

Environmental Monitoring Report

Project Number: 55086-001
Semi-annual Report
June 2024

Republic of Maldives: Responsive COVID-19 Vaccination for Recovery Project under the Asia Pacific Vaccine Access Facility (Grant 0848)

Prepared by the Ministry of Health for the Ministry of Finance and the Asian Development Bank.

Table of Contents

| | | |
|-------|---|---|
| I. | INTRODUCTION | 1 |
| II. | PROJECT SAFEGUARDS TEAM | 3 |
| III. | OVERALL PROJECT PACKAGE PROGRESS AND STATUS | 3 |
| IV. | STATUS OF IEE PER PACKAGE | 4 |
| V. | COMPLIANCE STATUS WITH NATIONAL/STATE/LOCAL STATUTORY ENVIRONMENTAL REQUIREMENTS | 4 |
| VI. | COMPLIANCE STATUS WITH THE ENVIRONMENTAL MANAGEMENT PLAN (REFER TO EMP TABLES IN APPROVED IEE/S) | 5 |
| VII. | MONITORING OF ENVIRONMENTAL IMPACTS ON PROJECT SURROUNDINGS | 5 |
| VIII. | INFORMATION DISCLOSURE AND CONSULTATIONS | 6 |
| IX. | GRIEVANCE REDRESS MECHANISM | 6 |
| X. | SUMMARY OF KEY ISSUES/CONCERNS IDENTIFIED DURING THE REPORTING PERIOD AND REMEDIAL ACTIONS | 6 |
| XI. | STATUS OF CORRECTIVE ACTIONS FROM PREVIOUS SEMR(S) | 6 |
| XII. | APPENDIXES | 6 |

CURRENCY EQUIVALENTS

(as of 17 May 2023)

| | | |
|---------------|---|--------------|
| Currency unit | – | Rufiyaa (Rf) |
| Rf1.00 | = | \$0.06484 |
| \$1.00 | = | Rf15.4236 |

ABBREVIATIONS

| | | |
|----------|---|--|
| ADB | – | Asian Development Bank |
| APVAX | – | Asia Pacific Vaccine Access Facility of the Asian Development Bank |
| CEMP | – | construction environmental management plan |
| COVID-19 | – | corona virus disease 2019 |
| EMP | – | environmental management plan |
| EPI | – | expanded program of immunization |
| HSE | – | health, safety, and environment |
| IEE | – | initial environmental examination |
| MOF | – | Ministry of Finance |
| MOH | – | Ministry of Health |
| PMU | – | project management unit |
| PIC | – | project investment component |
| SEMR | – | semi-annual environmental monitoring report |
| SPS | – | Safeguard Policy Statement |
| TA | – | technical assistance |

NOTE

In this report, "\$" refers to United States dollars unless otherwise stated.

This environmental monitoring report is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

Executive Summary

1. The semi-annual environmental monitoring report (SEMR) is prepared by the PMU for the monitoring of the Responsive COVID-19 Vaccination for Recovery Project under the Asia Pacific Vaccine Access Facility (the project). This SEMR provides the status of project, presents preparation and implementation of environmental management, mitigation and monitoring actions, and reports status of compliance with environmental management plans (EMPs) and loan/grant covenants. This project was approved by the ADB on 14 September 2022 and became effective on 24 October 2022, with B categorization on environment.
2. The central vaccine cold chain facility at Hulhumale is an eight-story building with a footprint of 500 sqm. The facility will include walk-in coolers, provision for management of waste associated with the Expanded Program for Immunization (EPI) and COVID-19 vaccination program related waste. The facility will have parking space for two refrigerated trucks. Furthermore, the facility will include a 100-person capacity auditorium for trainings to be conducted through the EPI.
3. Some site-specific and temporary environmental impacts are envisaged during construction and operational phase of the central vaccine cold-chain facility in Hulhumale'. The main impact anticipated for construction phase are from dewatering of groundwater for construction of foundation, excavation, other construction activities, construction equipment and machineries and construction waste.
4. The operational phase impacts are anticipated from the operation of central vaccine cold-chain storage facility, management of vaccine related waste and transport of vaccines via speed boats and refrigerated trucks procured under the project.
5. An Environmental Management Plan (EMP) has been prepared proposed for the construction of the central vaccine cold-chain storage facility. A monitoring plan for the safeguards has also been prepared. Furthermore, a stakeholder engagement plan and a two-tier grievance redress mechanism will be adopted.
6. This is the first SEMR, covering the period January to June 2024. In this monitoring period, the firm for conducting the detailed engineering design of the vaccine cold storage facility is still under recruitment, hence the procurement and civil works have not yet started. Succeeding sections of this report, only GMR activities and compliance status on environmental requirements are applicable and other sections are to be updated in the next SEMR.

I. INTRODUCTION

A. Project Name and Objectives

1. The Responsive COVID-19 Vaccination for Recovery Project under the Asia Pacific Vaccine Access Facility (APVAX) (the project) ¹ provides the Government of Maldives (the government) with needed financing to sustain and upgrade its national coronavirus disease (COVID-19) vaccination program and the routine expanded program of immunization (EPI) through the project investment component (PIC) modality of the Asia Pacific Vaccine Access Facility (APVAX) of the Asian Development Bank (ADB). The ongoing technical assistance (TA) will help strengthen the country's COVID-19 pandemic response capacity.²

2. The project is aligned with five of the operational priorities of ADB's Strategy 2030:³ (i) addressing remaining poverty and reducing inequalities; (ii) accelerating progress in gender equality; (iii) tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability; (iv) strengthening governance and institutional capacity; and (v) fostering regional cooperation and integration. It is consistent with ADB's country partnership strategy, 2020–2024 for Maldives,⁴ which prioritizes the strengthening of Maldives' health system.

3. Maldives has fully met APVAX access criteria by (i) demonstrating the adverse impact of the COVID-19 pandemic; (ii) completing a needs assessment, including an updated vaccination allocation and prioritization plan for booster vaccination program and an incremental medical waste management plan, acceptable to ADB; (iii) providing a governor's letter confirming the government's commitment to implement the plans and ensuring compliance with revised APVAX eligibility criteria for ADB financing; and (iv) setting up an effective development partner coordination mechanism with a clear role for ADB.

4. This project is a grant approved by the ADB on 14 September 2022 and became effective on 24 October 2022. The grant has three outputs.

5. **Output 1: Capacity of vaccine storage and transport system increased.** This output intends to strengthen the vaccine cold chain storage and delivery capacity of the Expanded Program on Immunization (EPI), which is equivalent to the national routine immunization program of the country to accommodate the increasing volume of vaccines due to the ongoing COVID-19 mass vaccination. Specifically, this output will support the construction of a state-of-the-art, climate-resilient central vaccine cold storage facility with adequate space for dry item storage, maintenance unit, office staff, cold chain equipment maintenance biomedical unit, vaccine waste management, backup center for national immunization data, and facilities for EPI staff training in Hulhumale. The new central cold storage facility will replace the existing temporary central cold chain storage facility in Male, which now lacks the required storage capacity and is in a decrepit condition. In addition, the output will also support the EPI vaccine distribution system and COVID-19 vaccination program with the provision of 7 speed boats, 1 each to be given to each of the 6 regions across the country and 1 for the greater Male area, 2 refrigerated trucks for medical goods distribution, and 2 vans for managing immunization services in populated larger islands, including greater Male area.

¹ ADB. 2022. [Maldives: Responsive COVID-19 Vaccination for Recovery Project under the Asia Pacific Vaccine Access Facility](#). Manila.

² ADB. 2021. [Maldives: Supporting COVID-19 Response and Vaccination Program](#). Manila.

³ ADB. 2018. [Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific](#). Manila.

⁴ ADB. 2019. [Maldives: Country Partnership Strategy \(2020–2024\)](#). Manila.

6. **Output 2: Information management of the EPI strengthened for COVID-19 vaccination and routine immunization.** This output intends to digitalize the vaccination information management system of EPI and COVID-19 vaccination program to enable timely and efficient planning, implementation, monitoring, and evaluation. The output will ensure that the immunization-related information systems currently developed by WHO and UNICEF will be digitally linked to the National health data system and implemented across all concerned health facilities. Specifically, this output will (i) support the expansion of the national immunization data center by providing the required IT equipment to the center; (ii) support the design and fixing of the software driven wide area networks and the local area networks as needed by the data center to link all islands, atolls, and the Male region to receive/share health data; (iii) set up a backup server center, which will also be established in the new central cold storage facility that will be financed by the project; and (iv) support the computerization of the collection of individual immunization data at all health care centers by procuring required tablets for the public health staff to enter the immunization data as well as other public health data.

7. **Output 3: Human resource capacity of the EPI enhanced.** This output intends to strengthen the human resource capacity of the EPI and COVID-19 vaccination program considering both short- and long-term perspectives by financing several contract staff to support the central EPI program, national immunization data center, and the biomedical services unit of MOH. The contract staff will temporarily fill vacant key positions while the MOH is recruiting and training new permanent staff. The output will also provide local and international training to candidates of those permanent staff positions to ensure retention of these newly recruited staff in these positions at the end of the third year of the project. Furthermore, the output will also carry out local and international training of existing EPI staff, workshops, site visits and quarterly meetings to review project implementation progress and will also help facilitate the project steering committee and routine development coordination discussions.

B. Environmental Category as per ADB Safeguard Policy Statement, 2009

8. The project is classified as category B according to ADB Safeguards Policy Statement (SPS) 2009 and the impacts of all subprojects are assessed through the Initial Environmental Examination (IEE) as per ADB SPS 2009. An IEE has been prepared for the cold chain facility based on preliminary design and will be updated once the detailed design is undertaken. The environmental impacts of the project include standard construction-related impacts such as a temporary increase in noise levels; air, soil, and water pollution risks; and health and safety risks to workers which are site- specific. During operations, waste generation and health and safety risks have been identified as project impacts. These can be readily mitigated following national requirements and international good practice mitigation set out in the environment management plan (EMP). A national environmental screening was done by the proponent of the project. The outcome of the National Environmental Screening process confirms that no EIA nor IEE is required to meet the national environmental due diligence requirements. However, an Environmental Management Plan has to be submitted for clearance from the Environmental Protection Agency before any works commence. Other applicable local environmental requirements will be obtained prior to the commencement of civil works. During preparation of IEE, a series of stakeholder consultations were conducted from March 2022 to June 2022 in the form of physical meetings. A total of 9 sessions were held in which vulnerable groups such as women participated and also representatives from Ministry of Health, Environmental Protection Agency, Ministry of National Planning, Housing, and Infrastructure and Housing Development Corporation (HDC). The IEE has been disclosed on the ADB website and the MOH websites. MOH will locally disclose the IEE and will establish a grievance redress mechanism. MOH's capacity to manage safeguards during implementation will be strengthened through training to be

provided through the technical assistance and consultant support. MOH will appoint an environment and social safeguards focal in the project management unit (PMU) to supervise and monitor project implementation. Environmental monitoring reports will be submitted to ADB semi-annually during construction and annually during operation.

C. About this Report

9. This is the semi-annual environmental monitoring report (SEMR) prepared by the PMU for the monitoring period of Jan 2024 to June 2024. This SEMR provides the status of project, presents preparation and implementation of environmental management, mitigation and monitoring actions, and reports status of compliance with environmental management plans (EMPs) and loan covenants. In this monitoring period, the firm for conducting the detailed engineering design of the vaccine cold storage facility is still under recruitment, hence the procurement and civil works have not yet started. **Succeeding sections of this report, only GMR activities and compliance status on environmental requirements are applicable and other sections are to be updated in the next SEMR.**

II. PROJECT SAFEGUARDS TEAM

10. The Ministry of Finance (MOF) is the executing agency, and the MOH is the implementing agency. The MOH administers the grant proceeds and is responsible for procurement, financial management, and overall project implementation activities. A PMU comprising officials from concerned departments and PMU consultants and staff (financed via Output 3 funds of the project) is set up within the Policy Implementation and International Relations Division of the MOH. A national project steering committee chaired by the Minister of MOH will provide strategic guidance, review performance, and take timely strategic measures to achieve the project outputs through the PMU. The project will be implemented over 3 years (2022–2025).

11. By the end of Q3, 2023, all the positions of PMU were filled. The advertisement for the environment and social safeguards consultant was posted during Q2 of 2023 and was hired during August 2023.

III. OVERALL PROJECT PACKAGE PROGRESS AND STATUS

12. The firm for conducting the detailed engineering design of the vaccine cold storage facility is still under recruitment, hence the procurement of civil works has not yet started. Updates and applicable revisions will be done during Q1 of 2024. Updates will be provided in the next SEMR, as applicable.

| Package Number | Components/List of Works | Type of Contract (specify if DBO, DB or civil works) | Status of Implementation (specify if Preliminary Design, Detailed Design, On-going Construction, Completed Works, or O&M phase) | Contract Status (specify if under bidding or contract awarded) | If Ongoing Construction | |
|----------------|--------------------------|---|--|---|-------------------------|--------------------------|
| | | | | | %Physical Progress | Expected Completion Date |
| | | | | | | |
| | | | | | | |
| | | | | | | |

IV. STATUS OF IEE PER PACKAGE

13. Not applicable at this monitoring period and will be updated in the next SEMR.

Package-wise Implementation Status

| Package Number | Final IEE based on Detailed Design | | | | Site-specific EMP (or Construction EMP) approved by Project Director? (Yes/No) | Remarks |
|----------------|---|---|---|---|--|---------|
| | Not yet due (detailed design not yet completed) | Submitted to ADB (provide date of submission) | Disclosed on project website (provide link) | Final IEE provided to Contractor/s (Yes/No) | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

V. COMPLIANCE STATUS WITH NATIONAL/STATE/LOCAL STATUTORY ENVIRONMENTAL REQUIREMENTS

14. Environment Impact assessment (EIA) report was extended during Q1 of 2024. And Environment Projection Agency (EPA) agreed to accommodate the minor location change to the central vaccine cold chain facility building at Hulhumale within the current EIA. The required draft environmental and social assessment checklists were prepared due to the location change.

ADB mission team including the PMU team and 2 representatives from Housing Development Corporation visited the building site on 21st May 2024. The purpose of site visit was to conduct an on-site verification due to the changes of the building location. Similarly, to determine impact to adjacent and surrounding land from this location change.

During the site visit it was concluded that the location change is within the same block is insignificant to carryout further environment and social safeguard screening or assessments. Since the identified environment and social impact reports from the building construction remains the same. Therefore, it was decided to proceed with a due diligence report(attached with this report) from the ADB mission team rather than further environment and social screening or assessments.

| Package No. | Statutory Environmental Requirements | Status of Compliance (Specify if obtained, submitted and awaiting approval, application not yet submitted) | Validity Date(s) (if already obtained) | Action Required | Specific Conditions that will require environmental monitoring |
|-------------|--------------------------------------|---|--|-----------------|--|
| ? | | | | | |
| | | | | | |
| | | | | | |

| Schedule No. and Item (see Grant Agreement and list provisions relevant to environmental safeguards, core labor standards and occupational health and safety) | Covenant | Status of Compliance | Action Required |
|---|----------|----------------------|-----------------|
| | | | |

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|--|--|--|--|
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VI. COMPLIANCE STATUS WITH THE ENVIRONMENTAL MANAGEMENT PLAN
(refer to EMP tables in approved IEE/s)

15. Not applicable at this monitoring period and will be updated in the next SEMR.

Overall Compliance with SEMP/CEMP

| Package No. | Status of SEMP/CEMP Implementation (Excellent/ Satisfactory/ Partially Satisfactory/ Below Satisfactory) | Action Proposed and Additional Measures Required |
|-------------|---|--|
| | | |
| | | |
| | | |

VII. MONITORING OF ENVIRONMENTAL IMPACTS ON PROJECT SURROUNDINGS

16. Not applicable at this monitoring period and will be updated in the next SEMR.

| Package No. | Status of Pre-Work Conditions (Recorded / Not Recorded) | Baseline Environmental Conditions (air, water, noise) Documented (Yes / No) | Action Proposed and Additional Measures Required |
|-------------|--|--|--|
| | | | |
| | | | |
| | | | |

Air Quality Monitoring Results

| Site No. | Date of Testing | Site Location (Provide GPS Coordinates) | Parameters (as required by statutory clearances or as mentioned in the IEE) | | | Remarks |
|----------|-----------------|--|---|--------------------------------------|--------------------------------------|---------|
| | | | PM ₁₀ µg/m ³ | SO ₂ µg/m ³ | NO ₂ µg/m ³ | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Water Quality Monitoring Results

| Site No. | Date of Sampling | Site Location | Parameters (as required by statutory clearances or as mentioned in the IEE) | | | | | | Remarks |
|----------|------------------|---------------|---|-----------------------|-------------|-------------|------------|------------|---------|
| | | | pH | Conductivity µS/cm | BOD mg/L | TSS mg/L | TN mg/L | TP mg/L | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Noise Quality Monitoring Results

| Site No. | Date of Testing | Site Location | LA _{eq} (dBA) (as required by statutory clearances or as mentioned in the IEE) | | Remarks |
|----------|-----------------|---------------|---|------------|---------|
| | | | Day Time | Night Time | |
| | | | | | |
| | | | | | |
| | | | | | |

VIII. INFORMATION DISCLOSURE AND CONSULTATIONS

17. This will be ensured and updates reported as applicable in the next SEMR.

| Date of Consultation | Location | Number of Participants <i>(specify total, male and female)</i> | Issues/Concerns Raised | Response to issues/concerns |
|----------------------|----------|---|------------------------|-----------------------------|
| | | | | |
| | | | | |
| | | | | |

IX. GRIEVANCE REDRESS MECHANISM

18. GRM for the project has been developed and was published on the official website of Ministry of Health on 18th May 2023, and the Grievance Submission forms were made available at the MOH counter from 18th May 2023 onwards. Further, the composition of the Grievance Redress Mechanism Committee was initiated in Q2 2023 and was compiled during early Q3 2023.

The first information dissemination and consultation with GRM stakeholders were conducted on 12th October 2023. All the stakeholders except Urban Co. (HDC) attended the meeting. During the session a brief description of the project and the functions of the stakeholders in GRM was explained. Similarly, further clarifications were given regarding the commitment and responsibilities of the stakeholders.

From January to June 2024 no GMR related activities were conducted, however, documents needed for the information dissemination for PMU and MOH was prepared.

X. SUMMARY OF KEY ISSUES/CONCERNS IDENTIFIED DURING THE REPORTING PERIOD AND REMEDIAL ACTIONS

19. Not applicable at this monitoring period and will be updated in the next SEMR.

XI. STATUS OF CORRECTIVE ACTIONS FROM PREVIOUS SEMR(S)

20. Not applicable at this monitoring period and will be updated in the next SEMR.

Corrective Action Plan Status

| Issues/Concerns | Corrective Action | Status | Remarks |
|-----------------|-------------------|--------|---------|
| | | | |
| | | | |
| | | | |

XII. APPENDIXES

21. Presentation on GRM and attendance of the participants from the stakeholder meeting

Attachment 8: Environmental Safeguards Due Diligence Report

Project Status: Active

Grant 0848-MLD

May 2024

APVAX Cold Chain Facility Building Construction Site in Hulhumale', Male

Maldives

Prepared by Project Management Unit (PMU), Responsive COVID-19 Vaccination for Recovery Project Under the APVAX, Government of Maldives for the Asian Development Bank (ADB).

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CURRENCY EQUIVALENTS

(As of May 2024)

Currency Unit -Nepalese Rupee (NRs)

MVR 1.00 = \$ 0.065

\$ 1.00 = MVR 15.45

Abbreviations

| | |
|-------|--|
| ADB | Asian Development Bank |
| APVAX | Asia Pacific Vaccine Access Facility |
| DDR | Due Diligence Report |
| EMP | Environment management plan |
| EPA | Environment Protection Agency |
| EPI | Expanded Program for Immunization |
| EPPA | Expanded Environmental Protection & Preservation Act |
| GRC | Grievance redress committee |
| MECCT | Ministry of Environment, Climate Change and Technology |
| PIC | Project Investment Component |
| PMU | Project Management Unit |
| REA | Rapid Environment Assessment |
| SPS | Safeguards Policy Statement 2009, ADB |

Note

WEIGHTS AND MEASURES

Kilometer - km

In this report, "\$" refers to US dollars unless otherwise stated

Table of Contents

| | |
|--|-----------|
| I. Introduction | 1 |
| A. Background | 1 |
| B. Purpose of Environmental Due Diligence Report | 1 |
| II. Regulatory Requirements | 2 |
| A. ADB's Safeguard Policy Statement 2009 | 2 |
| B. Borrower's Environmental Policy | 2 |
| III. Description of the Project | 3 |
| A. The Subproject | 3 |
| B. Salient Feature of the Plot | 4 |
| IV. Methodology for DDR Preparation | 5 |
| V. Baseline Environment of the Proposed Subproject Area | 5 |
| A. Bio-physical Environment | 6 |
| B. Sensitive Environmental Receptors | 6 |
| VI. Potential impact and Environmental Management Plan | 8 |
| VII. Implementation Arrangements | 12 |
| VII. Conclusion and Recommendation | 12 |

ANNEXES

REA Checklist

Tables, Annexes, and Photographs

Tables

| | |
|---|---|
| Table 1: Supplementary EMP to IEE for construction of COVID-19 Vaccination Building | 9 |
|---|---|

Figures

| | |
|---|-------------------|
| Figure 1: Location of new building plot- 1 | 3 |
| Figure 2: Location of new building plot- 2 | 4 |
| Figure 3: Location Male and Hulhumalé | 4 |
| Figure 4: The detail of proposed plot | 5 |
| Figure 5: The proposed plot for construction of COVID-19 Facility | 5 |
| Figure 6: The private general hospital | 6 |
| Figure 7: A children's park of the hospital near the plot | 7 |
| Figure 8: An office building at the eastern side of the plot | 7 |
| Figure 9: A football ground near the proposed plot | 8 |
| Figure 3: Location Male and Hulhumalé | 4 |

Annexes

| | |
|---|--|
| Annex 1: Rapid Environment Assessment (REA) Checklist | |
|---|--|

I. INTRODUCTION

A. Background

1. The Responsive COVID-19 Vaccination for Recovery Project under the Asia Pacific Vaccine Access Facility (APVAX) for US\$ 10 million is provided as a grant to the Government of Maldives (GOM). The proposed project will be implemented from October 2022 to December 2025. The objective of the project is to strengthen the cold chain capacity to store, distribute and manage the COVID-19 vaccines and the Expanded Program for Immunization (EPI) program vaccines efficiently in the Maldives through the project investment component (PIC) modality of the Asia Pacific Vaccine Access Facility (APVAX) of the Asian Development Bank (ADB). The main project activities include construction of a central vaccine cold storage facility in Hulhumale', among others.

B. Purpose of Environmental Due Diligence Report

2. ADB affirms that environmental and social sustainability is a cornerstone of economic growth and poverty reduction in Asia and the Pacific. ADB's Strategy 2020 therefore emphasizes assisting DMCs to pursue environmentally sustainable and inclusive economic growth. In addition, ADB is committed to ensuring the social and environmental sustainability of the projects it supports. In this context, the goal of the SPS is to promote the sustainability of project outcomes by protecting the environment and people from projects' potential adverse impacts.

3. The objectives of ADB's safeguards are to, in addition to others:

- (i) avoid adverse impacts of projects on the environment and affected people, where possible; and
- (ii) minimize, mitigate, and/or compensate for adverse project impacts on the environment and affected people when avoidance is not possible.

4. ADB adheres to the objectives of the safeguards and their delivery. ADB assumes the responsibility for conducting due diligence and for reviewing, monitoring, and supervising projects throughout the ADB's project cycle in conformity with the principles and requirements embodied in the SPS. Hence, all projects funded by ADB must comply with its Safeguard Policy Statement (SPS 2009) and Borrower's environmental safeguards requirements to ensure that projects are environmentally sound, designed to operate in compliance with applicable regulatory requirements, and are not likely to cause environmental, health and safety impacts.

5. The main objective of the due diligence is to assess any potential environmental impacts due to implementation of the work. The due diligence assessed whether the work area was situated within an environmentally sensitive area and examined the extent and severity of an impact upon environment due to the subproject implementation.

6. ADB carried out a rapid assessment of the proposed site using ADB's Rapid Environmental Assessment (REA) Checklist. The result of the REA suggested that given the smaller size and localized nature of the work within the premises of the Borrower, the project is classified as Category C for environment. Hence, this environmental Due Diligence Report (DDR) is prepared following ADB's SPS 2009 requirements for any work categorized C for environment.

II. REGULATORY REQUIREMENTS

A. ADB's Safeguard Policy Statement (2009)

7. All projects funded by the ADB must comply with the Safeguard Policy Statement (SPS) 2009 to ensure that projects undertaken as part of programs funded under ADB loans are environmentally sound, are designed to operate in compliance with applicable regulatory requirements, and are not likely to cause significant environmental, health, or safety hazards. With respect to the environment, the SPS 2009 is underpinned by the ADB Operations Manual, Bank Policy (OM Section F1/OP, 2010). The policy promotes international good practice as reflected in internationally recognized standards such as the World Bank Group's Environmental, Health and Safety Guidelines¹.

8. ADB will carry out project screening and categorization at the earliest stage of project preparation when sufficient information is available for this purpose. ADB uses a classification system to reflect the significance of a project's potential environmental impacts. Each proposed project is scrutinized as to its type, location, scale, and sensitivity and the magnitude of its potential environmental impacts. For this, ADB categorizes the proposed components into categories (A, B, C or FI), as presented hereunder to determine the level of environmental assessment required to address the potential impacts.

- (i) **Category A.** A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment is required.
- (ii) **Category B.** A proposed project is classified as category B if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination is required.
- (iii) **Category C.** A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. No environmental assessment is required although environmental implications need to be reviewed.
- (iv) **Category FI.** A proposed project is classified as category FI if it involves investment of ADB funds to or through a FI.

9. Initial screening using ADB REA checklist for the project was conducted, and results of the rapid assessment shows that the project will have no adverse impacts and therefore classified under Category C as per ADB SPS.

B. Borrower's Environmental Policies

10. Environmental Protection & Preservation Act (Law no. 4/93) of the Maldives (EPPA) provides the legal basis for environmental management in the Maldives including the environmental impact assessment (EIA) process in the Maldives. The EIA process in the Maldives is currently implemented by the Environmental Protection Agency (EPA) which is under the umbrella of the Ministry of Environment, Climate Change and Technology (MECCT).

11. The main clauses of the EPPA are relevant for the proposed construction of vaccine cold chain storage facility in Hulhumale'. Some relevant clauses such as Clause 2 mandates the Ministry of Environment and Energy to formulate policies, rules and regulations regarding the environment, environmental impact assessments are a mandatory requirement for all economic development projects, and Ministry possesses the authority to terminate any project that has an undesirable impact on the environment.

12. In addition to above, there are full set of environment protection related laws, acts, and regulations related with environmental requirements for any construction, water supply, sewerage,

¹ Environmental, health, and safety General guidelines, 2007

waste management and health & safety. The details are in approved Initial Environmental Examination of the project disclosed in ADB web (<https://www.adb.org/sites/default/files/project-documents/55086/55086-001-iee-en.pdf>).

