



CHENNAI METROPOLITAN WATER SUPPLY & SEWERAGE BOARD  
(CMWSSB)



## PMC FOR CHENNAI PERUR 400 MLD DESALINATION PLANT AND ALLIED WORKS

### Social Safeguard Review (Draft Report)

November, 2020



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## Abbreviation and Acronyms

Acronyms	Abbreviation
AMSL	Above Mean Sea Level
BOQ	Bill of Quantity
C&M	Contracts and Monitoring
CMA	Chennai Metropolitan Area
CMWSSB	Chennai Metropolitan Water Supply & Sewerage Board
CP	Contract Package
CPCB	Central Pollution Control Board
CRZ	Coastal Regulation Zone
CRZC	Coastal Regulation Zone Clearance
CWDL	Chennai Water Desalination Ltd
CZMA	Coastal Zone Management Authority
CZMP	Coastal Zone Management Plan
DAE	Deputy Area Engineer
DFR	Detailed Final Report
DFR/FR	Draft Final Report/Final Report
DMA	District Metering Area
DP	Distribution Pipe
DPR	Detailed Project Report
DSP	Desalination Plant
ECR	East Coast Road
FR	Final Report
GCC	Greater Chennai Corporation
GER	Gross Enrollment Ratio
GO	Government Order
GOI	Government of India
GOJ	Government of Japan
GoTN	Government of Tamil Nadu
H.W.	Head Works
HO	Head Offices
HP	Horse Power
HP	High Pressure
HQ	Headquarters
HR&CE	Hindu Religious and Charitable Endowment
HRM	Human Resource Management
HSC	House Service Connection
ICR	Inception Report
IEC	Information Education Communication
IEE	Initial Environmental Examination
IMD	Indian Meteorological Department
IR	Impact Rate
IS	Indian Standards
JICA	Japan International Cooperation Agency
KL	Kilo litre
km	kilometre
KwH	kilowatt-hour
LAP	Land Acquisition and Resettlement Action Plan
m	metre
m/hr	metre per hour
M/P	Master Plan
m/s	metre per second
MA&WS	Municipal Administration & Water Supply
MOD	Minute of Discussion
mg/L	milligram per litre

Acronyms	Abbreviation
MIS	Management Information System
MLD	Million Litres per Day
mm	millimetre
MORD	Ministry of Rural Development
MSL	Mean Sea Level
NGO	Non-Governmental Organization
NH	National Highway
O&M	Operation and Maintenance
S/S	Substation
S.No	Serial Number
SIA	Social Impact Assessment
SIM	Social Impact Management
TCE	Tata Consulting Engineers
TOR	Terms of Reference
TP	Town Panchayat
TP	Transmission Pipelines
UGT	Underground Tank
VP	Village Panchayat
WDS	Water Distribution Station
WDZ	Water Distribution Zone
WHO	World Health Organization
WRD	Water Resource Department
WSS	Water Supply System
WSSB	Water Supply & Sanitation Board
WTP	Water Treatment Plant

## Executive Summary

Chennai has experienced a chronic water shortage due to the impacts of climate change and failure of recent monsoons to deliver enough rainfall and associated stream flow to refill the existing water supply system's surface water sources. In order to improve the current water supply situation, the Chennai Metropolitan Water Supply and Sewerage Board ("CMWSSB" or "the Client") has obtained a loan from the Japan International Cooperation Agency ("JICA") through the Tamil Nadu Government, to supplement current supplies with a 400 MLD Sea Water Desalination plant at Perur. The Project Management Consultant ("PMC") selected by CMWSSB, is a Consortium comprising of SMEC International Pty Ltd., Australia as the lead member of the consortium, Tata Consulting Engineers Limited (TCE), NJS Engineers India Pvt. Ltd. (NJSEI) and SMEC (India) Private Limited as Associate Consultants to the consortium.

Under the reporting obligations of the Contract, social safeguard aspects are expected to chip in Contract Packages (CPs) of the project through expert advice from two Social Communication Specialists comprises of International Expert (IE) and Local Expert (LE). This Social Safeguard Review Report as deliverables by PMC, describes the Social Safeguard issues and impacts in continuation to JICA project preparatory report. The report preparation followed a review of a number of documents, websites, Census survey data and primary information collected through a site visit.

The proposed Perur 400 MLD DSP is located in Nemmeli revenue village, Nemmeli village panchayat in Thiruporur Taluk (Thiruporur Block) of Chengalpattu district, Tamil Nadu State, India is covered under CP1. While Nemmeli kuppam and Sulerikaattu Kuppam are two habitations adjacent to the plant in North and South direction respectively; from plant construction and operation perspective, Nemmeli Kuppam is expected to have more interactive process than other habitations. There are 166 houses patta land in Nemmeli Kuppam, of which owners have occupied 142 houses, and rest are occupied by 24 tenants. After Tsunami devastation, 124 houses were constructed by the NGO 'World Vision' in the year 2005. All 142 families of this fishermen habitation practice Hindu religion (Hindu Meenavar Parvatharaja Kulam) and belong to Most Backward category defined by Government of Tamilnadu. Only a few tenants who have come from other areas belong to Most Backward and Backward communities. Impoverished (absolute deprivation) people and Project Affected Persons (PAPs) are not identified in the project site. As well as ethnic minorities and indigenous peoples are not identified in and around the project site. In general men of this habitation are engaged in fishing and allied activities, while women are engaged in selling of fish in neighbouring areas and dry fish preparation.

The Project do not require land acquisition and resettlement as the said DSP is planned to be constructed in a vacant leased land without presence of settlements and households. However, the presence of an open-well and two bore wells with a pump house connected with three phase line is being used for daily water supply through transmission pipeline to Perur and Perur colony habitations across the ECR and west of the site might hurdle supply of potable water to the said habitations unless left out from plant layout or alternate arrangement is considered. Similarly, during the construction of intake well for Chennai Perur 400 MLD DSP, there are possibilities of seawater flow towards Nemmeli Kuppam habitation from East-to-West direction, causing soil erosion. As a result, the fishermen boat parking area and the landing centre might get affected. Hence, probable construction activities for the protection of the landscape (Landing Centre) might be required. Apart from the above, possibilities of livelihoods disruption during the construction period of intake well might arise. Hence, temporary livelihood support may be desired for the period their livelihood is affected.

During the construction, there will be an influx of labour, which require preventive measures and appropriate action in particular to COVID-19 pandemic, HIV/AIDS, working condition and safety. Also, the Bay of Bengal and the coast of Tamilnadu is vulnerable to the impact of the cyclone and other natural disaster like Tsunami. Hence, to address to the immediate tragic; early warning and rapid response during and aftermath of such disaster in terms of health and food security can reduce the vulnerability.

In case of CP2, no issues related to land acquisition and resettlement were perceived; since, Perur UGT will be in the land leased for 400 MLD DSP and Porur UGT site is within the existed boundary of CMWSSB at Porur. Similarly, CP5 which covers setting up electricity substation is free from any settlement. However, during constructions, social safeguard related compliance adherence will be supervised by PMC Social Unit. With regard to CP3, social safeguard related activities can be initiated after the perspective contractor is awarded the contract. CP4, which deals with water distribution pipeline will enable PMC Social Unit to operate after finalisation of pipeline network design.

This report is structured as follows:

Chapter 1: Provides an introduction to the project and salient features, the scope of PMC Social Unit and approach.

Chapter 2: Provides information on documents reviewed and sites visited.

