

# Quarterly Environmental Monitoring Report

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## SRI: Jaffna and Kilinochchi Water Supply Project – Additional Financing

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**JAFFNA KILINOCHCHI WATER SUPPLY PROJECT**  
**NATIONAL WATER SUPPLY & DRAINAGE BOARD**

**FIRST QUARTER ENVIRONMENTAL  
MONITORING REPORT- 2019**

Project Management Coordination and Implementation Unit

Jaffna Kilinochchi Water Supply Project

National Water Supply & Drainage Board

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## 1. INTRODUCTION

Jaffna Kilinochchi Water Supply Project (JKWSP) was launched in year 2009 with a total cost of US\$ 164.04 million (US\$ 90 million from ADB, US\$ 48 million from AFD France and the balance US\$ 26.04 million being the Government contribution). The objective of the project is to improve the health standard and the enhancement of the standards of living of the people in Jaffna peninsula and to support the resettlement and economic development and social welfare of the entire Northern Province. The project was designed to provide safe drinking water to 300,000 people in water scarce areas of Jaffna and Kilinochchi districts and to provide pipe borne sewerage facilities for around 80,000 people in Jaffna Municipal Council area. The initial design of the drinking water scheme was entirely dependent on abstracting water from Iranaimadu Tank but the progress of the project was hampered due to a dispute over water sharing between drinking water requirement and irrigation needs. As consensus could not be reached for sharing water for drinking process due to social and political reasons the Iranaimadu source has to be suspended after lengthy negotiations process which ran over a period of 2 years (2013/14) involving farmers, Provincial Irrigation Department, Northern Provincial Council and the Central Government.

It has been concluded that desalination option combined along with a limited ground water abstraction is the most technically suitable and economically viable option to serve the immediate water need. As a result of restructuring of project the AFD (the co-financing partner) had withdrawn its funding amounting to 35 million euros, dedicated for Iranaimadu based Water Treatment Plant (WTP) and Raw Water conveyance from Iranaimadu Tank to WTP and ADB decided not to fund for Sewerage Component of the project.

After in-depth technical studies and a lengthy evaluation process the consensus has finally been reached to construct a Desalination Plant with 24,000 m<sup>3</sup>/day capacity at Thalayadi village (Vadamaradchi East DS division) in Jaffna district. All technical, financial, social safeguard studies have been carried out. The donor agency ADB and the Northern Provincial Council have extended their cooperation and now all stakeholders consider the Desalination as the most viable and practical option under the current circumstances. The ADB is committing funds for the Desalination Plant, treated water transmission and the distribution network in Jaffna Municipal Council area and Jaffna Peninsula to cover around 300,000 people with pipe borne drinking water supply. Apart from already committed US\$ 90 million ADB is extending additional financing of US\$ 120 million for this purpose.

ADB has classified the project as environmental Category A (the highest category), because it involves construction and operation of a large industrial complex at a coastal green field site and is therefore expected to have significant adverse impacts. An EIA study was conducted between December 2015 and July 2017 by Lanka Hydraulic Institute Ltd. The study and report are intended to comply with ADB's Safeguard Policy Statement (SPS) 2009, and it is anticipated they may also fulfil the requirements of Sri Lankan EIA law.

EIA approval had been obtained from Central Environmental Authority on 2.06.2017 and ADB approval also obtained for the same.

## 1.1 Scope of the Project

*The following contract packages are coming under additional financing – 120 million USD*

- SWRO plant
- Distribution package 02 ( Balance)
- JMC area Distribution network
- Consultancy for supervision of SWRO - PMSC
- Consultancy for Social and Environmental Monitoring – SWRO -EMC
- Elevated water Tower and Water Distribution Package 04



**Fig 1.1:** Project implementing area

## 1.2 Environmental category as per ADB Safeguard Policy Statement, 2009

Under ADB guidelines SWRO plant is Category A project, and other all of the sub packages category as B.