III. DESCRIPTION OF THE PROJECT

A. The Subproject

a. The proposed plot

13. The Proposed subproject is regarding construction of a cold chain facility building in Hulhumalé, which is at 5km distance from the capital city of Male. The original site selected for the building construction was agreed to be allocated to the Ministry of Health for construction of the Cold Chain Facility Building, However, due to information gaps the site was allocated to some other agency for some other purpose. In this context, the Ministry of Health has offered a nearby plot of 92,134 square meters for the purpose. The site is approximately 60 meter distance towards east of the original plot.

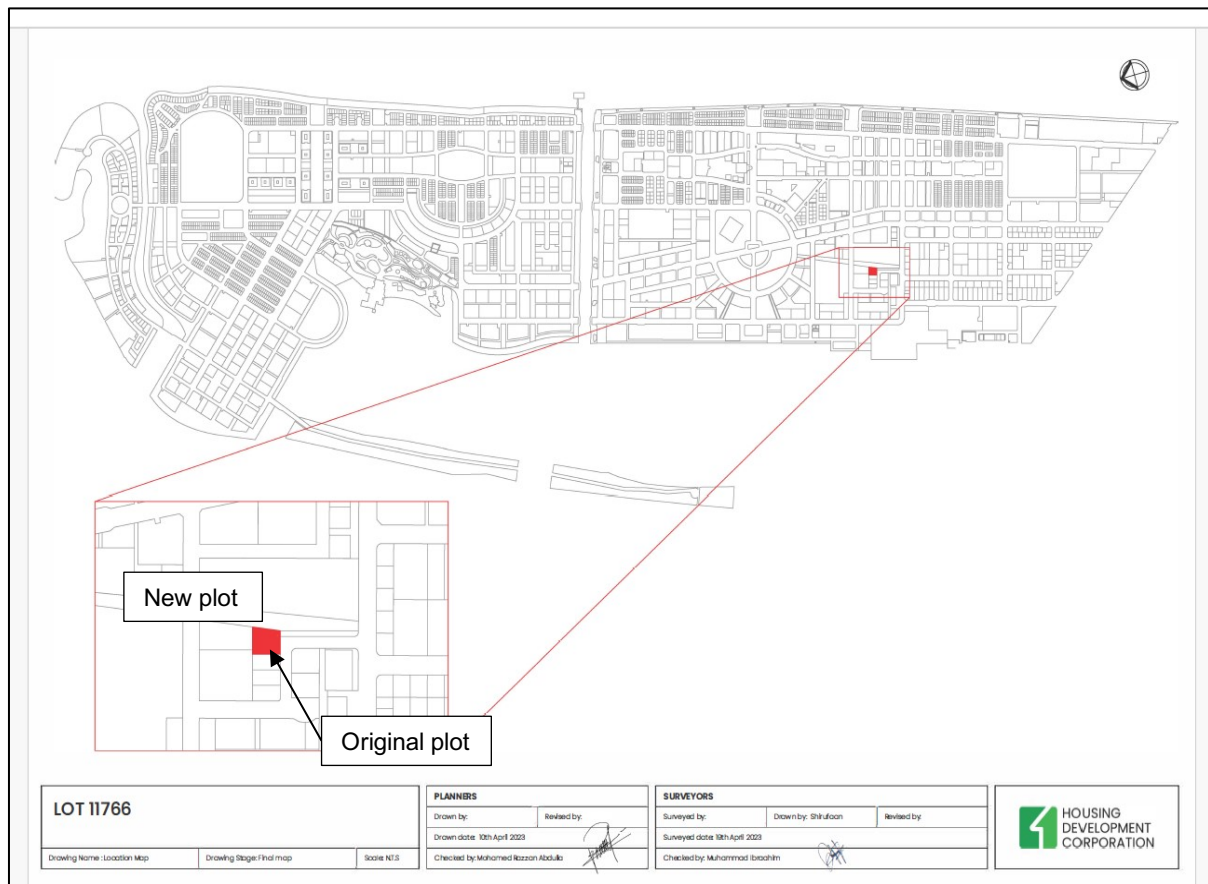


Figure 1: Location of new building plot- 1 (source: MOH)

b. The subproject location

15. The project is located in Hulhumale'. Hulhumalé is a reclaimed island located in the south of North Malé Atoll in Maldives. The artificial island is being built up by pumping sand from the sea floor, in order to meet the existing and future housing, industrial and commercial development demands of the Malé region and as a response to the threat posed by the rising sea levels. The official settlement in the artificial island started from year 2004.

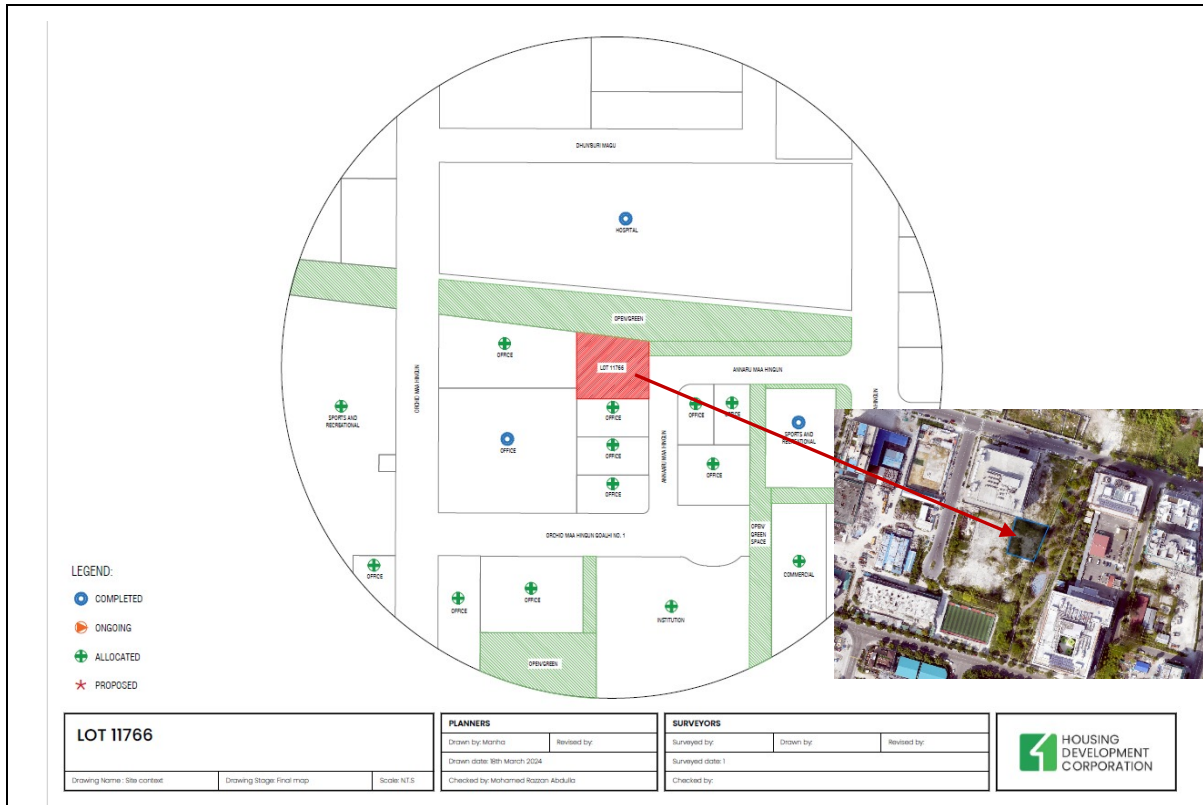


Figure 2: Location of new building plot- 2 (source: MOH)

16. The island is connected via a causeway to the airport island Hulhulé Island, allowing easy road transport between the Velana International Airport and Hulhumalé. The Hulhumalé is connected by Sinamalé Bridge between Hulhulé and Malé Island. The island could also be reached by ferry boat from Male. The population of the island is 53,193 according to 2022 census. The area of the island is 244 hectare.



Figure 3: Location Male and Hulhumalé (source: Google)c

B. Salient Feature of the Plot

17. The new plot so the lot number 11766 with a total of 921.34 square meter (refer Figure 3). The proposed building was originally planned for a six storey design. However, the Executing Agency has proposed to better utilize land in a land scarce island by increasing the number of stories on the building. The design of the building is still going-on and will follow the building standards of the Government of Maldives.

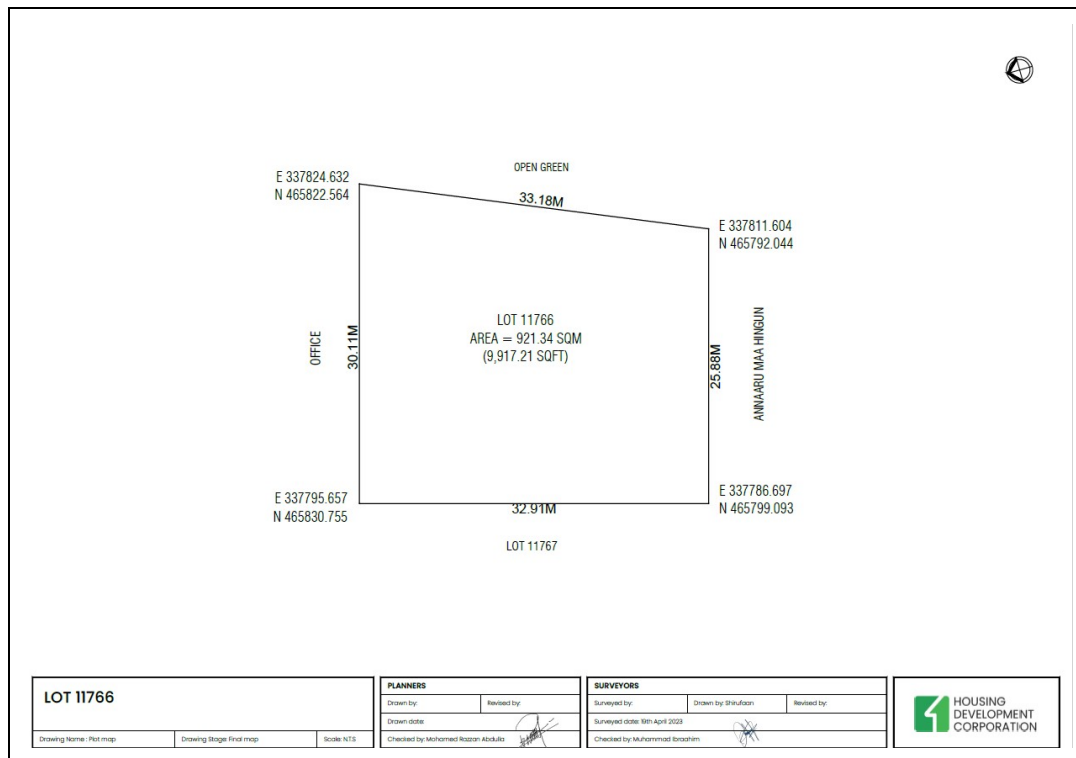


Figure 4: The detail of proposed plot

IV. TMETHODOLOGY FOR DDR PREPARATION

18. The due diligence report followed the following methodology.

- **Desk study:** The reports, maps and documents relevant to the proposed building construction as a subproject were reviewed. The project level IEE and semi-annual environmental monitoring reports disclosed in the ADB web were also reviewed. Necessary information were collected from these reports.
- **Field observation:** ADB fielded a mid-term project review mission of the project. The environmental and social specialists of ADB visited the proposed plot site along with PTL and the government staff. Field level observations were made and potential sensitive environmental receptors and baseline information on physical, biological, socio-economic and cultural environment of the sub-project area overall environmental and social context of the building site was observed and recorded. Required consultation and photographic documentation were made for preparing a DDR. A Rapid Environmental Assessment Checklist (REA) was prepared to record the environmental baseline status and decide on the environmental category of the work.
- **Meetings and consultations:** The Mission met with the relevant government staff and collected available maps, drawing and the details shared by the officials.

V. BASELINE ENVIRONMENT OF THE PROPOSED SUBPROJECT AREA

19. The general environmental setting and potential sensitive environmental receptors around the proposed site were observed by the Mission and recorded. The details are discussed in the following paragraphs.

A. Bio-physical Environment

a. Physical environment

20. The sub-project site is located in a rapidly increasing built-up area. Many high rise buildings are coming up or constructed around the site suggesting possibly good foundation condition for a multi-storied building. The site is full of discarded construction spoil, probably from the construction work happened around the plot in the past. There are no structures to demolish, although spoils has to be cleared. The Plot has an access planned to be constructed soon by the government. The condition of soil, area and shrubs and trees suggests that the area is not a wetland or frequently flooded land. Proper soil test should be done for proper foundation design of the structure. Sewerage could be an issue. However, the EA suggested that the sewerage from the building could be connected to the municipal sewerage system. Similarly, solid waste will also be collected by municipal service. Electricity and water supply systems are available in the area. Electricity will be provided by STELCO during the construction and operational phase. Although, solar PV rooftop installation will be considered to minimize the electricity cost and to be climate friendly. A backup generator will be installed for the contingency power supply for the operation of the cold chain equipment as per the requirements of WHO.

b. Biological environment

21. The proposed plot is clear and does not have trees or need for vegetation to be cleared. Greenery around the area supports habitat for avian fauna, since bird calls were listened and some pigeon and crows were observed during the visit. Despite, the proposed plot and construction may not have any perceivable impacts on flora and fauna.



Figure 5: The proposed plot for construction of COVID-19 Facility

B. Sensitive Environmental Receptors

22. The Mission noted a few potential sensitive receptors near the proposed subproject area. Although, there are no residential building around the proposed plot. Due to the nature of the project activities, only about 100 meter circumference from the project was considered for the analysis.

- a. A private Tree Top general hospital is about 70 meter away towards the south-eastern direction from the proposed APVAX Facility building plot. Also, its hostel building exists within their premises.
- b. A children's park belonging to hospital for use by the children under medical treatment is beside the hospital building towards south-eastern direction from the proposed plot.



