



**Integrated Storm Water Drainage Project  
for the Expanded Areas of Chennai  
Corporation**

24 Oct. 14



**First Draft**

**Social Impact Assessment and Resettlement Action Plan**

21 November 2014

**Storm Water Drains Department,  
Corporation of Chennai**

**Social Impact Assessment and Resettlement Action Plan for ISWD Project**  
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## SIA & RAP for ISWD to Expanded Areas of Chennai Corporation

### Abbreviations

<b>CoC</b>	Corporation of Chennai
<b>DPR</b>	Detailed Project Report
<b>ESMF</b>	Environmental and Social Management Framework
<b>ISWD</b>	Integrated Storm Water Drainage
<b>Km.</b>	Kilo Metres
<b>m</b>	Metres
<b>NGO</b>	Non Governmental Organisation
<b>PAF</b>	Project Affected Family
<b>PAP</b>	Project Affected Person
<b>PWD</b>	Public Works Department
<b>RAP</b>	Resettlement Action Plan
<b>SIA</b>	Social Impact Assessment
<b>SWD</b>	Storm Water Drain
<b>TNSCB</b>	Tamil Nadu Slum Clearance Board
<b>TNUIFSL</b>	Tamil Nadu Urban Infrastructure Financial Services Ltd.
<b>TNSUDP</b>	Tamil Nadu Sustainable Urban Development Project

## 1 Introduction and Background

1.1 The Coastal City of Chennai needs effective Storm Water Drainage System to prevent water stagnation in roads. The terrain of Chennai city is mostly flat in nature and average level of the land in the city is only 2.5m above the Mean Sea Level (MSL). Because of this flat terrain and partial coverage of roads with storm water drains, flooding and water stagnation happens in the city during the monsoons. The Corporation of Chennai has expanded its area during 2011. In order to provide storm water drains to the expanded areas, a Detailed Project Report for the Integrated Storm Water Drainage System (ISWD) to the expanded area of Chennai Corporation has been prepared. For the purpose of designing and providing storm water drains to the expanded area, it divided the expanded areas into four basins. The four basins are Kosasthalyar, Adyar, Cooum and Kovalam.

### Objective and Scope:

- 1.2 **Objective:** The objective of this SIA for the ISWD is to identify and assess the social impacts arising out of implementation of the Storm Water Drain Construction in the expanded areas of Chennai Corporation and to mitigate the social impacts through Resettlement Action Plan (RAP).
- 1.3 **Scope:** Corporation of Chennai proposed to take up the ISWD for the expanded areas of Chennai Corporation. The scope of this Social Impact Assessment (SIA) is to study the baseline of Social Impacts, collect both primary and secondary data pertaining to Land Acquisition and Resettlement and Rehabilitation requirements for the ISWD project.
- 1.4 This is prepared in line with the Draft Environmental and Social Management Framework (ESMF) of TNUIFSL specifically evolved for the proposed Tamil Nadu Sustainable Urban Development Project (TNSUDP) assisted by the World Bank.

### Structure of the SIA Report:

#### This SIA for ISWD to expanded areas of Chennai Corporation:

- 1.5 First section briefly explains the project setting.
- 1.6 Second section includes the project description for the ISWD expanded areas of the Chennai Corporation.
- 1.7 Third section is the Social Impact Assessment (SIA) which includes baseline social impacts in ISWD project with socio economic survey details of PAFs.
- 1.8 The Resettlement Action Plan (RAP)
- 1.9 The final section deals with the Action Plan and Way Forward.

2

- 2.1 Chennai otherwise called as Madras city is the Capital city for the State of Tamil Nadu.
- 2.2 Chennai is the fourth largest metropolitan city in India with an area of 174 sq.km and a population of 4.68 million (as per census 2011). Corporation of Chennai is responsible for provision of civic amenities with in Chennai including provision of Storm Water Drains (SWD). At present Chennai Corporation maintains 303 kms of Bus route Roads and 2475 kms of interior roads including cement concrete roads.
- 2.3 The Project area comprises of the expanded area of Chennai Corporation covering an area of 255.79 Sq. km. As many as nine municipalities, eight town panchayats and twenty five village panchayats have been brought under the Chennai Corporation limits, raising the city population from 46.81 lac to 62.2 lac (as per 2011 census). Merger of the expanded area has resulted in an increase in the area of corporation from 174 Sq. Km. to 429.79 Sq. Km. According to the present status, Corporation of Chennai is divided into fifteen (15) administrative zones out of which eight (8) zones namely Thiruvottiyur, Manali, Madhavaram, Ambattur, Valasaravakkam, Alandur, Perungudi and Shozinganallur fall in the extended area and remaining seven zones are in old city area.
- 2.4 **Geography:** Chennai is a seaside city located in the coast of Bay of Bengal where the sea is an ecstasy in blue, hugging the second largest beach in the world known as Marina Beach. From the sky, it looks neat with majestic long straight roads and the silvery streams meandering through the city. Dotted with clumps of trees and a low skyline, it is a sprawling city.
- 2.5 Chennai, sometimes referred to as the "Gateway to South India", is located on the south-eastern coast of India in the north-eastern part of Tamil Nadu on a flat coastal plain known as the Eastern Coastal Plains. Its average elevation is around 6.7 metres (22 ft), and its highest point is 60 m (200 ft). Two rivers meander through Chennai, the Cooum River through the centre and the Adyar River to the south. A part of the Adyar river forms a tidal creek before joining the sea.
- 2.6 A third river, the Kosasthalaiyar, flows through the northern fringes of the city before draining into the sea at Ennore. A protected estuary on the Adyar forms a natural habitat for several species of birds and animal. The Buckingham Canal runs parallel to the coast, linking the two rivers. The Otteri Nullah, an east-west stream, runs through north Chennai and meets the Buckingham Canal at Basin Bridge. Several lakes of varying size are located on the western fringes of the city.
- 2.7 Chennai is divided into four broad regions: North, Central, South and West. North Chennai is primarily an industrial area. Central Chennai is the commercial heart of the city and includes an important business district, Parry's Corner. South Chennai and West Chennai, previously mostly residential, are fast becoming commercial, home to a growing number of information technology firms, financial companies and call centres. The city is expanding quickly along the Old Mahabalipuram Road and the Grand Southern Trunk Road (GST Road) in the south and towards Ambattur, Koyambedu and

