH****14) Prey Chhor RH****I) GENERAL INFORMATION**

1	Date	22/03/2021
2	Province	Kampong Cham
3	District	Prey Chhor
4	Hospital	Prey Chhor Referral Hospital
5	Land Title	Hard Title
6	Remaining land size for new building	30m * 50m
7	Number of beds	70 Beds (CPA1)
8	Lab director name	លោក មាត ម៉េងនីម (092 16 19 73 )
9	Hospital director	លួង សារុយ (012 90 31 30)

ITEM	QUESTIONS		ANSWER	
			YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>			
ES-A	Please provide the location coordinates (GIS) of the hospital	12.058595117680097, 105.25474739459865		
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Next to National Road 7, at the west of Prey Toteung Market about 400m, behind is next to a rural road, and at the west of Prey Chhor OD Health Office.		
ES-C	Is the hospital adjacent to:			
ES-C-1	• River			✓
ES-C-2	• Wetland			✓
ES-C-3	• School		✓	
ES-C-4	• Forest			✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?			✓
ES-D-1	If yes, what was the event and when?		N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>			
GE-A	Do the hospital wards allow for privacy of female and male patients?			✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?		✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓	
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use		
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?			✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓	

15) Srey Santhor RH

16) Hun Sen Stung Trang RH

## I) GENERAL INFORMATION

1	Date	09/04/2021	
2	Province	Kampong Cham	
3	District	Stung Trang	
4	Hospital	Hun Sen Stung Trang Referral Hospital	
5	Land Title	Soft Title	
6	Remaining land size for new building	40m *50m	
7	Number of beds	60 beds (CPA1)	
8	Lab director name	លោក សុខ ព្រំមនាឌ (097 827 892 1)	
9	Hospital director	លោក គៀក គេង (092 322 413)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	N/A	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)		
ES-C	Is the hospital adjacent to:		
ES-C-1	• River	✓	
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A

GE	Gender and Ethnic minority issues:			
GE-A	Do the hospital wards allow for privacy of female and male patients?			✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?		✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓	
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use		
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?			✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓	

## 17) Batheay RH

## I) GENERAL INFORMATION

1	Date	04/09/2021	
2	Province	Kampong Cham	
3	District	Batheay	
4	Hospital	Batheay Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	8365m2	
7	Number of beds	80 Beds (CPA2)	
8	Lab director name	លោក ផា គុសល្យ (012 421 978/096 5555 308)	
9	Hospital director	លោក ឡុង ហ្លួង (012 960 295)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	Environment and Sensitive areas:		



ES-A	Please provide the location coordinates (GIS) of the hospital	12.439253983701022, 104.46591471496946	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to National Road (No. 6A) and behind the rice field, the north is next to district education office, and the south is next to Batheay police post	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**18) Koh Sotin****I) GENERAL INFORMATION**

1	Date	27/03/2021
2	Province	Kampong Cham
3	District	Kohsotin

4	Hospital	Kohsotin Refferal Hospital	
5	Land Title	Soft Title	
6	Remaining land size for new building	294m2	
7	Number of beds	35 Beds (CPA1)	
8	Lab director name	កញ្ញា សុខ សេងហ្គាន (098 868 350)	
9	Hospital director	កញ្ញាវេជ្ជបណ្ឌិត ហ៊ុយ ស្រីពៅ (089 407 678)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.889554128870863, 105.4308555896975	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Located in Phsar Thmey village, Peam Prathnos commune, about 500 meters from Chi He market.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River	✓	
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	

GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**19) Kang Meas****I) GENERAL INFORMATION**

1	Date	22/03/2021	
2	Province	Kampong Cham	
3	District	Kang Meas	
4	Hospital	Kang Meas Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	20m * 30m	
7	Number of beds	40 Beds (CPA1)	
8	Lab director name	ហេម គុសល (092 518 105)	
9	Hospital director	កែវជន សុខាណា (092 190 085)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.945502 105.268819	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to the national road, behind and the east are next to Peam Chi Kang Primary School. The west next to villager's house and in front of football field	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River	✓	

ES-C-2	• Wetland	✓	
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**D) KAMPONG CHHNANG****20) Kg. Chhnang PH****I) GENERAL INFORMATION**

1	Date	19/03/2021
2	Province	Kampong Chhnang
3	District	Kampong Chhnang
4	Hospital	Kampong Chhnang Provincial Hospital
5	Land Title	Hard Title
6	Remaining land size for new building	20m * 25m
7	Number of beds	235 Beds

8	Lab director name	លោកស្រី សរ ឌីតា	
9	Hospital director	លោកវេជ្ជ. ឡុំ សម្បត្តិ	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	12.251563983445978, 104.66919281734059	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)		
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?	✓	
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

## 21) Kampong Tralach

## I) GENERAL INFORMATION

1	Date	30/03/2021	
2	Province	Kampong Chhnang	
3	District	Kampong Tralach	
4	Hospital	Kampong Tralach Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	N/A	
7	Number of beds	55 Beds (CPA1)	
8	Lab director name	លោកស្រី វិស ចន្ទរេដ្ឋាន (016 397 089 )	
9	Hospital director	តែ វណ្ណ ( 011 978 597 )	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.938092436972102, 104.71282991178668	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The east is next to National Road No. 5 and Sala Lek 5 Health Center, The south, north and west are next to villagers's houses.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓

ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**22) Boribo****I) GENERAL INFORMATION**

1	Date	04/11/2021	
2	Province	Kampong Chhnang	
3	District	Boribo	
4	Hospital	Boribo Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	10000m2	
7	Number of beds	30 Beds (CPA១)	
8	Lab director name	លោក ឈឿង ប្អូនី (070 678 681)	
9	Hospital director	លោក សឹង សំណាង (012 176 4023)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		

ES-A	Please provide the location coordinates (GIS) of the hospital	12.439253983701022, 104.46591471496946	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to the national road, the back is next to the canal, the north and the south are next to the canal	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**E) KAMPONG SPEU**

23) Kg. Speu PH

**I) GENERAL INFORMATION**

1	Date	28/03/2021
2	Province	Kampong Speu



3	District	Chbar Mon city	
4	Hospital	Kampong Speu Provincial Referral Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	(30m * 40m)	
7	Number of beds	200 beds (CPA3)	
8	Lab director name	Mr. Uy Samedy (016 344 727)	
9	Hospital director	វេជ្ជ. ហុក ត្រី (016 643 168)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.472317192489701, 104.54359122626161	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Border at the back, right, left, next to dry land, and at the front, next to national road.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	

GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**24) Oudong RH****I) GENERAL INFORMATION**

1	Date	30/03/2021	
2	Province	Kampong Speu	
3	District	Oudong	
4	Hospital	Oudong Referral Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	50m * 100m	
7	Number of beds	70 Beds (CPA2)	
8	Lab director name	លោក ស្រី ហេងម៉ុំ (012 70 84 80)	
9	Hospital director	វេជ្ជ.ភីម សុភាព (012 910 062)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.824408113914062, 104.73959588294987	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to National Road 5, the back and the west and east are next to a rural road.	
ES-C	Is the hospital adjacent to:		

ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**25) Trapaing Kraloeung RH****I) GENERAL INFORMATION**

1	Date	15/04/2021
2	Province	Kampong Speu
3	District	Phnom Sruoch
4	Hospital	Trapaing Kraloeung Referral Hospital
5	Land Title	Soft Title
6	Remaining land size for new building	100m * 114m

7	Number of beds	40 Beds (CPA1)	
8	Lab director name	លោក ឆ្លង ហ្វាង (010 874 708)	
9	Hospital director	ឱសថការី ប៉ុក សុកន្ទីរីត្ត (016 232 163/012 751 977)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	N/A	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to National Road 5, the back, the west and the east are next to a rural road.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓

GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	
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**F) KAMPONG THOM****27) Kampong Thom PH****I) GENERAL INFORMATION**

1	Date	17-02-2021	
2	Province	Kompongthom	
3	District	Stung Sen City	
4	Hospital	Kampong Thom Provincial Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	(25m * 35m)	
7	Number of beds	120 beds (CPA3)	
8	Lab director name	លោក គង សុផាវ៉ា (012 49 77 97)	
9	Hospital director	វេជ្ជ. លីម ស៊ុនប៊ុនហុង (012 83 65 88)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	12.711394605970183, 104.88273177668627	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Border at the back, right, left, next to dry land, and at the front, next to national road.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	

ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**28) Baray Santuk RH****I) GENERAL INFORMATION**

1	Date	25/03/2021
2	Province	Kampong Thom
3	District	Baray
4	Hospital	Baray Santuk Referral Hospital
5	Land Title	Hard title
6	Remaining land size for new building	20m * 35m
7	Number of beds	70 Beds (CPA2)
8	Lab director name	លោក កែត ឡឹង
9	Hospital director	វេជ្ជ ឡេង កាំងលាង

ITEM	QUESTIONS		ANSWER	
			YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>			
ES-A	Please provide the location coordinates (GIS) of the hospital	12.487254716890353, 105.12188622528747		
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The eastern border is next to the rice field. The south is next to the people's houses. The west is next to National Road 6A.		
ES-C	Is the hospital adjacent to:			
ES-C-1	• River			✓
ES-C-2	• Wetland			✓
ES-C-3	• School		✓	
ES-C-4	• Forest			✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?			✓
ES-D-1	If yes, what was the event and when?		N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>			
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?		✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?			✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?			✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use		
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?			✓

**29) Stong RH****I) GENERAL INFORMATION**

1	Date	24/03/2021	
2	Province	Kampong Thom	
3	District	Stong	
4	Hospital	Stong Refferal Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	25m * 40m	
7	Number of beds	70 Beds (CPA2)	
8	Lab director name	លោក លី ឡុងហ៊ាង (012 853 031)	
9	Hospital director	លោក វេជ្ជបណ្ឌិត សេង សុខដា (012 794 349)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	N/A	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)		
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland	✓	
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?	✓	
ES-D-1	If yes, what was the event and when?	2020	
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		✓



GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?		✓
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**G) KOH KONG****30) Koh Kong PH****I) GENERAL INFORMATION**

1	Date	04/12/2021	
2	Province	Koh Kong	
3	District	Khemara Phoumin City	
4	Hospital	Koh Kong Provincial Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	16m * 40m	
7	Number of beds	60 beds (CPA2)	
8	Lab director name	លោក អ៊ាង អ៊ឹម (016 86 73 91)	
9	Hospital director	វេជ្ជ. ហៃ ឡឺស៊ុន (010 76 7777)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	Environment and Sensitive areas:		

ES-A	Please provide the location coordinates (GIS) of the hospital	11.61419005808299, 102.9829958341529	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Border at the back, right, left, next to dry land, and at the front, next to national road.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**31) Sre Ambel RH****I) GENERAL INFORMATION**

1	Date	04/01/2021
2	Province	Koh Kong
3	District	Sre Ambel

4	Hospital	Sre Ambel Refferal Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	1000m2	
7	Number of beds	42 Beds (CPA1)	
8	Lab director name	លោកស្រី តេងស្រីភីស្ត (070 545 862/095 545 262)	
9	Hospital director	ហ្ន៎ សុខហួន (016 877 006)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	Environment and Sensitive areas:		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.5'39.08 N 103.47'20.84'E	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to the national road, the back is next to the farm, the west and east are next to the house of villagers.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest	✓	
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
GE	Gender and Ethnic minority issues:		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	

GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**H) KAMPOT****32) Bun Rany- Hun Sen Koh Sla****I) GENERAL INFORMATION**

1	Date	03.05.2021	
2	Province	Kampot	
3	District	Chhuk	
4	Hospital	Bun Rany- Hun Sen Koh Sla Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	100m * 200m	
7	Number of beds	35 Beds (CPA1)	
8	Lab director name	អ៊ិន សុខលេង (088 750 156 2)	
9	Hospital director	អ៊ឹក សំហាន (097 735 900 7)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.133154854214546, 104.14806106710394	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	located next to the asphalt road, near Techo Aphivath market, the east is next to rural road, the south next to asphalt road, the west is next to Bun Rany Hun Sen High School, Koh Sla	
ES-C	Is the hospital adjacent to:		

ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?		✓
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**I) KRATIE****33) Chhlong RH****I) GENERAL INFORMATION**

1	Date	05/11/2021
2	Province	Kratie
3	District	Chhlong
4	Hospital	Chhlong Referral Hospital
5	Land Title	Hard Title
6	Remaining land size for new building	40m * 40m

7	Number of beds	72 Beds(CPA2)	
8	Lab director name	លោក ហេ ពុទ្ធាវី (097 814 019 0)	
9	Hospital director	វេជ្ជប៊ុន ប៊ុណ្ណារត្ន (012 502 930)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	12.258459583763347, 105.96432252722934	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front and behind are next to the national road, the west is next to the commune hall and the east is next to the health center.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River	✓	
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?	✓	
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	

GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	
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**J) KANDAL****34) Chey Chumnas PH****I) GENERAL INFORMATION**

1	Date	23/04/2021	
2	Province	Kandal	
3	District	Ta Khmau	
4	Hospital	Chey Chumnas Provincial Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	20m * 40m	
7	Number of beds	190 Beds ( CPA3 )	
8	Lab director name	លោកឱសថការីឧត្តម គាម.ពិសិដ្ឋារី (087 855 369)	
9	Hospital director	លោកវេជ្ជបណ្ឌិត លី មករា (012 991 687)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.48056344708963, 104.94354963956275	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	located on the National Road 2, the west is next to rural road, the north is next to Takhmao OD District Office and the east is next to House	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓

ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		✓
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?		✓
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**35) Rokar kOUNg RH****I) GENERAL INFORMATION**

1	Date	25/03/2021
2	Province	Kandel
3	District	Mukh Kampul
4	Hospital	Bun Rany- Hun Sen Roka KOUNg Refferal Hospital
5	Land Title	Hard Title
6	Remaining land size for new building	50m * 55m
7	Number of beds	53 Beds (CPA2)
8	Lab director name	លោក អ៊ឹវ សុផល (017 552 323)
9	Hospital director	សុខ សួយត្រី (085 669 778)



ITEM	QUESTIONS		ANSWER	
			YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>			
ES-A	Please provide the location coordinates (GIS) of the hospital	11.848279795476257, 104.99571242647822		
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to the river and rural road, behind is next to houses, the west is next to the health center, and the east is next to the cpp party hall		
ES-C	Is the hospital adjacent to:			
ES-C-1	• River		✓	
ES-C-2	• Wetland		✓	
ES-C-3	• School			✓
ES-C-4	• Forest			✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?			✓
ES-D-1	If yes, what was the event and when?		N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>			
GE-A	Do the hospital wards allow for privacy of female and male patients?			✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?		✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?			
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?			✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use		
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?			✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓	

**36) Saang RH****I) GENERAL INFORMATION**

1	Date	08/04/2021	
2	Province	Kandel	
3	District	Saang	
4	Hospital	Saang Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	50m * 55m	
7	Number of beds	84 Beds (CPA2)	
8	Lab director name	លោក លីម គុល (012 909 455)	
9	Hospital director	លោកស្រី ទ្រី ស៊ីវឡែង (012 602 386 / 096 898 477)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.357534,105.008588	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to the national road, the back is next to the river, the north is next to Saang district hall and the south is next to Prek Koy health center.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River	✓	
ES-C-2	• Wetland	✓	
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		

GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		

## 37) Ksach Kandal RH

## I) GENERAL INFORMATION

1	Date	23/03/2021	
2	Province	Kandel	
3	District	Ksach Kandal	
4	Hospital	Ksach Kandal Refferal Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	35m * 55m	
7	Number of beds	50 Beds (CPA1)	
8	Lab director name	លោក ចាន់ដារ៉ាវិន (011 655 187)	
9	Hospital director	លោក វេជ្ជ ចាបយុថន (012 212 823)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	Environment and Sensitive areas:		
ES-A	Please provide the location coordinates (GIS) of the hospital	N/A	

ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	the south is next to the concrete road, about 200 meters from National Road 8, the east and west is next to the concrete road and north is located next to the market	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River	✓	
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**38) Kandal Stung RH****39) Kien Svay RH****I) GENERAL INFORMATION**

1	Date	24/03/2021
2	Province	Kandal
3	District	Kien Svay

4	Hospital	Kien Svay Refferal Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	10m * 15m	
7	Number of beds	18 Beds (CPA1)	
8	Lab director name	កើត ជ័ន្ទថា ( 012 929 426 )	
9	Hospital director	ឆេង សុវណ្ណ ( 012 885 536 )	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.510066264123886, 105.05183006178136	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to the national road, the back is next to a canal, the west is next to a rural road and the east is next to houses.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		

GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**40) Ang Snoul RH****I) GENERAL INFORMATION**

1	Date	28/03/2021	
2	Province	Kandel	
3	District	Ang Snoul	
4	Hospital	Ang Snoul Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	50m * 55m	
7	Number of beds	87 Beds (CPA1)	
8	Lab director name	លោក សន អ៊ុន (012 203 037/093 203 037)	
9	Hospital director	លោក លី សុវណ្ណ (012 790 744)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital		
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to the national road, the back and west are next to the house, and the east is next to the rural road.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓

ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?	✓	
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**41) Lovea Em RH****I) GENERAL INFORMATION**

1	Date	05/11/2021
2	Province	Kandel
3	District	Lovea Em
4	Hospital	Lovea Em Referral Hospital
5	Land Title	Hard Title
6	Remaining land size for new building	20m * 30m
7	Number of beds	32 Beds (CPA1)

8	Name of lab director	លោក អ៊ុន សារ៉េត (015 545 996)	
9	Name of hospital director	លោកស្រី ជឹម បុល្លា (012 535 394)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	14.18797429793328, 103.51768404163703	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to the national road, the back is next to a canal, the west is next to a rural road and the east is next to the houses.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River	✓	
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	



## 42) Ponhea Loeu RH

## I) GENERAL INFORMATION

1	Date	24/03/2021	
2	Province	Kandel	
3	District	Ponhea Loeu	
4	Hospital	Ponhea Loeu Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	22m * 35m	
7	Number of beds	108 Beds (CPA2)	
8	Lab director name	អ្នកស្រី នាក់ ស្រីទួច (087 683 939)	
9	Hospital director	លោក វេជ្ជ សុខ ធន (016 697 769)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.823776017988669, 104.76527695411448	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	located on the national road 5	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓

ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		✓
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?		✓
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**43) Loeuk Dek RH****I) GENERAL INFORMATION**

1	Date	27/04/2021	
2	Province	Kandel	
3	District	Loeuk Dek	
4	Hospital	Loeuk Dek Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	100m * 250m	
7	Number of beds	30 Beds (CPA1)	
8	Lab director name	ជា ចក់ (085 659 365)	
9	Hospital director	វេជ្ជ. ទៀង សារ៉ាត (012 826 144)	
ITEM	QUESTIONS	ANSWER	
		YES	NO

ES	Environment and Sensitive areas:		
ES-A	Please provide the location coordinates (GIS) of the hospital	N/A	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The east is next to National Road 14, the south is next to the village, north is next to the market.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
GE	Gender and Ethnic minority issues:		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?	✓	
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**K) PREY VENG****44) Kamchay Mear****I) GENERAL INFORMATION**

1	ថ្ងៃ/ខែ/ឆ្នាំ	20/04/2021
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2	Province	Prey Veng	
3	District	Komchay Mear	
4	Hospital	Komchay Mear Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	50m * 80m	
7	Number of beds	75 Beds (CPA1)	
8	Lab director name	Miss. ROUS SAVY (092 17 20 18/096 21 65 720)	
9	Hospital director	Dr. TIM PENG (012 844 499/015 536 999)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	Environment and Sensitive areas:		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.580317499229492, 105.6656079967266	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to National Road 8, the back is next to the rice fields, the north is next to the education office and the south is next to the houses.	
ES-C	Is the hospital adjacent to:		✓
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
GE	Gender and Ethnic minority issues:		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	

GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**45) Mae Sang****I) GENERAL INFORMATION**

1	Date	31/03/2021	
2	Province	Prey Veng	
3	District	Mae Sang	
4	Hospital	Mae Sang Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	15m * 25m	
7	Number of beds	60 Beds (CPA1)	
8	Lab director name	លោក ជិត សុផល (088 363 737 7)	
9	Hospital director	វេជ្ជ ហាក់ ម៉េង (012 877 167 )	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.3265205,105.5477109	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The north is next to the asphalt road and the south and west is next to the house and the east is next to the district education office.	

ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland	✓	
ES-C-3	• School	✓	
ES-C-4	• Forest	✓	
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?	✓	
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**46) Neak Leung****I) GENERAL INFORMATION**

1	Date	29/04/2021
2	Province	Prey Veng
3	District	Peam Ro
4	Hospital	Neak Leung Referral Hospital
5	Land Title	Hard Title

6	Remaining land size for new building	50m * 80m	
7	Number of beds	120 Beds (CPA1)	
8	Lab director name	លោក ហៀង យ៉ាវី (078 888 699)	
9	Hospital director	វេជ្ជ: គាង ដារ៉ា (012 660 815)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.261444014977839, 105.2865180290112	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Next to the rural road in front of the Mekong River, Neak Leung	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River	✓	
ES-C-2	• Wetland	✓	
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?	✓	
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	

GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**47) Svay Antor****I) GENERAL INFORMATION**

1	Date	23/04/2021	
2	Province	Prey Veng	
3	District	Svay Antor	
4	Hospital	Svay Antor Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	40m * 100m	
7	Number of beds	60 Beds (CPA1)	
8	Lab director name	លោក ស៊ុន លីកា (096 4444 253 )	
9	Hospital director	វេជ្ជ: លី សីហា (088 99 40111)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.56256983105315, 105.41774516197879	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Next to National Road 11, 100 meters from the pagoda gate, in front of the concrete road and at the north of Svay Antor OD Health Office.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	



ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?	✓	
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**48) Sithor Kandal****I) GENERAL INFORMATION**

1	Date	27/04/2021
2	Province	Prey Veng
3	District	Sithor Kandal
4	Hospital	Sithor Kandal Referral Hospital
5	Land Title	Soft Title
6	Remaining land size for new building	100m * 150m
7	Number of beds	60 Beds (CPA1)
8	Lab director name	កញ្ញា ហេង ស្រីពៅ (092/098 956 800)
9	Hospital director	លោកវេជ្ជ. ហៃ ស៊ីថា (016 545 697)

ITEM	QUESTIONS		ANSWER	
			YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>			
ES-A	Please provide the location coordinates (GIS) of the hospital	11.840729040234777, 105.3691322913021		
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	North, south and west, next to rice fields, east is next to asphalt roads.		
ES-C	Is the hospital adjacent to:			
ES-C-1	• River			✓
ES-C-2	• Wetland			✓
ES-C-3	• School			✓
ES-C-4	• Forest		✓	
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?			✓
ES-D-1	If yes, what was the event and when?		N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>			
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?		✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?			✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use		
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?			✓

**49) Baphnom****I) GENERAL INFORMATION**

1	Date	23/03/2021	
2	Province	Prey Veng	
3	District	Baphnom	
4	Hospital	Komchay Mear Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	50m * 70m	
7	Number of beds	60 Beds (CPA1)	
8	Lab director name	Miss. SAMREITH MALIN	
9	Hospital director	Dr. PHATH DARA	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.25440,105.39901	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front (west) is next to the asphalt road, the back (east) is next to the house, the north is next to the Chheng Phnom health center and the south is also next to the house.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland	✓	
ES-C-3	• School	✓	
ES-C-4	• Forest	✓	
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		

GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?	✓	
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

## 50) Peam Chor

## I) GENERAL INFORMATION

1	Date	28-Apr-21	
2	Province	Prey Veng	
3	District	Peam Chor	
4	Hospital	Peam Chor Refferal Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	12m * 20m	
7	Number of beds	60 Beds (CPAI)	
8	Lab director name	កញ្ញាគីលានុប្បដ្ឋាក ស៊ឹម វ៉ែនវិគា (096 42 53 90 1)	
9	Hospital director	គ្រូពេទ្យមធ្យម ពៅ សេងត្រាន់ (095 89 35 35)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	Environment and Sensitive areas:		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.103070975982895, 105.2208544360359	

ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Peam Chor Referral Hospital, west, next to the rural road, the south, east and north are next to the house.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River	✓	
ES-C-2	• Wetland	✓	
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**51) Kanchrach****I) GENERAL INFORMATION**

1	Date	04/01/2021
2	Province	Prey Veng
3	District	Kanchrach
4	Hospital	Kanchrach Referral Hospital

5	Land Title	Hard Title	
6	Remaining land size for new building	38m * 72m	
7	Number of beds	60 Beds (CPA1)	
8	Lab director name	អ៊ុល ចាន់ធី (097 436 989 9)	
9	Hospital director	វេជ្ជ.វ៉ឺន ចាន់តារ៉ា (012 688 083)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.69243.105.55921	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	North is next to district hall and the south is next to the People's House, the west is next to the military barracks, and the east is next to asphalt road.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?	✓	

GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**L) MONDUKIRI****52) Koh Nhek RH****I) GENERAL INFORMATION**

1	Date	31.03.2021	
2	Province	Mondulkiri	
3	District	Koh Nhek	
4	Hospital	Koh Nhek Referral Hospital	
5	Land Title	Soft Title	
6	Remaining land size for new building	90m * 160m	
7	Number of beds	60 Beds (CPA1)	
8	Lab director name	លោក ឆៀង ប្រដែក (097 709 043 4)	
9	Hospital director	លោកវេជ្ជៈ រុន ហា (088 488 123 4)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	13.074351702252471, 107.0406511136496	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Between Anlongs village and Prek Changkron village.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓

ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest	✓	
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**M) RATTANAK KIRI****53) Borkeo****I) GENERAL INFORMATION**

1	Date	23/03/2021
2	Province	Rattanak Kiri
3	District	Borkeo
4	Hospital	Borkeo Referral Hospital
5	Land Title	Hard Title
6	Remaining land size for new building	60m * 70m
7	Number of beds	60 Beds (CPA1)



8	Lab director name	លោក ហ៊ុន គុណ្ណា (088 629 995 6)	
9	Hospital director	លោក ជាន សារ៉ន (097 591 658 8)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	N/A	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Next to National Road 222, west of Stung Trang Market about 100 meters, the east is next to Hun Sen High School, Stung Trang, north-south, west, next to the rural road.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?		✓
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?	✓	
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**N) PREAH VIHEAR****I) GENERAL INFORMATION**

1	Date	20/04/2021	
2	Province	Preah Vihear	
3	District	Choam Ksan	
4	Hospital	Choam Ksan Refferal Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	10m * 20m	
7	Number of beds	46 Beds (CPA1)	
8	Lab director name	ឆែមឈឿង (092 854 855)	
9	Hospital director	លៀវ មុយសៀន (012 938159)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	Environment and Sensitive areas:		
ES-A	Please provide the location coordinates (GIS) of the hospital	14.217930195671098, 104.94348762715984	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	located in front of National Road 2626, behind Choam Ksan District Hall, west of Choam Ksan District Hall, east of football field	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓

ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**O) SVAY RIENG****55) Romeas Hek RH****I) GENERAL INFORMATION**

1	Date	23/03/2021	
2	Province	Svay Rieng	
3	District	Romeas Hek	
4	Hospital	Romeas Hek Refferal Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	10m * 13m	
7	Number of beds	70 Bed (CPA2)	
8	Lab director name	លោក អ៊ុក សុវណ្ណ (012 314 745)	
9	Hospital director	លោក វេជ្ជ ឌែ ចាន់ថន (071 509 950 7)	
ITEM	QUESTIONS	ANSWER	
		YES	NO

<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	10. 11.41406863. 105.79613607	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	•The west is next to National Road 13 • The east is next to a rural road • The north is next to a rural road • The south is next to a football field	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River	✓	
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?	✓	
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**56) Svay Chrum RH****I) GENERAL INFORMATION**

1	Date	02/09/2021
2	Province	Svay Rieng

3	District	Svay Chrum	
4	Hospital	Svay Chrum Referral Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	(30m * 40m), (30m * 40m) & (30m * 40m)	
7	Number of beds	55 beds (CPA1)	
8	Lab director name	លោក សុខ សុភណ្ណ (088 242 6666)	
9	Hospital director	វេជ្ជ. ប៊ី ងារី (012 67 50 40)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	Environment and Sensitive areas:		
ES-A	Please provide the location coordinates (GIS) of the hospital	12.270326124241503, 104.61004117618103	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Border at the back, right, left, next to dry land, and at the front, next to national road.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
GE	Gender and Ethnic minority issues:		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	

GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**57) Svay Teap RH****I) GENERAL INFORMATION**

1	Date	26/03/2021	
2	Province	Svay Rieng	
3	District	Svay Teap	
4	Hospital	Svay Teap Referral Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	24m * 61m	
7	Number of beds	55 Beds (CPA1)	
8	Lab director name	ជ័យ ពិសិដ្ឋ (068 511 909/010 98 29 27)	
9	Hospital director	វេជ្ជបណ្ឌិត សរ សុខចំរើន(070 69 68 38/088 88 77 926)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.0488235,105.9005518	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to the school, behind is next to rural road, The north is next to a school and the south is next to Svay Teap OD.	
ES-C	Is the hospital adjacent to:		

ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**P) KEP****59) Kep PH****I) GENERAL INFORMATION**

1	Date	22/04/2021
2	Province	Kep
3	District	Kep
4	Hospital	Kap Provincial Hospital
5	Land Title	Hard title
6	Remaining land size for new building	N/A

7	Number of beds	40 Beds	
8	Lab director name	សុខ ភាន់ ( 016 748 178 )	
9	Hospital director	នួន សំនាងសក្យា ( 012 572 779 )	
ITEM	QUESTIONS		ANSWER
			YES NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	10.482830760959303, 104.31746811378204	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to the national road, the back, the west and the east are next to the local road	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland	✓	
ES-C-3	• School		✓
ES-C-4	• Forest	✓	
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓



GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		
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**Q) PURSAT****61) Bakan RH****I) GENERAL INFORMATION**

1	Date	23/03/2021	
2	Province	Pursat	
3	District	Bakan	
4	Hospital	Bakan Referral Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	15m * 40m	
7	Number of beds	80 Beds (CPA1)	
8	Lab director name	លោក ឈន ជិន (071 558 866 8)	
9	Hospital director	គ្រូពេទ្យ មូល កោសិទ្ធ (011 55 25 26)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	12.6376557,103.7197539	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The south is next to National Road 5, the west is next to rural road, the north is next to Bakan OD District Office and the east is next to the houses	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓

ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		✓
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**63) Krakor RH****I) GENERAL INFORMATION**

1	Date	26/03/2021
2	Province	Pursat
3	District	Krakor
4	Hospital	Krakor Referral Hospital
5	Land Title	Hard title
6	Remaining land size for new building	20m * 30m
7	Number of beds	44 Beds (CPA1)
8	Lab director name	គែ សុភាព
9	Hospital director	ណុប សុភិន (096 787 882 3)

ITEM	QUESTIONS		ANSWER	
			YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>			
ES-A	Please provide the location coordinates (GIS) of the hospital	11.0488235,105.9005518		
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to National Road 5, behind is next to the rice field, the left and the right are next to the house		
ES-C	Is the hospital adjacent to:			
ES-C-1	• River			✓
ES-C-2	• Wetland			✓
ES-C-3	• School	✓		
ES-C-4	• Forest			✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?			✓
ES-D-1	If yes, what was the event and when?	N/A		N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>			
GE-A	Do the hospital wards allow for privacy of female and male patients?			✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓		
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?			✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?			✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use		
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?			✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?			✓