Figure 6: The private general hospital



Figure 7: A children's park of the hospital near the plot

- c. A dormitory/hostel building of the hospital lies near the plot at Easter direction from the plot. The hospital, it's hostel and park are the property of the hospital.
- d. A multi-storied office building is towards east corner of the proposed plot. The building is about 6 stories tall and has glass exterior to draw in sun and natural light. Construction of the proposed building may cause temporary noise and dust nuisance to the office.

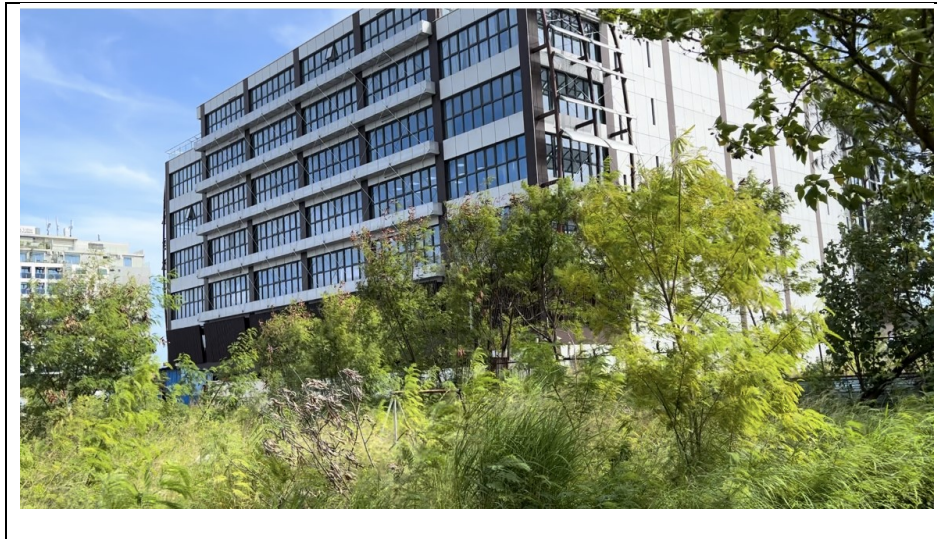


Figure 8: An office building at the Eastern side of the plot.

- e. The Plot adjoins another plot towards North-western side. A new building will eventually constructed in that plot for possibility of any purpose.
- f. A small futsal ground is located at Northern side of the plot. Construction of building may cause temporary air and noise disturbance to the players.



Figure 9: A football playground near the proposed plot

VI. POTENTIAL IMPACT AND ENVIRONMENTAL MANAGEMENT PLAN

The DDR found the implementation of the proposed sub-project (building construction) may cause minimal environmental impact as the work will be confined inside the demarcated plot, and the comparatively small size and type of work.

23. An Environmental Management Plan (EMP) was prepared with mitigation measures and monitoring requirements for any environmental safeguard and safety impacts incurred by the work, although not predicted to be significant. The wider level EMP was prepared along with the approved IEE of the project, which was disclosed in ADB web in June 2022. Qualified contractor will be procured for construction of the building. It is estimated 15–30 laborers will be utilized and a consulting engineer hired in addition to an in-house site engineer and site supervisor to manage the building construction. It was informed that a full-time health and safety officer will be assigned by the contractor. Heavy machinery such as excavator, dump truck, and crane will be used during excavation and construction of the building. Spoil generation occurs during construction work. The project IEE details waste management plan with construction waste collected on site, transported to the Waste Management Corporation (WAMCO) site at Hulhumale' once a week and finally disposed at Thilafushi. Temporary waste storage will be within the project demarcated area. The IEE confirms that all precautions will be taken for safety of workers during the construction stage. Barricades and warning signs will be placed at required places, and appropriate personal protective equipment will be provided by the contractor to all the workers. Emergency response procedures will be established.

24. The proposed facility will have dedicated room for waste storage and collection. The waste management will be equipped with autoclaves, shredders, chemicals for disinfection. The vaccine-related waste will be treated on-site. The Standard Operations Procedure (SOPs) for Waste Management of used COVID-19 vaccines vials and ancillary supply and WHO guidance on Safe Management of Waste from Health Care Facilities will be followed during the operational phase.

25. The Environmental Management Plan (EMP) for potential beneficial impacts and potential adverse impact prepared for the project and included in the IEE disclosed in June 2022 will be followed. In addition, following few measures shall also be followed for the work.

Table 1: Supplementary EMP to IEE for Construction of COVID-19 Vaccination Facility Building

| Activity | Environmental Impacts | Mitigation Measures | Where | How | When | Responsibility | Monitoring/Evaluation | Estimated Budget | Monitoring Frequency |
|--|---|--|-------------------------|--|---------------------|----------------|-----------------------|---|----------------------|
| Impact due to improper housekeeping | Ground and water pollution Safety risk | - Contractor to prepare construction site management plan, approved by the EA and strictly followed. - Manage work-site and camp wastewater. - Training to workers on proper housekeeping requirements | Project Site/Labor Camp | - Workers code of conduct. - Housekeeping plan and orient workers and staff. | During Construction | Contractor | PMU/Consultant | Included in project cost and allocated in BoQ | Regularly |
| Construction activity and movement of heavy machineries. | Dust generation, water pollution and noise nuisance | <ul style="list-style-type: none"> • Keep work site clean with immediately removing excavated soil from site. • Sprinkle water to suppress dust • Use face mask • Use silencers in heavy equipment • Keep generator in confined chamber to minimize noise. • No horn for vehicles • Coordinate with hospital and nearby office regarding work | Project Site | - work plan - orient workers and drivers of heavy machineries - regular monitoring | During Construction | Contractor | PMU/Consultant | Project Cost allocated in BoQ | Regularly |

| Activity | Environmental Impacts | Mitigation Measures | Where | How | When | Responsibility | Monitoring/Evaluation | Estimated Budget | Monitoring Frequency |
|--|---|---|-------------------|---|--------------------------------|--------------------|-----------------------|-------------------------------|------------------------------|
| | | time and possible noise nuisance. | | | | | | | |
| Land use change | Exposed area without shed and greenery | <ul style="list-style-type: none"> Plan for vegetation cover through ground and rooftop vegetation. | Building premises | Promoting greenery and climate friendly building design allocating in and out of building vegetation plan | During design and construction | Designer/Architect | PMU | Building cost | Confirm during design review |
| OHS Hazards (unsafe working conditions, accidents, fire hazards, transmission of communicable diseases etc.) | Impact on safety, health and hygiene of workers | <ul style="list-style-type: none"> -contractor's OHS plan to be approved by EA prior to site mobilization; -Training in OHS for all site personnel; -First aid kits kept in construction site; -Fire extinguishers kept at the camps -Provide potable drinking water in the work area; -Provide basic sanitary facility for the workers; - work to start only after engineer's daily approval and presence of site engineer; | Sub-project area | <ul style="list-style-type: none"> - Training - Insurance - Monitoring | During Construction | Contractor | PMU | Project Cost allocated in BoQ | Regularly |