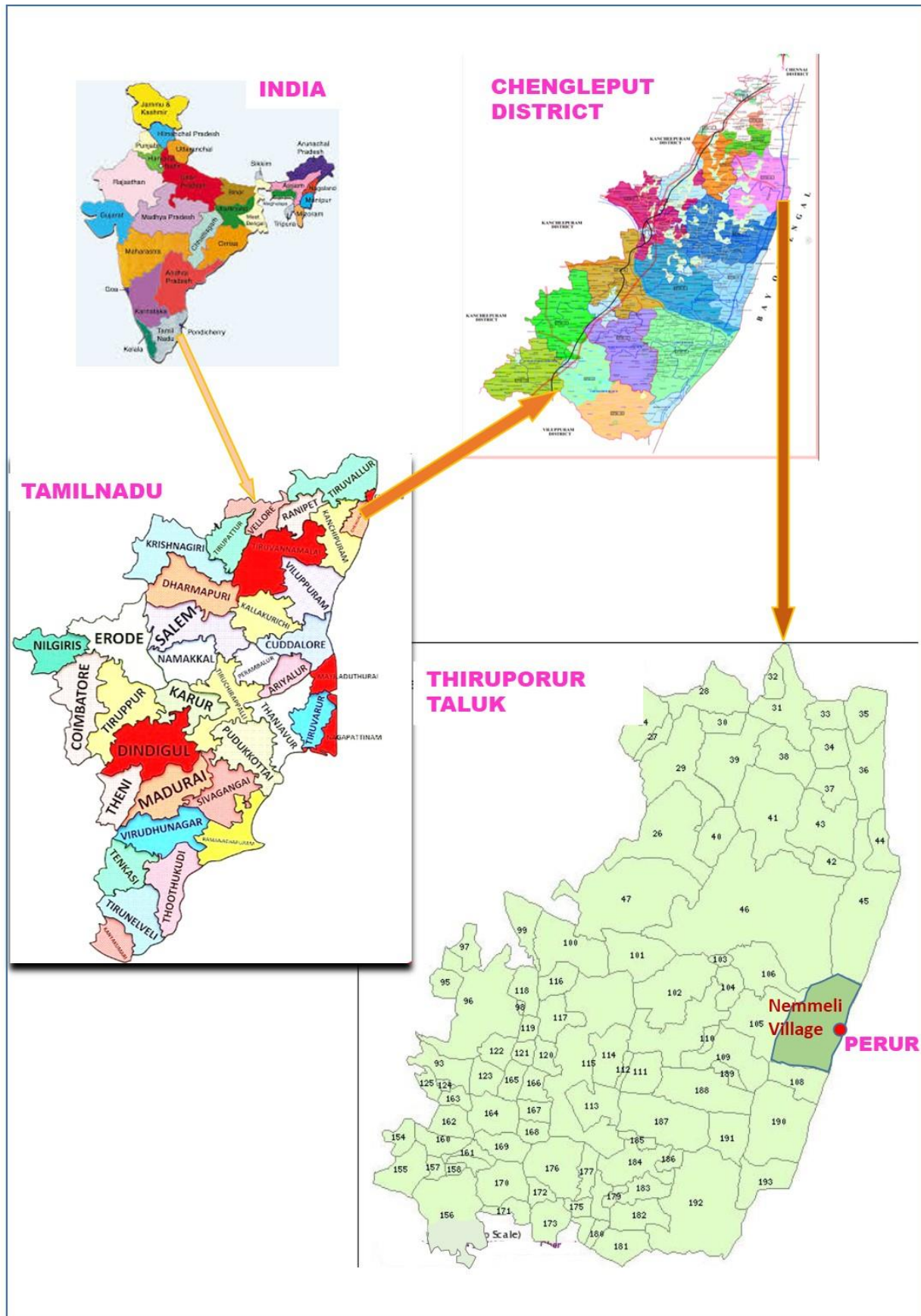
Chapter 3: Provides Social Safeguard Situation Review & Analysis across CPs.

Chapter 4: CP wise Issues, Concerns, Risk Analysis and Strategic Framework

Chapter 5: Provides Social Policy, Legal and Administrative Framework.



## Location Map



# 1 Introduction

## 1.1 Background

In recent years to 2019, Chennai has experienced a chronic water shortage due to the impacts of climate change and failure of recent monsoons to deliver enough rainfall and associated stream flow to refill the existing water supply system's surface water sources.

In order to improve the current water supply situation, the Chennai Metropolitan Water Supply and Sewerage Board ("CMWSSB" or "the Client") has obtained a loan from the Japan International Cooperation Agency ("JICA") through the Tamil Nadu Government, to supplement current supplies with a 400 MLD Sea Water Desalination plant at Perur.

CMWSSB has selected a Project Management Consultant ("PMC") through a competitive bidding process to support the CMWSSB Project Implementation Unit ("PIU") for development of the 400 MLD Seawater Desalination Plant and its components (collectively referred to as the "Project"). A Consultancy Contract agreement was signed dated January 09, 2020, for Consulting Services with the PMC for this Project.

The PMC is a Consortium comprising of SMEC International Pty Ltd., Australia as the lead member of the consortium, Tata Consulting Engineers Limited (TCE), NJS Engineers India Pvt. Ltd. (NJSEI) and SMEC (India) Private Limited as Associate Consultants to the consortium.

Social Communication Specialists of the PMC team commenced services at the site from October 1, 2020; whereas they were operating from home in September 2020, due to Covid-19 pandemic. This Social Safeguard Review Report ("this Report") describes the Social Safeguard aspects as Consulting Services to be delivered by the PMC in support of the Project. This report reviews the social safeguard issues and impacts in continuation to JICA project preparatory report.

## 1.2 Project Salient Feature

The Project consists of four components, which PMC have been assigned to carry out through five Contract Packages (CPs) i.e.

CP1 Construction of the Perur DSP (400 MLD): Construction of a Sea Water Desalination Plant, which is named as the perur Seawater Desalination Plant having a production capacity of 400 MLD in Perur Commune, Tamil Nadu State;

- Seawater intake facilities
- Pre-treatment facility
- Seawater desalination facilities by reverse osmosis (RO) technology
- Post-treatment facility for remineralisation and disinfection
- Potable water storage
- Effluent discharge pipelines
- Substation for power receiving
- All other buildings and structures are necessary for the seawater desalination plant such as administration building, storage, guardhouse, etc.

CP2 Construction of Pumping Stations and Reservoirs at Porur:

- Perur UGT of Capacity of 9 MLD (4 Cells)
- Porur UGT of Capacity of 10 MLD

CP3 Installation of a Product Water Transmission Main from the 400 MLD Desalination Plant to the Headworks at Porur covering utmost 65 KMs:

- Product water transmission pumping station on the premises of the Perur DSP,
- Product water transmission main,
- Water transmission pumping station and reservoir in the Porur Water Distribution Station (WDS).

**CP4 Improvement of the existing water distribution networks in Chennai City:**

- Replacement of the existing distribution pipes,
- Installation of supplementary distribution pipes to strengthen the capacity of the existing distribution networks,
- Installation of new water distribution pipes in un-covered streets in Core city.
- Reinforcement of the storage capacity of Under Ground Tank (UGT) and Elevated Storage Tanks (ESRs)
- Installation of service connections and water meters
- Setup of district metered areas (DMA)

**CP5 Installation of the external power transmission line.**

- Prepare the technical requirement
- Monitor the progress of construction
- Interface coordination between CP 1 and CP 5

### 1.3 Objective

Adhering to JICA guideline and other international standards towards social safeguard, and aligning with overall project objectives; the social interventions need to play a major role in bringing understanding and harmony among the stakeholders while addressing statutory compliance towards minimising the adverse impact of infrastructure development across CPs.

### 1.4 Scope of Social Communication in the Project

Under the reporting obligations of the Contract, social communication aspects are expected to chip in Contract Packages (CPs) of the project through expert advice from two Social Communication Specialists comprises of International Expert (IE) and Local Expert (LE). The social communication scope matrix is presented in Table 1 below.

**Table 1: Social Communication Scope of Work for CPs (Contract Packages)**

Scope		CP1	CP2	CP3	CP4	CP5
I.	Provide assistance to CMWSSB for the capacity development in the acceleration of installation of service connections and water meters and improvement of customer care and publication with Organizational Expert	No	No	No	Yes	No
II.	Prepare requirement to the contractors from the viewpoint of social communication/consideration in the preparation of bid documents which Contractor is to comply with the requirement of JICA Guideline (April 2010), including guidelines of an international organization	Yes	Yes	No	Yes	Yes
III.	Supervise the contractors from the viewpoint of social communication for smooth implementation of the construction works	Yes	Yes	Yes	Yes	Yes

### 1.5 Approach and Methodology

This section describes how the Consultant has planned to implement social communication in line with the scope of services defined in the ToR (Refer: 1.4). Social communication is required to build understanding and support for smooth implementation of plan outlays. Accordingly, the approach to communicate with stakeholders has to be strategic, intensive and consultative to build awareness and minimise resistance. Hence, the basic suggestive strategy to follow is to address stakeholders' concerns, perceptions and motivations.

The Consultant recognises that coordination with stakeholders is necessary for the successful implementation of the project. With this realisation, working in close consultations with the key stakeholders will be emphasised; mainly with CMWSSB, Community Leaders/Citizen Charter, District Administration and any other as felt appropriate.

Accordingly, the following actions will be part of the process.

- Desk research, which involved reviewing several key documents to identify pertinent and perceived issues across Contract Packages (CPs) affecting the key stakeholders ;
- A Rapid Assessment Survey (RAS) through interviews with a range of potential stakeholders and conducting Focus Group Discussions (FGD);
- Community/Public Consultation will be taken up as an integral part of the social assessment process of the Project. In terms of information dissemination to the Project Stakeholders on the Project; issues need to be addressed.
- Review the families potentially requiring livelihood restoration and if necessary, develop and facilitate the implementation of action plans.

## 2 Data Collection and Review of Information

### 2.1 Review of Documents

The Social Safeguard Review report is based on various reference documents, site visits, discussion with government officials and interaction at the community level. The following documents we referred while preparing this report.

- ➡ Terms of Reference (TOR) of the Consultancy Services
- ➡ JICA Final Report on Preparatory Survey on Chennai Seawater Desalination Plant Project
- ➡ Minutes of Discussions (MODs) on Chennai Seawater Desalination Plant Project between Japanese International Cooperation Agency and Chennai Metropolitan Water Supply and Sewerage Board.
- ➡ JICA Safeguard Guideline (2010); the World Bank and Asian Development Bank Safeguard Policies and; National and Tamilnadu rehabilitation and resettlement policies.
- ➡ Census 2011
- ➡ District Websites

### 2.2 Site Visit

The social unit of PMC visited all CP sites in October 2020 for firsthand information. In consideration of the advance stage of CP1, several visits were made. CP2 site in Porur was visited for assessment and WDS at KK Nagar was visited to get a preliminary view on water supply distribution system from CP4 perspective. The CP3 starting point, which is the exit point of Perur 400 MLD DSP, was assessed. CP5 site at Perur was also visited where power transmission sub-station will be set up.



### 3 Social Safeguard Situation Review & Analysis

The social safeguard review and analysis has been conducted considering each of contract packages (CPs) separately.

#### 3.1 Contract Package 1 (CP1): Perur 400 MLD Desalination Plant

CP1 (Contract Package 1) covers the construction of a Sea Water Desalination Plant, which is named as Chennai Perur Seawater Desalination Plant having a production capacity of 400 MLD with salient features of Seawater intake facilities, Pre-treatment facility, Seawater desalination facilities by reverse osmosis (RO) technology, Post-treatment facility for remineralisation and disinfection, Potable water storage, Effluent discharge pipelines, Substation for power receiving, All other buildings and structures necessary for the seawater desalination plant such as administration building, storage, guardhouse, etc.

Referring to Chennai Perur 400 MLD DSP; Nemmeli kuppam and Sulerikaattu Kuppam are two habitations adjacent to the plant in North and South direction respectively. However, from plant construction and operation perspective, Nemmeli Kuppam habitation is expected to have more interactive process than other habitations. Hence, a further detail socioeconomic aspect of Nemmeli Kuppam carries discussion.

##### 3.1.1 Socio-Economic Aspects

###### 3.1.1.1 Location

The proposed Perur 400 MLD Desalination Plant (DSP) is located in Nemmeli revenue village, Nemmeli village panchayat in Thiruporur Taluk (Thiruporur Block) of Chengalpattu district (earlier Kanchipuram District), Tamil Nadu State, India. The village is bifurcated into East and West part by the State Highways- 49, i.e. East Coast Road (ECR) towards Mamallapuram. In North-to-South direction. However, the proposed plant is located in the South-Eastern part of Nemmeli village and on the shore of Bay-of-Bengal. Moreover, this plant will be constructed about 0.8 kilometres distance on the North of already existing Nemmeli 100 MLD plant. The plot is having a width of 400 m and a length of 850 m with a total area of approximately 34 ha. Its ground elevation is chart datum + 3.0 to 7.5 m. ECR is approximately CD +11.0 m AMSL.

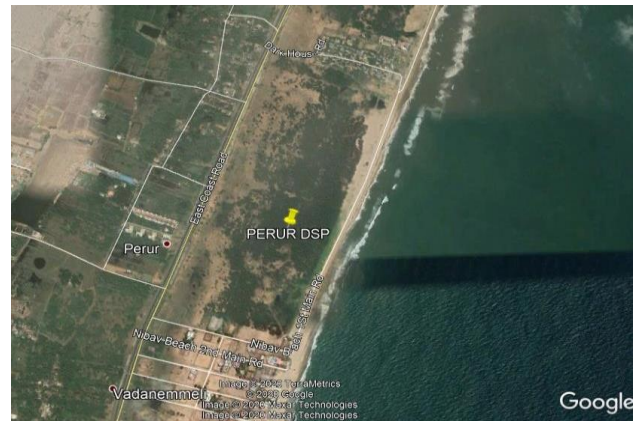


Figure 1: Proposed Site for 400 MLD Perur DSP, Water Storage Reservoir and Pumping Station

##### 3.1.2 Demographics

There are 166 houses in Nemmeli Kuppam, of which owners have occupied 142 houses, and rest are occupied by 24 tenants. All the 166 houses have patta land. After Tsunami devastation, 124 houses were constructed by the NGO 'World Vision' in the year 2005.

While Nemmeli village panchayat has 5.31% SC population and 3.2% ST population, Nemmeli Kuppam population belongs to Most Backward Category (MBC) and are fishermen community.

The total population of this habitation is 442 of which male and female are 230 (52%) and 212 (48%) respectively. However, proportional male and female population gap (4%) in Nemmeli Kuppam is higher as compared to village panchayat, district and the State proportional gap of 3.3%, 0.7% and 02% respectively.



Figure 2: Nemmeli Kuppam Settlement and Male & Female Ratio adjacent to Perur DSP

The sex ratio (i.e., the number of females per thousand males) at Nemmeli Kuppam is 912 as compared to average ratio of Nemmeli village panchayat, Chengleput district and Tamilnadu as a whole; which stands at 936, 985 and 996 respectively. As per Census 2011, Nemmeli village panchayat has a literacy level of 72% (Male:78.32 & Female:65.26%)

which is higher than the state average, but lower than the district average. However, regarding Nemmeli Kuppam it was learnt that almost all are literate, except a few older people above 80 years.

### 3.1.2.1 Ethnicity

All 142 families of this fishermen habitation practice Hindu religion (Hindu Meenavar Parvatharaja Kulam) and belong to Most Backward category defined by Government of Tamilnadu. Only a few tenants who have come from other areas belong to Most Backward and Backward communities. Impoverished (absolute deprivation) people and Project Affected Persons (PAPs) are not identified in the project site. As well as ethnic minorities and indigenous peoples are not identified in and around the project site.

*Figure 3: Hindu Religion Practice Place viz.; temple and cremation ground near Nemmeli Kuppam*



### 3.1.2.2 Economic Status

According to Census 2011, the total workforce of Nemmeli village panchayat counts 36.68% of the total population comprising of 94.08% main worker and 5.92.% marginal worker, which is lower than the district and the State average of 41.42% and 45.58% respectively. Female participation in the workforce in Nemmeli village panchayat is minimum (almost at 40%) as compared to the district (58%) and state average (69.8%). Nearly 92% of the workforce in the village panchayat is under other workers group which comprises of fishermen, industrial worker, a worker in service industries, etc.

In Nemmeli Kuppam occupationally, in general, men are engaged in fishing and allied activities. Few men are working in the companies and offices during daytimes. Women are engaged in selling of fish in neighbouring areas and dry fish preparation. Educated youngsters are working in offices and companies located in ECR and OMR. Two of them are employed in the existing 100 MLD desalination plant located nearby. Few fishermen are doing fishing in the morning, and during the daytime, they are employed in the local companies. Nearly 30 members (women) from this habitation are employed under “The Mahatma Gandhi National Rural Employment Guarantee” program by Ministry of Rural Development, Government of India. They are getting employment for 100 days in a year on a wage rate of INR 256/day. On an average family earn INR 12000 to INR 15000 per month from fishing activity and around INR 10000 to INR 15000 as their wages from the companies.