**S) SIEMREAP****65) Siem reap PH**

## I) GENERAL INFORMATION

1	Date	05/11/2021	
2	Province	Siem Reap	
3	District	Siem Reap	
4	Hospital	Siem Reap Provincial Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	20m * 30m	
7	Number of beds	300 Beds (CPA3)	
8	Name of lab director	លាក់ ឡូណាវ	
9	Name of hospital director	ប៊ែន ផលគុណ	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	13.357079735841909, 103.85583648411877	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The north is next to the local road, the south-west is also next to the road, the southeast is next to rural road, the east is next to houses.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?	✓	
ES-D-1	If yes, what was the event and when?	2011	

GE	Gender and Ethnic minority issues:		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

66) Kralanh RH

I) GENERAL INFORMATION

1	Date	22/4/2021	
2	Province	Siem Reap	
3	District	Kralanh	
4	Hospital	Kralanh Referral Hospital	
5	Land Title	N/A	
6	Remaining land size for new building	300m2	
7	Number of beds	81 Beds (CPA2)	
8	Lab director name	លោក ឆែម ឈូ (012 605 567)	
9	Hospital director	លោកវេជ្ជបណ្ឌិត ម៉ម ចាន់សាមួន (017 777 708)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	Environment and Sensitive areas:		

ES-A	Please provide the location coordinates (GIS) of the hospital	13.58989200197828, 103.41663312504835	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Located in Kampong Thkov 2 village, Kampong Thkov commune, Kralanh district, Siem Reap province, about 350 meters from the Kralanh district round.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?	✓	
ES-D-1	If yes, what was the event and when?	2018	
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?		✓
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**67) Angkor chum RH****I) GENERAL INFORMATION**

1	Date	28/04/2021
2	Province	Siem Reap
3	District	Angkor chum

4	Hospital	Angkor chum Refferal Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	20m * 30m	
7	Number of beds	40 Beds (CPA1)	
8	Lab director name	លោកស្រី ជឿត ស្រីណុច (098 373 615 )	
9	Hospital director	លោក ណុប វ៉ាន់នី (092 774 305)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	Environment and Sensitive areas:		
ES-A	Please provide the location coordinates (GIS) of the hospital	13.685345682408533, 103.64665447632713	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	• West by road • East by residential area • North by rice field • South by national road	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
GE	Gender and Ethnic minority issues:		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓

GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?	✓	
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**68) Sot neukum RH****I) GENERAL INFORMATION**

1	Date	01-04-2021	
2	Province	Siem Reap	
3	District	Sot neukum	
4	Hospital	Sot neukum Referral Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	12m * 20m	
7	Number of beds	100 Beds (CPA2)	
8	Lab director name	ប៊ុន សុគុណ	
9	Hospital director	លាង បញ្ញាវឌ្ឍន៍	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	N/A	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Peam Chor Referral Hospital, the west is next to the road, the south, east and north are next to the houses	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓



ES-C-2	• Wetland	✓	
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**69) Pourk RH****I) GENERAL INFORMATION**

1	Date	23/04/2021
2	Province	Siem Reap
3	District	Pourk
4	Hospital	Pourk Referral Hospital
5	Land Title	Hard title
6	Remaining land size for new building	4000m2
7	Number of beds	55 Beds (CPA1)

8	Lab director name	គាត សីមអ៊ុន (096 679 909 9)	
9	Hospital director	ម៉ង់ សម្បត្តិ ( 012 210 747 )	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	13.4423240, 103.7263619	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to the national road, the back, west and east are next to the road and next to the house.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**S) TBONG KHMUM****70) Kroch Chmar RH****I) GENERAL INFORMATION**

1	Date	27/04/2021	
2	Province	Tbong Khmum	
3	District	Kroch Chmar	
4	Hospital	Kroch Chmar Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	20m * 40m	
7	Number of beds	60 Beds (CPA1)	
8	Lab director name	លោក ប៊ែន សុឿនថាស់ (078 280 590 )	
9	Hospital director	អ៊ិន សំអាត (012 402 451 )	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	12.2943847, 105.6167114,47	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The north is next to the Mekong River, the south is next to the asphalt road (308), the east and the west are next to the houses of villagers.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River	✓	
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓

ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

## 71) Oraing Ov RH

## I) GENERAL INFORMATION

1	Date	31/30/2021
2	Province	Tbong Khmum
3	District	Oraing Ov
4	Hospital	Oraing Ov Referral Hospital
5	Land Title	Hard Title
6	Remaining land size for new building	20m * 40m
7	Number of beds	80 Beds (CPA1)
8	Lab director name	លោក រស់ ម៉ុងសាន (092 899 936)
9	Hospital director	លោក អាន (012 912 969)
<b>ITEM</b>	<b>QUESTIONS</b>	<b>ANSWER</b>

		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.797283, 105.502940	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to the national road, the back is next to the rural road, the north is next to the education office and the south is next to the houses.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

T) ODDAR MEANCHEY

74) Anlong Veng RH

I) GENERAL INFORMATION

1	Date	26/03/2021	
2	Province	Oddar Meanchey	
3	District	Anlong Veng	
4	Hospital	Anlong Veng Referral Hospital	
5	Land Title	Hard Title	
6	Remaining land size for new building	21m * 33m	
7	Number of beds	60 Beds (CPA1)	
8	Lab director name	ហ៊ុំ ឫនឡុំ (097 477 919 1)	
9	Hospital director	សេង សំអាត (097 787 871 6)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	14.235102380539134, 104.08056992346435	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The north is next to land field , the back district and the east bordered to Ta Mok Lake. The west is next to National Road, and the south next to Anlong Veng Market	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		

GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?	✓	
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**S) TAKEO****75) Takeo PH****I) GENERAL INFORMATION**

1	Date	24-02-2021	
2	Province	Takeo	
3	District	Doun Kaev City	
4	Hospital	Takeo Provincial Referral Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	N/A	
7	Number of beds	250 beds (CPA3)	
8	Lab director name	លោក ចក់ ចន្ទី (012 767 162)	
9	Hospital director	វេជ្ជ.ល្អិត ល្អិត (016 875 324)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	Environment and Sensitive areas:		

ES-A	Please provide the location coordinates (GIS) of the hospital	10.989136310158186, 104.78281328809148	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	Border at the back, right, left, next to dry land, and at the front, next to national road.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**76) Ang Roka RH****I) GENERAL INFORMATION**

1	Date	30/03/2021
2	Province	Takeo
3	District	Tram Kak



4	Hospital	Ang Roka Referral Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	11.5m * 14.5m	
7	Number of beds	70 Beds (CPA1)	
8	Lab director name	លោក ខាត់ សុខេង (012 710 091)	
9	Hospital director	វេជ្ជ. ហេង ធី (012 987 388)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.036086191894574, 104.5890497936417	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The hospital building faces to the south next to National Road 33, the west next to Trapeang Thom commune police post, the south and the north next to residential land.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓

GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**77) Bati RH****I) GENERAL INFORMATION**

1	Date	24/03/2021	
2	Province	Takeo	
3	District	Bati	
4	Hospital	Bati Refferal Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	20m * 38m	
7	Number of beds	60 Beds (CPA1)	
8	Lab director name	អោ ធីនល ( 012 962 625 )	
9	Hospital director	វេជ្ជ សៅធាន់ថា ( 011976 831 )	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	Environment and Sensitive areas:		
ES-A	Please provide the location coordinates (GIS) of the hospital	N/A	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front (east) is next to National Road 2, the west is next to the residential land , the south is next to OD of BATY and the north is next to the houses of villagers	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓

ES-C-2	• Wetland		✓
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?	✓	
ES-D-1	If yes, what was the event and when?	2020	
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

**78) Kirivong RH****I) GENERAL INFORMATION**

1	Date	22/03/2021
2	Province	Takeo
3	District	Kirivong
4	Hospital	Kirivong Refferal Hospital
5	Land Title	Hard title
6	Remaining land size for new building	18m * 36m
7	Number of beds	120 Beds

8	Lab director name	វិន ស៊ាន	
9	Hospital director	គង់ ចាន់គុមារ (097 806 880 7)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		
ES-A	Please provide the location coordinates (GIS) of the hospital		
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to National Road 8, the back is next to the rice fields, the north is next to the education office and the south is next to the houses.	
ES-C	Is the hospital adjacent to:		✓
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?	✓	
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?		✓

## 78) Prey Kabas RH

## I) GENERAL INFORMATION

1	Date	27/04/2021	
2	Province	Takeo	
3	District	Prey Kabas	
4	Hospital	Prey Kabas Refferal Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	50m * 60m	
7	Number of beds	60 Beds (CPA2)	
8	Lab director name	លោកស្រីឌីសេដកាវី មី ស្រីសំបួរ (092 286 487)	
9	Hospital director	លោកវេជ្ជបណ្ឌិត នួន សុផាត (012 307 635)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
ES	Environment and Sensitive areas:		
ES-A	Please provide the location coordinates (GIS) of the hospital	11.162808190354799, 104.9561530101968	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	The front is next to Street 203, the back is next to a rice field, the west is next to a school and the east is next to a house.	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland		✓
ES-C-3	• School	✓	
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓

ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?		✓
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

**80) Angkor Borei RH****I) GENERAL INFORMATION**

1	Date	05/06/2021	
2	Province	Takeo	
3	District	Angkor Borei	
4	Hospital	Angkor Borei Referral Hospital	
5	Land Title	Hard title	
6	Remaining land size for new building	50m * 70m	
7	Number of beds	30 Beds (CPA1)	
8	Lab director name	លោក លៀង គឹមសាន (010 75 19 79 )	
9	Hospital director	វេជ្ជបណ្ឌិត សេង គឹម (012 96 80 24)	
ITEM	QUESTIONS	ANSWER	
		YES	NO
<b>ES</b>	<b>Environment and Sensitive areas:</b>		

ES-A	Please provide the location coordinates (GIS) of the hospital	11.001077789147116, 104.97019355410445	
ES-B	Describe the land use / land cover at the boundaries of the hospital (Please provide some photographs)	the north is next to King Hun Tean Health Center, the south is next to the houses, the east is next to the river, and the west is next to main road	
ES-C	Is the hospital adjacent to:		
ES-C-1	• River		✓
ES-C-2	• Wetland	✓	
ES-C-3	• School		✓
ES-C-4	• Forest		✓
ES-D	Have you experienced any floods, mudslide or similar in the last 10 years that affected the operation of the hospital?		✓
ES-D-1	If yes, what was the event and when?	N/A	N/A
<b>GE</b>	<b>Gender and Ethnic minority issues:</b>		
GE-A	Do the hospital wards allow for privacy of female and male patients?		✓
GE-B	Do the hospital wards have separate bathrooms/toilets for female and male patients?	✓	
GE-C	Does the hospital have separate toilets and change rooms for female and male staff?	✓	
GE-D	Are female staff able to access to feminine hygiene products (e.g. sanitary pads) at the hospital when required?		✓
GE-D-1	If not available at the hospital, how do female staff access these products?	Own product use	
GE-E	Is Personal Protective Equipment (PPE) available in appropriate size for female and male staff?		✓
GE-F	Does the facility have staff trained to address the needs of patients affected by gender based violence?	✓	

Table 1: IPC equipment to be provided under the Additional Financing

No	Province	No	Location	Level	Sterilwave SW-100	Autoclave 75 liters	Washing machine 20 Kg
Central level							
	National Hospitals	1	National Pediatric Hospital		2		
		2	Cambodia- Chinese Friendship Hospital Kossomak		1		
		3	CENAT hospital		1		
Provincial level							
1	Bateay Mean Chey	1	PH Mongkul Borey	CPA-3		1	1
		2	Malay Santepheap	CPA-1	1	1	1
		3	O Chrov	CPA-1	1	1	1
		4	Phnom Srok	CPA-1			
		5	Svay Chek	CPA-1	1		
		6	Serey Sophorn	CPA-1			
2	Battambang	7	PH Battambang	CPA-3			1
		8	Thmor Kol	CPA-1	1		
		9	Bovel	CPA-1	1	1	1
		10	Ek Phnom	CPA-1	1		
		11	Roka	CPA-1			
3	Kampong Cham	12	PRH Kampong Cham	CPA-3			1
		13	Chamkar Leu	CPA-2			1
		14	Cheung Prey	CPA-2			1
		15	Srey Santhor	CPA-2	1	1	1
		16	Batheay	CPA-2	1	1	1
		17	Stung Trang	CPA-1			1
		18	Prey Chhor	CPA-1		1	1
		19	Koh Sotin	CPA-1	1	1	1
		20	Kang Meas	CPA-1	1	1	1
4	Kampong Chhang	21	PRH Kampong Chhnang	CPA-3			1
		22	Kampong Tralach	CPA-1			1
		23	Boribo	CPA-1		1	1



5	Kampong Speu	24	Provincial RH Kg Speu	CPA-3			1
		25	Oudong	CPA-2			1
		26	Kong Pisey	CPA-2		1	1
		27	RH Trapaing Kralleng	CPA-1		1	1
		28	Baray Santuk	CPA-2			1
		29	Storng	CPA-2			1
7	Kampot	30	Taken Koh Sla	CPA-1		1	1
8	Kandal	31	PRH Chey Chum Neah (Tahmao)	CPA-3	1	1	1
		32	Bun Rany Hun Sen Roka Korng	CPA-2	1	1	1
		33	Ponhea Leu	CPA-2	1	1	1
		34	Ang Snoul	CPA-1	1	1	1
		35	Khsach Kandal	CPA-1	1	1	1
		36	RH Kandal Stung	CPA-1	1	1	1
		37	Saang	CPA-1		1	1
		38	Kien Svay	CPA-1		1	1
		39	Lovea Em	CPA-1	1	1	1
		40	Leuk Dek	CPA-1	1		
9	Koh Kong	41	Provincial RH (Smach Mean Chey)	CPA-2			1
		42	Sre Ambel	CPA-1	1	1	1
10	Kratie	43	RH Chhlong	CPA-2	1		
11	Mondulkiri	44	RH Koh Nhek	CPA-1			
12	Preah Vihear	45	Rh Chomksan	CPA-1	1	1	1
13	Prey Veng	46	RH Neak Leung	CPA-2	1		
		47	Kamchay Mear	CPA-1	1		
		48	Svay Antor	CPA-1	1		
		49	Ba Phnom	CPA-1	1		
		50	Peam Chor	CPA-1	1		
		51	Kanhchreach	CPA-1	1		
		52	Mesang	CPA-1			
		53	Sithor Kandal	CPA-1			

14	Pursat	54	PRH Pursat	CPA-3			1
		55	Bakan	CPA-1			1
		56	Kravanh	CPA-1		1	1
		57	Krokor	CPA-1			1
15	Ratanakiri	58	Bor Keo	CPA-1			
16	Siem Reap	59	Provincial RH Siemreap	CPA-3			1
		60	Sotnikum	CPA-2		1	1
		61	RH Pouk	CPA-2	1	1	1
		62	RH Kralanh	CPA-2			1
		63	RH Angkor Chum	CPA-1			1
17	Preah Sihanouk	64	Provincial RH	CPA-3			1
18	Svay Rieng	65	Romeas Hek	CPA-2			
		66	Svay Chrum	CPA-1	1		
		67	Svay Teap	CPA-1			
		68	Samaki Rumdoul	CPA-1	1	1	1
19	Takeo	69	PRH (Daun Keo)	CPA-3			1
		70	Kirivong	CPA-2			1
		71	Prey Kabas	CPA-1			1
		72	Angrokar	CPA-1	1	1	1
		73	Bati	CPA-1	1	1	1
		74	Angkor Borey	CPA-1	1	1	1
		75	Koh Andet	CPA-1	1	1	1
20	Oddar Meanchey	76	Provincial RH	CPA-2			1
		77	Anlong Veng	CPA-1		1	1
21	Kep	78	Provincial RH	CPA-1	1	1	1
22	Tbong Khmum	79	Krochmar	CPA-1	1		
		80	Oraing Ov	CPA-1	1		
		81	Damber	CPA-1			
23	Phnom Penh	82	Municipality RH (PRH) P.Penh	CPA-3	1	1	1
		83	RH Samdech Ov	CPA1			