| Activity | Environmental Impacts | Mitigation Measures | Where | How | When | Responsibility | Monitoring/Evaluation | Estimated Budget | Monitoring Frequency |
|------------------------|--|---|----------|---|-----------------|---------------------|-----------------------|------------------|----------------------|
| | | <ul style="list-style-type: none"> -plan prepared for work at height, electric hazard, flood, -designate safe zone - provide sufficient PPEs to all workers; -Regular health check ups, sanitation and hygiene, health care, and control of vector diseases; -Awareness programs; -Insurance of workers; - MOU will be done with nearby hospitals in case of emergency | | | | | | | |
| Waste from vaccination | Management of waste having COVID related contagious contaminations | <ul style="list-style-type: none"> - Train the staff in handling of contaminated waste - Ensure adequate containers for waste segregation and collection including dedicated safety boxes, leakproof boxes, leakproof (yellow) bags and | Hospital | Follow "Procedure in Management of COVID-19 Vaccination Waste" of WHO | Operation stage | Facility management | GOM | | |

| Activity | Environmental Impacts | Mitigation Measures | Where | How | When | Responsibility | Monitoring/Evaluation | Estimated Budget | Monitoring Frequency |
|----------|-----------------------|------------------------------|-------|-----|------|----------------|-----------------------|------------------|----------------------|
| | | containers and PPE are used. | | | | | | | |

VII. IMPLEMENTATION ARRANGEMENTS

26. The work will be executed under the agreed project implementation arrangement presented in the Project IEE. An environmental and safety expert shall be mobilized to ensure full compliance with the agreed safeguards management plan.

VIII. CONCLUSION AND RECOMMENDATION

27. Environmental impacts of the proposed facility construction work at the new plot adjacent to the original plot was reviewed during the due diligence. The DDR did not find any significant environmental impacts due to the shift of the plot. Hence, this DDR recommends to proceed with the building construction work by following the environmental and safety mitigation measures suggested in the EMP of the project IEE and the measures recommended in the table 2 in this report.

ANNEXES

Annex 1: Annex-I: Rapid Environment Assessment (REA) Checklist

Country/Project Title:

Maldives: Responsive COVID-19 Vaccination for Recovery Project under the Asia Pacific Vaccine Access Facility

Sector Division:

SAHS

| Screening Questions | Yes | No | Remarks |
|--|-----|----|--|
| A. Project Siting Is the Project area adjacent to or within any of the following environmentally sensitive areas? | | X | The construction of cold chain facility will be within a vacant land allocated to Ministry of Health in Hulhumale. It is not within not adjacent to any environmentally sensitive areas. |
| ▪ Cultural heritage site | | X | |
| ▪ Legally protected Area (core zone or buffer zone) | | X | |
| ▪ Wetland | | X | |
| ▪ Mangrove | | X | |
| ▪ Estuarine | | X | |
| ▪ Special area for protecting biodiversity | | X | |
| B. Potential Environmental Impacts Will the Project cause... | | | |
| ▪ impairment of historical/cultural areas; disfiguration of landscape or potential loss/damage to physical cultural resources? | | X | |
| ▪ disturbance to precious ecology (e.g. sensitive or protected areas)? | | X | Per IBAT results, there are no protected areas nor key biodiversity areas within 1 kilometer from the project site. |
| ▪ alteration of surface water hydrology of waterways resulting in increased sediment in streams affected by increased soil erosion at construction site? | X | | There are no surface water resources near the project site. However, construction of the central vaccine cold chain facility will involve a raft foundation which will require de-watering of groundwater. Hence, the ground water hydrology may be affected and soil erosion may occur due to excavation. |
| ▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction? | X | | There are no surface water resources near the project site. However, there is a risk of seepage of construction chemicals to groundwater. No seepage of sanitary wastes is anticipated since Hulhumale' has a proper sewerage management network. |
| ▪ increased air pollution due to project construction and operation? | X | | The dust generated during the construction may have some temporary increase in air pollution in the vicinity of the project site. No significant impacts on air quality are anticipated during the |

| Screening Questions | Yes | No | Remarks |
|--|-----|----|--|
| | | | operational phase of the project. |
| <ul style="list-style-type: none"> ▪ noise and vibration due to project construction or operation? | X | | Noise levels and vibration are expected to increase from operation of heavy equipment and transport of materials. Blasting is not expected. |
| <ul style="list-style-type: none"> ▪ involuntary resettlement of people? (physical displacement and/or economic displacement) | | X | The land proposed for the construction of the central vaccine cold chain facility is allocated and owned by the Ministry of Health (Implementing Agency of the project). The plot is currently vacant and no economic displacement is anticipated. |
| <ul style="list-style-type: none"> ▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups? | | X | No adverse impacts on the poor, women and children, Indigenous People and other vulnerable groups are anticipated. |
| <ul style="list-style-type: none"> ▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STIs and HIV/AIDS) from workers to local populations? | | X | Due to small scale of the construction, a large workforce will not be required for the project. The workforce will be accommodated in existing accommodations near the project site with proper means for sanitation and solid waste management. |
| <ul style="list-style-type: none"> ▪ creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents? | X | | All construction sites are potential breeding site for mosquitos, hence proper housekeeping will be followed to reduce this risk. |
| <ul style="list-style-type: none"> ▪ social conflicts if workers from other regions or countries are hired? | | X | No social conflicts are anticipated as most of the workers will be migrant workers who are currently employed by the contractor. |
| <ul style="list-style-type: none"> ▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)? | | X | No large population influx is anticipated due to small scale nature of the project. |
| <ul style="list-style-type: none"> ▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation? | | X | Occupational health and safety risks will be mitigated by the contractor. Minimal hazardous materials such as used oils from equipment are anticipated to be used during the construction of the project. |
| <ul style="list-style-type: none"> ▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation? | X | | Only hazardous construction chemicals or oil may be utilized during the project construction phase. Proper mitigation measures will be taken to avoid spill and ensure community health and safety. |
| <ul style="list-style-type: none"> ▪ community safety risks due to both accidental and natural causes, 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? | X | | Only hazardous construction chemicals or oil may be utilized during the project construction phase. Proper mitigation measures will be taken to avoid spill and ensure community health and safety. |
| <ul style="list-style-type: none"> ▪ generation of solid waste and/or hazardous waste? | X | | Construction waste will be generated. Some hazardous waste will be |

| Screening Questions | Yes | No | Remarks |
|--|-----|----|--|
| | | | generated. The waste generated will be managed through the existing waste management facilities in Hulhumale' in collaboration with WAMCO (waste management corporation). |
| <ul style="list-style-type: none"> ▪ use of chemicals? | X | | <p>Only construction chemicals and paints are anticipated to be used only during the construction phase. Other chemicals required for EPI program will be stored within the central vaccine cold chain facility during the operational phase.</p> <p>Lubricants and other chemicals for vehicle maintenance and fuel will be utilized for the land and sea vehicles.</p> |
| <ul style="list-style-type: none"> ▪ generation of wastewater during construction or operation? | X | | Wastewater from dewatering from construction activities and domestic wastewater from operations phase will be connected to existing sewerage system in Hulhumale'. |