Sriperumbudur in the west.

- 2.8 **Topography:** Chennai is a low-lying area and the land surface is almost flat. The even topography of the land throughout the area makes it difficult to render the sub-divisions into natural regions. It rises slightly as the distance from the seashore increases and an average elevation of the town is not more than 7 m above mean sea level and the average slope varies at less than 0.7 m per Km, while some localities are just at sea level and drainage in such area remains a serious problem.
- 2.9 **Soil Condition:** Chennai's soil is mostly clay, shale and sandstone. The city is classified into three regions based on geology and as sandy areas, clayey areas and hard rock areas. Sandy areas are found along the river banks and coasts such as Thiruvanmiyur, Adyar, Kottivakkam, Santhome, George Town, Tondiarpet and the rest of coastal Chennai. Here rainwater runoff percolates quickly through the soil. Clay underlies most of the city including T. Nagar, West Mambalam, Anna Nagar, Perumbur and Virugambakkam. Areas of hard rock include Guindy, Perungudi, Velachery, Adambakkam and a part of Saidapet. In clayey and hard rock areas, rainwater percolates slowly, but it is held by the soil for a longer time.
- 2.10 **Climate:** Chennai has a tropical climate, specifically a tropical wet and dry climate. The city lies on the thermal equator and is also on the coast, which prevents extreme variation in seasonal temperature. The weather is hot and humid for most of the year. The hottest part of the year is late May to early June, known locally as Agni Nakshatram ("fire star") or as Kathiri Veyyil, with maximum temperatures around 35–40°C. The coolest part of the year is January, with minimum temperatures around 15–22°C. The lowest temperature recorded is 13.80°C and the highest recorded temperature is 45.0°C. The average annual rainfall is about 140 cm. The city gets most of its seasonal rainfall from the north–east monsoon winds, from mid–October to mid–December. Cyclones in the Bay of Bengal sometimes hit the city. The highest annual rainfall recorded is 257 cm in 2005. Prevailing winds in Chennai are usually south westerly between April and October and north easterly during the rest of the year.
- 2.11 **Corporation of Chennai:** The Corporation of Chennai (previously Madras) is the Oldest Municipal Institution in India established on the 29th September 1688. A charter was issued on the 30th December, 1607 by East India Company constituting the "Town of Fort St. George" and all the territories thereunto belonging, not exceeding the distance of ten miles from the Fort, into a Corporation. The Parliamentary Act of 1792 gave the Corporation power to levy Municipal Taxes in the City. The Municipal administration properly commenced from the Parliamentary Act, 1792 making provision for the good order and administration of the city. The Municipal Act has been amended introducing from time to time major changes in the constitution and powers of the Corporation. The Madras Municipal Corporation Act, 1919 (as amended) provides the basic statutory authority for the administration now. The Council of 200 councilors is headed by the Worshipful Mayor and Council meets ordinarily once in a month. The executive wing is headed by the Commissioner. There are Deputy Commissioners and various Heads of Departments and 15 Zonal Officers at present. The estimated present population of Chennai is 6.5

Million.

- 2.12 Chennai Corporation** is Maintaining 1160 roads to a length of 370 Km and storm water drain to a length of 962 Km. Total numbers of street lights in Chennai city under the maintenance of Chennai Corporation is 2, 13, 045 and using 19 megawatts per day, and spending 2 lakhs for electric consumption per day. Chennai Corporation having 260 parks and constructed 113 community halls for public purpose. Chennai Corporation is removing 5000-5200 MT of solid waste per day through 966 conservancy vehicles and maintaining Kodungaiyur and Perungudi dumping grounds for dumping the solid waste. The total birth reported in Chennai city is 400 per day and death is 180 per day. Currently 23,538 staffs are working in it. The Annual Budgetary estimate of Chennai Corporation in 2012-13 revenue is 1326.11 crores and expenditure is 1232.97 crores. Surplus income is 93.14 crores.
- 2.13** As per survey conducted of the project area, there are about 205 Km of drains of width 0.60 m or more. Storm water drainage system in the project area is not sufficient and adequate. The drains do not have proper connectivity and ultimate linkage to natural waterways/ water bodies for efficient disposal of storm water runoff. