



Environmental Monitoring Report

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India: Kerala Urban Water Services Improvement Project

Prepared by the Project Management Unit, Kerala Water Authority, Government of Kerala for the Asian Development Bank.

Asian Development Bank

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Semi-Annual Environmental Monitoring Report

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IND: Kerala Urban Water Services Improvement Project (KUWSIP)

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Kerala Urban Water Services Improvement Project (KUWSIP)

PROJECT MANAGEMENT UNIT

1st

SEMI ANNUAL ENVIRONMENT MONITORING REPORT ADB Loan 4390-IND (Period August to December 2025)

May 2026



KWA
Kerala Water Authority

GOVT. OF KERALA

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ABBREVIATIONS

AC	- Asbestos Cement
ADB	- Asian Development Bank
BOD	- Biochemical Oxygen Demand
COD	- Chemical Oxygen Demand
CPCB	- Central Pollution Control Board
CTE	- Consent to Establish
CTO	- Consent to Operate
DBO	- Design Build Operate
DG	- Diesel Generator
EA	- Executing Agency
EHS	- Environment, Health & Safety
EIA	- Environmental Impact Assessment
ELSR	- Elevated Level Storage Reservoir
EMP	- Environmental Management Plan
EMR	- Environment Monitoring Report
ESG	- Environment, Social and Gender
GLSR	- Ground Level Storage Reservoir
GRC	- Grievance Redressal Committee
GRM	- Grievance Redress Mechanism
HSC	- House Service Connection
IEE	- Initial Environmental Examination
KUWSIP	- Kerala Urban Water Services Improvement Project
KWA	- Kerala Water Authority
LOA	- Letter of Acceptance
MoEFCC	- Ministry of Environment and Forest & Climate Change, Government of India
NGO	- Non-Government Organization
NTP	- Notice to Proceed
O&M	- Operation and Maintenance
PIU	- Project Implementation Unit
PMU	- Project Management Unit
PM	- Particulate Matter
PUC	- Pollution Under Control
SGS	- Safeguard and Gender Cell
SPS	- Safeguard Policy Statement
SSEMP	- Site Specific Environment Management Plan
USD	- US Dollar

I. INTRODUCTION

A. Background – Overall Project Description and Objective

1. Water Resources Department (WRD), Government of Kerala (GOK) (the Executing Agency) through its Project Management Unit (the Implementing Agency- KWA) is implementing the “Kerala Urban Water Services Improvement Project (KUWSIP)”. The proposed project will support inclusive access to safe, reliable, efficient, climate-resilient, and sustainable water supply in Kochi, the commercial capital of the state of Kerala. The project will bring transformational change in the water supply services in Kochi by introducing sound operation and preventive maintenance practices and nurturing a culture of asset management in Kerala Water Authority (KWA). The improved operational management and reduced water losses expected to be achieved by the project will contribute to building the climate resilience of the water supply services in Kochi.

2. The total project cost is estimated at \$242.87 million. ADB approved a loan of \$170 million from ADB’s ordinary capital resources for sovereign project on 23 November 2023. The state counterpart funding is \$72.87 million. The loan and the project agreements were signed on 22 May 2025. The loan has been declared effective on 14 August 2025. The loan closing is on 30 June 2031.

3. The project adopted a sector approach. All subprojects selected and proposed for funding adhering to the agreed subproject selection criteria for the project.

4. The project is aligned with the following impacts: (i) living standards and well-being of citizens in Kerala improved, and (ii) water use efficiency improved for water resource sustainability. The project will have the following outcome: inclusive access to safe, reliable, efficient, climate-resilient, and sustainable water supply in Kochi achieved. The project has the below two outputs.

- Output 1: Climate-resilient water supply system with sustainability mechanism established.
- Output 2: KWA's institutional capacity and community awareness improved.

5. The following figures show the Project area and project management and implementation structure.



Figure 1: Kochi Project Area

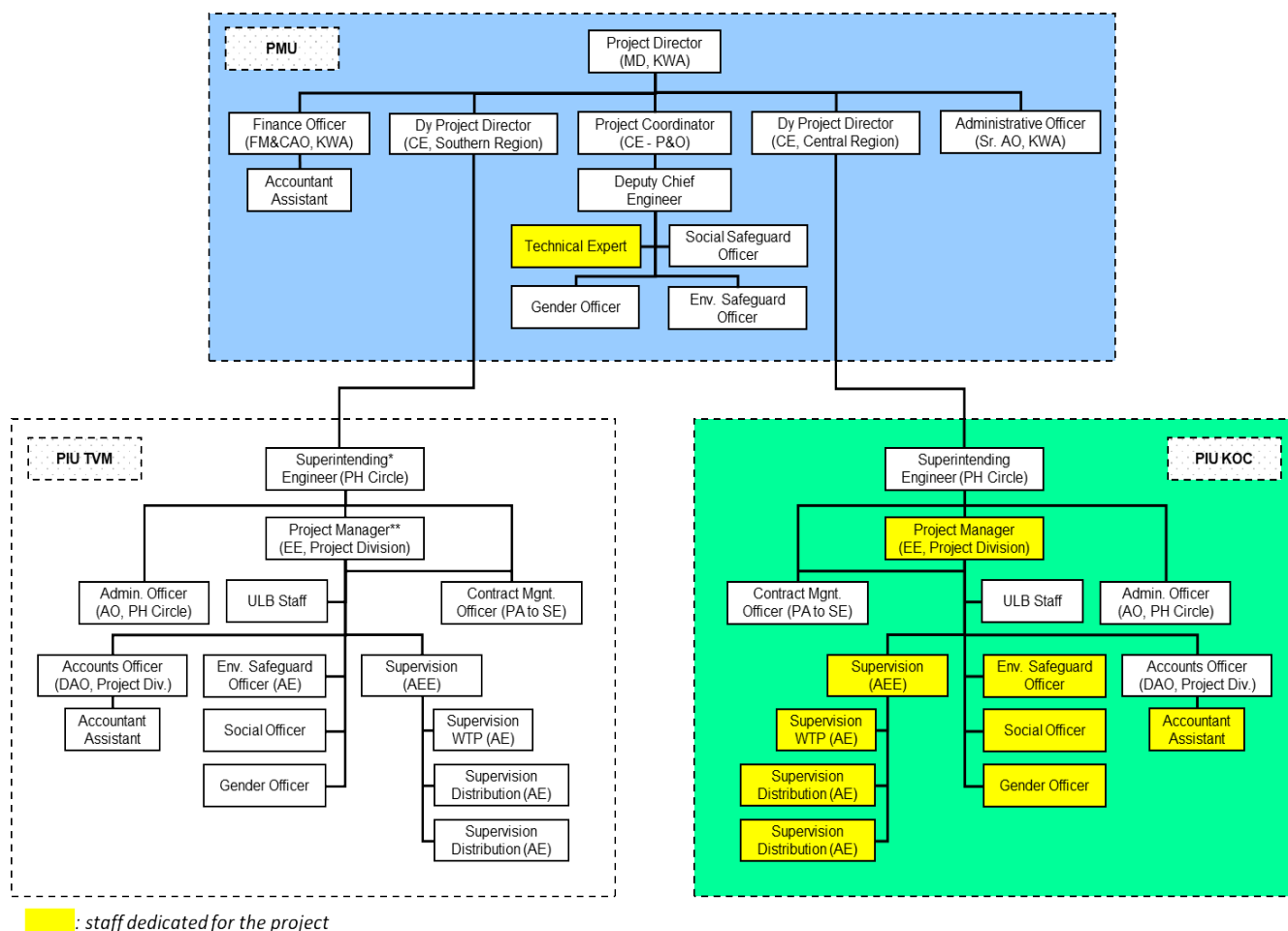


Figure 2: Project Organization Structure – Project Management and Implementation

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

6. Sub Projects under **KUWSIP** has been classified by ADB as **Category B** (some temporary impacts but less significant than category A) and the impacts of subprojects were assessed through Initial Environmental Examination (IEE), prepared according to ADB's Safeguard Policy (SPS 2009).

C. Environmental category of each subproject as per national laws and regulations

7. None of the 4 subprojects (work contracts) under KUWSIP are included in the list of projects requiring Environmental Clearance as per EIA notification 2006 and its Amendment thereof, Government of India, therefore EIA and Environmental Clearance (EC) are not required. Only for construction of Water Treatment Plant (WTP), the consent to establish (CTE) and consent to operate (CTO) are required from the Kerala State Pollution Control Board (KSPCB) under the Project.

D. Project Safeguards Team

8. Project has just started and contractor of one awarded contract (i.e package COK/WORKS/ 2A) mobilized and contract commenced on 29th December 2025. Notification of

Environment, Social and Gender (ESG) cell at PMU and PIU level under process till end of the report period. The Environment Safeguard Expert of LISU / Consultant (Dr. Ardhendu Mitra) has been mobilized in October 2025 under the Project.

E. Overall project and sub-project progress and status

9. There are 4 sub project packages, mainly civil works as under the KUWSIP. Summary of work contracts including type of contract (**upto 31st December, 2025**) is shown below.

Table 1: Type of the Contract

Parameters	DBO Type Contract	Item Rate Contract
Total Number of Packages	2	2
Contracts Executed/Completed	0	0
Contracts under Implementation	0	1
Bidding under Progress	0	0
Planning and Design	2	1

10. **Table 2** shows the sub projects and the work packages including the status of award of contracts as on **31st December 2025**. The contract agreements for 1 package have been signed and project work particularly preliminary activity to be commenced for the package. Initial discussion, planning with local authority/ official for execution of the package has been started. **Appendix 1** shows few photo illustrations.

Table 2: Summary status of Subprojects under KUWSIP (on 31st December 2025)

Sr. No.	Package No.	Packages	Status
1	COK/ WORKS/ 2A	Water Supply System Operations and Maintenance and System Upgrade in Kochi	Work awarded on 19.05.2025 Work commencement 29.12.2025 Work under progress
2	COK/ WORKS/ 1A-1	Design and build with 5 years O&M for the new Water Treatment Plant (190 MLD) including Intake Well, Raw Water Carrying Main, Clear Water Carrying Main, Service Reservoir and SCADA Arrangement at Aluva, Kochi	Awaiting Administrative Sanction from Govt. of Kerala. BID document under finalization. Bidding will be done at Q3 2026
3	COK/ WORKS/ 1A-2	Refurbishment and upgrade of existing Water Treatment Plants (WTP), 4 in Aluva and 1 at Maradu, Kochi (Likely DBO)	DPR under finalization. Bidding will be done at Q3 2026
4	TRV/ WORKS/ 1A	Emergency rehabilitation works for Aruvikkara WTP	Not yet decided

F. Description of subproject and status of implementation

11. **Table 3** below shows implementation status of awarded sub project package, **upto 31st December 2025**. The Site-Specific Environment Management Plan (SSEMP) to be prepared by the awarded contractor. Review and finalization of SSEMP will be done by March 2026 Further, the approved SSEMP will be disclosed at project website.

Table 3: Status of Implementation of Sub project (31st December 2025)

Package Number (Contractor)	Components/List of Works as available in disclosed IEE	Status of Implementation (Preliminary Design/Detailed Design/On-going Construction/Completed/O&M) ¹	Contract Status (specify if under bidding or contract awarded)	If On-going Construction	
				% Physical Progress as on 31 st December 2025	Completion Date
COK/ WORKS/ 2A (SUEZ Projects Pvt. Ltd. in JV with SUEZ EAU FRANCE)	Water Supply System Operations and Maintenance and System Upgrade in Kochi • Distribution pipeline – 743 km includes 290. 842 km of AC pipe replacement – Total HDPE pipe Approx. 719 km, DI pipe Approx.– 24 km • Refurbishment of Booster pumping station – 9 nos. • Refurbishment of Reservoir-11nos. (including GLSR-7nos and ELSR-4nos) • Door to door survey-150000 • Meter replacement-146685 nos. O & M for 10 years • Transmission Pipeline to HSC upto Consumer meter • SCADA and instrumentation work • Information Management System • Resolving of Consumer Complaints (received from KWA) • Water Quality Testing	Contractor mobilization and commencement of contract just on 29.12.2025	Contract awarded	0.0%	28.12.2035

¹ If on-going construction, include %physical progress and expected date of completion

II. COMPLIANCE STATUS WITH NATIONAL/ STATE/ LOCAL SATATUTORY ENVIRONMENTAL REQUITREMENTS

12. For implementation of the project both national and state rules & regulations need to be followed. **Table 4** below indicates environment legal compliance status for the awarded project under KUWSIP.
13. Before and during implementation of the project, compliance with environmental policy, law and legislation is necessary.
14. Present status of Environment, forest and other clearances are mentioned below. One contract package has been awarded and commencement of work was on 29th December 2025

Table 4: National/State/Local Statutory Environmental Requirements- 31st December 2025

Package No.	Subproject Name	Statutory Environmental Requirements ²	Status of Compliance ³	Validity if obtained	Action Required	Specific Conditions that will require environmental monitoring as per Environment Clearance, Consent/Permit to Establish ⁴
COK/ WORKS/ 2A	Water Supply System Operations and Maintenance and System Upgrade in Kochi	The EIA notification, 2006 (and its subsequent amendments in 2009) provides for categorization of projects into category A and B, based on extent of impact	The sub project is not covered in the ambit of the EIA notification, as this is not covered under either Category A or Category B of the notification. As a result, the categorization, and the subsequent environmental assessment and clearance requirements, either from the state or the central Government is not triggered. Environmental Procurement of materials like sand – not started. In case of Contractor is procuring sand, borrow soil and aggregates for the subproject, the quarry and borrow area should have a valid EC and a copy of the same has to be submitted to the PIU by the Contractor.	Not Applicable (NA)	None	NA
		Water (Prevention and	No CTE and CTO is	NA	-	

² Specify (environmental clearance? Permit/consent to establish? Forest clearance? Etc.)

³ Specify if obtained, submitted and awaiting approval, application not yet submitted

⁴ Specify requirement of compliance as against NOC, consent

Package No.	Subproject Name	Statutory Environmental Requirements ²	Status of Compliance ³	Validity if obtained	Action Required	Specific Conditions that will require environmental monitoring as per Environment Clearance, Consent/Permit to Establish ⁴
		Control of Pollution) Act of 1974, Rules of 1975, and amendments During implementation (construction phase) compliance will be required	required for the project			
		The Air (Prevention and Control of Pollution) Act 1981, amended 1987 and The Air (Prevention and Control of Pollution) Rules, 1982 During implementation (construction phase) compliance will be required CTE and CTO for diesel generator/s, Hot mix plants, wet mix plants, stone crushers, batching plant etc. if installed for construction. Pollution under control certificate (PUC) to be obtained by the contractor for all vehicles and equipment engaged in the project	Proposed water supply project will not require CTE and CTO from Kerala State Pollution Control Board. Implement measures to mitigate air pollution from project activities; construction facilities may require CTE and CTO based on type of facilities (diesel generator, hot mix plant, stone crusher etc.) to be established by the contractor. Contractor mobilized only on 29 th December 2025. Not required till report period. Commencement of work only on 29 th December 2025. Contractor will collect PUC for the mobilized vehicle and equipment	NA	The subproject will require CTE and CTO from SPCB if the following equipment will be used: (i) diesel generators; (ii) hot mix plants; and (iii) stone crushers.	NA
		Noise Pollution	Contractors are required to	NA		

Package No.	Subproject Name	Statutory Environmental Requirements ²	Status of Compliance ³	Validity if obtained	Action Required	Specific Conditions that will require environmental monitoring as per Environment Clearance, Consent/Permit to Establish ⁴
		(Regulation and Control) Rules, 2002 amended up to 2010. Rule 3 of the Act specifies ambient air quality standards in respect of noise for different areas/zones.	ensure all noise-producing activities during execution of works conform to applicable standards. Physical work not yet started.			
		Coastal Regulation Zone Notification, 2019 and Amendments Vide CRZ Notification 2019, the Central Government has declared the coastal stretches of the country and the water area up to its territorial water limit as Coastal Regulation Zone and imposed restrictions on the setting up and expansion of industries, operations or processes etc. in the said Coastal Regulation Zone (CRZ). Activities permissible in CRZ under this notification are regulated and clearance needs to be obtained from stipulated authority.	Laying of pipelines is a permissible activity in all CRZ categories. Till report period no new pipelines are proposed under this subproject in CRZ. Mangrove patches are located at various locations in the subproject area. Mangalavanam Bird Sanctuary is such a mangrove area. Pipelines along the roads falling in mangrove buffer zones are located in CRZ IA. Vembanad lake located in the subproject area is a critically vulnerable coastal area mentioned in the notification.	NA	Planning for CRZ clearance from MoEFCC as per requirement after finalization and validation of design.	

Package No.	Subproject Name	Statutory Environmental Requirements ²	Status of Compliance ³	Validity if obtained	Action Required	Specific Conditions that will require environmental monitoring as per Environment Clearance, Consent/Permit to Establish ⁴
			Work just commenced for the awarded package. After survey and finalization of design assessment will be carried out on requirement of clearance if any from concerned authority.			
		The Indian Forest Act, 1927; Forest (Conservation) Act, 1980, amended 1988; Forest (Conservation) Rules, 1981 amended 1992 and 2003 Kerala Promotion of Tree Growth in Non-Forest Areas Act 2005 as amended in 2007 and Kerala Promotion of Tree Growth in Non-Forest Areas Rules, 2011	The subproject alignments not passing through or encroach forest areas. All mangrove areas in the state are notified areas under these rules. The subproject area has many such mangrove areas. No impact on mangroves till report period. No tree felling required upto report period.	NA	None	NA
					Tree felling NOC will be obtained if required	

Package No.	Subproject Name	Statutory Environmental Requirements ²	Status of Compliance ³	Validity if obtained	Action Required	Specific Conditions that will require environmental monitoring as per Environment Clearance, Consent/Permit to Establish ⁴
		In case of tree felling NOC needs to be obtained from Forest dept./ concerned dept.				
		Wildlife (Protection) Act 1972, Amendment Act, 1993 and 2002 and Wildlife (Protection) Rules, 1995	Mangalavanam Bird Sanctuary is located within the subproject area. Eco Sensitive Zone (ESZ) has been notified for this sanctuary. On south-west side of the sanctuary, the ESZ boundary is the same as the sanctuary boundary. On east and west sides, roads are the boundaries of the ESZ. No roads are passing through the sanctuary or the ESZ. Pipe laying is not a prohibited activity as per the ESZ notification for Mangalavanam Bird Sanctuary. No impact on Eco Sensitive Zone (ESZ) till report period.	NA	Rechecking of requirement after validation of design	NA
		The Ancient Monument and Archaeological Sites and Remains (Amendment and Validation) Act 2010 The Amendment Act designates areas within	There are heritage sites/monuments near the subproject sites and pipeline alignments. The subproject may require	NA	After finalization of design application will be send to concerned	NA

Package No.	Subproject Name	Statutory Environmental Requirements ²	Status of Compliance ³	Validity if obtained	Action Required	Specific Conditions that will require environmental monitoring as per Environment Clearance, Consent/Permit to Establish ⁴
		100 meters (m) from the “protected property” as “prohibited area” and beyond that up to 200 m as “regulated area” respectively. No “construction” is permitted in the “prohibited area” and any “construction” in the “regulated area” requires prior permission of the Archaeological Survey of India (ASI). “Protected property” includes the site, remains, and monuments protected by ASI or the State Department of Archaeology and “construction” means the construction of any structure or building.	prior permission of the Archaeological Survey of India (ASI). Package work just commenced, till report period requirement of clearance from ASI or the State Department of Archaeology not triggered.		authority for necessary NOC Chance finds protocol to be maintained	
		Labour licence under The Contract Labour (Regulation & Abolition) Act, 1970. (Central Act w.e.f. 07-09-70)	Contractor of the awarded package mobilized on 29 th December 2025. Application for obtaining Labour license not done till report period 31 st December 2025.	NA	Obtaining Labour before start of the physical work. To comply with the requirements as specified in the issued license.	NA

Package No.	Subproject Name	Statutory Environmental Requirements ²	Status of Compliance ³	Validity if obtained	Action Required	Specific Conditions that will require environmental monitoring as per Environment Clearance, Consent/Permit to Establish ⁴
		Labour compensation insurance	Commencement of work only on 29 th December 2025. Instruction has been given to contractor for arrangement of WC policy	NA	To ensure all potential risks are covered.	NA
		Ramsar Convention, 1971 The Ramsar Convention is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. India is one of the signatories to the treaty. The Ramsar convention made it mandatory for the signatory countries to include wetland conservation in their national land use plans	The subproject area is located within Vembanad Kol Wetland Ramsar site. Till report period no impact noted on Ramsar site. Requirement of any clearance will be assessed after finalization of design.	NA		

III. COMPLIANCE STATUS WITH ENVIRONMENTAL LOAN COVENANTS

15. The loan agreement for KUWSIP was signed on 22nd May 2025 and details are available in ADB website (<https://www.adb.org/sites/default/files/project-documents/49106/49106-006-Ina-en.pdf>). Table 5 provides a summary of compliance to the loan covenants related to environmental safeguards.

Table 5: Compliance of Loan Covenants – Environment

Serial No. as per Loan Agreement	Program Specific Covenants	Status / Issues	Action Required
SCHEDULE 4			
Implementation Arrangements			
1	The Borrower shall ensure, and cause the State and KWA to ensure, that the Project is implemented in accordance with the detailed arrangements set forth in the PAM. Any subsequent change to the PAM shall become effective only after approval of such change by the Borrower, the EA and ADB. In the event of any discrepancy between the PAM and this Loan Agreement, the provisions of this Loan Agreement shall prevail.	Being complied State and KWA ensured that the Project will be implemented in accordance with the detailed arrangements set forth in the PAM. Any changes in PAM during execution of the project, effective only after approval from Borrower, EA and ADB and which will follow Loan Agreement	
Conditions for Award of the Contract			
6	The Borrower shall ensure, or cause the State and KWA to ensure, that: (a) Works contracts are awarded until KWA has prepared, submitted and obtained clearance of the relevant IEE including EMP from ADB and the relevant authority of the Borrower and/or State, as applicable; and (b) no Works contracts are awarded until KWA has incorporated the relevant provisions of the EMP in the respective Works contract.	Being Complied (a) Environment Impact assessment document – IEE have been prepared, submitted, and obtained final approval of relevant IEE from ADB and borrower. After that contracts have been awarded. (b) No Works contracts have been awarded until KWA has incorporated the relevant provisions of the EMP in the respective Works contract.	
7	The Borrower shall ensure, or cause the State and KWA to ensure, that a Works contract involving environmental impacts is awarded with the respective IEE based on preliminary design having been submitted to and	Being Complied KWA ensured that a Works contract involving environmental impacts is awarded with the respective IEE based on preliminary design and ADB clearance.	

Serial No. as per Loan Agreement	Program Specific Covenants	Status / Issues	Action Required
SCHEDULE 4			
	cleared by ADB only if the contract: (a) is of a "design and build" or "turnkey" type under which the design must be completed for the Works contract before the IEE is updated to reflect the final project design; and (b) expressly provides that no works shall commence until. (i) an IEE for the Works contract reflecting the final project design having been submitted to, and cleared by ADB.	(a) Present contract Kochi water distribution package is turnkey package. IEE will be updated in case of change in design, scope & location / after finalization of the design. (b) Physical work will be not started before clearance of final IEE based on final design	
Safeguards – Environment			
10	The Borrower shall ensure or cause the State and KWA to ensure that the preparation, design, construction, implementation, operation and decommissioning of the Project, and all projects' facilities comply with (a) All applicable laws and regulations of the Borrower and the State relating to environment, health, and safety; (b) The Environmental Safeguards, and (c) all measures and requirements set forth in the respective IEE and EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Being Complied (a) Implementation of the Project, and all projects' facilities will be complied with all relevant State and National Laws & Regulations related to Environment, health, and safety, Safeguard Policy Statement (SPS 2009) of ADB. (b) Initial Environmental Examination (IEE), Environment Management Plan (EMP) report prepared and approved by ADB at bidding stage. IEE will be updated in case of change in design, scope & location / after finalization of the design. (c) All measures set forth in respective IEE and EMP will be applied during implementation of the project. Corrective or preventive action plans reflected in Environment Monitoring Report and Project Implementation authority take care of such actions as	

Serial No. as per Loan Agreement	Program Specific Covenants	Status / Issues	Action Required
SCHEDULE 4			
		per requirement. Observed non compliances are rectified through agreed corrective and preventive actions.	
Human and Financial Resources to Implement Safeguards Requirements			
14	Th Borrower shall, or cause or cause the State and/or KWA to ensure, that all necessary budgetary and human resources to fully implement the EMPs, as required, are made available on a timely basis.	Being Complied Budgetary provisions have been included in EMP. Nodal officer, in- charge of Environment and Social Safeguard will be notified shortly. An Environment Safeguard Expert placed within PMC- Loan Implementation Support Unit (LISU)	
Safeguards Related Provisions in Bidding Documents and Works Contracts			
15	The Borrower shall ensure, or cause the State and KWA to ensure, that all bidding documents and contracts for Works contain provisions that require Contractors to (a) Comply with the measures and requirements relevant to the Contractor set forth in the IEE, EMP and any corrective or preventative actions set out in a Safeguards Monitoring Report; (b) Make available a budget for all such environmental measures. (c) Provide the EA with a written notice of any unanticipated environmental risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, EMP as applicable.	Being complied a) Approved IEE, EMP is attached in Bidding documents. In case of any change of scope, updated IEEs with EMP(s) will be updated further and corrective measures will be disclosed to the Contractor and same will be reflected in the "Environment Monitoring Report". b) IEE includes budgetary provisions for implementation of EMP for all the packages. c) During implementation of any project if additional impacts/risks arise due to change in scope/area that will be reflected in the revised IEEs, EMPs and Environment Monitoring Report and accordingly project Executing Agency will inform the Construction Contractor for taking relevant corrective measures.	In case of any change in scope, updated IEEs with EMP(s) will be prepared and corrective measures will be disclosed to the contractor.

Serial No. as per Loan Agreement	Program Specific Covenants	Status / Issues	Action Required
SCHEDULE 4			
	(d) Adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction and. (e) reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction	d) Haul roads to be marked properly (by avoiding residential and agricultural land) before commencement of transportation of materials e) Pathways, and land which are/ to be affected for varying periods during implementation of the sub project restored by concerned construction contractor before acceptance of the work.	
Safeguards Monitoring and Reporting			
16	The Borrower shall cause the EA to do the following: (a) Submit semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission. (b) If any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the relevant IEEs, EMPs, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and (c) Report any breach of compliance with the measures and requirements set forth in the relevant EMP, promptly after becoming aware of the breach.	Being complied (a) After start of physical construction and 6 months from effective date of loan, SEMR will be prepared and submit to ADB This is 1st SEMR for the period August to December 2025. (b) During implementation of any project, if additional impacts/risks arise due to change in scope/area, those will be reflected in updated EEs with EMPs and accordingly EA will inform the ADB such change along with corrective action plan which will be reflected in the subsequent Monitoring Reports. (c) In case of any breach of compliance with the measures and requirements set forth in the EMP, EA will promptly inform ADB and suitable corrective action program will be planned/initiated.	

Serial No. as per Loan Agreement	Program Specific Covenants	Status / Issues	Action Required
SCHEDULE 4			
Prohibited List of Investments			
17	The Borrower shall ensure or cause the State and KWA that no proceeds of the Loan are used to finance any activity included in the list of prohibited investment activities provided in Appendix 5 of the SPS	Complied There is no violation of prohibited investment activities as per ADB SPS (2009) Appendix 5.	
Labour Standards			
18	The Borrower shall ensure or cause the State and KWA to ensure, that Works contracts under the Project follow all applicable labor laws of the Borrower and the State, and that these further include provisions to the effect that Contractors: (a) carry out HIV/AIDS awareness programs for labor and disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures for those employed during construction; and (b) follow and implement all statutory provisions on labor (including not employing or using children as labor, equal pay for equal work), health, safety, welfare, sanitation, and working conditions. Such contracts shall also include clauses for termination in case of any breach of the stated provisions by the contractors.	Being Complied (a) HIV/AIDS awareness programs for Construction Contractor, application of all relevant labor laws for health and safety including child labor law and engagement of local labors (preferably from economically backward group) covering women labors. HIV/ AIDS training program will be conducted after complete mobilization of the workers. (b) No child labor engaged. In the project. Rules on equal pay for equal work to be followed. Health checkup will be conducted after mobilization of staffs and workers. In case of any breach of provision, necessary corrective measures as per contract clauses shall be taken up. All activities including awareness program will be reflected in "Monitoring Report"	HIV- AIDS Training program will be conducted on 6 monthly bases.

IV. COMPLIANCE STATUS WITH THE ENVIRONMENTAL MANAGEMENT PLAN

16. There is one civil work contract package under implementation. Site Environment plan including site specific EMP (SSEMP) will be submitted by the contractor. Now the preliminary activities like survey will be started after approval of SSEMP of the package. SSEMP compliance monitoring will be commenced only after start of actual physical activity. **Table 6** shows package wise EMP implementation status.

Table 6: Package wise EMP Implementation Status – upto 31st December 2025

Package No	Components	Design status (Preliminary Design Stage/ Detailed Design Completed	Final IEE based on Detailed Design				Site specific EMP (or construction EMP) approved by Project Director (Yes/ No)
			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 Contractors (Yes/No)	
COK/ WORKS/ 2A	Water Supply System Operations and Maintenance and System Upgrade in Kochi	Turnkey contract: zone wise design to be started along with Operation and Maintenance	Work just commenced and zone wise design to be started. After finalization of design, IEE will be updated	Draft IEE submitted on June 2023 and report accepted by ADB and disclosed – July 2023	Disclosed in ADB website: https://www.adb.org/sites/default/files/project-documents/49106/49106-006-iee-en.pdf Disclosed in Project website: https://drive.google.com/drive/folders/1e7yXzJIHuBNR0dqlOw2V1x6cl6oIUicx	Disclosed IEE to be provided to contractor	To be submitted by the contractor

A. Implementation Arrangement

17. The KWA will establish a central PMU headed by a Project Director and supported by a Deputy Project Director (DPD). The DPD will be responsible for procurement and contract management in PIU Kochi. In addition to the DPD, the PMU will be staffed with a Finance Officer, a Project Coordinator and an Administrative Officer. There will be a Technical Expert, a Social Safeguard Officer, an Environmental Safeguard Officer and a Gender Officer under the Project Coordinator. Under the PMU, the PIU will be established at Kochi and will be headed by a Project Manager. The PMU and PIU will be supported by the LISU consultant team (refer to Figure 2).

18. **Safeguards Compliance Responsibilities.** Till report period, engagement of three safeguard officers (i) Environment Safeguard Officer; (ii) Social Safeguard Officer; and (iii) Gender Officer who will be responsible for compliance with the environmental, social and gender safeguards in program implementation respectively under process. These officers will have overall responsibility of safeguard implementation in compliance with ADB SPS 2009. At individual subproject level, Environment Safeguard Officer, Social Safeguard Officer and Gender Officer will ensure that (i) environmental assessment and social impact assessment is conducted; (ii) initial environmental examination (IEE) reports and corresponding environmental management plans (EMPs) and resettlement plans (RPs), due diligence reports (DDRs), and GESI action plans are prepared and/or updated and implemented; and (iii) the compliance and corrective actions are undertaken. Environmental Safeguard Expert, Resettlement and Social Safeguards Expert, and Gender Expert of the LISU Consultant will have primary responsibility of preparing the safeguard documents and supervising the EMP, resettlement plan, and GESI action plan implementation, while the Safeguards Officers at the PMU will review, approve, and oversee the compliance. At each PIU, an Environment Safeguard Officer, a Social Officer, and a Gender Officer of Assistant Engineer rank are responsible for safeguard implementation. Engagement of 3 safeguard officers at PIU is under process. The Safeguard Officers will oversee the safeguards. Institutional structure for safeguard implementation is shown in **Figure 2**.

Environmental Safeguards Roles and Responsibilities

19. **Project Management Unit.** The PMU is responsible for planning, management, coordination, supervision and progress monitoring. The PMU, headed by the Project Director shall be empowered to take all project related decision and only policy level matters related to the project may need approval of the government. The PMU has the responsibility of fulfilling environmental requirements of the government and ensuring effective implementation of the environmental management provisions in the ADB SPS, IEEs, EMPs and civil works contracts. The following are the key environmental safeguard tasks and responsibilities of the Environment Safeguard Officer at the PMU:

- (i) Ensure subproject compliance with the statutory environmental requirements, ADB's SPS 2009, and loan covenants;
- (ii) Ensure new and amended subprojects confirm with SPS exclusion criteria; review and confirm subproject category;
- (iii) Ensure that necessary environmental assessment studies are conducted, and IEEs including EMPs are prepared and submitted to ADB for approval and disclosure;
- (iv) Ensure that IEEs including EMPs are included in bidding documents and contracts
- (v) Ensure that Health and Safety Plans including COVID-19 health and safety plans are included in bidding documents and civil works contracts;
- (vi) Ensure that draft IEEs prepared based on preliminary designs are updated to reflect the final subproject detailed designs, and are approved by ADB and disclosed prior to commencement of works;

- (vii) Engage Biodiversity, Heritage and Asbestos experts during construction to monitor and guide the works in sensitive areas as identified in the IEEs.
- (viii) Coordinate with design engineers, to consider measures to avoid potential environmental impacts; ensure amended subproject designs/locations, if any, confirm with the subproject selection criteria;
- (ix) Review and provide recommendations on the approval of SEMP's of contractors; ensure that no construction works are commenced until SEMP's are approved by PIU/PMU;
- (x) Ensure overall compliance with all national, state, and local government rules and regulations; ensure that approvals/permits/licenses are obtained in a timely manner;
- (xi) Ensure that construction works are not commenced until all applicable government clearances are obtained;
- (xii) Oversee and ensure that contractors and their subcontractors comply with labor legislations
- (xiii) Provide oversight on environmental management aspects of the project; establish a system to monitor environmental safeguards including monitoring the indicators set out in the monitoring plan of the EMP;
- (xiv) Review, monitor and evaluate effectiveness with which the SEMP's, EMP's, and Health and Safety Plans are implemented, and recommend necessary corrective actions;
- (xv) Ensure that the IEEs including EMP's are updated in case of changes in detailed design that may occur during implementation phase;
- (xvi) Confirm compliance with all measures and requirements set forth in the IEEs, the EMP's and any corrective or preventive actions set forth in safeguard monitoring reports;
- (xvii) With support from LISU Consultant, consolidate quarterly monitoring reports from the PIUs and submit SEMR's to ADB;
- (xviii) Ensure availability of budget for safeguards activities;
- (xix) Ensure adequate awareness campaigns, information disclosure among affected communities and timely disclosure of final IEEs/EMP's and SEMR's, including corrective action plans, if any, in project website and in a form accessible to the public;
- (xx) Assist in setting up of GRM, identifying grievance redressal committee (GRC) members and developing capacity of GRC members, PIUs, consultants, and contractors in addressing environmental safeguards-related issues/ concerns/ complaints;
- (xxi) Ensure any grievances brought about through the GRM are redressed in a timely manner;
- (xxii) Ensure timely disclosure of draft/updated IEEs/EMP's and SEMR's, including corrective action plans, if any, in project website and in a form accessible to the public; and
- (xxiii) Organize periodic capacity building and training programs on safeguards for PMU, PIUs and contractors.

20. **Project Implementation Units.** The PIU is responsible for the day-to-day activities of project implementation in the field and will have direct supervision of all contractors. Each PIU will be headed by a Project Manager, and assisted by an Environment Safeguard Officer, who will oversee and monitor the day-to-day progress and implementation including environmental safeguards. The LISU Consultant will place one Environmental Safeguard Expert in Kochi PIU and one Environmental Engineer in each PIU. With the support of the LISU Consultant, the PIU Environment Safeguard Officer will:

- (i) Ensure compliance with government regulations and ADB requirements set forth in IEEs, including corresponding EMP's, and ADB SPS;
- (ii) Confirm to Environment Safeguard Officer/PMU that IEEs and EMP's are

- up-to-date and reflect detailed engineering designs, or any change in location, alignment, or components;
- (iii) Engage closely with the forest and environment departments and ASI and biodiversity, heritage and asbestos experts during IEE update and detailed design and construction;
- (iv) Inform Environment Safeguard Officer/PMU promptly of any change in project locations / designs;
- (v) Liaise with local offices of regulatory agencies in obtaining clearances /approvals; assist PMU for clearances obtained at town/city level; prior to start of construction; confirm PMU that all statutory clearances are in place;
- (vi) Take necessary action for obtaining right of way prior to start of works;
- (vii) Review and approve contractor SEMP's;
- (viii) Oversee day-to-day implementation of SEMP's by contractors, including compliance with all government rules and regulations, and conduct regular site visits/inspections;
- (ix) Ensure that contractors and their subcontractors comply with labor legislations cited in IEEs and ADB's SPS Prohibited list requirements; ensure that workers are paid and treated according to the labor legislations;
- (x) Ensure contractors and subcontractors (a) comply with the measures forth in the IEEs, the EMPs, and any corrective or preventative actions set forth in a Semi-annual Environmental Monitoring Report; (b) make available a budget for all such environmental and social measures; (c) provide the PIU and PMU with a written notice of any unanticipated environmental impacts that arise during construction, implementation or operation of the Project that were not considered in the IEE, the EMP; (d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and (e) reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction;
- (xi) Ensure all workers are provided with occupational safety and health training prior to start of works and on a regular basis;
- (xii) Ensure strict implementation of occupational safety and health requirements including but not limited to contractors' no personal protective equipment, no work policy;
- (xiii) Recommend issuance of work construction work completion certification to the contractor upon verification of satisfactory post-construction clean-up;
- (xiv) Review monthly reports from contractors on SEMR implementation;
- (xv) Prepare quarterly reports on all aspects concerning environmental assessment, management, and monitoring, and submit to Environment Safeguard Officer/PMU;
- (xvi) Ensure continuous public consultation and awareness;
- (xvii) Coordinate grievance redress process and ensure timely actions by all parties; and
- (xviii) Support all other environmental safeguards-related activities and tasks of the PMU as may be needed.