		84	Chaktumuk	CPA-1			
		85	Pochentong	CPA-1			
		86	Mean Chey (Bassak)	CPA-1			
		87	Cambodia-Chinese RH Sensok	CPA-1			
		88	Dangkor	CPA-1			
		89	Prek Phnov	CPA-1			
			Chakangre (HC upgraded to RH, not in the 116 list)	CPA-1			
			<b>Total</b>		<b>42</b>	<b>35</b>	<b>58</b>

**Table 2: Laboratory upgrades to be supported under the Additional Financing**

No.	Name of Hospital	CPA	Request of Hospital	Size of existing building	Estimated Costs (US\$)
	<b>BANTEAY MEANCHEY</b>				
1	Serey Sophorn	CPA1	Request for renovation	72.00m2	41,600
2	Preah Neth Preah RH	CPA2	Request for renovation	32.00m2	29,600
3	Phnom Srok RH	CPA1	Request for renovation	20.00m2	26,000
4	Svay Check	CPA1	Request for renovation	23.20m2	26,960
5	O Chhrov RH	CPA1	Request for renovation	19.20m2	25,760
6	Malay santhapheap RH	CPA1	Request for renovation	16.00m2	24,800
	<b>BATTAMBANG</b>				
7	Thmar Korl RH	CPA1	Request for renovation	50.00m2	35,000
8	Bovel RH	CPA1	Request for renovation	16.00m2	24,800
9	Roka RH	CPA1	Request for renovation	55.36m2	36,609
10	Ek Phnom RH	CPA1		50.00m2	35,000
	<b>KAMPONG CHAM</b>				
11	Chamkar Leu RH	CPA2	Request for renovation	24.50m2	27,350
12	Choeung Prey RH	CPA2		50.00m2	35,000
13	Prey Chhor RH	CPA1	Request for renovation	32.80m2	29,840
14	Srey Santhor RH	CPA2		50.00m2	35,000
15	Koh Sotin	CPA1	Request for renovation	10.83m2	23,249
16	Kang Meas	CPA1	Request for renovation	9.80m2	22,940
	<b>KAMPONG CHHNANG</b>				
17	Boribo	CPA1	Request for renovation	42.00m2	32,600
	<b>KAMPONG SPEU</b>				
18	Oudong RH	CPA2	Request for renovation	57.60m2	37,280
19	Trapaing Kraloeung RH	CPA1	Request for renovation	31.00m2	29,300
20	Korng Pisey RH	CPA2	Request for renovation	32.48m2	29,744
	<b>KAMPONG THOM</b>				
21	Stong RH	CPA2	Request for renovation	49.50m2	34,850
	<b>KOH KONG</b>				

22	Sre Ambel RH	CPA1	Request for renovation	123.00m2	56,900
	<b>KAMPOT</b>				
23	Bun Rany- Hun Sen Koh Sla	CPA1	Request for renovation	28.69m2	28,606
	<b>KRATIE</b>				
24	Chhlong RH	CPA2	Request for renovation	45.24m2	33,572
	<b>KANDAL</b>				
25	Chey Chumnas PH	CPA3	Request for renovation	26.04m2	27,812
26	Rokar kOUNG RH	CPA2	Request for renovation	29.25m2	28,775
27	Saang RH	CPA1	Request for renovation	20.00m2	26,000
28	Ksach Kandal RH	CPA1	Request for renovation	63.00m2	38,900
29	Kandal Stung RH	CPA1		50.00m2	35,000
30	Kien Svay RH	CPA1	Request for renovation	14.19m2	24,257
31	Ang Snoul RH	CPA1	Request for renovation	27.60m2	28,280
32	Lovea Em RH	CPA1	Request for renovation	31.68m2	29,504
33	Ponhea Loeu RH	CPA2	Request for renovation	35.00m2	30,500
34	Loeuk Dek RH	CPA1	Request for renovation	24.00m2	27,200
	<b>PREY VENG</b>				
35	Kamchay Mear	CPA1	Request for renovation	60.00m2	38,000
36	Mae Sang	CPA1	Request for renovation	12.00m2	23,600
37	Sithor Kandal	CPA1	Request for renovation	29.60m2	28,880
38	Baphnom	CPA1	Request for renovation	12.80m2	23,840
39	Peam Chor	CPA1	Request for renovation	16.00m2	24,800
40	Kanchrach	CPA1	Request for renovation	25.84m2	27,752
	<b>RATTANAK KIRI</b>				
41	Borkeo		Request for renovation	25.00m2	27,500
	<b>PRAEH VIHEAR</b>				
42	Cham Ksan RH	CPA1	Request for renovation	19.20m2	25,760
	<b>SVAY RIENG</b>				
43	Svay Chrum RH	CPA1	Request for renovation	29.26m2	28,778
44	Svay Teap RH	CPA1	Request for renovation	14.44m2	24,332
45	Samaky Romdoul RH	CPA1		50.00m2	35,000
	<b>KEP</b>				
46	Kep PH	CPA1		48.00m2	34,400
	<b>PURSAT</b>				
47	Bakan RH	CPA1	Request for renovation	64.00m2	39,200
48	Kralanh RH	CPA1		50.00m2	35,000
49	Krakor RH	CPA1	Request for renovation	14.44m2	24,332
	<b>SIEMREAP</b>				
50	Kralanh RH	CPA2	Request for renovation	14.00m2	24,200
51	Angkor chum RH	CPA1	Request for renovation	25.90m2	27,770
52	Sot nekum RH	CPA2	Request for renovation	67.50m2	40,250
53	Pourk RH	CPA2	Request for renovation	21.38m2	26,413

	KAMPONG THOM				
54	Kroch Chmar RH	CPA1	Request for renovation	28.00m2	28,400
55	Oraing Ov RH	CPA1	Request for renovation	45.60m2	33,680
56	Dambae RH	CPA1	Request for renovation	36.00m2	30,800
	ODDAR MEANCHEY				
57	Anlong Veng RH	CPA1	Request for renovation	9.80m2	22,940
	TAKEO				
58	Bati RH	CPA1	Request for renovation	19.98m2	25,994
59	Kirivong RH	CPA2		50.00m2	35,000
60	Prey Kabas RH	CPA2	Request for renovation	21.00m2	26,300
61	Angkor Borei RH	CPA1	Request for renovation	23.45m2	27,035
62	Koh Andeth RH	CPA1		50.00m2	35,000
<b>Grand Total 62 Labs</b>				<b>2,145m2</b>	<b>1,883,544</b>

Table 3: Laboratory Equipment for CPA2 and CPA3 referral hospitals

N0.	Item	Specification	Total CPA3+CPA2
<b>1</b>	<b>Haematology analyser 5 Part</b>		<b>9</b>
	Reagent set:	ABX Diluent	<b>252</b>
		Whitediff	<b>306</b>
		ABX Cleaner	<b>162</b>
		ABX Minoclair	<b>18</b>
		DIFFTROL 2N (2x3ml)	<b>108</b>
		DIFFTROL 2L (2x3ml)	<b>108</b>
		DIFFTROL 2H (2x3ml)	<b>108</b>
<b>2</b>	<b>Haematology analyser 3 Part</b>		<b>21</b>
	Reagent set:	CLEANING SOLUTION (1L)	<b>210</b>
		SOLUTION FOR DILUTION (10 L)	<b>252</b>
		SOLUTION FOR ANALYSE (1L)	<b>126</b>
	Internal Quality Control:	BLOOD CONTROL 2N (Vial/2x2.5ml)	<b>252</b>

		BLOOD CONTROL 2H (Vial/2x2.5ml)	<b>252</b>
		BLOOD CONTROL 2L (Vial/2x2.5ml)	<b>252</b>
	Spare parts & maintenance kits:	Preventive Maintenance Kit	<b>21</b>
	<b>Vacuumtainer EDTA 13x75mm</b> Case of 10 Packages of 100 tubes per pack For Haematology Analyzer system	Plastic tube, purple cap; blood collection tube, volume 4.0 ml with anticoagulant EDTA K2 & Holder (vacutainer needle holder reusable).	<b>1080</b>
	<b>Needle 22 G for</b> vacuum tube disposable 100 tubes per box	Individual wrap sterile siringue use.	<b>1080</b>
<b>3</b>	<b>Biochemistry analyser</b>		<b>26</b>
	TRIGLYCERIDES Liquicolor	Test kit for determination Triglyceride in blood	<b>270</b>
	UREA Liquicolor	For urea in Blood determination	<b>270</b>
	URIC ACID Liquicolor	Test kit for determination uric acide in blood	<b>270</b>
	Calcium - MONO reagent	Test kit for determination calcium in blood	<b>270</b>
	Glucose Liquicolor	Test kit for determination glucose in blood	<b>332</b>
	GOT (ASAT) LiquiUV	Test Kit for liver function determination	<b>332</b>
	GPT (ALAT) LiquiUV	Test Kit for liver function determination	<b>332</b>
	Cholesterol Total	For detection muscle tissu enzyme	<b>332</b>
	Creatinine Liquicolor Jatt	Test kit for determination Creatinine in blood	<b>332</b>
	Normal human sera	for Control of accuracy and Precision target Values mainly in the normal	<b>270</b>
	Pathological human sera	for Control of accuracy and Precision target Values mainly in the abnormal Range	<b>270</b>
	Spare parts & maintenance kits:	Halogen lamp 6V/10W	<b>26</b>
	<b>Vacuumtainer 13x75mm</b> 100 tubes per box For Biochemistry Analyzer system	Plastic tube; Red top plain blood collection tube, volume 4.0 ml with Clot activator. Tube interior coating: Silicone; Stopper lubrication: Silicone & Holder.	<b>975</b>
<b>4</b>	<b>Electrolyte analyser system</b>		<b>30</b>
	Reagent set:	Na+ Electrode (PCS)	<b>30</b>
		K+ Electrode (PCS)	<b>30</b>

		Cl- Electrode (PCS)	<b>30</b>
		Solution pack Na/K/Cl (Pack/800ml)	<b>93</b>
		Daily Cleaning solution (Kit/90ml+6Btl)	<b>120</b>
	Internal Quality Control:	Trilevel quality Control N,H,L (Kit/10 mlx3)	<b>120</b>
	Spare parts & maintenance kits:	Halogen lamp	<b>30</b>
<b>5</b>	<b>Water purification (for reagent preparation) systems</b>		<b>30</b>
	Spare parts & maintenance kits:	Preventive Maintenance Kit	<b>30</b>
<b>6</b>	<b>Coagulation analyzer</b>		<b>30</b>
	Reagent set:	PT 10 (10x10ml) 1000 Tests/Kit	<b>87</b>
		APPT Liquide 4 (12x4ml) 960 Tests/Kits	<b>105</b>
		CaCl <sub>2</sub> 4 (12x4ml) 960 Tests/Kit	<b>87</b>
	Internal Quality Control:	Control (CTRL) I and II (5x1ml) x2 50 Tests/Kit	<b>120</b>
	Specimen cup and reaction tube	Cuvette Kit/1000 pcs	<b>87</b>
	<b>Vaccumtainer</b> 100 tubes per pack For Coagulation Analyzer System	Green cap; 2.7ml ; Plastic test tube Na citrate 3.2% anticoagulant; for test coagulation TP,TCA,TH.& Holder	<b>434</b>
<b>7</b>	<b>Fridge system (Blood Bank)</b>		<b>6</b>
	single blood bag system: 42 bags per package		<b>40</b>
	Blood transfusion set: 50 sets per package		<b>40</b>
<b>8</b>	<b>Water bath</b>		<b>11</b>
<b>9</b>	<b>Bagmatic (Balance)</b>		<b>17</b>
<b>10</b>	<b>Blood collection tube sealer</b>		<b>10</b>
<b>11</b>	<b>Centrifuge (benchtop)</b>		<b>30</b>
	Spare parts & maintenance kits:	Brushless	<b>30</b>
<b>12</b>	<b>Microscope</b>		<b>21</b>
	Spare parts & maintenance kits:	Cleaning set	<b>21</b>

		LED lamp 3W	21
13	Vortex mixer		27
14	Roller Mixer		30
15	Auto pipetter (2uL - 20uL)		69
16	Auto pipetter (10uL - 100uL)		69
17	Auto pipetter (100uL - 1000uL)		69
18	Pipette holder/stand	Match with brand of automatic pipetter (reuse)	69
19	Digital thermometer		108
21	Laundry washing system (small)		30
22	Phlebotomy chair (blood collection chair for patient)		29
23	Waiting bench		39
24	Laboratory chair (stool)		216
25	Office desk		21
26	Office chairs		21
27	Cupboard with shelves for storing materials		27
28	Cupboard for storing laboratory coat and Cupboard for storing laboratory coat		27
29	Water bath		16
30	Fridge/Freezer		27
31	Safety shower & eye wash system		9
32	Eye wash system		21
33	Rapid Test for Serology		0
	SD BIOLINE HBs Ag Device (Box/30test )		690
	SD BIOLINE HCV Device (Box/30test )		690
	SD BIOLINE Dengue Duo (Dengue NS1 Ag + Ab Combo) Device (Box/30test )		390
	Panbio Covid-19 Ag Nasal Swab Rapid Test(Box/25 Test)		690

Table 4: Laboratory Equipment for CPA1 referral hospitals

N0.	Item	Specification	
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			<b>Total CPA1</b>
<b>1</b>	<b>Haematology analyser</b>		<b>51</b>
	Reagent set:	CLEANING SOLUTION (1L)	<b>408</b>
		SOLUTION FOR DILUTION (10 L)	<b>510</b>
		SOLUTION FOR ANALYSE (1L)	<b>204</b>
	Internal Quality Control:	BLOOD CONTROL 2N (Vial/2x2.5ml)	<b>612</b>
		BLOOD CONTROL 2H (Vial/2x2.5ml)	<b>612</b>
		BLOOD CONTROL 2L (Vial/2x2.5ml)	<b>612</b>
	Spare parts & maintenance kits:	Preventive Maintenance Kit	<b>51</b>
	<b>Vacuumtainer EDTA 13x75mm</b> Case of 10 Packages of 100 tubes per pack For Haematology Analyzer system	Plastic tube, purple cap; blood collection tube, volume 4.0 ml with anticoagulant EDTA K2 & Holder (vacutainer needle holder reusable).	<b>765</b>
	<b>Needle 22 G for</b> vacuum tube disposable 100 tubes per box	Individual wrap sterile siringue use.	<b>765</b>
<b>2</b>	<b>Biochemistry analyser</b>		<b>51</b>
	Hot block:	Optional hotblock unit; Power requirements 200-240v, 50Hz.	
	TRIGLYCERIDES Liquicolor	Test kit for determination Triglyceride in blood	<b>306</b>
	UREA Liquicolor	For urea in Blood determination	<b>255</b>
	URIC ACID Liquicolor	Test kit for determination uric acide in blood	<b>216</b>
	Calcium - MONO reagent	Test kit for determination calcium in blood	<b>126</b>
	Glucose Liquicolor	Test kit for determination glucose in blood	<b>510</b>
	GOT (ASAT) LiquiUV	Test Kit for liver function determination	<b>267</b>
	GPT (ALAT) LiquiUV	Test Kit for liver function determination	<b>267</b>
	Cholesterol HDL <sup>2</sup>	For detection muscle tissu enzyme	<b>228</b>
	Creatinine Liquicolor Jatt	Test kit for determination Creatinine in blood	<b>408</b>
	Normal human sera	for Control of accuracy and Precision target Values mainly in the normal	<b>204</b>

	Pathological human sera	for Control of accuracy and Precision target Values mainly in the abnormal Range	<b>204</b>
	Spare parts & maintenance kits:	Halogen lamp 6V/10W	<b>51</b>
	<b>Vaccumtainer 13x75mm</b> 100 tubes per box For Biochemistry Analyzer system	Plastic tube; Red top plain blood collection tube, volume 4.0 ml with Clot activator. Tube interior coating: Silicone; Stopper lubrication: Silicone & Holder.	<b>765</b>
<b>3</b>	<b>Coagulation analyzer</b>		<b>51</b>
	Reagent set:	PT 10 (10x10ml) 1000 Tests/Kit	<b>102</b>
		APPT Liquide 4 (12x4ml) 960 Tests/Kits	<b>102</b>
		CaCl <sub>2</sub> 4 (12x4ml) 960 Tests/Kit	<b>102</b>
	Internal Quality Control:	Control (CTRL) I and II (5x1ml) x2 50 Tests/Kit	<b>204</b>
	Specimen cup and reaction tube	Cuvette Kit/1000 pcs	<b>102</b>
	<b>Vaccumtainer</b> 100 tubes per pack For Coagulation Analyzer System	Green cap; 2.7ml ; Plastic test tube Na citrate 3.2% anticoagulant; for test coagulation TP,TCA,TH.& Holder	<b>408</b>
<b>4</b>	<b>Water purification (for reagent preparation) systems</b>		<b>51</b>
	Spare parts & maintenance kits:	Preventive Maintenance Kit	
<b>5</b>	<b>Centrifuge (benchtop)</b>		<b>51</b>
	Spare parts & maintenance kits:	Brushless	<b>51</b>
<b>6</b>	<b>Microscope</b>		<b>51</b>
	Spare parts & maintenance kits:	Cleaning set	<b>51</b>
		LED lamp 3W	<b>51</b>
<b>7</b>	<b>Roller Mixer</b>		<b>51</b>
<b>8</b>	<b>Vortex mixer</b>		<b>51</b>
<b>9</b>	<b>Auto pipetter (2uL - 20uL)</b>		<b>102</b>
<b>10</b>	<b>Auto pipetter (10uL - 100uL)</b>		<b>102</b>
<b>11</b>	<b>Auto pipetter (100uL - 1000uL)</b>		<b>102</b>

12	<b>Pipette holder/stand</b>	Match with brand of automatic pipetter (reuse)	<b>102</b>
13	<b>Digital thermometer</b>		<b>102</b>
14	<b>Laundry washing system (small)</b>		<b>51</b>
15	<b>Phlebotomy chair (blood collection chair for patient)</b>		<b>51</b>
16	<b>Waiting bench</b>		<b>51</b>
17	<b>Laboratory chair (stool)</b>		<b>255</b>
18	<b>Office desk</b>		<b>51</b>
19	<b>Office chairs</b>		<b>51</b>
20	<b>Cupboard with shelves for storing materials</b>		<b>51</b>
21	<b>Cupboard for storing laboratory coat and Cupboard for storing laboratory coat</b>		<b>51</b>
22	<b>Fridge/Freezer</b>		<b>51</b>
23	<b>Eye wash system</b>		<b>51</b>
24	<b>Rapid Test for Serology</b>		
	SD BIOLINE HBs Ag Device (Box/30test )		<b>1020</b>
	SD BIOLINE HCV Device (Box/30test )		<b>1020</b>
	SD BIOLINE Dengue Duo (Dengue NS1 Ag + Ab Combo) Device (Box/30test )		<b>510</b>
	Panbio Covid-19 Ag Nasal Swab Rapid Test(Box/25 Test)		<b>1020</b>

**Table 5: Oxygen facilities to be installed in Referral Hospitals**

1	Kratie (Provincial Hospital)	CPA-3	22-25 Nm <sup>3</sup> /hr of O <sub>2</sub>
2	Rattanakiri (Provincial Hospital)	CPA-3	22-25 Nm <sup>3</sup> /hr of O <sub>2</sub>
3	Prey Veng (Provincial Hospital)	CPA-3	22-25 Nm <sup>3</sup> /hr of O <sub>2</sub>
4	Stung Treng (Provincial Hospital)	CPA-3	22-25 Nm <sup>3</sup> /hr of O <sub>2</sub>
5	Preah Vihear (Provincial Hospital)	CPA-3	22-25 Nm <sup>3</sup> /hr of O <sub>2</sub>
6	Kompongthom (Provincial Hospital)	CPA-3	22-25 Nm <sup>3</sup> /hr of O <sub>2</sub>
7	Takeo (Provincial Hospital)	CPA-3	22-25 Nm <sup>3</sup> /hr of O <sub>2</sub>
8	Kampot (Provincial Hospital)	CPA-3	22-25 Nm <sup>3</sup> /hr of O <sub>2</sub>
9	Koh Kong (Provincial Hospital)	CPA-2	9.5-13 Nm <sup>3</sup> /hr of O <sub>2</sub>
10	Kompong Speu (Provincial Hospital)	CPA-3	22-25 Nm <sup>3</sup> /hr of O <sub>2</sub>
11	Pursat (Provincial Hospital)	CPA-3	22-25 Nm <sup>3</sup> /hr of O <sub>2</sub>
12	Pailin (Provincial Hospital)	CPA-2	9.5-13 Nm <sup>3</sup> /hr of O <sub>2</sub>
13	Oddar Meanchey (Provincial Hospital)	CPA-2	9.5-13 Nm <sup>3</sup> /hr of O <sub>2</sub>

14	Kampong Chhnang (Provincial Hospital)	CPA-3	22-25 Nm <sup>3</sup> /hr of O <sub>2</sub>
15	Kandal (Provincial Hospital)	CPA-3	22-25 Nm <sup>3</sup> /hr of O <sub>2</sub>
16	Kep (Provincial Hospital)	CPA-1	9.5-13 Nm <sup>3</sup> /hr of O <sub>2</sub>

### Appendix 3a: Rapid Environmental Assessment Form (Modified) for Original Project

**Instructions:**

- ☐ This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB checklists and handbooks on (i) involuntary resettlement, (ii) indigenous peoples planning, (iii) poverty reduction, (iv) participation, and (v) gender and development.
- ☐ Answer the questions assuming the “without mitigation” case. The purpose is to identify potential impacts. Use the “remarks” section to discuss any anticipated mitigation measures.

SCREENING QUESTIONS		Ye	No	REMARKS
<b>Checklist No.:</b>	<b>1-27</b>	<b>Project Title:</b>		<b>GMS-HSP</b>
<b>Provinces:</b>	<b>13</b>	<b>Districts:</b>		<b>27</b>
<b>Communes :</b>	<b>27</b>	<b>Villages:</b>		<b>27</b>
<b>Technical drawings/Specifications attached:</b>		<b>Yes</b>		
<b>Typical infrastructure:</b> Minor repair and refurbishment of existing lab and proposed construction of integrated biomedical waste treatment and disposal microwave-based waste management's shelter with an area of (7m x 7m) within hospital premise (designated area)				
<b>Proposed Environmental Category, after conducting screening checklist:</b>		<b>A: 0</b>		
		<b>B: 11</b>		
		<b>C: 16</b>		
		<b>Other: 0</b>		

SCREENING QUESTIONS	Yes	No	REMARKS
<b>A. PROJECT SITING</b> <b>IS THE PROJECT AREA:</b>			
▪ Densely populated?		√	None of these densely populated
▪ Heavy development activities?		√	None of these heavy development activities
▪ Underground utilities?		√	No underground utilities
▪ Adjacent to/or within any environmentally sensitivity area?		√	None of environmentally sensitivity area
▪ Cultural heritage site?		√	No cultural heritage site

▪ Flooded area?	√		Stung Treng PRH has regular flooding by Mekong water going up every 5 or 10 years. The buildings need to elevate to be safe of flooding.
▪ Landmines/UXO?	√	<input type="checkbox"/>	The director of Snoul district RH has mentioned about the landmines /UXOs contaminated in the hospital campus mines/UXOs clearance before constructing the building
Protected area?		√	None of protected area
Wetlands?		√	None of wetlands
Mangrove?		√	None of mangrove
Estuarine?		√	None of estuarine
Buffer zone of protected area?		√	No buffer zone of protected area?
Special area for protecting biodiversity?		√	No special area for protecting biodiversity
Bay?		√	None of Bay
<b>B. POTENTIAL ENVIRONMENTAL IMPACTS</b> WILL THE PROJECT CAUSE ...			
Dislocation or involuntary resettlement of people?		√	None
Disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?		√	None
▪ Impacts on the sustainability of associated sanitation and solid waste disposal systems and their interactions with other urban services?		√	None

<ul style="list-style-type: none"> <li>▪ Deterioration of surrounding environmental conditions due to rapid urban population growth, commercial and industrial activities, and increased waste generation to the point that both manmade and natural systems are overloaded and the capacities to manage these systems are overwhelmed?</li> </ul>		√	Away from populated areas
<ul style="list-style-type: none"> <li>▪ Loss of downstream beneficial uses (water supply or fisheries)?</li> </ul>	√		Potential impact of untreated wastewater from improvement works and laboratory operations, and medical solid waste washings to stream sources of water. Target district hospitals should mitigate by ensuring that they operate existing drainage and wastewater treatment
<ul style="list-style-type: none"> <li>▪ Encroachment into precious ecosystem(e.g. sensitive habitats like protected forest areas or terrestrial wildlife habitats?</li> </ul>		√	None of protected forest areas or terrestrial wildlife habitats.
<ul style="list-style-type: none"> <li>▪ Occupation of low-lying lands, floodplains and steep hillsides by informal settlers and low-income groups, and their exposure to increased health hazards and risks due to polluted industry?</li> </ul>		√	Not anticipated
<ul style="list-style-type: none"> <li>▪ Water resource problems (e.g. depletion/degradation of available watersupply, deterioration for surface and ground water quality, and pollution of receiving waters?</li> </ul>	√		Potential impact of untreated wastewater from improvement works and laboratory operations, and medical solid waste washings to boreholes/wells used as groundwater source. Target district hospitals should mitigate by ensuring that they operate existing drainage and wastewater treatment facilities
<ul style="list-style-type: none"> <li>▪ Air pollution from fuel gas discharged into the atmosphere?</li> </ul>		√	Not anticipated because it minor repair and construction of small shelter
<ul style="list-style-type: none"> <li>▪ Noise and dust from construction activities?</li> </ul>		√	Potential impacts from minor repair and improvement works in laboratories
<ul style="list-style-type: none"> <li>▪ Traffic disturbances due to constructionmaterial transport and wastes?</li> </ul>		√	Not anticipated because it minor repair and construction of small shelter

<ul style="list-style-type: none"> <li>Increased road traffic due to interference of construction activities?</li> </ul>		√	Not anticipated because it minor repair and construction of small shelter
<ul style="list-style-type: none"> <li>Hazardous driving conditions where construction interferes with pre-existing roads?</li> </ul>		√	Not anticipated
<ul style="list-style-type: none"> <li>Hazards to public health due to ambient, household and occupational pollution, thermal inversion, and smog formation?</li> </ul>		√	Not anticipated
<ul style="list-style-type: none"> <li>Short-term construction impacts (e.g. soil erosion and silt runoff, deterioration of water and air quality, noise, dust and vibration from construction equipment?</li> </ul>		√	Potential minor impacts from small shelter construction repair and improvement works of laboratories within existing hospital building facilities
<ul style="list-style-type: none"> <li>Overdrawing of ground water, leading to land subsidence, lowered ground water table, and salinization?</li> </ul>	√		Not anticipated
<ul style="list-style-type: none"> <li>Contamination of surface and ground waters due to improper waste disposal? and waste water discharging from cesspool/pits</li> </ul>	√		Potential impact for hospitals with deficient and substandard medical solid waste management systems especially if the hospital grounds are used as temporary waste transfer stations. Target district hospitals should mitigate by ensuring that an operational medical waste management system is in place including treatment facilities that comply with MOE emission standards.
<ul style="list-style-type: none"> <li>Contamination of soil and groundwater from solid wastes from water treatment sludges, cafeteria or lunchroom wastes, ashes and incineration residues, etc.?</li> </ul>		√	Not anticipated
<ul style="list-style-type: none"> <li>contamination of surface and ground waters due to improper waste disposal?</li> </ul>			Potential impact for hospitals with deficient and substandard incinerators that produce emissions that are not compliant with air emission standards. Target district hospitals should mitigate by ensuring that an operational medical waste disposal system is in place that complies with MOE air emission standards.
<ul style="list-style-type: none"> <li>Health and safety hazards to workers from toxic gases and hazardous materials present in the facility?</li> </ul>		√	Potential impact and mitigating measures as above in dealing with medical solid and liquid waste management



<ul style="list-style-type: none"> <li>Occupational and community health and safety risks?</li> </ul>		√	Not anticipated
<ul style="list-style-type: none"> <li>Water pollution from discharge of liquid effluents</li> </ul>		√	Potential impact and mitigating measures as above in dealing with medical solid and liquid waste management.
<ul style="list-style-type: none"> <li>Pollution of receiving waters resulting in amenity losses, fisheries and marine resource depletion, and health problems?</li> </ul>		√	Not anticipated
<ul style="list-style-type: none"> <li>Public health and safety hazards due to solid waste disposal in sanitary landfills?</li> </ul>		√	Potential impact by hospitals operating without medical solid waste treatment facilities. Mitigate by ensuring that a compliant disposal system is in place or is worked out with the municipality and no open dumping is allowed at the hospital grounds.
<ul style="list-style-type: none"> <li>Poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases from workers to local populations?</li> </ul>		√	Not anticipated
<ul style="list-style-type: none"> <li>Increased noise and air pollution resulting from traffic volume?</li> </ul>		√	Not anticipated
<ul style="list-style-type: none"> <li>Creation of temporary breeding habitats for mosquito vectors of disease?</li> </ul>	√		Potential impact from hospitals that have deficient and substandard drainage facilities. Mitigating measure is to upgrade, maintain and ensure that no ponding from drainage systems occurs.

## Appendix 3b: Rapid Environmental Assessment Form for Additional Financing

### Instructions:

- (i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Environment and Safeguards Division (SDSS), for endorsement by Director, SDSS and for approval by the Chief Compliance Officer.
- (ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.
- (iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

**Country/Project Title:**

CAM/Greater Mekong Subregion Health Security Project Additional Financing

**Sector Division:**

SEHS

**Description:** The Asian Development Bank (ADB) approved the GMS Health Security Project on 22 November 2016, for a total of \$125 million equivalent comprising: (i) four concessional loans to Cambodia (\$21 million), the Lao People's Democratic Republic (\$4 million), Myanmar (\$12 million), and Viet Nam (\$80 million) from its ordinary capital resources; and (ii) a grant to the Lao People's Democratic Republic (\$8 million) from its Special Funds resources. The Cambodia loan became effective on 24 January 2017. The project completion date is 31 March 2022, and the loan closing date is 30 September 2022.

The GMS Health Security Project has three outputs: (i) regional cooperation and communicable disease control in border areas improved, (ii) national disease surveillance and outbreak response systems strengthened, and (iii) laboratory services and hospital infection prevention and control improved. In Cambodia the project is implemented in 14 provinces and includes investment for infection prevention and control (IPC) and laboratory equipment in 53 provincial and district referral hospitals.

1. Given the sustained threat posed by COVID-19 in Cambodia, the MOH has requested ADB to provide \$27 million additional loan financing for the ongoing project. Given the sustained threat posed by COVID-19 in Cambodia, the MOH requested ADB in 2021 to provide \$26 million additional loan financing for the ongoing project. The proposed additional financing will support the Ministry of Health (MOH) in responding to the coronavirus disease (COVID-19). The additional financing will provide targeted investments for additional 81 provincial and district referral hospitals not covered under the original project. It will focus on upgrading of hospital clinical care, laboratory, infection prevention and control (IPC), and human resource capacity to respond to COVID-19 and other public health threats. The proposed additional financing loan will help strengthen surveillance, response, and risk communications capacity for COVID-19 and other communicable diseases nation-wide. The additional financing will complement ADB's support under the COVID-19 Active Response and Expenditure Support (CARES) Program and the proposed Responsive COVID-19 Vaccines for Recovery (RECOVER) Project.<sup>2</sup>

2. The impact and outcome of the overall project remain unchanged from the original project. The additional financing will contribute to Cambodia's progress towards compliance with the requirements of

<sup>2</sup> ADB. 2020. [COVID-19 Active Response and Expenditure Support Program](#).

the IHR and the Asia Pacific Strategy for Emerging Diseases, in-line with the original project outcome indicators.<sup>3</sup> This will be achieved through a nationwide scale-up of investment at the subnational level across four IHR core capacity areas: (i) health service provision, including clinical care and IPC; (ii) laboratory; (iii) surveillance; and (iv) risk communications. Activities under the additional financing will be delivered through the existing project outputs 2, 3 and a new output 4.