### 3.1.2.3 Gender Perspective

The gender gap is defined “as the differences between women and men, especially in social, political, economic or intellectual, cultural attainments or attitude”. A comparative analysis between the census 2001 and 2011 in the table below shows that there is a steady decline in the gender gap across the State, district and Nemmeli village panchayat in consideration to literacy which is a positive trend from a human capital development point of view. However, the increasing gap in workforce participation has more to do with macroeconomic perspective. Secondly, Nemmeli panchayat where women had participation in cultivation has declined due to an increase in non-agricultural activities when Chennai urbanisation spreads towards rural settlements. The details are given in Table-11 in Annexure

## 3.1.3 Impact

### 3.1.3.1 Land Acquisition/Resettlement

In India, land acquisition and resettlement is regulated by “Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (Act 2013) governed by the Ministry of Rural Development (MORD) and Tamil Nadu Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Rules, 2017.

However, the Project do not require land acquisition and resettlement as the said DSP is planned to be constructed in a vacant leased land without presence of settlements and households. The site land is being leased to CMWSSB for 30 years from the landowner M/s Arulmigu Alavandar Nayakkar Trust, a religious and charitable group maintained by the Hindu Religion and Charitable Endowments (HR&CE) Department of the Government of Tamil Nadu (GOTN).

There are two burial grounds in the site, as was specified in the JICA preparatory report and understanding religious sentiments; the plant layout is being arranged in such a manner so that no facility would be constructed in the burial grounds. The presence of an open-well and two bore wells with a pump house connected with three phase line is being used for daily water supply through transmission pipeline to Perur and Perur colony habitations in the western side of the ECR. In case the construction and operation of the plant will require to interrupt the water supply to the said habitations; alternate arrangement should be placed for uninterrupted water supply prior to disconnecting existing water supply. Another well with a pump house is present inside the community hall compound and OHT at the backside of the community hall cater to the water needs of Nemmeli kuppam habitation.

### 3.1.3.2 Landscape/ Land use

During the construction of intake well for Chennai Perur 400 MLD DSP, there are possibilities of seawater flow towards Nemmeli Kuppam habitation from East-to-West direction, causing soil erosion. As a result, the fishermen boat parking area and the landing centre might get affected. Hence, probable construction activities for the protection of the landscape (Landing Centre) might be required.



Figure 4: Nemmeli Kuppam Landing Centre

### 3.1.3.3 Living and Livelihood

Access to potable water: There is the presence of one open-well, and two bore wells from where water is pumped through a three phase connected pump house to Perur colony and Perur in the Western side of ECR. In case the current water supply system to both the habitation is abandoned due to the boundary wall and upcoming plant; restoration of water supply systems to both habitations needs to be prioritised without disrupting access to potable water.



Figure 5: Pumping Centre and Borewell at Perur DSP

Community Toilet: One community toilet is present in the northern side of the plant site for the use of Nemmeli Kuppam habitation, which will be inaccessible once the boundary wall of the plant site is constructed. However, currently, this community toilet is not in use due to non-availability of water and is dilapidated; provisional budget for community usable toilet needs to be allocated, in case the requirement arises in due course.



Figure 6: Dilapidated Community toilet at Perur DSP site

Subsistence Grant for partial loss of livelihoods: There are possibilities of livelihoods disruption during construction period intake well. Hence, temporary livelihood support may be desired for the period their livelihood is affected considering 8 months per year as fishing period. However, in case any of the family member/s employed by the contractor part-time or full-time basis is expected to reduce vulnerability. However, there can be flexibility in adhering the condition according to the ground situation.

### 3.1.3.4 Water Right/Use of Water

As for as construction water concerned, necessary water of 0.5MLD for the DSP construction is planned to be procured from a nearby source as specified in the application form of CRZ clearance. In addition, the open well presence on the site from which two habitations are being supplied with potable water may be utilised for supply of potable water to labour camps and other parts in the site for human consumption; once the alternate arrangement is established for Perur and Perur colony habitations. However, during the operation phase, groundwater exploration is not perceived.



### 3.1.3.5 Heritage

Local archaeological, historical, cultural, and religious heritages do not exist in the project site.

### 3.1.3.6 Social Capital and Social Organization such as decision-making bodies

There are 4 Self Help Groups run by women of this habitation, and mainly they do microfinance through their loan amount. Any impacts on social capital and social organization are not perceived by the project.

### 3.1.3.7 Damage and Benefit



Figure 7: Sea Shore situation after vertical dike of Nemmeli 100 MLD DSP

As specified earlier in the point 2.1.2.2 after visualising after effect of vertical protection dike in Nemmeli 100 MLD DSP, where the seawater is pushing further towards shore from East to West; there might be a possible effect on the landing centre in Nemmeli Kuppam during construction and operation period of Chennai Perur 400MLD DSP. Hence, civil works for the protection of the landing centre and adjacent area might be required.

### 3.1.3.8 Gender Issue

Any impacts on gender are not expected by the project.

### 3.1.3.9 Rights of the Child

Any impacts on the rights of the child are not expected by the project.

### 3.1.3.10 Risk of infectious diseases such as HIV/AIDS and COVID-19 pandemic

Construction Phase: Temporary influxes of migrant labours increase the risks of STD such as HIV/AIDS during the construction period. Moreover, COVID-19 being pandemic will remain a threat during construction and operation phase. There is only one Public health sub-centre available for this Nemmeli village panchayat wherein a nurse is available for vaccination and immunization purpose. Also, Accidents associated with construction work is predicted.

Hence, health awareness and services measures will be of high priority.

### 3.1.3.11 Working Conditions/Work Safety

While during the construction phase, occupational safety and working condition become major concern; regular supervision minimises such concerns.

### 3.1.3.12 Natural Disaster

The Bay of Bengal and the coast of Tamilnadu is vulnerable to the impact of the cyclone and other natural disaster like Tsunami. Hence, to address to the immediate tragic; early warning and rapid response during and aftermath of such disaster in terms of health and food security can reduce the vulnerability.

### 3.2 Contract Package 2 (CP2): Pumping Stations and Reservoirs

CP2 deals with the construction of a pumping station and water reservoir at two sites viz.; Perur UGT of Capacity of 9 ML (4 Cells) and Porur UGT of Capacity of 10 ML. While Perur UGT will be constructed within site identified for Chennai Perur 400 MLD DSP; Porur UGT will be constructed within existing CMWSSB site at Porur in Chennai City. Both the sites are free from any presence of settlements and households. Hence, at the preconstruction stage, social safeguard issues were not perceived. However, during the construction stage, social safeguard aspects need to be adhered, the probability of which will be identified and enlisted in the Bid document for the compliance of the prospective contractor. The photos of the Porur UGT site and the Perur UGT site, i.e. Perur 400 MLD DSP site are displayed here.



Figure 8: Site for Porur UGT of 10 ML capacity



Figure 9: Proposed Site for 400 MLD Perur DSP, Water Storage Reservoir and Pumping Station capacity

### 3.3 Contract Package 3 (CP3): Transmission Pipelines

In general the understanding of transmission pipelines include from generation level to reservoir level and further to Water Distribution System (WDS) level. CP3 deals with transmission pipeline that will be newly constructed from Perur DSP to Porur HW, on the way, at Kovilanchery, which is approximately 30 kms from Perur DSP. The total length of the transmission main proposed by the JICA Study Team is approximately 65 kms, starting from the new DSP at Perur to Porur HW and most of the transmission main will be installed under the existing roads. However, the scope of understanding on social safeguard issues will resume after finalisation of design of the transmission pipeline,

awarding of work contract and initiation of work order implementation.



Figure 10: CP3 starting point from Perur DSP



### 3.4 Contract Package 4 (CP4): Improvement of Water Distribution Systems

Chennai Core City is divided into 18 water distribution zones (WDZs). Each WDZ has a water distribution station (WDS), which has a reservoir and pumps to distribute the water to the WDZ. At present, the interconnections among the WDZs are usually used. Therefore, the WDS are not physically independent of each other. All 18 WDZs have the existing water supply networks that cover the respective zones in the Core City. The map in various colour represents zones being covered under CP4.



Figure 11: Pipeline Condition

It was learnt that the distribution pipelines are very old and in some areas, it is 40 years old. As a result, the replacement is felt inevitable. The picture below shows the precarious condition and hygienic of some of the distribution pipelines.

Social communication specialists/Social unit of PMC will be studying further after the distribution pipeline layout is finalised.

### 3.5 Contract Package 5 (CP5): Dedicated Transmission Power Supply Arrangements

An electrical substation has been planned to be constructed at a vacant land of 3.37 ha leased by CMWSSB facing ECR West as well as across a road adjacent to the Nemmeli 100 MLD DSP south. High-voltage electric power lines from the substation to the Perur DSP site of which total length is approximately 400 m are planned to be installed under the east side of ROW of ECR. Transmission pipelines are planned to be installed under the existing roads. Hence, issues relating to land acquisition and resettlement is not perceived.

However, during construction, safeguard compliance will be monitored by the Social Unit of PMC.

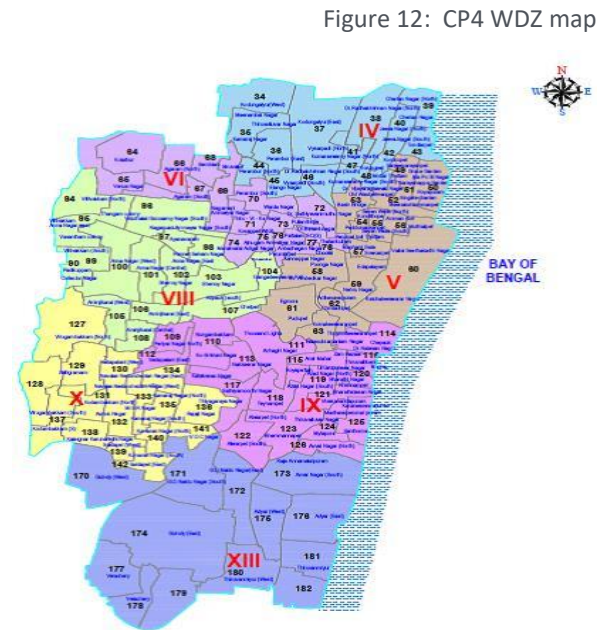


Figure 12: CP4 WDZ map



Figure 13: CP5 Electrical Substation Site



Figure 14: CP5 Electrical Substation Site Photo

## 4 CP wise Issues, Concerns, Risk Analysis and Strategic Framework

### 4.1 CP wise Issues, Concerns and Risk Analysis

Issues	Concerns	Risk Rating (Low/Medium/High)	Control Measures	Residual Risk
<b>CP1: Construction of Chennai Perur 400 MLD DSP</b>				
<b>Planning / Pre-construction Phase</b>				
Presence of Burial Ground/ Cemetery at both the ends of the proposed DSP site layout	Hindrance to burial ground accessibility is expected and probable risk of objection by local communities during construction.	Medium	Both the burial grounds and cemetery should properly be excluded from the proposed DSP site layout and compounded with separate access.	NIL
Presence of Open/bore wells in the proposed DSP site	Possibility of water supply disruption to the Perur and Perur colony habitations. As a result, there is a probability of objection/lockdown by local communities during construction.	High	Should be excluded from the proposed allotted DSP layout and uninterrupted water supply is to be ensured	NIL
<b>Construction Phase</b>				
Construction of sea-dike near the intake wells that cause shore erosion and disruption to Nemmeli Kuppam Boat landing centre.	Impact to boat landing centre and temporary loss of livelihood for the families involved in fishing activities is anticipated. Hence, there are probabilities of unrest, damage claim and obstruction to construction activities by local communities.	Medium	The shore protection mechanism is to be planned. Compensation in the form of subsistence allowance has to be given to the project affected families for a certain period of time. Labour available in the vicinity of the plant site should be given priority according to their skill level.	Requirement of employment for a longer time might be anticipated by the workers recruited for the short term
Labour casualties, health and hygiene.	In the absence of primary health service facilities within closer proximity; Non-availability of emergency medical services is a major concern.	Medium	Set up and operate dispensary within the plant site during the construction period, with round the clock (24 hours) doctor availability and health support staff; essential first aid material, medicines and health kits according to the regulatory compliance; and ambulance (Multipurpose with advance life support system) on 24 hours availability.	Minimum
Tide of unemployment existing in Nemmeli panchayat	Financial and Moral support to the local residents could be assured to ensure better co-operation and harmony	Low	During the plant construction, local residents are to be given priority.	Demand on higher wages might arise; Unwarranted local politics may induce mob culture

Issues	Concerns	Risk Rating (Low/Medium/High)	Control Measures	Residual Risk
<b>Operation Phase</b>				
Threat to landing centre and other property due to discharged water.	Probabilities of unrest, damage claim and obstruction to operation by local communities.	Low	Shore protection related and other discharged water related issues to be addressed on a priority basis.	Demand for higher compensation for a longer time might arise
Prevailing un-employment among the local educated youth	Suitable employment could be assured to the educated youth belonging to the project area and neighbourhoods to increase the financial stability of their family	Medium	The skillset of the technically qualified youth (non-gender specific) can be developed by imparting project oriented education and training to ensure successful plant operation	Demand on higher wages and job promotion might arise.
<b>CP2: Construction of Pumping station and water reservoir (UGT) at Perur and Porur</b>				
<b>Construction Phase</b>				
Labour casualties, health and hygiene.	At the Perur site in the absence of primary health service facilities within closer proximity; Non-availability of emergency medical services is a major concern.	Medium	Since CP-2 activities in Perur are within the Perur 400 MLD DSP site, the facilities recommended earlier will be availed.	Minimum
Tide of unemployment existing in Nemmeli panchayat	Financial and Moral support to the local residents could be assured to ensure better co-operation and harmony.	Low	During the UGT construction, local residents could be given employment.	Demand on higher wages might arise; Unwarranted local politics may induce mob culture
<b>CP3: Construction of Product water Transmission System</b>				
<b>Construction Phase</b>				
Temporary Impact to the street vendors/hawkers along the transmission route	Temporary loss of livelihood for the street vendors /hawkers if any along the route is envisaged	Low	As per the prevailing Acts/policies, the project affected people should be compensated	Risk of social sensitivity might arise if not properly addressed
<b>CP4: Improvement of Existing Water Distribution System in Chennai Core city</b>				
<b>Construction Phase</b>				
Temporary Impact to the street vendors/hawkers along with the distribution network.	Temporary loss of livelihood for the street vendors /hawkers if any along the distribution network is envisaged	Low	As per the prevailing Acts/policies, the project affected people should be compensated	Risk of social sensitivity might arise if not properly addressed
<b>CP5: Installation of the external power transmission line</b>				
<b>Construction Phase</b>				
Labour casualties, health and hygiene.	At the Perur site in the absence of primary health service facilities within closer proximity; Non-availability of emergency medical services is a major concern.	Medium	Since CP-5 activities in Perur are closer to the Perur 400 MLD DSP site, the facilities recommended for the DSP earlier will be availed.	Minimum

## 4.2 CP wise Strategic Framework

Verifiable Indicator	Means of Verification	Frequency of Verification	Assumptions	Target groups	Implementation Responsibility	Monitoring Responsibility
CP1: Construction of Chennai Perur 400 MLD DSP						
Output-1: Protection to Nemmeli Kuppam Shore/Landing Centre						
Technical study for possible threat and protection mechanism.	Progress report and physical verification	Monthly	Construction of vertical protection dyke might create a negative impact on onshore/landing centre	Nemmeli Kuppam community	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Planning and execution of desired construction	Progress report and physical verification	Monthly			CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Output-2: Protection to temporary loss of livelihoods						
Identification of the project affected families.	Community consultation process and minutes of meetings.	Monthly	Possibilities of disruption of fishing activities during the construction of intake well.	Nemmeli Kuppam community	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Compensation in the form of subsistence allowance has to be provided to the project affected families	Progress report and related documents	Monthly	Fishermen practising fishing activities to be part of the identification process.	Nemmeli Kuppam community.	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Labour available in the vicinity of the plant site should be given priority according to their skill level.	Labour engagement records	Monthly	Family members found eligible for subsistence allowance will not be eligible for employment during construction activities.	Nemmeli Kuppam and peripheral communities	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Output-3: Uninterrupted potable water supply to Perur and Perur colony habitations						
Existing potable water supply system from open-well/Bore-well excluded from the proposed allotted DSP layout	Verification from final DSP layout and physical verification of boundary wall construction.	Monthly	No alternate potable water supply provision desired as the open-well/Bore-well location site is excluded from layout	Perur and Perur colony habitations	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Output-4: Continued accessibility to burial/crematory grounds						
The burial/crematory grounds excluded from the proposed allotted DSP layout	Verification from final DSP layout and physical verification of boundary wall construction.	Monthly	Habitations will be reluctant to leave current burial/crematory grounds	Nemmeli Kuppam, Perur, Perur colony and Sulerikattu Kuppam habitations	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Output-5: Risk Reduction						
Minimisation of after effects of cyclones and tsunami	Records on the number of living being transported to safer places	Daily basis post occurrence	Transport to short stay disaster shelter present on the western side of the DSP across ECR.	Nemmeli Kuppam habitats and labourers/worker at the plant site.	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB

Verifiable Indicator	Means of Verification	Frequency of Verification	Assumptions	Target groups	Implementation Responsibility	Monitoring Responsibility
	Number of persons and days relief (health and food) was Provided.	Daily basis post occurrence	Rapid temporary response just prior to government response.	Nemmeli Kuppam habitats and labourers/worker at the plant site.	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Minimisation of pandemic diseases such as COVID-19 through the implementation of guidelines appropriately.	Record verification and visit to the camps	Once/Month		Nemmeli Kuppam habitats and labourers/worker at the plant site.	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Minimisation of risk of infectious diseases such as HIV/AIDS through Implementation of Health and Sanitation awareness and education camps.		Twice/Year		Nemmeli Kuppam habitats and labourers/worker at the plant site.	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Appropriate working Conditions/ Work Safety	Visual inspection on the utilisation of PPE by workers/labours	Daily		Workers in the plant site.	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Minimised damage in the removal of temporary construction structures and demobilization of construction machinery	Site supervision and review information.	Daily		Workers in the plant site.	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
<b>CP2: Construction of Pumping station and water reservoir(UGT) at Perur and Porur</b>						
<b>Output: Conducive labour camp management and risk reduction</b>						
Labour available in the vicinity of the plant site should be given priority according to their skill level.	Labour engagement records	Monthly		Workers at the Perur & Porur site	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Minimisation of pandemic diseases such as COVID-19 through the implementation of guidelines appropriately.	Record verification and visit to the camps	Once/Month		Workers at the Perur & Porur site	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Minimisation of risk of infectious diseases such as HIV/AIDS through Implementation of Health and Sanitation awareness and education camps.		Twice/Year		Workers at the Perur & Porur site	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Appropriate working Conditions/ Work Safety	Visual inspection on the utilisation of PPE by workers/labours	Daily		Workers at the Perur & Porur site	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Minimised damage in the removal of temporary construction structures and demobilization of construction machinery	Site supervision and review information.	Daily		Workers at the Perur & Porur site	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB



Verifiable Indicator	Means of Verification	Frequency of Verification	Assumptions	Target groups	Implementation Responsibility	Monitoring Responsibility
CP3: Construction of Product water Transmission System						
Output: Protection to temporary/permanent loss of livelihood earnings and/or assets						
The project affected persons identified.	Field visits and random surveys	Weekly		The project affected persons (street vendors/hawkers/any other) along the transmission pipeline route	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
The project affected persons compensated as per the prevailing Acts/policies.	Field visits and random surveys	Weekly				
CP4: Improvement of Existing Water Distribution System in Chennai Core city						
Output: Protection to temporary loss of livelihoods						
The project affected persons identified.	Field visits and random surveys	Weekly		street vendors/hawkers/any other along the distribution pipeline route	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
The project affected persons compensated as per the prevailing Acts/policies.	Field visits and random surveys	Weekly				
CP5: Installation of External Power Transmission lines						
Output: Conductive labour camp management and risk reduction						
Labour available in the vicinity of the plant site should be given priority according to their skill level.	Labour engagement records	Monthly		Workers at the Perur site	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Minimisation of pandemic diseases such as COVID-19 through the implementation of guidelines appropriately.	Record verification and visit to the camps	Once/Month				
Minimisation of risk of infectious diseases such as HIV/AIDS through Implementation of Health and Sanitation awareness and education camps.		Twice/Year		Workers at the Perur site	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Appropriate working Conditions/ Work Safety	Visual inspection on the utilisation of PPE by workers/labours	Daily		Workers at the Perur site	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB
Minimised damage in the removal of temporary construction structures and demobilization of construction machinery	Site supervision and review information.	Daily		Workers at the Perur site	CMWSSB / Prospective Contractor	Project head /in-charge CMWSSB



## 5 Social Policy, Legal and Administrative Framework

### 5.1 JICA Environmental and Social Framework

JICA requires the consideration of social matters in all aspects of JICA operations and the requirements for social considerations as described in JICA guidelines (April 2010). Also, adherence to International Performance Standards has been suggested. JICA guidelines endeavours to achieve transparency, predictability, and accountability in support for and examination of social considerations.

### 5.2 Screening and Categorisation

The requirement of the JICA Guidelines is dependent on “project categorization” of the Project, which is stipulated in the JICA Guidelines, as shown in Table 5. Currently, the Chennai Seawater Desalination Project (the Project) has been classified as “Category B” by JICA. However, if the project is likely to have any significant adverse impacts on the environment and society in the Study, the Project may be recategorized as “Category A”.

**Table 2: Project Category in the JICA Guidelines**

Category	Description
A	Proposed projects are classified as “Category A” if they are likely to have significant adverse impacts on the environment and society. Projects with complicated or unprecedented impacts that are difficult to assess, or projects with a wide range of impacts or irreversible impacts, are also classified as “Category A”. These impacts may affect an area broader than the sites or facilities subject to physical construction. “Category A”, in principle, includes projects in sensitive sectors, projects that have characteristics that are liable to cause adverse environmental impacts, and projects located in or near sensitive areas.
B	Proposed projects are classified as “Category B” if their potential adverse impacts on the environment and society are less adverse than those of “Category A” projects. Generally, they are site-specific; few if any are irreversible; and in most cases, normal mitigation measures can be designed more readily.
C	Proposed projects are classified as “Category C” if they are likely to have a minimal or little adverse impact on the environment and society.

Based on the Initial Environmental Examination carried out by JICA, the proposed Chennai Perur 400 MLD desalination project is categorised under “B”. Since the project is not located in a sensitive area, nor has sensitive characteristics, nor falls into sensitive sectors under the JICA guidelines for environmental and social considerations (April 2010), and its potential adverse impacts on the environment are not likely to be significant. Details of categorisation are available in JICA website:

[https://www.jica.go.jp/english/our\\_work/social\\_environmental/id/asia/south/india/c8h0vm0000ahdaf4.html](https://www.jica.go.jp/english/our_work/social_environmental/id/asia/south/india/c8h0vm0000ahdaf4.html)

### 5.3 Regulations, Laws and Permitting

There are various acts, rules, policies and regulations currently in force in India that deal with social issues that could apply to infrastructure development. Some of the specific regulatory compliance requirements of the subproject are presented below.

#### 5.3.1 Tamil Nadu Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Rules, 2017

The Act provides for transparent and acceptable fair and enhanced compensation and assistance measures. It stipulates a more consultative and participatory approach in dealing with the Project Affected Persons. It emphasizes the rehabilitation and resettlement of the PAPs before the implementation of the actual project.

#### 5.3.2 The National Resettlement and Rehabilitation Policy (Ministry of Rural Development, Department of Land Resources), 2007

The NRRP 2007 was adopted by the Government of India on 31st October 2007 to address development-induced resettlement issues. The NRRP stipulates the minimum facilities to be ensured for persons displaced due to the acquisition of land for public purposes and to provide for the basic minimum requirements. All projects leading to the involuntary displacement of people must address the rehabilitation and resettlement issues comprehensively. The State

Governments, Public Sector Undertakings or agencies, and other requiring bodies shall be at liberty to put in place greater benefit levels than those prescribed in the NRRP.

The objectives of the Policy are:

- to minimize displacement and to promote, as far as possible, non-displacing or least displacing alternatives;
- to ensure adequate rehabilitation package and expeditious implementation of the rehabilitation process with the active participation of the affected families;
- to ensure that special care is taken for protecting the rights of the weaker sections of society, especially members of the Scheduled Castes and Scheduled Tribes, and to create obligations on the State for their treatment with concern and sensitivity;
- to provide a better standard of living, making concerted efforts for providing sustainable income to the affected families;
- to integrate rehabilitation concerns into the development planning and implementation process; and
- where displacement is on account of land acquisition, to facilitate the harmonious relationship between the requiring body and affected families through cooperation.

The NRRP is applicable for projects where over 400 families in the plains or 200 families in hilly or tribal or Desert Development Program (DDP) areas are displaced. However, the basic principles can be applied to resettling and rehabilitating regardless of the number affected. NRRP's provisions are intended to mitigate adverse impacts on Project Affected Families (PAFs). The non-title holders, under NRRP, are recognized as the people living in the affected area not less than three years at the time of declaration of the area as affected area. The NRRP addresses vulnerable families with adequate entitlements and provides special provisions for Scheduled Castes (SC) and Scheduled Tribes (ST) Families. The NRRP takes in to account all the transparency as far as consultation, dissemination of information, disclosure and grievance is concerned. However, the law relating to the acquisition of privately owned immovable property is the Land Acquisition Act of 1894.

### 5.3.3 The Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014

This act specifically aims to protect the rights of urban street vendors and to regulate street vending activities. It provides for Survey of street vendors and protection from eviction or relocation; issuance of a certificate for vending; provides for rights and obligations of street vendors; development of street vending plans; organizing of capacity building programmes to enable the street vendors to exercise the rights contemplated under this Act; undertake research, education and training programmes to advance knowledge and understanding of the role of the informal sector in the economy, in general, and the street vendors, in particular, and to raise awareness.

### 5.3.4 The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.

An Act to recognise and vest the forest rights and occupation in forest land in forest-dwelling Scheduled Tribes and other traditional forest dwellers who have been residing in such forests for generations but whose rights could not be recorded; to provide for a framework for documenting the rights of the forest so vested and the nature of evidence required for such recognition and vesting in respect of forest land.

### 5.3.5 Right to Information (RTI) Act, 2005

The basic object of the Right to Information Act is to empower the citizens, promote transparency and accountability in the working of the Government, contain corruption, and make our democracy work for the people in real sense. It says that an informed citizen is better equipped to keep necessary vigil on the instruments of governance and make the government more accountable to the citizens.

### 5.3.6 National Fisheries Policy (Draft) 2020

The policy aims at comprehensive development of the fisheries sector through appropriate interventions to address the critical gaps with an overarching goal for growths in exports, an increase in farmer's income and better choice for consumers. It aims for robust management and regulatory framework with necessary legal backing for effective fisheries resource management through an Ecosystem Approach of Fisheries (EAF) management within the overall framework of relevant national and international instruments, policies and standards. To generate gainful employment and entrepreneurship opportunities along the value chain leading to the higher income of fishers and fish farmers, improve their living standards and usher in economic prosperity.

### 5.3.7 Tamil Nadu Marine Fishing Regulation Act 1983 (Amended in 2016)

An act to provide for the regulation, restriction and prohibition of fishing by fishing vessels in the sea along the whole or part of the coastline of the State

### 5.3.8 The operational policy of the World Bank on Social Safeguard

- **Indigenous People:** This policy applies for both positive and negative impacts on tribal population wherever the project activities are undertaken. Accordingly, the policy creates scope to studied whether the project will have an impact on any individual or cluster of tribal people during any phase of the project.
- **Involuntary Resettlement:** Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs. Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs. Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.
- **Policy on Access to Information and Disclosure:** World Bank safeguards policy requires consultation with PAPs during planning and implementation of resettlement action plan and tribal development plan and public disclosure of drafts. Once the draft is prepared, it is to be made available at a place accessible to, and in a form, manner and language understandable to the displaced or affected people and local NGOs. RTFCTLARR, 2017 also requires disclosure of draft SIA and RAP and other project reports followed by mandatory Public Hearing. Consultations with PAPs or interested people, people in the vicinity of the project area is to be done and public disclosure on the project details, positive/negative social impacts and to get their feedback is to be carried out at appropriate intervals of the project period.

### 5.3.9 ADB's Safeguard Policy

Safeguard policy statement (SPS) are generally operational policies that seek to avoid, minimize, or mitigate adverse environmental and social impacts, including protecting the rights of those likely to be affected or marginalized by the development process. ADB's safeguard policy framework consists of three operational policies on the Environment, Indigenous Peoples, and involuntary resettlement and brings them into a consolidated policy framework that enhances effectiveness and relevance. Accordingly,

- (i) impacts are to be identified and assessed early in the project cycle;
- (ii) plans to avoid, minimize, mitigate, or compensate for the potential adverse impacts are developed and implemented; and
- (iii) affected people are informed and consulted during project preparation and implementation.

### 5.3.10 Salient Features of Key Applicable Labour Laws

- 1) **Payment of Wages Act, 1936:** It lays down as to by what date the wages are to be paid when it will be paid and what deductions can be made from the wages of the workers.
- 2) **Minimum Wages Act, 1948:** The employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is scheduled employment. Construction of buildings, roads, runways etc. are scheduled employments.
- 3) **The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and the Cess Act of 1996:** All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay less at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.
- 4) **Inter-State Migrant Workmen's (Regulation of Employment & Conditions of Service) Act, 1979:** The Act applies to an establishment which employs 5 or more inter-state migrant workers through an intermediary (who has recruited workers in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home up to the establishment and back, etc.

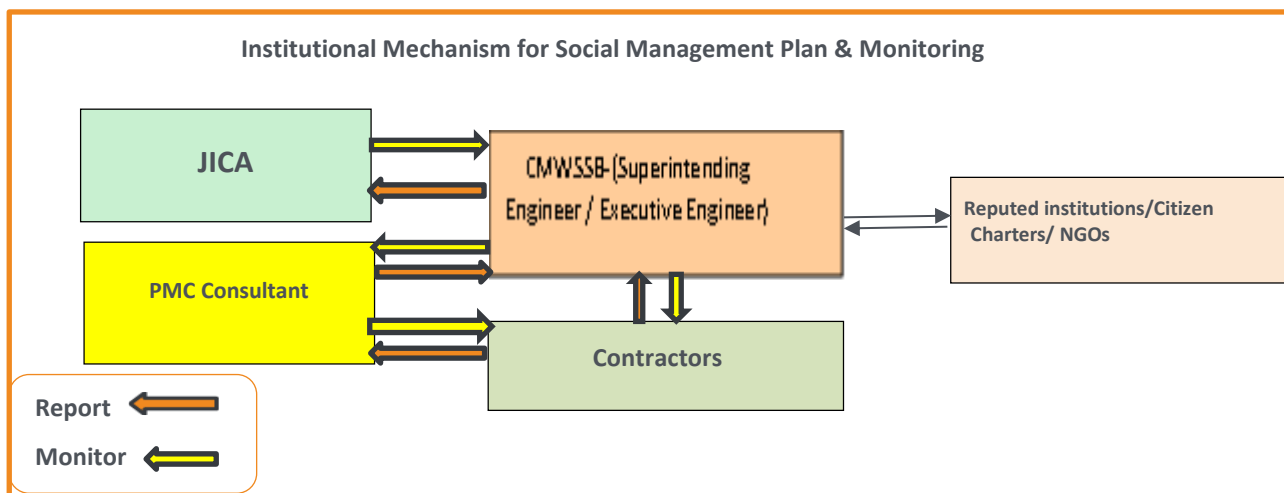
- 5) **Employees P.F. and Miscellaneous Provision Act, 1952:** The Act provides for monthly contribution by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:
  - (i) Pension or family pension on retirement or death, as the case may be.
  - (ii) Deposit linked insurance on the death in the harness of the worker.
  - (iii) Payment of P.F. accumulation on retirement/death etc.
- 6) **Employees Compensation Act, 1923:** The Act provides for compensation in case of injury, disease or death arising out of and during employment by certain employers to their employees for injury caused to them by accident. It enables an employee, and in case of death of an employee, his dependents, to get, at the cost of his employer compensation for employment injury if an employee contracts an occupational disease while in employment, it is also treated under the Act as injury caused by accident.
- 7) **The Personal Injuries (Compensation Insurance) Act, 1963:** This Act provides for the employer's liability and responsibility to pay compensation to employees where workers sustain personal injuries in the course of employment. The employer has to give the workers the insurance against the liability. The Act describes the term which is of major importance under the Act is called as partial disablement and total disablement.
- 8) **Employer's Liability Act, 1938:** This Act protects workers who bring suits for damages against employers in case of injuries endured in the course of employment. Such injuries could be on account of negligence on the part of the employer or persons employed by them in the maintenance of all machinery, equipment etc. in healthy and sound condition.
- 9) **Employee's State Insurance Act, 1948:** The Act provides for certain benefits to insured employees and their families in case of sickness, maternity and disablement arising out of an employment injury. The Act applies to all employees in factories (as defined) or establishments which may be so notified by the appropriate Government. The Act provides for the setting up of an Employees' State Insurance Fund, which is to be administered by the Employees State Insurance Corporation. Contributions to the Fund are paid by the employer and the employee at rates as prescribed by the Central Government. The Act also provides for benefits to dependents of insured persons in case of death as a result of an employment injury.
- 10) **Payment of Bonus Act, 1965:** The Act applies to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of the wages drawn in the relevant year. It applies to skilled or unskilled manual, supervisory, managerial, administrative, technical or clerical work for hire or reward to employees who draw a salary of Rs. 10,000/- per month or less. To be eligible for the bonus, the employee should have worked in the establishment for not less than 30 working days in the relevant year. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for applicability of this Act.
- 11) **Payment of Gratuity Act, 1972:** Gratuity is payable to an employee under the Act on the satisfaction of certain conditions - on separation if an employee has completed 5 years of service or more or on death, the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- 12) **Labour (Regulation and Abolition) Act, 1970:** The Act provides for certain welfare measures to be provided by the contractor to contract labour, and in case the Contractor fails to provide, the same is required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration, and the Contractor is required to take a license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.
- 13) **Equal Remuneration Act, 1979:** The Act provides that no employer shall pay to any worker employed by him in an establishment or employment, remuneration whether payable in cash or in-kind at the rates less favourable than those at which compensation is paid by him to the workers of the opposite sex in such establishment or employment. The Act further provides that no discrimination should be made against women at the time of recruitment. The Act also provides for not for making discrimination against female employees in the matters of transfers, training and promotions etc.
- 14) **Maternity Benefit Act, 1951:** An Act to regulate the employment of women in certain establishments for certain periods before and after child-birth and to provide for maternity benefit and certain other benefits. It provides for maternity benefits, including leave, wages, bonus, nursing breaks etc.

- 15) **Sexual Harassment of Women at the Workplace (Prevention, Prohibition and Redressal) Act, 2013:** This Act defines sexual harassment in the workplace, provides for an enquiry procedure in case of complaints and mandates the setting up of an Internal Complaints Committee or a Local Complaints Committee.
- 16) **Child Labour (Prohibition and Regulation) Act, 1986:** The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for the regulation of employment of children in all other occupations and processes. Employment of child labour is prohibited in the Building and Construction Industry.
- 17) **Bonded Labour System (Abolition) Act, 1976:** The Act provides for the abolition of bonded labour system with a view to preventing the economic and physical exploitation of weaker sections of society. Bonded labour covers all forms of forced labour, including that arising out of a loan, debt or advance.

## 5.4 Institutional Arrangements

Under overall direction, guidance and coordination of the CMWSSB Project Implementation Unit (PIU), the perspective contractor will implement Chennai Perur 400 MLS Desalination Plant. The Project Management Consultant (PMC) appointed by PIU comprises of the subject, and sector-specific specialists to provide onsite expert guidance as well as supervise the progress and attainment of drafted specified guidelines by the contractor in compliance to the regulatory mandates. Social Communication Specialists will be interacting regular basis with the prospective contractors/ contractor representative with regard to social safeguard compliance and facilitating during a public consultation; in particular to house pipe connection and water metering under CP-4.

**Table 3: Institutional Mechanism for Social Management Plan & Monitoring**



## 6 Annexure: Demographic Data from Census 2011

**Table 4: Administrative Profile of the Project Area – Revenue Administration & Monitoring**

District	Revenue Taluk	Revenue Village	Habitations
Chengleput	Thiruporur	Nemmeli	Pudukalpakkam, Nemmeli, Nemmeli kuppam, Kannima Nagar, Perur, Perur colony, Sulerikadu, Sulerikadu colony, Sulerikaattu kuppam and Krishnan karanai,.

**Table 5: Distribution of Population (2011) in Project Influence Districts**

Project affected State / Districts	Population		
	Male	Female	Total
Tamil Nadu	36137975	36009055	72147030
Chengleput District	1431166	1410406	2841572
Nemmeli	1974	1848	3822
Nemmeli kuppam (Project Influenced Area)	227	207	434

Source: Census of India, 2011

**Table 6: Sex Ratio in Project Influence Area**

State/District/Village	2011	
	Sex Ratio	Child Sex Ratio
Tamilnadu	996.43	943.27
Chengleput	985.49	958.59
Nemmeli	936.17	904.00
Nemmeli kuppam (Project Influenced Area)	911.89	

Source: Census of India, 2011

**Table 7: SC/ST population details of the Project influence area**

State/District/Village	SC population in %	ST population in %
Tamil Nadu	20.01	1.10
Chengleput	22.92	1.02
Nemmeli	5.31	3.24
Nemmeli kuppam (Project Influenced Area)	0	0

Source: Census of India, 2011

**Table 8: Status of literacy**

State/District/Village	Literacy rate in Percentage			Illiteracy rate in Percentage		
	Males	Females	Total	Males	Females	Total
Tamilnadu	77.59	66.09	71.85	22.41	23.91	28.15
Chengleput	80.92	72.35	76.67	19.08	27.65	23.33
Nemmeli	78.32	65.26	72.00	21.68	34.74	28.00

Source: Census of India, 2011



Table 9: Number and percentage of Workers in the state, district and Project Affected Area

State	Population	Total Population	Total Workers	Main Workers	Marginal Workers	Non-Workers
Tamilnadu	Males	36137975	21434978	18961194	2473784	14702997
			59.31	88.46%	11.54%	40.69%
	Females	36009055	11449703	8980987	2468716	24559352
			31.80%	78.44%	21.56%	68.20%
	Total Persons	72147030	32884681	27942181	4942500	39262349
			45.58%	84.97%	15.03%	54.42%
Chengleput	Males	1431166	837770	721215	116555	593396
			58.54%	86.09%	13.91%	41.46%
	Females	1410406	339083	240841	98242	1071323
			24.04%	71.03%	28.97%	75.96%
	Total Persons	2841572	1176853	962056	214797	1664719
			41.42%	81.75%	18.25%	58.58%
Nemmeli	Males	1974	1137	1115	22	837
			57.60%	98.07%	1.93%	42.40%
	Females	1848	265	204	61	1583
			14.34%	76.98%	23.02%	85.66%
	Total Persons	3822	1402	1319	83	2420
			36.68%	94.08%	5.92%	63.32%

Source: Census of India, 2011

Table 10: Distribution of Work Force in the state, Chennai district and PIA

State/District/Village	Population	Total Main Workers	Cultivators	Agricultural labourers	Household Industry Workers	Other Workers
Tamil Nadu	Males	18961194	2512165	3808523	514637	12125869
			13.25%	20.09%	2.71%	63.95%
	Females	8980987	1343210	3425578	604821	3607378
			14.96%	38.14%	6.73%	40.17%
	Total Persons	27942181	3855375	7234101	1119458	15733247
			13.80%	25.89%	4.01%	56.31%
Chengleput	Males	721215	32840	56467	10792	621116
			4.55%	7.83%	1.50%	86.12%
	Females	240841	11873	39961	7122	181885
			4.93%	16.59%	2.96%	75.52%
	Total Persons	962056	44713	96428	17914	803001
			4.65%	10.02%	1.86%	83.47%
Nemmeli	Males	1115	52	25	14	1024
			4.66%	2.24%	1.26%	91.84%
	Females	204	6	3	8	187
			2.94%	1.47%	3.92%	91.67%
	Total Persons	1319	58	28	22	1211
			4.40%	2.12%	1.67%	91.81%

Source: Census of India, 2011

Table 11: Gender Gap in Project Influence Area

State/District/Village	Gender Gap			
	In Literacy		In WorkForce Participation	
	2001	2011	2001	2011
Tamilnadu	15.50	11.50	26.11	27.51
Chengleput	14.05	8.57	27.23	34.50
Nemmeli	20.57	13.06	26.38	43.25



The CHENNAI 400 MLD DESALINATION PLANT is a Project being delivered by the Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) with the assistance of an Official Development Assistance (ODA) loan from the Japan International Cooperation Agency (JICA).

The Project Management Consultant (PMC) for the Chennai 400 MLD Desalination Plant project is a consortium led by SMEC International Pty Ltd in partnership with Tata Consulting Engineers Limited (TCE), NJS Engineers India Pvt Ltd (NJSEI) and SMEC India Pvt Ltd.