21. **Loan Implementation Support Unit Consultant.** The PMU and PIUs are supported by the LISU Consultant's Environmental Safeguard Expert in Kochi PIU and one Environmental Engineer in each PIU. Environmental Safeguard Expert will assist in preparing, updating, reviewing, implementing, monitoring, and reporting of all tasks related to environmental safeguards. Environmental Engineer will assist in day-to-day monitoring of EMP implementation, regulatory compliance, grievance redress, reporting etc., Key tasks of Environmental Safeguard Expert, assisted by Environmental Engineers at the PIU level will include, but not limited to, the following:

- (i) Ensure that subprojects comply with key exclusion criteria and subproject selection guidelines stipulated in ADB SPS (2009);
- (ii) Conduct environmental categorization of subprojects per ADB SPS (2009), and validate when necessary to reflect project changes based on the final detailed design;
- (iii) Work closely with design teams to include environmental considerations in subproject location, design and technical specifications;
- (iv) Carry out environmental assessment (IEE) for the proposed subprojects and formulating EMPs for the different components of the civil works in line with ADB and national requirements;
- (v) Follow draft IEEs prepared during the processing, and ensure that draft IEEs are updated with inputs from biodiversity, heritage and asbestos expert as needed;
- (vi) Lead / assist PIU in public consultations and include inputs from the public consultation in the project design and EMP, and proper documentation in the IEEs;
- (vii) Ensure that the relevant provisions of EMPs, including costs of implementing the EMPs, are fully included in BID and contract documents, particularly in the bill of quantities and cost line items;
- (viii) Identify statutory clearance / permissions / approvals required and assist the PMU and PIU in obtaining them;
- (ix) Assist in including standards/conditions of regulatory clearances and consents, if any, in the project design;
- (x) Review designs, bidding documents, bill of quantities, and safeguard documents to ensure environment, health and safety considerations including issues related to COVID 19 pandemic, are adequately covered and costed;
- (xi) Calculate and provide the indicative cost estimate to implement EMPs, environmental monitoring programs, awareness programs, etc.;
- (xii) Update the subproject IEE studies and reports and EMPs to reflect any changes in subproject detailed design or implementation.; the IEE shall reflect the final subproject design; the IEE shall also be updated in case of any unanticipated impacts;
- (xiii) Assisting with awareness campaigns for and meaningful consultations with affected communities;
- (xiv) Implementing and monitoring gender equality and social inclusion (GESI) action plan;
- (xv) Development of guidelines/knowledge products; designing and implementing various awareness campaigns and delivering trainings related to gender mainstreaming;
- (xvi) Identify and conduct capacity building activities for PMU, PIU and contractors;
- (xvii) Ensure compliance with ADB's disclosure requirements as per the SPS;
- (xviii) Assist PMU/PIUs in reviewing and approving contractor SEMP, health and safety plan including Health and Safety COVID-19 Plan, and any other associated plans as required;
- (xix) Carry out site verification of EMP/SEMP implementation on a regular basis, and monitor the implementation and ensure compliance by the Contractors including subcontractors;
- (xx) Conduct regular monitoring and ensure that contractors and their subcontractors comply with labor legislations and ADB SPS Prohibited list requirements; ensure that workers are paid and treated according to the labor legislations;
- (xxi) Provide guidance on resolving issues pertaining to effective and efficient implementation of proposed environmental mitigation measures per EMPs/SEMPs during construction phase. Identify, non-compliance or

- unanticipated impacts, if any, and initiate corrective actions and report to PMU;
- (xxii) Assist the PIU in the preparation of environmental safeguards compliance/EMP implementation updates in the quarterly reports to PMU;
- (xxiii) Monitor required environmental parameters and prepare semiannual environmental monitoring report per the requirement of ADB;
- (xxiv) Identify training needs and implement capacity building activities on environmental safeguards for the PMU, PIU, contractors, and other stakeholders;
- (xxv) Assist PIU in establishing GRM for the project;
- (xxvi) Assist PIU in grievance redress, advise the contractor on appropriate actions on grievances, ensure timely resolution and proper documentation; and
- (xxvii) Support all other environmental safeguards-related activities and tasks of the PMU and PIUs as may be needed.

22. **Contractor.** The approved draft IEEs and EMPs are included in bidding and contract documents and verified by the PIU and PMU. The PMU and PIU will ensure that bidding and contract documents include specific provisions requiring contractors to comply with: (i) all applicable laws and regulations relating to environment, health and safety; (ii) reinstate pathways, other local infrastructure, and agricultural land to at least to their pre-project condition upon the completion of construction; (iii) all applicable labor laws and core labor standards on (a) prohibition of child labor as defined in national legislation, international treaties for construction and maintenance activities; (b) equal pay for equal work of equal value regardless of gender, ethnicity, or caste; (c) no discrimination in respect of employment and occupation; (d) allow freedom of association and effectively recognize the right to collective bargaining, and (e) elimination of forced labor; and (iv) the requirement to disseminate information on sexually transmitted diseases, including HIV/AIDS, to employees and local communities surrounding the project sites.

23. The contractor will be required to appoint one full-time Environmental and Social Management Officer and one Occupational Health Safety (OHS) Officer on-site to implement the EMP. Contractor mobilized on 29th December 2025, engagement of concerned staffs is under process. Prior to start of construction, Contractor will be required to prepare and submit to the PMU and PIU, for review and approval, a SEMP. No works can commence until the SEMP is approved by the PMU and/or PIU. Contractors will carry out all environmental mitigation and monitoring measures outlined in the EMP, approved the SEMP, and their contracts. The contractor will be required to undertake day-to-day monitoring of the SEMP implementation and submit reports to the PIU on a monthly basis. A copy of the EMP and/or approved SEMP will always be kept on-site during the construction period. Non-compliance with, or any deviation from, the conditions set out in the EMP and/or SEMP constitutes a failure in compliance and will require corrective actions. The contractors will be required to conduct environmental awareness and orientation of workers prior to deployment to work sites. Key responsibilities of the Environmental and Social Management Officer and OHS Officer are:

- (i) Prepare SEMP and submit to PMU/PIU for approval prior to start of construction;
- (ii) Ensure implementation of SEMP and report to PIU/LISU Consultant on any new or unanticipated impacts; seek guidance from the PMU/PIU/LISU Consultant to address the new or unanticipated impact in accordance with the ADB SPS;
- (iii) Ensure that necessary pre-construction and construction permits are obtained;
- (iv) Conduct orientation and daily briefing sessions to workers on environment,

- health and safety;
- (v) Ensure that appropriate worker facilities are provided at the workplace and labor camps as per the contractual provisions;
- (vi) Carry out site inspections on a regular basis and prepare site-inspection checklists/reports;
- (vii) Record EHS incidents and undertake remedial actions;
- (viii) Conduct environmental monitoring (air, noise, etc.,) as per the monitoring plan;
- (ix) Prepare monthly EMP monitoring reports and submit to PIU;
- (x) Comply with labor legislations, and ensure that subcontractors also implement labor legislations requirements, through cascading of requirements to subcontractors — HR policy, labor management requirements, any worksite specific grievance redress mechanism;
- (xi) Work closely with PIU Safeguards Officer and LISU Consultant's Environmental Safeguard Expert and Environmental Engineers to ensure communities are aware of project-related impacts, mitigation measures, and GRM; and
- (xii) Coordinate with the PIU and LISU Consultant on any grievances received and ensure that those are addressed in an effective and timely manner. Contractor just mobilized, no grievances received till report period.

24. After start of actual physical work, Environment Safeguard Expert and Environment support staff / Engineer of LISU will be visited all construction sites and arranged onsite training program for contractors and supervisory staff and instructed contractors for application of corrective action measures to mitigate impacts. Engagement of Environment Health Safety officer of construction agency is undergoing.

B. EMP implementation - Application of Mitigation measures

25. Environment Safeguard Expert will carry out periodic monitoring of EMP implementation through desk review of contractor's records which to be submitted monthly and site inspections. At present till report period physical work not started, status of Environment Monitoring will be reflected in next SEMR.

26. Instruction has been given to the contractor for the awarded package to start procurement of pre-construction/ implementation requirements like collection of PUC certificate, application for labour license, Workman Compensation Policy, and carry out base line monitoring.

C. Site Specific Issues and Present Compliance Status

27. Contractor of awarded package is only mobilized on 29th December 2025 just 3 days before SEMR date i.e 31st December 2026, no activity started except planning during that period.

D. Grievance Redressal Mechanism

28. The project will adopt the basic elements of KWA's existing grievance redress mechanism (GRM), with some adjustments to ensure compliance with ADB SPS requirements. A common GRM shall be set up to register grievances of the affected people regarding technical, social and environmental aspects. Also, the GRM welcomes all kinds of technical and safeguards-related queries, comments, suggestions and complaints from anyone. The process will be designed to be transparent, gender responsive, culturally appropriate and commensurate to the risks and adverse impacts of the overall project, as well as readily accessible to all segments of the affected people. The project GRM will not supersede any legal government grievance procedures.

29. Affected people are to be informed about the mechanism through information dissemination campaigns and orientation in the community to be conducted by the KWA PMU and PIUs, through distribution of pamphlets and brochures, media announcement and posting of posters in public outlets. To ensure wider coverage, complaints or grievances can be reported through but not limited to letters, e-mails, text messages, verbal narration from walk-in complainants, phone calls, fax, online grievance registration form (in local dialects) through the KWA website, installation of Grievance Intake Box at the subproject locations and other mode of filing that the affected people have access to. For those affected people who cannot read and write, a community leader/volunteer will be identified in every project area. The community leader/volunteer will serve as the focal person who will assist the affected people in filing the complaints. This participatory process shall ensure that all views of the people are adequately reviewed and suitably incorporated in the design and implementation process. The GRM will be implemented in three levels as given in **Figure 4**.

30. The GRM provides an accessible, inclusive, gender-sensitive and culturally appropriate platform for receiving and facilitating resolution of affected persons' grievances related to the project. The multi-tier GRM for the project is outlined below, each tier having time-bound schedules and with responsible persons identified to facilitate and address grievances at each level. City-wide public awareness campaigns will ensure that awareness on grievance redress procedures is generated through the campaign. The Environmental Safeguards Officer and Social Safeguards Officers of PMU will have the responsibility for timely grievance redress on respective environmental and social safeguards related issues.

31. **Who can file a complaint:** A complaint may be registered by stakeholders who may be, directly or indirectly affected by the project. A representative can register a complaint on behalf of the affected person or group, provided that the representative is identified by the affected person or group and submits evidence of the authority to act on their behalf.

32. **Types of grievance/complaint to be filed:** Any comments, complaints, queries and suggestions pertaining to safeguard compliance - environment, involuntary resettlement, and indigenous people, design related issues, compensation, service delivery or any other issues or concerns related to the project. The complaint must contain name, date, address/contact details of the complainant, location of the problem area, along with the problem. Grievance recording form is provided in **Appendix 3**.

33. **Where and how to file a complaint:** The Contractor's site office will be the primary point for receiving and lodging any complaint. Apart from that, PMU will maintain a Central Complaint Cell at KWA, comprising the Environmental Safeguards Officer and Social Safeguards Officer, under Deputy Chief Engineer, KWA, who will be the designated grievance officer. Affected persons or any complainant will also be able to register grievances on social, environmental or other related issues at the PIU office. Grievances/suggestions/queries from affected persons can be dropped into suggestion boxes or conveyed through phone or e-mails. The officials responsible for handling of grievances in the Central Complaints Cell will be able to correctly interpret/record verbal grievances of non-literate persons and those received over telephone. The complaints received at Central Complaint Cell will be forwarded to the PIU and subsequently to the Contractor. The Central Complaint Cell will also serve as Public Information Centre, where information on the project and its social and environmental safeguards can be provided.

34. **Documentation:** Documentation of the complaints is important and must contain name of the complainant, date of receipt of the complaint, address/contact details of the person, location of the problem area, and how the problem was resolved. The officers of Central Complaint Cell at PMU with the support of the PIUs will have the overall responsibility for timely grievance redress, and for registration of grievances, related disclosure, and communication with the aggrieved party. All the documents will be made available to the public

at the community level (at ward offices) and will include information on the contact number, address and contact person for registering grievances, and will be disseminated throughout the project area by the PIUs.

35. **Grievance/Problem Redress through Participatory Process:** Efforts must be made by the PIUs with the support of safeguard officers to resolve problems and conflicts amicably through participatory process with the community and the ULB. In case of grievances that are immediate and urgent in the perception of the complainant, the Contractor and supervision personnel from the PIUs will provide the most easily accessible or first level of contact for the quick resolution of grievances. Contact phone numbers and names of the concerned staff and contractors will be posted conspicuously at all construction sites.

36. **Grievance Redressal Committee:** ADB SPS requires an independent Grievance Redressal Committee (GRC) should be established under the project to address the grievance of persons affected due to implementation of the project. The composition of the GRC is provided in **Table 7**. KWA order for establishment of Level 3 (PMU) and Level 2 (PIU) regarding the constitution of GRC is given as **Appendix 2**. The process of GRM is given in **Figure 4**.

Table 1: Responsible Persons by Level of GRM

Level 1: Site Level	Level 2: PIU	Level 3: PMU GRC
(i) Environmental and Social Management Officer of Contractor	(i) Executive Engineer (Project Manager), KWA PIU	(i) Project Director (The Managing Director), KWA PMU - Chairperson
(ii) OHS Officer of Contractor	(ii) Assistant Executive Engineer (Supervision), KWA PIU	(ii) Joint Managing Director, KWA PMU – Vice Chairman
(iii) Project Manager of Contractor	(iii) Environmental Safeguards Officer, KWA PIU	(iii) Project Coordinator (The Chief Engineer, Projects & Operations), KWA PMU Member
(iv) Assistant Engineer (Supervision), KWA	(iv) Social Officer, KWA PIU	(iv) Deputy Project Director, (The Chief Engineer, SR) KWA, PMU - Member
	(v) Environmental Safeguards Expert, LISU	(v) Deputy Project Director (The Chief Engineer, CR), KWA PMU - Member
	(vi) Resettlement and Social Safeguards Expert, LISU Consultant	(vi) Deputy Chief Engineer, PIU-4, KWA PMU - Member
		(vii) Assistant Executive Engineer (Technical Expert), KWA PMU – Member
		(viii) Environmental Safeguards Officer (Assistant Engineer), KWA PMU - Member
		(ix) Social Safeguards Officer (Land Officer), KWA PMU - Member
		(x) Team Leader, LISU Consultant - Member

KWA – Kerala Water Authority; LISU – Loan Implementation Support Unit; PIU – Project Implementation Unit; PMU – Project Management Unit; OHS –Occupational, Health and Safety

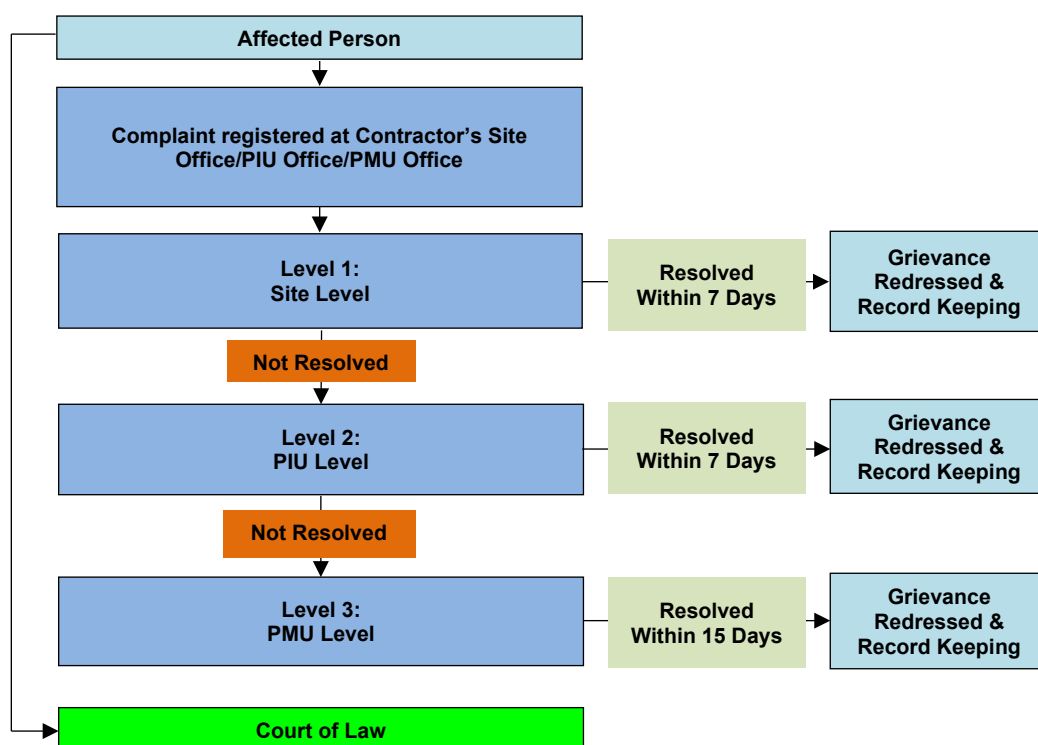


Figure 4: Grievance Redressal Mechanism

37. **Process and Timeframe.**

- (i) **Site Level Grievance Redressal:** Site level grievance redressal mechanism comprises of the Environmental and Social Management Officer of Contractor, OHS Officer of Contractor, Project Manager of Contractor, and the Assistant Engineer (Supervision), KWA. All minor issues and those that are immediate and urgent in the perception of the complainant will be resolved at the site level. If the grievance is not under the Contractor's scope, but under the project, the Assistant Engineer (Supervision), KWA will resolve this issue. If a grievance cannot be resolved by the Contractor alone or the supervision staff alone, it will be brought to the notice of the PIU. All the grievances should be resolved within seven days of receipt of a complaint/grievance.
- (ii) **PIU Level Grievance Redressal:** The PIU level grievance redressal mechanism comprises of the Executive Engineer (Project Manager), Assistant Executive Engineer (Supervision), Environmental Safeguards Officer and Social Safeguards Officer of KWA PIU, and the Environmental Safeguards Expert and the Resettlement and Social Safeguards Expert of LISU. All grievances that cannot be redressed at the site level within seven days will be brought to the notice of the Environmental and Social Safeguards Officers to place the issue at the PIU for resolution. The PIU will review the grievance and act appropriately to resolve it within seven days of receipt at this level.
- (iii) **PMU Level Grievance Redressal:** The PMU level grievance redressal committee comprises of the Project Director (The Managing Director), Joint Managing Director, Project Coordinator, Deputy Project Directors, Deputy Chief Engineer, Assistant Executive Engineer (Technical Expert), Environmental Safeguards Officer and Social Safeguards Officer of KWA, and the Team Leader of LISU. All the grievances that are not addressed at the PIU level within seven days of receipt will be brought to the notice of the PMU. The

PMU GRC will meet twice a month and determine the merit of each grievance brought to their level. The PMU will resolve the grievance within 15 days of receiving the complaint. The Environmental and Social Safeguards Officers of KWA will provide feedback to the complainant.

38. In case of any inter-departmental or inter-jurisdictional coordination required for resolution of specific grievances, PIUs will refer the matter to the Project Director, KWA. If required, the Project Director, KWA will refer the matter to the Board of Directors, KWA. Notwithstanding the project GRM, an aggrieved person shall have access to the country's legal system at any stage and accessing the country's legal system can run parallel to accessing the GRM and is not dependent on the negative outcome of the GRM.

39. Periodic community meetings with affected communities to understand their concerns and help them through the process of grievance redress (including translation from local dialect/language, recording and registering grievances of non-literate affected persons and explaining the process of grievance redress) will be conducted if required. The above grievance redress process will be discussed with the different stakeholders during stakeholder consultation meetings. These meetings will be held with affected persons and community members (beneficiaries) and the concerned Municipal Ward Councillors where civil works are proposed. The process and timelines for grievance redress and contact details of the persons responsible for grievance redress will be shared in the stakeholder meetings. Action taken in respect of all complaints will be communicated to the complainant by letter, over phone or e-mail or WhatsApp as the case may be.

40. **Consultation Arrangements for GRM:** This will include group meetings and discussions with affected persons, to be announced in advance and conducted at the time of day agreed on with affected persons and conducted to address general/common grievances; and if required with the Environment/ Social Expert of PMU/LISU for one-by-one consultations. Non-literate affected persons/vulnerable affected persons will be assisted to understand the grievance redress process. At the site office, the Environmental and Social Management Officer of the contractor and at PIU level, the Environmental Safeguards Officer or any other official appointed at receiving section will assist the non-literate affected persons to register complaints and with follow-up actions at different stages in the process.

41. **Record Keeping:** Recording of all grievances receives, including contact details of complainant, date the complaint receives, nature of grievance, agreed actions and measures, the date these are affected, and final outcome will be kept by the Grievance Officer of Central Complaint Cell at PMU. LISU will keep track of the grievance redressal process and maintain the records of grievances handled at three levels of GRM. The number of grievances recorded and resolved, and the outcomes will be displayed/disclosed in the PIU offices, ULB office and on the project website, as well as reported in the semi-annual social and environmental monitoring reports to be submitted to ADB. Work just commenced on 29th December 2025, no grievances are recorded till report period.

42. **Information Dissemination Methods of the GRM:** Grievances received, and responses provided will be documented and reported back to the affected persons. The number of grievances recorded and resolved, and the outcomes will be displayed/disclosed in the KWA's Central Complaint Cell and website. The phone number where grievances are to be recorded will be prominently displayed at the construction sites.

43. **Periodic Review and Documentation of Lessons Learned:** The PMU and PIU, supported by the LISU specialists will periodically review the functioning of the GRM and record information on the effectiveness of the mechanism, especially on the PIU's ability to prevent and address grievances.

44. **Costs:** All costs involved in resolving the complaints (meetings, consultations, communication, and reporting/information dissemination) will be borne by the PMU.

45. All Notifications related to Grievance Redressal Committee are attached in **Appendix 2**. Site level GRC will be established and notified soon.

46. Grievance Registration format in local language as proposed for the project need to be developed

47. Grievance Redressal Register will be maintained at each of the package working sites. Work just commenced, contractor of the package COK/ WORKS/ 2A mobilized on 29th December 2025. no grievances received till report period, i.e 31st December 2025.

E. Training, Workshop, Public consultation, and Focus group discussion

48. Environment safeguard orientation workshop to be arranged for contractors, supervisor engineers, members of environment, social and gender cell of PIU and PMU. Orientation will include pre-construction environment compliance requirement, during construction EMP application, monitoring and reporting.

49. As per approved IEEs, consultations and disclosure are the continuous process throughout project implementation involving public consultations and focus group discussions. Before commencement of work Informal consultations were carried out with local people, pedestrian, etc.

50. Field level training, awareness program on safety and environment will be arranged for contractors, supervisors by LISU's Environment Safeguard Expert on regular basis. Contractor mobilized on 29th December 2025, training program will be arranged shortly before start of construction activity.

V. APPROACH AND METHODOLOGY FOR ENVIRONMENTAL MONITORING OF THE PROJECT

51. For effective monitoring, selected environmental parameters have been identified as indicators which will be qualitatively and quantitatively measured and compared over a period of time in order to assess/ensure the compliance of Environment Management Plan (EMP). The environmental performance indicators are physical, biological and social characteristics identified as most important in affecting the environment at critical locations all along the subproject locations. The parameters identified as performance indicators are:

- Air, noise and water quality
- Compliance to EMP
- Compliance to local/state/national environmental regulations

52. Field level monitoring comprises monitoring of environmental parameters like air quality, noise level and water quality. These are monitored for understanding base line conditions at project locations and during construction monitoring for understanding level of impact on environment (in respect to those parameters) from project activity during implementation of the project. Contractor just mobilized on 29th December 2025. Monitoring will be conducted within next EMR period (January to June 2026) as per monitoring plan of the approved IEE.

53. Contractor just mobilized for the project. Field level monitoring will be carried out during pre-construction, construction, and operation phases for understanding degree of impacts and mitigation measures. Corrective action plan and target date for effective implementation of mitigation measures planned accordingly. Site Environment Management Plan is the base

document for implementation of EMP and application of corrective measures. This field level monitoring is continuous process and reported through monthly checklist.

54. Monitoring of applicability of local/state/national environmental regulations in respect to project activity and locations is also required for smooth progress of the project. For that site verification and desk review is essential. Starting from pre-construction to construction – operation phases screening of work areas, work components under the national, state and local statutory rules and regulations is necessary.

55. Contractor just mobilized on 29th December 2025, before start of physical activity (pre-construction stage) monitoring will be carried out for all indicators.

VI. MONITORING OF ENVIRONMENTAL IMPACTS ON PROJECT SURROUNDINGS

A. Brief discussion on the basis for monitoring

56. In addition to desk reviews and site inspections, monitoring of selected environmental parameters to be conducted during the next reporting period (January to June 2026). The frequencies of the environmental monitoring activities are commensurate to the type and significance of the impacts. Monitoring of ambient air quality, noise level, and surface water quality to be conducted to establish baseline of environmental qualities in the project area and during construction impact on environment.

57. In accordance with the IEE and approved SSEMP, the contractors are required to undertake environmental monitoring as per table below. Contractor mobilized only on 29th December 2025 and EMR date 31st December 2025. After finalization of design contractor will submit SSEMP.

Table 8: Pre-construction, Construction and Operation Stage Environment Monitoring,

Monitoring field	Monitoring location	Monitoring Parameters	Frequency
Package: COK/ WORKS/ 2A			
Ambient air quality	One location at Construction camp and three critical locations at subproject sites	PM ₁₀ , PM _{2.5} , NO ₂ , SO ₂ , CO	Once before start of construction, pre construction stage and quarterly during construction except monsoon period – for 10 years
Ambient noise level	One location at Construction camp and three critical locations at subproject sites	Day time and night time noise levels	Once before start of construction and quarterly during construction and operation except monsoon period for 10 years
Surface water quality	Three locations in canals adjacent to subproject sites	DO, BOD ₅ , COD, TSS, Nitrate, phosphate, salinity, faecal coliform, and other parameters as may be applicable.	Once before start of construction and quarterly during construction and operation except monsoon period for 10 years

Note: The duration of the subproject is ten (10) years. The subproject comprises the functions of asset management, design and construction, and operations and maintenance. There is a temporal overlap between these functions and hence construction and operation activities will happen parallelly. Hence, environmental quality monitoring is not proposed separately for construction and operation phases.

B. Monitoring Locations. Monitoring locations will be fixed up considering representative location, coverage of entire project area. Contractor of one contract package (COK/ WORKS/ 2A) for Kochi distribution has been mobilized on 29th December 2025. Baseline/ pre-construction stage monitoring not yet conducted within 31st December 2025, report date.

C Method of Monitoring and Equipment used

58. **Ambient Air Quality Monitoring Equipment and Methodology.** Respirable Dust Samplers and Fine Dust Samplers (Model no.-APM-860/APM-154) to be used to collect samples for PM (10) and PM (2.5) in ambient air at a flow rate of 1.2 m³/min. The ambient air is to be sucked through the cyclone and filter paper by a blower. Samples of gases were drawn at a flow rate of 0.5 liters per minute and will be analysed in the laboratory. Ambient air quality monitoring methodology is given in table below.

Table 9: Methodology for the ambient air monitoring

Sl. No	Parameters	Measurement Method	As per
1.	PM ₁₀	Gravimetric	IS:5182 Part-23, RA-2017
2.	PM _{2.5}	Gravimetric	USEPA CFR-40, Part-50
3.	SO ₂	Colorimetric (EPA modified West & Gaeke Method)	IS:5182 Part-2, 2001, RA-2017
4.	NO _x	Colorimetric (Arsenite modified Jacobs & Hochheiser Method)	IS:5182 Part-6, 2006, RA-2017
5.	CO	Non-Dispersive Infra-Red (NDIR) Spectroscopy Technique	IS:5182 Part-10, 1999, RA-2014

59. **Methodology of Surface Water Monitoring.** In order to establish pre-construction-baseline/ during construction conditions, grab samples will be collected from water source and to be analysed for various parameters as per the procedures laid down in the BIS. Samples to be collected as per IS- 2488 (Part I-V). Surface water samples will be analysed as per surface water quality criteria by Central Pollution Control Board (CPCB) for class B and C. Wet chemical, Atomic Absorption Spectrophotometer and UV/VIS Spectrophotometer will be used for analysis of water samples according to the necessity.

60. **Methodology of Noise Level Monitoring.** Lutron Data Logger Noise Meter (Model SL – 4023 SD) will be used to monitor the noise levels. Noise level to be monitored continuously for 24 hours with one-hour interval. Noise level will be measured in the form of Leq dB(A), - Day and Night.

61. As per contract provision NABL or National approved laboratory to be engaged for generation of base line monitoring data, before start of the construction (baseline/ pre construction) and also during construction monitoring.

VII SUMMARY OF KEY ISSUES AND WAY FORWARD

62. Till report period no physical activity has been started for the awarded package. Actual EMP implementation will be commenced after approval of Site-Specific EMP. Contractors have to submit,

- Labour license – complete coverage for workers including migrant labours
- Workman Compensation Policy- complete coverage for workers
- All Risk policy covering the project
- Occupational Health and safety Plan
- Tie up letter with health institute
- Health check-up report for workers

63. Also, required to set up site office and worker's camp and obtaining NOC for material storage area etc.

64. After start of construction activity, contractors have to conduct public consultation on regular basis and submission of monthly EMP implementation checklist.