3. Output 2: National disease surveillance and outbreak response systems strengthened. Country-wide training for rapid response teams (RRT) at central provincial, district and commune levels will ensure capacity for responding to COVID-19 and other emerging disease threats. Digital health investments will link a centralized communicable diseases dashboard to surveillance data from multiple sources and strengthen contact tracing systems. Risk communications campaigns will enhance the participation of communities in outbreak response.

4. Outputs 3: Laboratory services and hospital IPC improved. Laboratories in all 81 referral hospitals will be equipped to support diagnostics for communicable disease threats, including capacity for COVID-19 testing in selected hospitals. Small-scale refurbishment works will ensure appropriate physical environment for the installation and operation of laboratory equipment. Provision of integrated biomedical waste treatment system, autoclaves, and washing machines will enhance IPC and the management of infectious waste. Personal protective equipment (PPE), in appropriate sizes, will be provided for female and male hospital staff members. Health staff across all 81 referral hospitals will be trained on laboratory and IPC practices.

5. Output 4: Emergency preparedness and response capacity for COVID-19 strengthened. Fifteen hospitals in key cross border locations will have intensive care units (ICU) renovated, including the provision of essential services such as oxygen supply, electricity, and water. These hospitals will be equipped to support the assessment, isolation, and treatment of patients with COVID-19 and associated comorbidities. Health staff across referral hospitals will be trained on clinical management for COVID-19. Four mobile laboratories will be procured and equipped to support timely COVID-19 testing in border locations.

The final investment areas and a revised project implementation period will be determined during project preparation in consultation with the government and MOH.

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<sup>3</sup> WHO. 2017. [\*Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies\*](#). Geneva. The *Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies* provides a strategic roadmap to support country progress towards achieving the IHR core capacities.

Screening Questions	Yes	No	Remarks
<p>A. Project Siting</p> <p>Is the project area adjacent to or within any of the following areas:</p>			
▪ Underground utilities		x	Most of the loan proceeds will be used for the procurement of medical and diagnostic laboratory equipment, medical waste and wastewater treatment equipment, and PPE. The refurbishment of 15 intensive care units and diagnostic laboratories will not require relocation of underground utilities within the hospitals' compounds,
▪ Cultural heritage site		x	
▪ Protected Area		x	
▪ Wetland		x	
▪ Mangrove		x	
▪ Estuarine		x	
▪ Buffer zone of protected area		x	
▪ Special area for protecting biodiversity		x	
▪ Bay		x	
<p>B. Potential Environmental Impacts</p> <p>Will the Project cause...</p>			
▪ Encroachment on historical/cultural areas?		x	All activities will take place within existing compounds. No hospital facility in Cambodia is recognized as historical or cultural area.
▪ Encroachment on precious ecology (e.g. sensitive or protected areas)?		x	See response above.
▪ Impacts on the sustainability of associated sanitation and solid waste disposal systems?	(x)		The project will expand and modernize existing health care services in existing referral hospitals. Minor incremental impact on sustainability of associated SW disposal systems anticipated. The additional financing will support procurement of onsite healthcare waste treatment equipment where capacity gaps are identified.
▪ Dislocation or involuntary resettlement of people?		x	The project will not require land acquisition and resettlement.
▪ Disproportionate impacts on the poor, women and children, Indigenous Peoples, or other vulnerable groups?		x	The project will improve access to intensive care services and will not affect the territory or natural and cultural resources of IPs.
▪ Accident risks associated with increased vehicular traffic, leading to loss of life?		x	Temporary and highly localized impact during refurbishment works and equipment delivery is possible, but experience from GMS HSP implementation confirms that these risks are very minor given scope of works. No significant incremental traffic anticipated during facility operation.
▪ Increased noise and air pollution resulting from increased traffic volume?		x	Temporary and highly localized impact during refurbishment works and equipment delivery is possible, but experience from GMS HSP implementation confirms that these risks are very minor. No significant noise and air pollution anticipated during facility operation.

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> <li>Occupational and community health and safety risks?</li> </ul>		x	The project is anticipated to have significant occupational and community health and safety benefits. Minor incremental risks anticipated during facility refurbishment are possible, but experience from GMS HSP implementation confirms that these risks are minor. Facility design and operation will need to comply with relevant MOH design codes related to medical facilities.
<ul style="list-style-type: none"> <li>Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?</li> </ul>	(x)		Minor risks during operation of medical waste treatment equipment anticipated. Equipment supplier will develop SOP and provide training to equipment operators to minimize risks.
<ul style="list-style-type: none"> <li>Generation of dust in sensitive areas during construction?</li> </ul>	(x)		Minor incremental risks anticipated during facility refurbishment phase only, but experience from GMS HSP implementation confirms that these risks are very minor.
<ul style="list-style-type: none"> <li>Requirements for disposal of fill, excavation, and/or spoil materials?</li> </ul>	(x)		Construction of small shelters (7x7m) for waste storage and treatment may result in small amounts of spoil.
<ul style="list-style-type: none"> <li>Noise and vibration due to blasting and other civil works?</li> </ul>	(x)		Minor incremental risks anticipated during facility upgrade phase only.
<ul style="list-style-type: none"> <li>Long-term impacts on groundwater flows as result of needing to drain the project site prior to construction?</li> </ul>		x	No site drainage will be required.
<ul style="list-style-type: none"> <li>Long-term impacts on local hydrology as a result of building hard surfaces in or near the building?</li> </ul>		x	
<ul style="list-style-type: none"> <li>Large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?</li> </ul>		x	Works will require max. 10-15 workers per site.
<ul style="list-style-type: none"> <li>Social conflicts if workers from other regions or countries are hired?</li> </ul>		x	Workers will be hired locally, whenever possible.
<ul style="list-style-type: none"> <li>Risks to community safety caused by fire, electric shock, or failure of the buildings safety features during operation?</li> </ul>		x	Facilities will need to comply with CAM national design codes for healthcare facilities. This will be ensured through approval of facility design by MOH (Department of Hospital Services).
<ul style="list-style-type: none"> <li>Risks to community health and safety caused by management and disposal of waste?</li> </ul>		x	Positive impact anticipated. Participating referral hospitals without adequate medical waste treatment facilities will be equipped with non-incineration based medical waste treatment equipment.

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> <li>Community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?</li> </ul>		x	

### A Checklist for Preliminary Climate Risk Screening

**Country/Project Title:** CAM/Greater Mekong Subregion Health Security Project  
Additional Financing

**Sector:** Health

**Subsector:** Disease control of communicable disease; health care finance

**Division/Department:** SEHS/SERD

Screening Questions		Score	Remarks <sup>4</sup>
<b>Location and Design of project</b>	Is siting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather related events such as floods, droughts, storms, landslides?	0	All facilities to be refurbished are located within existing hospital compounds.
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc)?	0	
<b>Materials and Maintenance</b>	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?	0	Design will follow CAM design code for hospitals and healthcare facilities.
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s) ?	0	Very minor to no impact of projected future climate on maintenance anticipated.
<b>Performance of project outputs</b>	Would weather/climate conditions, and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?	0	No impact.

<sup>4</sup> If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the siting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

Options for answers and corresponding score are provided below:

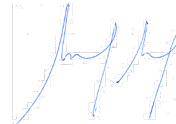
Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of 0 will be considered low risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response, will be categorized as high-risk project.

**Result of Initial Screening (Low, Medium, High: Low**

**Other Comments:** Future climate is unlikely to affect project design. No site is located in known flood-prone areas. Facility design will follow the relevant CAM design codes. The promotion of non-incineration based medical waste treatment systems will reduce air pollution including greenhouse gas emissions.

**Prepared by:** Antoine Morel, Principal Environment Specialist, SEOD



29-Apr-2021

### Appendix 4: Environmental Monitoring Checklist by contractors/subcontractors

<b>General information</b>	Date:.....			
	Checklist prepared by:			
	Name of subprogram/output and location of construction site			
	Name of awarded contractor/subcontractor (if any)			
<b>Permits, agreements</b>	Request for obtaining a campsite during construction operations (if any), renting house is N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Request for obtaining an agreement for disposal of construction waste (if any)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	UXO clearance secured?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<b>Management of construction sites</b>	Proper location of construction site/camp	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Equipment/plants properly licensed and approved by Ministry of the Environment (MOE)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Availability of proper storage for fuel, oil and construction materials	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Proper maintenance of construction machinery and equipment (prevent leakage of fuel, oil, lubricants, etc.)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Use reasonable trucks for transportation of construction materials and waste with tarpaulin or similar materials covering	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Clean the surrounding area from dust by water sprinkling in construction zone (when necessary)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Clean/wash tires of vehicles before they get to dwellings and/or drive on roads (when necessary)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Implementation of works at the established time (e.g. work during daytime 06.00 to 18.00)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Installation of necessary construction signs in construction sites, i.e. Safety First...	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Ensure proper sanitary/ hygienic conditions for workers at the construction site/use the existing in campus?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<b>Community Health and Safety</b>	Provision of first-aid facilities for the workers and staff	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Provision of personal protective equipment (PPE) (i.e. gloves, proper shoes, face mask, goggles) to staff and workers, as necessary.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A



	Workers need to be aware of the following general rules: (i) no alcohol/drugs on-site; (ii) prevent excessive noise; (iii) no illegal activities such as, but not limited to gambling, and hunting farm animals in the area; (iv) trespassing on private/ commercial properties adjoining the site is forbidden; (v) no littering in the hospitals;	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<b>Site restoration</b>	Restoration of the area of construction sites and camps when the building construction works are completed	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Replanting/planting of finished work areas (cut one tree replanting two trees)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<b>Employment</b>	Equal pay for equal works?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	All workers (including unskilled workers) are provided with insurance against injuries and death?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	At least 30% of unskilled workers are women.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	No child labor policy?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Zero tolerance policy regarding sexual exploitation and harassment?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<b>COVID-19 prevention</b>	In addition to PPE, the provision to staff and worker: Face mask, Sanitized alcohol, jelly and other	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

### Appendix 5: List of persons met and discussions

ល No	ឈ្មោះ Name	ប្រទេស Hospital	ភេទ/ Sex	អាយុ Age	របៀប Occupation	លេខទូរសព្ទ Phone No.	ហត្ថលេខា Signature
1	Dr. HAK Samoeurn	Kaoh Thom	M	59	Director	012 981672	
2	Dr. BUN Leng	Kaoh Thom	M	65	District councilor	012 965311	
3	Dr. SAN Ny	Kaoh Thom	M	52	IPC focal point	012 981672	
4	Dr. MUY Vatanak	Kaoh Thom	M	32	IPC focal point	012 219424	
5	Dr. MY Leanghy	Kaoh Thom	M	33	IPC focal point	078879579	
6	Dr. LAL Teach	Kaoh Thom	M	52	LAB Teacher.	012 790311	
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ល.រ No	ឈ្មោះ Name	ប្រទេស Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	Dr. MEN Chantha	Angkor Chey	M		Deputy Director	012 721079	
2	Dr. MON Cheatha	Angkor Chey	M		IPC focal point		
3	Med. NEAK Sophors	Angkor Chey	M	27	Staff	098596911	
4	Ms. EORM Sokhom	Angkor Chey	F	33	GxO	077577071	
5	UK Poleak	Angkor Chey	M	31	OPD	0963735175	
6	NOP Nararasmey	Angkor Chey	M	27	Dentist	089228854	
7	NGETH Ratha	Angkor Chey	M	45	LAB	089991381	
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ល.រ No	ឈ្មោះ Name	ឈ្មោះ Hospital	ភេទ/ Sex	អាយុ Age	របៀប Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	Dr. CHHOAM Sarom	Kg Trach	M	47	Deputy Director	012990440	
2	MENG Leang	Kg Trach	M	41	Cleaner	011778622	
3	EK Dynakin	Kg Trach	M	32	Staff	081 584480	
4	NOP Kalyan	Kg Trach	F	30	Staff	077576326	
5	KHEM Sangha	Kg Trach	M	29	Volunteer	0907 3040802	
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ល.រ No	ឈ្មោះ Name	ឈ្មោះ Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	HING Loas	Chhuk	F	50	Staff	0974640755	
2	Dr. Toang Rataro	Chhuk	M		Director	096788857	
3	BRANG Sam Ang	Chhuk	M	51	Chief office	0979025858	
4	Hun Vanny	Chhuk	M	29	Staff	0979990607	
5	LONG Simpheapkey	Chhuk	M	36	Staff	092 337947	
6	KIM Lychheng	Chhuk	M	32	Staff	089296868	
7	HIN Marany	Chhuk	M	27	Rachha NGO	0889395912	
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ល.រ No	ឈ្មោះ Name	ឈ្មោះ Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	Dr. CHHUY Chhong	Kampot	M	49	Director	015959888	
2	Dr. NEK Saroeun	Kampot	M	51	Deputy Director	077925541	
3	Ms. CHHIV Chenda	Kampot	F	39	Admin vice chief	015422370	
4	MOT Chanbopha	Kampot	F	33	Vice section	012725536	
5	TIV Sao	Kampot	M	25	Staff	086428022	
6	OU Kunthy	Kampot	F	50	Staff	096555919?	
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ល.រ No	ឈ្មោះ Name	ប្រទេស Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	Dr. Mey Sarith	Pea Reang	M	45	Director	0977778850	
2	YON Mary	Pea Reang	M	49	Staff	012653506	
3	Dr. HENG Kimhour	Pea Reang	M	49	Section chief OPD	0972288896	
4	YA Theara	Pea Reang	M	30	Admin staff	095334470	
5	KHUN Sochenda	Pea Reang	F	33	Admin staff	098576997	
6	OUN Noch	Pea Reang	M	24	LAB staff	010459105	
7	LY Panha	Pea Reang	F	31	Chief of GO	017599002	
8	Roeun Pisey	Pea Reang	F	31	Admin staff	092878977	
9	SUM Sokhen	Pea Reang	M	32	PMRS	0764000027	
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ល.រ No	ឈ្មោះ Name	ប្រទេស Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	HIM Kan	Prey Veng	M		Director		
2	LENG Peany	Prey Veng	M		Deputy Director	012955949	
3	CHHEANG Vanna	Prey Veng	M		Deputy Director	012605592	
4	SAN Kim Hong	Prey Veng	M		Deputy Director		
5	LY Bun Thoeun	Prey Veng	M		Deputy Director		
6	UNG Sereivouth	Prey Veng	M		LAB chief	010303164	
7	SOK LintaChanthay	Prey Veng	F		LAB vice chief	012996891	
8	KHEM Sereirath	Prey Veng	F		LAB staff	0975289672	
9	Srey Sengkalika	Prey Veng	F		LAB staff	093804795	
10	ORN Sann	Prey Veng	F		LAB staff	012879437	
11	SREY Tha	Prey Veng	M		LAB staff	012335310	
12	KONG Vichaka	Prey Veng	M		OPD	012 949389	
13							
14							
15							