## 1.3 Environmental category of each subproject as per national laws and regulations

Under the National Environmental Act (NEA) No 47 of 1980, SWRO plant is category I and other all of the sub packages category as III.

## 1.4 Environmental Safeguard Team

Name	Designation/Office	Email Address	Contact Number	Roles
PMCIU	Project Director	pdjkwssp@gmail.com	212220256	
	Deputy Project Director	malathycejkwssp@gmail.com		
	Chief Engineer	balendrajkwssp@gmail.com		
	Senior Engineer	vijayjkwssp@gmail.com		
	Chemist	s.thas13@gmail.com		
	Project Engineer	seearani@gmail.com		

### 1.5 Overall project and sub-project progress and status

Package Number	Components/List of Works	Contract Status (specify if under bidding or contract awarded )	Status of Implementation (Preliminary Design/Detailed Design/On-going Construction/Completed/O&M) <sup>1</sup>	If On-going Construction	
				% Physical Progress	Expected Completion Date
Water Treatment Plant					
PEIC/JKWSSP/SEA WATER REVERSE OSMOSIS PLANT /2015/01	Design, Build and Operate a Sea Water Reverse Osmosis Desalination Plant of 24 MLD Capacity at Thalaiyadi, Jaffna District (SWRO Desalination Plant)	Under bid evaluation			
Distribution Network Systems					
PEIC/JKWSSP/Network/2014/02	Supplying and Laying of Water Distribution Networks in Palai, Kodikamam, Meesalai, Poonakary, Puttur, Nawatkuli, Karainagar, Pungudutivu, Vaddukkodai, Kattudai, Nallur Zones, JMC Transmission Pipeline & Construction of Office/Stores, Quarters at Velanai, Kaddudai, Navatkuli, Pokkanai, Poonery and Karaveddy	Contract Awarded	On – going	12%	02.12.2020
PEIC/JKWSSP/Distribution Networks /2017/01	Supplying and Laying of Water Distribution Networks in Jaffna City Area.	Under Bid Evaluation			

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

## 2. Compliance Status with National /State/Local Statutory Environmental Requirements

Package No.	Subproject Name	Statutory Environmental Requirements[1]	Status of Compliance[2]	Validity if obtained	Action Required	Specific Conditions that will require environmental monitoring as per Environment Clearance, Consent/Permit to Establish[3]
PEIC/JKWSSP/ Sea Water Reverse Osmosis Plant /2015/01	Design, Build and Operate a Sea Water Reverse Osmosis Desalination Plant of 24 MLD Capacity at Thalaiyadi, Jaffna District (SWRO Desalination Plant)			CEA conditions will be implemented  The validity is obtained up to 1.6.2021		
PEIC/JKWSSP/ Distribution Network/2017/01	Supplying and Laying of Distribution Networks in Jaffna City Area			Under bid Evaluation Stage		
PEIC/JKWSSP/Network/2014/02	Supplying and Laying of Water Distribution Networks in Palai, Kodikamam, Meesalai, Poonakary, Puttur, Nawatkuli, Karainagar, Pungudutivu, Vaddukkodai, Kattudai, Nallur Zones, JMC Transmission Pipeline & Construction of Office/Stores, Quarters at Velanai, Kaddudai, Navatkuli, Pokkanai, Poonery and Karaveddy			IEE conditions will be implemented		

<sup>1</sup> Specify (environmental clearance? Permit/consent to establish? Forest clearance? Etc.)

<sup>2</sup> Specify if obtained, submitted and awaiting approval, application not yet submitted

<sup>3</sup> Example: Environmental Clearance requires ambient air quality monitoring, Forest Clearance/Tree-cutting Permit requires 2 trees for every tree, etc.

### 3. Compliance status with environmental loan covenants

No. (List schedule and paragraph number of Loan Agreement)	Covenant	Status of Compliance	Action Required
Schedule V- Paragraph -2	The Borrower through the MCPWS shall ensure that the preparation, design, construction, implementation, and operation of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Government relating to environment, health and safety; (b) the Environmental Safeguards as set out in the SPS; and (c) all measures and requirements set forth in the EIA, the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.	Under bid evaluation	



4. Compliance status with the environmental management plan (refer to EMP tables in approved IEE/S)

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)		
PEIC/JKWSSP/Sea Water Reverse Osmosis Plant /2015/01	Under bid evaluation					* ADB (2010): Jaffna and Kilinochchi Water Supply and Sanitation Project - Initial Environmental Examination, October 2010, 127 pp
PEIC/JKWSSP/Network/ 2014/02	https://www.adb.org/projects/documents/jaffna-and-kilinochchi-water-supply-and-sanitation-projectinitial-environmental-			Yes	Yes	
PEIC/JKWSSP/Distributi on Networks /2017/01	Under bid evaluation					

4.1. Compliance status with the environmental management plan (refer to EMP Tables in APPROVED IEE/S)

Package Name	Contractor	Nodal Person	Email Address	Contact Number
Design, Build and Operate a Sea Water Reverse Osmosis Desalination Plant of 24 MLD Capacity at Thalaiyadi, Jaffna District (SWRO Desalination Plant)	Under bid evaluation			
Supplying and Laying of Distribution Networks in Jaffna City Area	Under bid evaluation			
Supplying and Laying of Water Distribution Networks in Palai, Kodikamam, Meesalai, Poonakary, Puttur, Nawatkuli, Karainagar, Pungudutivu, Vaddukkodai, Kattudai, Nallur Zones, JMC Transmission Pipeline & Construction of Office/Stores, Quarters at Velanai, Kaddudai, Navatkuli, Pokkanai, Poonery and Karaveddy	M/s.Sierra Construction Ltd	Project Manager		

4.2 With reference to approved EMP/site-specific EMP/construction EMP, complete the table below

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters Monitored (As a minimum those identified in the IEE should be monitored)	Method of Monitoring	Location of Monitoring	Date of Monitoring Conducted	Name of Person Who Conducted the Monitoring
<b>Construction Phase</b>						
Removal of greenary by cutting large trees shall tend to pollute environment	(i)To avoid un-necessary tree cutting by demarcating trees exactly to be removed (i)To implement tree re-planting program	(i)Trees exactly to be removed are demarcated (i)Suitable land is selected	Site Visit	DN 2 Site	Weekly	S. Sivathasan S. Aarani
Insufficient protective measures around deep excavation shall endanger safety of workers at ground level	(i)To provide adequate warning boards and barricades and maintained	(i)Adequate warning boards and barricades are provided and well maintained				
Unstable deep excavation shall endanger safety of workers inside the pit	(i)To provide shoring as per engineer's recommendation	(i)Shoring arrangements are provided as per engineer's recommendations				
Shoring arrangements may cause sound pollution to the environment	(i)Soundless machinery can be used for drill sheetpiles	(i)machinary were used with soundproof				
Occupational injuries and illness caused by substandard working arrangements (warning boards, scaffoldings, safety nets, form work, ladders, temporary access etc.)	(i)To provide adequate warning boards, barricades, safety nets, temporary access and standard scaffoldings, form work and ladders and maintained until construction is over	(i)Adequate warning boards, barricades, safety nets, temporary access are provided and maintained well				
Night works disturb neighbours and environment	(i) Minimise the work in night. Schdule the minor works at night. Inform the neighbours regarding	(i) Night works are arranged as planned without affecting the				

	the working time prior	neighbours and environment				
Insufficient protective measures around pits and trenches shall endanger safety of workers/ pedestrians /road users	(i)To provide sufficient protective measures around pits and trenches for the safety of workers/ pedestrians /road users	(i)Adequate warning boards, barricades, luminous stickers, night lamps are provided and maintained well				
Material stockpiles at the edges of the pits and trenches shall endanger the safety of workers inside the pit	(i)To place material stockpiles away from the edges of the pits and trenches	(i)Material stockpiles are away from the edges of the pits and trenches				
Dust generation during rock drilling shall endanger health of drillers and others working/moving around	(i)To provide dust control arrangements while rock drilling (wet gunny bags)	(i)Dust control arrangements are provided while rock drilling (wet gunny bags)				
	(ii)To provide dusk masks for rock drillers while drilling	(i)Rock drillers are equipped with dust masks while drilling				
Dust blowing from uncovered material heaps during dry weather shall endanger public health	(i)To make sure that dusty material is transported only by covered trucks.	(i)Dusty material is transported only by covered trucks.				
Trucks overloaded with hauling material shall endanger public safety.	(i)To make sure that trucks are not overloaded while material transport	(i)Trucks are not overloaded while material transport				
Environmental pollution caused by marine construction	(i) Pipe line will be corrode due to seawater if material is not sea water resistant	HDPE pipes approved by engineer				
	(ii) Pipelines will be damaged by anchors or fishing gear	The location clearly marked with buoys and other marine time signs				
Insufficient protective measures around re-excavation shall endanger public safety	(i)To provide sufficient protective measures around trenches for the safety of workers/ pedestrians /road users	(i)Adequate warning boards, barricades, luminous stickers, night lamps are provided and maintained well				

Dust generated during cutting the asphalt layer of the trench shall endanger occupational health	(i)To provide on-site dust control arrangement while cutting the asphalt layer	(i)On-site dust control arrangement is provided while cutting asphalt layer				
		(ii)well maintain the water spray at all time when using the asphalt cutter.	Site Visit	DN 2 Site	Weekly	S. Sivathasan S. Aarani
Spilling of oils, lubricants, and chemicals shall pollute surrounding environment	(i)To avoid draining oil spills to surrounding environment	(i)Oil spill and chemical waste collecting arrangements are provided				
		(ii)Oil spill and chemical waste disposal (to authorized collectors) arrangements are provided				
Material stockpiles (at open storage) wash away shall pollute surrounding environment.	(i)Washable material stockpiles (at open storage) are protected by rains	(i)Washable material stockpiles (at open storage) are covered by tarpaulins during the rainy seasons and surrounded by small conservation bunds				
Dust generation inside storage areas shall endanger workers' health.	(i)To provide dust masks for the store labors working in dusty areas.	(i)Dust masks are provided for the store labors working in dusty areas.				
Lack of sanitary facilities provided at office/camps shall endanger occupational health	(i)To provide adequate sanitary facilities for the use of office/camp occupants	(i)Adequate sanitary facilities are provided for the use of office/camp occupants				
Unsafe electrical work (unsafe wiring, power outlets, and fixtures) shall endanger occupational safety	(i)To provide safe electrical works at office/camps/stores/sites	(i)To obtain electrical works standards certification by a qualified officer in regular intervals (quarterly)				
Lack of safety precautions (e.g. Fire extinguishers, first aide, emergency	(i)To provide safety precautions (e.g. Fire extinguishers, first aide,	(i)Safety precautions such as Fire extinguishers, first				

exits, safe meeting point)shall endanger occupational safety	emergency exits, safe meeting point)	aide, emergency exits, safe meeting point have been taken				
Construction vibration shall damage nearby public properties	(i)To take safety precautions to avoid damages nearby public properties due to vibration	(i)Crack survey has been carried out, prior to commence the construction.				
Noise generated during construction shall cause public nuisance	(i)To provide noise barriers when and where necessary	(i)Noise barriers are provided as necessary				
Fuel/oil spills shall cause environmental pollution	(i)To deploy quality tested machinery and vehicles	(i)Quality certified machinery and vehicles are deployed				
Employees attending work without wearing standard PPEs shall endanger occupational safety	(i)To provide standard PPEs (in correct size) to all employees	(i)To provide standard PPEs (in correct size) to all employees				
Vehicle exhaust during traffic congestion at roadside construction shall cause atmospheric pollution	(i)To implement engineer approved traffic management plan	(i)Traffic management plan (TMP) is approved by the engineer				
		(ii)Warning boards, speed limits, barricades, luminous stickers, night signal lamps, are adequately provided where necessary as per approved TMP				
Construction waste scattered at sites, yards, public moving areas shall endanger occupational/public health and safety.	(i)To provide construction waste collecting and disposal arrangement and to maintain regularly	(i)Construction waste collecting arrangement is implemented.				
Office waste/camp waste scattered around shall pollute surrounding environment	(i)To provide office/camp waste collecting and disposal arrangements	(i)Adequate garbage bins are provided at office/camp to collect segregated waste				
Dust generation during construction under dry weather shall endanger	(i)To provide regular water spreading system or to deploy	(i)Regular water spreading system is provided or				

occupational/public health	sprinkler attached water bowsers regularly	sprinkler attached water bowsers are regularly deployed				
		(ii)Dust is not generated at construction area				
		(iii)Dust is not deposited over the surrounding area				
		(iv)Baseline survey for air quality is regularly conducted				
Vehicles/machinery/trucks movement during construction without standard signals, warning alarms, helping assistants shall endanger occupational/public safety	(i)To deploy Vehicles /machinery/ trucks having standard signals, warning alarms (in working order) by employing qualified drivers/operators with helping assistants	(i)All vehicles/ machinery/ trucks deployed are fitted with standard signals, warning alarms and which are working order				
		(ii)All drivers/operators are qualified and no unqualified driver /operator is deployed whatsoever				
Handling of unsafe power tools and equipment shall endanger safety of workers (substandard insulation, broken plug tops and bases)	(i)To provide standard power tools without substandard insulation, broken plug tops and plug bases etc.	(i)Standard power tools are used by employees without substandard insulation, broken plug tops and plug bases etc.				
Fine aggregate wash away from material heaps during rains shall pollute surrounding environment	(i)To protect fine aggregate material stockpiles at site from wash away during rains	(i)Washable material stockpiles at site are covered by tarpaulins during the rainy seasons and surrounded by small conservation bunds				
		(ii)Roads and surrounding environment is not polluted by washed				

		material deposits				
Careless handling of tools, equipment, accessories, heavy items, lengthy items shall endanger safety of workers and others around	(i)To train employees for handling tools, equipment, accessories, heavy items, lengthy items associated with construction	(i)Employees are trained for handling tools, equipment, accessories, heavy items, lengthy items associated with construction				
		(ii)Employee safety programs are conducted				
		(iii)Tool-box meetings are regularly conducted				
Lacking public awareness about safety and construction activities shall endanger community health and safety	(i)To conduct public awareness program about safety and construction activities	(i)Public awareness programs about safety and construction activities were conducted				
		(ii)Safety awareness programs for school children are conducted				

<sup>4</sup> Attach Laboratory Results and Sampling Map/Locations



### 4.3 Overall Compliance with CEMP/ EMP

No.	Sub-Project Name	EMP/ CEMP Part of Contract Documents (Y/N)	CEMP/ EMP Being Implemented (Y/N)	Status of Implementatio n (Excellent/ Satisfactory/ Partially Satisfactory/ Below Satisfactory)	Action Proposed and Additional Measures Required
1	Design, Build and Operate a Sea Water Reverse Osmosis Desalination Plant of 24 MLD Capacity at Thalaiyadi, Jaffna District (SWRO Desalination Plant)	Y	Under bid evaluation		
2	Supplying and Laying of Distribution Networks in Jaffna City Area	Y	Under bid evaluation		
3	Supplying and Laying of Water Distribution Networks in Palai, Kodikamam, Meesalai, Poonakary, Puttur, Nawatkuli, Karainagar, Pungudutivu, Vaddukkodai, Kattudai, Nallur Zones, JMC Transmission Pipeline & Construction of Office/ Stores, Quarters at Velanai, Kaddudai, Navatkuli, Pokkanai, Poonery and Karaveddy	Y	Y	Satisfactory	