APPENDIX

APPENDIX - 1: PHOTO ILLUSTRATION

Photographs of Site Visit and Initial Discussion with local authority



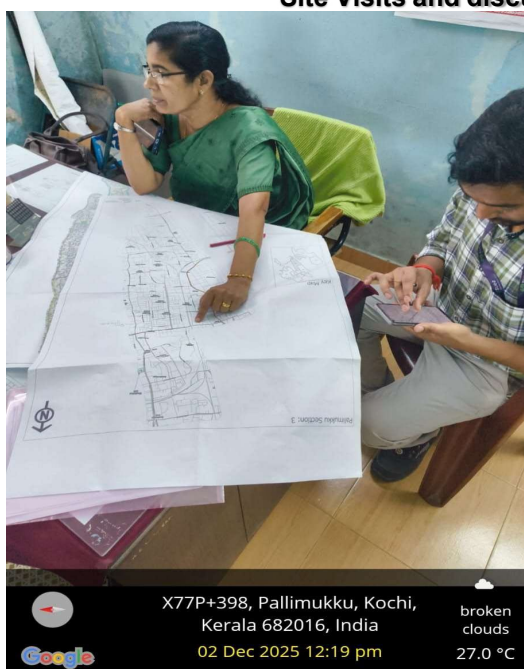
Site Visits and discussions in Vytilla Zone



Site Visits and discussions in Karuvelipday Zone



Site Visits and discussions in Kaloor Zone



Site Visits and discussions in Pallimukku Zone

APPENDIX 2: GRC NOTIFICATION OF KUWSIP

Level 3- PMU level

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PROCEEDINGS OF THE MANAGING DIRECTOR

(Present-Smt.Bhandari Swagat Ranveerchand IAS)

Sub:- KWA- ADB Assisted Kerala Urban Water Services Improvement Project (KUWSIP) -
Constitution of Grievance Redress Committee (GRC) - Orders issued - Reg

Kerala Water Authority

No: KWA/PMU/ADB/10/2021

Dated, Thiruvananthapuram, 30.06.2023

Ref:- 1. G.O.(Ms)No.13/2020/WRD dated 07.02.2020 of WRD, GoK
2. GO (Ms) No.31/2020/WRD dated 21.04.2020 of GoK
3.Direction as part of the Fact Finding Mission Visit of ADB convened from 19.06.2023 to 27.06.2023.

Order

Government of Kerala (GoK) through Government of India is negotiating a loan with the Asian Development Bank (ADB) for financing the Kerala Urban Water Services Improvement Project (KUWSIP) costing Rs. 2511 crores to be implemented in Kochi and Thiruvananthapuram Cities. In order to ensure speedy implementation of the project, the Government have constituted vide GO read [2], three Committees viz, Steering Committee, State Level Empowered Committee and Apex Committee.As part of this project, Water Supply System Operations and Maintenance and System Upgrade (Kochi distribution package) in Kochi is in the tendering stage and the evaluation of proposals for the selection of consultant are in progress at PIU,Kochi.

The Water Resources Department (WRD) is the Executing Agency (EA) responsible for overall strategic guidance and for ensuring compliance with ADB's loan covenants, and the KWA is the Implementing Agency (IA). A central Project Management Unit (PMU) in KWA headquarters and Project Implementation Units (PIU) in Kochi and Thiruvananthapuram are responsible for effective project implementation.

It is considered necessary to constitute a Grievance Redressal Committee (GRC) at the Kerala Water Authority level, for redressing social, environmental or any other project related grievances for "Kerala Urban Water Services improvement Project (KUWSIP)" posed for funding from ADB.Under the circumstance, a Grievance Redressal Committee (GRC) , with the following members is constituted with immediate effect.



1.Project Director(The Managing Director), KWA PMU	--Chairperson
2.Joint Managing Director - KWA PMU	--Vice Chairman
3.Project Co-ordinator(The Chief Engineer,Projects&Operations)	--Member
4.Deputy Project Director, (The Chief Engineer,SR), KWA PMU	--Member
5.Deputy Project Director, (The Chief Engineer,CR), KWA PMU	--Member
6.Deputy Chief Engineer, PIU-4,KWA PMU	--Member
7.Assistant Executive Engineer (Technical Expert), KWA PMU	--Member
8.Environmental Safeguards Officer(Assistant Engineer),KWA PMU	--Member
9.Social Safeguard Officer(Land Officer), KWA PMU	--Member
10.Team Leader, LISU Consultant	--Member

(Sd)

Managing Director

To

1. Chief Engineer (Central Region,Southern Region,Projects&Operations)
2. Superintending Engineer, PH Circle, Kochi/Thiruvananthapuram
3. Deputy Chief Engineer PIU-4, PMU,ADB

Copy To

PA to MD,CA to TM,CA to CE(HRD&GL)



The document is digitally approved. Hence signature is not needed.

Level 2- PIU level

SE/PHC/CHN/ADB/2025-26

I/213688/2025

Website:
www.kwa.kerala.gov.in
Tel.0484-2360645
1916 [24X7] [Toll Free]



phcircle.kochi@gmail.com
cru.phckochi@kerala.gov.in

KERALA WATER AUTHORITY
Office of the Superintending Engineer
Public Health Circle, Kochi 11

PROCEEDINGS OF THE SUPERINTENDING ENGINEER

PRESENT: Rathish Kumar S

Sub: ADB Assisted Kerala Urban Water Services Improvement Project
(KUWSIP)-Water Supply System Operations and Maintenance and System
Upgrade in Kochi- Formation of Grievance Redressal Committee at PIU
Level (2)- Orders issued- reg

No.SE/PHC/CHN/ADB/2025-26

Date: 31-12-2025

Read: 1. This office Agreement No. 09/2025-26/SE/PHC/CHN; Dated 21.06.2025

ORDER

Vide reference cited above Kerala Water Authority has executed an agreement for the subject work on 21.06.2025. As per contractual obligations a Grievance Redressal Committee needs to be formed at PIU level for effective redressal of grievances. A committee is hereby constituted with the following members for effective grievance mechanism of the work.

Committee Members.

1. **Convener-** Sri. Hashib P.H, Executive Engineer, P. H Division, Kochi 16 (Project Manager) , KWA PIU
2. **Member-** Concerned Assistant Executive Engineer, (Supervision) KWA PIU.
3. **Environmental Safeguards Officer-** Sri. Anil Agustin, Assistant Executive Engineer, P. H Division, Kochi 16, KWA PIU.
4. **Social Officer -** Sri. Anil Agustin, Assistant Executive Engineer, P. H Division, Kochi 16, KWA PIU.
5. **Environmental Safeguards Officer-** Dr. Ardhendhu Mitra , LISU (Ph No. 9830415953)
6. **Resettlement and Social Safeguards Expert-** Sri. Balakrishna M.R, LISU (Ph No. 9164652575.)

The committee comes into effect from the date of this order. The Executive Engineer, P. H Division, Kochi 16 is hereby directed to convene a meeting at PIU level to regularly address any problems that may arise at site. The Executive Engineer is also directed to form the site level Grievance Redressal Committee Level (1)

Rathish Kumar S
SUPERINTENDING ENGINEER

To 1. The Executive Engineer, P. H Division, Kochi 16
Signed by
Rathish Kumar S
Copy submitted to: 1. The Project Director, ADB PMU, Thiruvananthapuram
Date: 31.12.2025 15:20:25
2. The Chief Engineer, Central Region, Kochi 11

Appendix 3: Grievance Record Format

Site-Level Grievance Register – Format

01. Project Name:

02. ADB Loan No.:

03. Package / Contract No.:

04. Location / Site:

05. Contractor:

06. Date of Register Opening:

A. Grievance Registration Details

Sl. No	Grievance ID	Date Received	Name & address of the Complainant (or Anonymous)	Contact Number	Village /Ward	Mode of Receipt (Oral / Written / Phone / WhatsApp / Email)	Category of Grievance (Technical/ Environmental/ Social/ Land/Safety/Others)

B. Description and Action Taken

Sl. No	Grievance ID	Brief Description of Grievance	Date Acknowledged	Responsible Person / Agency	Action Taken	Date of Action	Status (Open / Under Process / Resolved / Escalated)

C. Resolution and Closure with Photograph (Before and After)

SI. No	Grievance ID	Resolution Detail	Date of Resolution	Complainant Satisfied (Yes / No)	If Not Satisfied, Reason	Level of Escalation (PIU / PMU / Court)	Date of Closure

Signature of the AEE

Signature of the Contractor

PIU-LEVEL GRIEVANCE REGISTER FORMAT

- 01. Project Name:
- 02. ADB Loan No.:
- 03. Project / Package Name:
- 04. Name of PIU:
- 05. Implementing Agency:
- 06. Address of PIU:
- 07. Reporting Period:

A. Grievance Receipt and Registration

Sl. No	PIU Grievance ID	Date Received at PIU	Source of Grievance (Site / Community / Contractor / NGO / Direct)	Name of Complainant (or Anonymous)	Contact Details	Location / Ward / Village	Category (Technical/Social / Environment / Land / Safety / Others)

B. Description, Review, and Action Taken

PIU Grievance ID	Brief Description of Grievance	Date Acknowledged	PIU Officer / GRM Committee Responsible	Review Findings	Corrective Action Directed	Date of Action	Status (Under Process / Resolved / Escalated to PMU)

C. Resolution and Decision

PIU Grievance ID	Resolution / Decision of PIU	Date of Resolution	Complainant Informed (Yes / No)	Complainant Satisfied (Yes / No)	If Not Satisfied – Reason	Date of Closure

D. Escalation Details (If Applicable)

PIU Grievance ID	Reason for Escalation	Escalated To (PMU)	Date of Escalation	Remarks

PMU-LEVEL GRIEVANCE REGISTER FORMAT

01. Project Name:

02. ADB Loan No.:

03. Project Title:

04. Name of PMU:

05. Executing Agency:

06. Address of PMU:

07. Reporting Period:

A. Receipt and Registration of Grievances

Sl. No.	PMU Grievance ID	Date Received at PMU	Source of Grievance (PIU / Community / NGO / Court Reference / Direct)	Name of Complainant (or Anonymous)	Contact No	Location / Ward / Village	Category (Social / Environment / Land / Resettlement / Safety / Others)

B. Review and Assessment by PMU

PMU Grievance ID	Brief Description of Grievance	Date Acknowledged	PMU Officer / GRM Committee	Assessment / Findings	Decision / Direction Issued	Date of Decision	Status (Under Review / Resolved / Referred to Legal Authorities)

C. Resolution and Communication

PMU Grievance ID	Resolution Details	Date of Resolution	Decision Communicated to Complainant (Yes / No)	Mode of Communication (Letter / Email / Meeting)	Complainant Satisfied (Yes / No)	Date of Closure