ល.រ No	ឈ្មោះ Name	ប្រាសាទ Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	YU Sina	Preah Sdach	M	45	Director	016977728	
2	HAS Chamroeun	Preah Sdach	M	33	Deputy Director	012637385	
3	HOR Vuthy	Preah Sdach	M	49	Chief of PPC	096242449	
4	SOK Kuntech	Preah Sdach	M	30	Chief of LAB	015892632	
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ល.រ No	ឈ្មោះ Name	ឈ្មោះ Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	KONG Panha	Kg Trabaek	M	34	Deputy Director	090888880	
2	CHHOUN Chhun	Kg Trabaek	M	47	Deputy Director	012456713	
3	UNG Vorchkeang	Kg Trabaek	F	27	Mid wife	0962897722	
4	CHORN Sreyno	Kg Trabaek	F	27	Nurse	070444763	
5	SOT Malis	Kg Trabaek	F	22	Nurse	010765562	
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ល.រ No	ឈ្មោះ Name	ប្រទេស Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	Dr. CHAN Dara	Svay Rieng	M	47	Director	012953975	
2	THONG Umsodara	Svay Rieng	M	38	Deputy Director	0884777715	
3	SO Vannarimy	Svay Rieng	F	48	DMGE EAF	011350607	
4	SOUS Ratheung	Svay Rieng	F	51	Chief of BLDNG	012 769827	
5	EM Yutharith	Svay Rieng	M	57	Chief of	071 3013311	
6	HOK Tichun	Svay Rieng	M	59	Room chief	0975091233	
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ល.រ No	ឈ្មោះ Name	ប្រទេស Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	SIN Arng	OD Bavet	M	54	Chief of accounting	017788856	
2	NGEN Sokpheakdey	Chiphou	M	31	Chief IPC	016719898	
3	OUCH Sitha	OD Bavet	M	53	Chief of prevention	09775429798	
4	NGOUN Kong	OD Bavet	M	32	Accountant	0882530556	
5	PRAK Sambath	Chiphou	M	47	Director	012761089	
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ល.រ No	ឈ្មោះ Name	ប្រទេស Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	HONG Kosal	Ponhea Krek	F	46	Deputy Director	012794417	
2	VUTHI Sophanith	Ponhea Krek	M	28	Section chief	0316665567	
3	PATH Kimhour	Ponhea Krek	M	26	LAB staff	010770106	
4	HOUT Hokrith	Ponhea Krek	M	30	LAB staff	08855555370	
5	SOK Chiva	Ponhea Krek	M	32	LAB staff	0885588656	
6	CHEA Seila	Ponhea Krek	M	26	Admin	086766682	
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ល.រ No	ឈ្មោះ Name	ប្រទេស Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	CHHEM Narith	Memot	M		Director	012873127	
2	HOK Polin	Memot	M		Deputy Director	089905550	
3	MAO Bunrith	Memot	M		Admin	099333078	
4	HENG Lykheang	Memot	F		Staff	012227449	
5	LY Thavy	Memot	F		Section chief	012711144	
6	OU Soky	Memot	F		Staff	0976834125	
7	SIM Sokpheap	Memot	F		Staff	0886203377	
8	KEO Sokphon	Memot	M		Staff	0889344483	
9	PROM Sokheng	Memot	M		Staff	096 3305074	
10	SOKVAN Vireak	Memot	M		Staff	077464606	
11	YONG Sokthea	Memot	M		Chief of dentist	0979938241	
12	TRY Syna	Memot	M		Staff	0963631962	
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ល.រ No	ឈ្មោះ Name	ប្រទេស Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរសព្ទ Phone No.	ហត្ថលេខា Signature
1	RATH Putheanea	Tboung Khmum	M	55	Director	012376347	
2	HOK Nak	Tboung Khmum	M		Deputy director	011862039	
3	THAY Ravy	Tboung Khmum	F		Chief of PPC	012363531	
4	HENG Chansotheavy	Tboung Khmum	F	32	Staff	012939194	
5	LENG Bunchhoeun	Tboung Khmum	M	29	Staff	011543470	
6	MA Sokphearun	Tboung Khmum	F	53	Staff	012294855	
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ល.រ No	ឈ្មោះ Name	ប្រទេស Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរសព្ទ Phone No.	ហត្ថលេខា Signature
1	HENG Sokhan	Kratie	M	50	Director	012881880	
2	YEAV Chanly	Kratie	F	55	Dep director	012804565	
3	CHHOM Chanvisotharin	Kratie	M	46	Deputy Director	012 954850	
4	HAV Lor	Kratie	M	47	Chief ward	012881880	
5	NHEH Sreytouch	Kratie	F	34	LAB	092284413	
6	MAO Sodaly	Kratie	F	27	LAB	0978922097	
7	KEANG An	Kratie	M	46	ER	012855859	
8	SROEU Sokhoeun	Kratie	M	46	Bo	011759857	
9	LY THavouth	Kratie	M	36	Chief ward	077696867	
10	MEAN Phally	Kratie	F	55	Chief ward	011258579	
11	TEK Monykunthea	Kratie	M	49	Chief war PT	012852858	
12	SOENG Samnavy	Kratie	M	49	chief	011905207	
13	NEY Vanara	Kratie	M	52	Chief MD	012949533	
14	SUN La	Kratie	M	53	Chief admin	012943847	



ល.រ No	ឈ្មោះ Name	ឈ្មោះ Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	ORNG Vanara	Snoul	M	50	Director	0978008555	
2	PICH Chorany	Snoul	M	45	Depu Director	085499933	
3	YON Dyla	Snoul	M	45	Staff	0976533535	
4	THEAM Phanith	Snoul	M	46	Admin	0886234447	
5	KEO Pitou	Snoul	M		LAB	0978077791	
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ល.រ No	ឈ្មោះ Name	ឈ្មោះ Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរសព្ទ Phone No.	ហត្ថលេខា Signature
1	Dr. TUY Srors	Mondulkiri	M		Director	061687070	
2	Dr. MOK Chendarith	Mondulkiri	M		Depu Director	012940311	
3	THAY Chenda	Mondulkiri	M		Chief of Re'A	012440866	
4	SOM Sony	Mondulkiri	F		Staff	0975185845	
5	RIN Sytha	Mondulkiri	F		Chief ward	012807925	
6	CHHOENG Chhunlat	Mondulkiri	F		Staff	0715391919	
7	SRENG Synath	Mondulkiri	F		Staff	016923916	
8	Krain Thon	Mondulkiri	M		Chief ward	012259203	
9	CHHAY Kakada	Mondulkiri	M		Chief of LAB	0317799824	
10	SONG Dany	Mondulkiri	F		Staff	0888413500	
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ល.រ No	ឈ្មោះ Name	ប្រាសាទ Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរសព្ទ Phone No.	ហត្ថលេខា Signature
1	Dr. HINGPHAN Sarsothea	Ratanakiri	M		Director	012528008	
2	LAT Sophana	Ratanakiri	M		Depu Director	012404132	
3	NOP Taing-oun	Ratanakiri	M		Chief of adm	012773946	
4	KOH Potou	Ratanakiri	M		Depu Director	012858085	
5	PICH Hassoaphoan	Ratanakiri	M		Staff	078457636	
6	KOEUN Tes	Ratanakiri	F		Staff	067263007	
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ល.រ No	ឈ្មោះ Name	ប្រទេស Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរសព្ទ Phone No.	ហត្ថលេខា Signature
1	KHIEV Vichet	ST Treng	M		Depu Director	0978855228	
2	HOEU Sethel	ST Treng	M		Depu Director	077999468	
3	SOUS Kol	ST Treng	M	46	Chief of Tech	012314341	
4	SRUN Rithy	ST Treng	M	29	Chief of LAB	017373061	
5	KHIEV Vuthy	ST Treng	M		Chief of Adm	0978971020	
6	SIM Syrotha	ST Treng	M		Depu Director	092 799464	
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ល.រ No	ឈ្មោះ Name	ប្រទេស Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរសព្ទ Phone No.	ហត្ថលេខា Signature
1	CHOU Polina	PreahVihear/	M	47	Depu Director	089899855	
2	SOPHA Chenda	PreahVihear 16 Makara	M	47	Chief of Sec	012699647	
3	SAE Meanthy	PreahVihear 16 Makara	M	31	Surgery	0882525727	
4	SO Sereivuth	PreahVihear 16 Makara	M	49	Chief ward	012 985755	
5	THONG Vatana	PreahVihear 16 Makara	M	46	Chief ward	017332596	
6	KANN Phirun	PreahVihear 16 Makara	M	34	Staff	061229779	
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ល.រ No	ឈ្មោះ Name	ប្រទេស Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរសព្ទ Phone No.	ហត្ថលេខា Signature
1	YIN Hoang	BIBPRH	M	46	Chief of care	078262679	
2	EAM Thoeng	BIBPRH	M	48	Chief of admin	012269388	
3	CHHEM Chhaya	BIBPRH	M	39	Staff of mainte	011303449	
4	CHHOEUT Thea	BIBPRH	M	30	Electrical	070464638	
5	CHHUY Samith	BIBPRH	M	61	Electrical	098270645	
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ល.រ No	ឈ្មោះ Name	ប្រទេស Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរសព្ទ Phone No.	ហត្ថលេខា Signature
1	TAENG Saroth	Pailin PRH	M	49	Director	0978789499	
2	SOUN Pheanith	Pailin PRH	M	33	Adm chief	0885599955	
3	KEAV Chaovy	Pailin PRH	F	45	Chief of Matern	078806446	
4	HOK Kanha	Pailin PRH	F	32	Vice chief Mat	010500413	
5	VAY Sareth	Pailin PRH	F	49	Staff		
6	PEN Chenda	Pailin PRH	M	38	Staff	092789478	
7	NIN Thearath	Pailin PRH	M	26	Staff	010248216	
8	HEN Yinhorn	Pailin PRH	M	27	Staff	086953498	
9	CHHOUN Many	Pailin PRH	F	25	Staff	010405791	
10	VORN Phaneth	Pailin PRH	M	26	Staff	069880393	
11	PHOEM Champip	Pailin PRH	M	31	Staff	098707794	
12	SO Sopheaktra	Pailin PRH	M	35	Staff	010705268	
13	OEUN Pich	Pailin PRH	M	37	Surgery	090975777	
14	LIM Phora	Pailin PRH	M	38	Staff	060975777	
15	KHUN Pheap	Pailin PRH	M	32	Staff	0973098700	
16	KOAM Orn	Pailin PRH	F	30	Staff	086256767	
17	SOK Son	Pailin PRH	M	50	Staff	016375231	
18	KEAN Sengorn	Pailin PRH	M	50	Staff	0974166633	
19	NOV Vuthea	Pailin PRH	M	33	Staff	0315555695	
20	SOM Saroeun	Pailin PRH	M	41	Staff	090700344	
21	TOEUK Da	Pailin PRH	M	31	Staff	0979296608	
22	SOUNG Chung	Pailin PRH	M	35	Staff	012640752	
23	TUNG Thavy	Pailin PRH	F	33	Chief of Sec	016376116	
24	UL Bunphal	Pailin PRH	M	20	Chief ward	0888652776	
25	SAING Sinsokea	Pailin PRH	F	29	Staff	010771068	

ល.រ No	ឈ្មោះ Name	ឈ្មោះ Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	CHAK Sam-oul	Sampao Lun	M	56	Director	012747467	
2	NHOR BAI Meach	Sampao Lun	M	46	Chief of Matern	012372118	
3	IN Sakhorn	Sampao Lun	M	47	Admin	099424270	
4	CHHOEUN Thy	Sampao Lun	M	60	Chief of admin	012501809	
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ល.រ No	ឈ្មោះ Name	ឈ្មោះ Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	CHAMROEUN Sae	POIPET RH	M	51	Deputy Director	092911533	
2	DET Tina	POIPET RH	M	49	Deputy Director	085999917	
3	PANG Reth	POIPET RH	M	52	Admin	012228895	
4	SOUN Sokphal	POIPET RH	M	55		012667744	
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ល.រ No	ឈ្មោះ Name	ឈ្មោះ Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរស័ព្ទ Phone No.	ហត្ថលេខា Signature
1	PICH Vireak	Thma Pouk	M	59	Deputy Director	078686568	
2	BET Sokphorn	Thma Pouk	M	60	Cleaner	0886729536	
3	CHHEANG Phae	Thma Pouk	F	60	Cleaner		
4	DOEM Sarin	Thma Pouk	M	51	Admin	012431684	
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ល.រ No	ឈ្មោះ Name	មន្ទីរ Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរសព្ទ Phone No.	ហត្ថលេខា Signature
1	CHAN Vidynavuth	MBR	M	56	Director	012666120	
2	NEANG Sokpheng	MBR	M	36	Chief of admin	012276000	
3	CHHUM Kosal	MBR	M	33	Vice chief IPC	078602526	
4	OU Sam Arth	MBR	M	68	Ass admin	078297707	
5	TOUN Sophoatt	MBR	M	51	Accountant	089575053	
6	KEAT Mengkheang	MBR	M	51	Vice chief Tech	012838608	
7	CHHOEUM En	MBR	M	64	Electric WSup	012340156	
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ល.រ No	ឈ្មោះ Name	មន្ទីរ Hospital	ភេទ/ Sex	អាយុ Age	តំណែង Occupation	លេខទូរសព្ទ Phone No.	ហត្ថលេខា Signature
1	REN Bora	Moung Ruessey	M	28	Mid wife	0977038248	
2	LEANG Kakvay	Moung Ruessey	M	58	Depu Director	012996540	
3	SO Meng	Moung Ruessey	M	53	Depu Director	092808107	
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### Appendix 6: Field reports

<b>Assessor name</b>	SAO Botumroath
<b>Position/title</b>	Safeguards Specialist
<b>Date of travel</b>	From: 3 to 7 June 2019
<b>Transportation</b>	Project vehicle
<b>Destination and places of visited</b>	Kratie: Kracheh PRH, and Snoul DRH Mondolkiri: Mondulkiri PRH Ratanakiri: Ratanakiri PRH Stung Treng: Stung Treng PRH Preah Vihear: 16 Makara PRH
<b>Objectives of the trip</b>	Safeguards assessments-Hospital social and environmental safeguards and IPC
<b>(Accompanying) team member</b>	Dr. Ou Vun , IPC Specialist
<b>Summary mission</b>	<p><b>1st day, 3 June 2019</b></p> <p><b>Kratie PRH- CPA-3:</b></p> <ul style="list-style-type: none"> <li>- Consultants team has discussed with 14 hospital management and staff, included 4 is female and discussion with them, introduction about objectives of assessment</li> <li>- Discussing about social and environmental issues within hospital and its community surroundings.</li> <li>- The Indigenous peoples beneficial from the project also discussing about their access to health services in hospital, believes in their habits/traditions such praying and healing or curing.</li> <li>- Conducting social and environmental screening checklists, climate change risk assessment for designing Code of Conduct and/or Due Diligence Report for Environment/IPC.</li> <li>- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.</li> </ul> <p><b>2<sup>nd</sup> day, 4 June 2019</b></p> <p><b>Snoul RH- CPA-1:</b></p> <ul style="list-style-type: none"> <li>- Brief discussion with 5 hospital management, all is male and discussion with those hospital management officers, introduction about objectives of assessment</li> </ul>

- Discussing about social and environmental issues within hospital and its community surroundings
- Conducting social and environmental screening checklists, climate change risk assessment for updating an initial environmental examination (IEE) and Environmental Management Plan (EMP).
- Indigenous peoples planning and beneficial from the project also discussing about their access to health services in hospital, believes in their habits/traditions such praying and healing or curing.
- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste dumping within premise of hospital and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave- based waste management /incinerator within hospital campus and so forth.

#### **Mondulkiri PRH - CPA-2**

- Met with 10 hospital management, 5 is female and discussion with those hospital management officers, introduction about objectives of assessment
- The Indigenous peoples beneficial from the project also discussing about their access to health services in hospital, believes in their habits/traditions such praying and healing or curing.
- Discussing about social and environmental issues within hospital and its community surroundings
- Conducting social and environmental screening checklists, climate change risk assessment for updating an initial environmental examination (IEE) and Environmental Management Plan (EMP).
- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.

#### **3<sup>rd</sup> day, 5 June 2019**

#### **Ratanakiri PRH- CPA-3**

- Gathering of 6 management staff in hospital included one female and introduction about objectives of assessment
- Discussing about social and environmental issues within hospital and its community surroundings
- Conducting social and environmental screening checklists, climate change risk assessment for designing Code of Conduct and/or Due Diligence Report for Environment/IPC.

- The Indigenous peoples beneficial from the project also discussing about their access to health services in hospital, believes in their habits/traditions such praying and healing or curing.
- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.

### **Stung Treng PRH- CPA-3**

- Met with 5 management team, all is male and discussion with those hospital management officers, introduction about objectives of assessment
- Discussing about social and environmental issues within hospital and its community surroundings.
- Indigenous peoples planning and beneficial from the project also discussing about their access to health services in hospital, believes in their habits/traditions such praying and healing or curing.
- Conducting social and environmental screening checklists, climate change risk assessment for updating an initial environmental examination (IEE) and Environmental Management Plan (EMP)
- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.

**4<sup>th</sup> day, 6 June 2019**

### **16 Makara PRH- Preah Vihear- CPA-3**

- Met with 6 management officer in hospital, all are males and discussion with them introduction about objectives of assessment.
- Indigenous peoples are coming to hospital and accessing to health services in hospital, believes in their habits/traditions such praying and healing or curing.
- Discussing about social and environmental issues within hospital and its community surroundings
- Conducting social and environmental screening checklists, climate change risk assessment for designing Code of Conduct and/or Due Diligence Report for Environment/IPC.
- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and

	waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.
<b>Recommendations</b>  <b>Follow up actions</b>	<ul style="list-style-type: none"> <li>- In relation with indigenous peoples plan, strengthening their access to health services, harmonizing their believe and traditions.</li> <li>- Separation of general solid waste and medical waste, to be aware of these issue to people in hospital during their stay and visiting:</li> <li>- General solid waste collection and management (temporary storage, avoid odor and so forth)</li> <li>- Medical waste collection and management (storage, burning down and so for).</li> <li>- Liquid waste discharging and collection- mainly from laboratory and other medical rooms</li> <li>- Esthetic, harmonization of hospital compound/court- environmental friendly to patients and people during their stay</li> </ul> <p><u>Compliance and enforcement of MOH guidelines for solid waste/medical waste management, and MOHs' National Medical Laboratory Biosafety Guidelines for waste water and liquid discharge.</u></p>

<b>Assessor name</b>	SAO Botumroath
<b>Position/title</b>	Safeguards Specialist
<b>Date of travel</b>	From: 10 to 14 June 2019
<b>Transportation</b>	Project vehicle
<b>Destination and places of visited</b>	Battambang: MOUNG RUESSEY RH, Battambang PRH and SampaoLun RH Pailin: Pailin PRH Banteay Mean Chey: Poipet RH, Thma Pouk RH and CJFH BMCPRH
<b>Objectives of the trip</b>	Safeguards assessments-Hospital social and environmental safeguards and IPC
<b>(Accompanying) team member</b>	Dr. Ou Vun , IPC Specialist
<b>Summary mission</b>	<p>1st day, 10 June 2019</p> <p>MOUNG RUESSEY RH- <b>CPA-2</b>:</p> <ul style="list-style-type: none"> <li>- Consultant team has discussed with 3 hospital management team and staff, none are female. The discussion mainly focuses on the density of building within the hospital premise and people surrounding the campus of hospital, water supply connection and electricity availability for Integrate – Biomedical Wastes Treatment Machine -Microwave-based waste management, designated for shelter construction and laundry.</li> <li>- Discussing about social and environmental issues within hospital and its community surroundings.</li> <li>- Conducting social and environmental screening checklists, climate change risk assessment for updating an initial environmental examination (IEE) and Environmental Management Plan (EMP)</li> <li>- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.</li> </ul> <p>2<sup>nd</sup> day, 11 June 2019 Battambang PRH- <b>CPA-3</b>:</p>

- Brief discussion with 5 hospital management, all is male and discussion with those hospital management officers, introduction about objectives of assessment. The discussion focuses on the smog from incinerator to people sounding the campus of hospital, water supply connection and electricity availabilities for Microwave-base waste management, designated for shelter of microwave- base and laundry.
- Discussing about social and environmental issues within hospital and its community surroundings
- Conducting social and environmental screening checklists, climate change risk assessment for designing Code of Conduct and/or Due Diligence Report for Environment/IPC
- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste dumping within premise of hospital and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave- base waste management /incinerator within hospital campus and so forth.

Sampao Lun RH- **CPA-2:**

- Met with 4 hospital management, none of female and discussion with those hospital management officers, introduction about objectives of assessment
- Discussing about social and environmental issues within hospital and its community surroundings
- Conducting social and environmental screening checklists, climate change risk assessment for updating an initial environmental examination (IEE) and Environmental Management Plan (EMP)
- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.

3<sup>rd</sup> day, 12 June 2019

Pailin PRH- **CPA-2**

- Gathering of 25 hospital management and staff in hospital included 7 females and introduction about objectives of assessment
- Discussing about social and environmental issues within hospital and its community surroundings
- Conducting social and environmental screening checklists, climate change risk assessment for designing Code of Conduct and/or Due Diligence Report for Environment/IPC. Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid

	<p>waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.</p> <p>Poipet RH- <b>CPA-2</b>:</p> <ul style="list-style-type: none"> <li>- Met with 4 management team, all is male and discussion with those hospital management officers, introduction about objectives of assessment</li> <li>- Discussing about social and environmental issues within hospital and its community surroundings.</li> <li>- Conducting social and environmental screening checklists, climate change risk assessment for designing Code of Conduct and/or Due Diligence Report for Environment/IPC.</li> <li>- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.</li> </ul> <p>4<sup>th</sup> day, 13 June 2019</p> <p>Thma Pouk RH- <b>CPA-2</b></p> <ul style="list-style-type: none"> <li>- Met with 4 management officer in hospital, one is female and discussion with them introduction about objectives of assessment.</li> <li>- Discussing about social and environmental issues within hospital and its community surroundings, mainly about flooding within the hospital premise, solid waste management and segregation of waste.</li> <li>- Conducting social and environmental screening checklists, climate change risk assessment for updating an initial environmental examination (IEE) and Environmental Management Plan (EMP)</li> <li>- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth</li> </ul> <p>CJFH PRH- <b>CPA-3</b></p> <ul style="list-style-type: none"> <li>- Met with 7 management officer in hospital, all are males and discussion with them about their good experiences, introduction about objectives of assessment.</li> </ul>
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	<ul style="list-style-type: none"> <li>- Discussing about social and environmental issues within hospital and its community surroundings</li> <li>- Conducting social and environmental screening checklists, climate change risk assessment for designing Code of Conduct and/or Due Diligence Report for Environment/IPC.</li> <li>- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.</li> </ul>
<b>Recommendations</b>  <b>Follow up actions</b>	<ul style="list-style-type: none"> <li>- Separation of general solid waste and medical waste, to be aware of these issue to people in hospital during their stay and visiting:</li> <li>- General solid waste collection and management (temporary storage, avoid odor and so forth)</li> <li>- Medical waste collection and management (storage, burning down and so forth).</li> <li>- Liquid waste discharging and collection- mainly from laboratory and other medical rooms</li> <li>- Esthetic, harmonization of hospital compound/court- environmental friendly to patients and people during their stay</li> </ul> <p><u>Compliance and enforcement of MOH guidelines for solid waste/medical waste management, and MOHs' National Medical Laboratory Biosafety Guidelines for waste water and liquid discharge.</u></p>

<b>Assessor name</b>	SAO Botumroath
<b>Position/title</b>	Safeguards Specialist
<b>Date of travel</b>	From: 27 to 31 May 2019
<b>Transportation</b>	Project vehicle
<b>Destination and places of visited</b>	Prey Veng: Peareang, PRH Prey Veng, Peah Sdach, Kampong Trabaek Svay Rieng: PRH Svay Rieng, and RH Chipou Tboung Khmum: Ponhea Krek, Memot and Preah Sihanouk Krong Soung
<b>Objectives of the trip</b>	Safeguards assessments-Hospital social and environmental safeguards and IPC
<b>(Accompanying) team member</b>	Dr. Ou Vun , IPC Specialist
<b>Summary mission</b>	<p><b>1st day, 27 May 2019</b></p> <p><b>RH Pea Reang- CPA-2:</b></p> <ul style="list-style-type: none"> <li>- Meeting with 9 hospital management and staff, included 3 is females and discussion with them, introduction about objectives of assessment</li> <li>- Discussing about social and environmental issues within hospital and its community surroundings</li> <li>- Conducting social and environmental screening checklists, climate change risk assessment for updating an initial environmental examination (IEE) and Environmental Management Plan (EMP)</li> <li>- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.</li> </ul> <p><b>PRH Prey Veng- CPA-3:</b></p> <ul style="list-style-type: none"> <li>- Conducted debriefing with 12 hospital management/ 4 females and discussion with those hospital management officers, introduction about objectives of assessment</li> <li>- Discussing about social and environmental issues within hospital and its community surroundings</li> <li>- Conducting social and environmental screening checklists, climate change risk assessment for designing Code of Conduct and/or Due Diligence Report for Environment/IPC.</li> <li>- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and</li> </ul>

waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.

**2<sup>nd</sup> day, 28 May 2019 RH-  
Preah Sdach- CPA-1**

- Met with 4 hospital management, all are males and discussion with those hospital management officers, introduction about objectives of assessment
- Discussing about social and environmental issues within hospital and its community surroundings
- Conducting social and environmental screening checklists, climate change risk assessment for designing Code of Conduct and/or Due Diligence Report for Environment/IPC
- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.

**RH Kampong Trabaek- CPA-2**

- Having Met with 5 management staff in hospital included 3 females and introduction about objectives of assessment
- Discussing about social and environmental issues within hospital and its community surroundings
- Conducting social and environmental screening checklists, climate change risk assessment for designing Code of Conduct and/or Due Diligence Report for Environment/IPC.
- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.

**3<sup>rd</sup> Day 29 May 2019 PRH**

**Svay Rieng- CPA-3**

- Met with 6 management team included 2 females and discussion with those hospital management officers, introduction about objectives of assessment

- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solidwaste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.

#### **RH Chipou- CPA-1**

- Met with 5 management officer in hospital, all are males and discussion with them introduction about objectives of assessment
- Discussing about social and environmental issues within hospital and its community surroundings
- Conducting social and environmental screening checklists, climate change risk assessment for updating an initial environmental examination (IEE) and Environmental Management Plan (EMP)
- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solidwaste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.

#### **4<sup>th</sup> Day 30 May 2019**

#### **RH Ponhea Krek- CPA-2**

- Having Met with 6 staff management in hospital, 2 is female and discussion with those hospital management officers, introduction about objectives of assessment
- Discussing about social and environmental issues within hospital and its community surroundings
- Conducting social and environmental screening checklists, climate change risk assessment for designing Code of Conduct and/or Due Diligence Report for Environment/IPC.
- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solidwaste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.

#### **RH Memot- CPA-2**

- Conducted the discussion with 12 hospital management team, 5 is female, introduction about objectives of assessment

	<ul style="list-style-type: none"> <li>- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solidwaste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.</li> </ul> <p><b>5<sup>th</sup> Day 31 May 2019</b></p> <p><b>RH Preah Norodom Sihanouk Tboung Khmum- CPA-2</b></p> <ul style="list-style-type: none"> <li>- The discussion with 6 hospital management officers, 3 isfemale introduction about objectives of assessment</li> <li>- Discussing about social and environmental issues withinhospital and its community surroundings</li> <li>- Conducting social and environmental screening checklists,climate change risk assessment for designing Code of Conduct and/or Due Diligence Report for Environment/IPC.</li> <li>- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solidwaste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.</li> </ul>
<p><b>Recommendations</b></p>  <p><b>Follow up actions</b></p>	<ul style="list-style-type: none"> <li>- Separation of general solid waste and medical waste, to beaware of these issue to people in hospital during their stayand visiting:</li> <li>- General solid waste collection and management (temporarystorage, avoid odor and so forth)</li> <li>- Medical waste collection and management (storage, burningdown and so for).</li> <li>- Liquid waste discharging and collection- mainly fromlaboratory and other medical rooms</li> <li>- Esthetic, harmonization of hospital compound/court- environmental friendly to patients and people during their stay</li> </ul> <p><u>Compliance and enforcement of MOH guidelines for solid waste/medical waste management, and MOHs' National MedicalLaboratory Biosafety Guidelines for waste water and liquid discharge.</u></p>

<b>Assessor name</b>	SAO Botumroath
<b>Position/title</b>	Safeguards Specialist
<b>Date of travel</b>	From: 23 to 25 May 2019
<b>Transportation</b>	Project vehicle
<b>Destination and places of visited</b>	Kandal: District RH Koh Thom Kampot: Provincial RH Kampot, District RH Angkor Chey, RH Kampong Trach and RH Chhuk
<b>Objectives of the trip</b>	Safeguards assessments-Hospital social and environmental safeguards and IPC
<b>(Accompanying) team member</b>	Dr. Ou Vun , IPC Specialist
<b>Summary mission</b>	<p><b>1st day, 23 May 2019</b></p> <p><b>RH Koh Thom- CPA-2:</b></p> <ul style="list-style-type: none"> <li>- The safeguards and IPC consultants have met with 6 hospital management officers, included one is female, introduction about objectives of assessment</li> <li>- Discussing about social and environmental issues within hospital and its community surroundings</li> <li>- Conducting social and environmental screening checklists, climate change risk assessment for designing Code of Conduct and/or Due Diligence Report for Environment/IPC.</li> <li>- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solidwaste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.</li> </ul> <p><b>RH Angkor Chey- CPA-2</b></p> <ul style="list-style-type: none"> <li>- Having met with 7 hospital management officers, included one female by introducing about objectives of assessment</li> <li>- Discussing about social and environmental issues within hospital and its community surroundings</li> <li>- Conducting social and environmental screening checklists, climate change risk assessment for designing Code of Conduct and/or Due Diligence Report for Environment/IPC.</li> <li>- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solidwaste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and</li> </ul>

microwave/incinerator/CSIM designation within hospital campus and so forth.

**2<sup>nd</sup> day, 24 May 2019**

- **PRH-Kampot CPA-3**
- Conducted a discussion with 6 hospital management officers, included 3 is female and introduction about objectives of assessment
- Discussing about social and environmental issues within hospital and its community surroundings
- Conducting social and environmental screening checklists, climate change risk assessment for updating an initial environmental examination (IEE) and Environmental Management Plan (EMP)
- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.
- **RH Kampong Trach- CPA-2**
- The discussion has held with 5 hospital management officers, included one is female, introducing about objectives of assessment
- Discussing about social and environmental issues within hospital and its community surroundings
- Conducting social and environmental screening checklists, climate change risk assessment for updating an initial environmental examination (IEE) and Environmental Management Plan (EMP)
- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.

**3<sup>rd</sup> Day 25 May 2019 RH**

**Chhuk- CPA-2**

- Safeguards consultant and IPC consultant have met with 7 hospital management officers, included 2 is female introduction about objectives of assessment:
- Discussing about social and environmental issues within hospital and its community surroundings
- Conducting social and environmental screening checklists, climate change risk assessment for updating an initial

	<p>environmental examination (IEE) and Environmental Management Plan (EMP)</p> <ul style="list-style-type: none"> <li>- Assessment hospital premise for social and environmental issues, and anticipated social and environment impacts, solid waste and/or medical waste collection and management and waste water and/or liquid wastes collection discharging, focusing mainly on laboratory and microwave/incinerator/CSIM designation within hospital campus and so forth.</li> </ul>
<p><b>Recommendations</b></p> <p><b>Follow up actions</b></p>	<ul style="list-style-type: none"> <li>- Separation of general solid waste and medical waste, to be aware of these issue to people in hospital during their stay and visiting:</li> <li>- General solid waste collection and management (temporary storage, avoid odor and so forth)</li> <li>- Medical waste collection and management (storage, burning down and so for).</li> <li>- Liquid waste discharging and collection- mainly from laboratory and other medical rooms</li> <li>- Esthetic, harmonization of hospital compound/court- environmental friendly to patients and people during their stay</li> </ul> <p><u>Compliance and enforcement of MOH guidelines for solid waste/medical waste management, and MOHs' National Medical Laboratory Biosafety Guidelines for waste water and liquid discharges.</u></p>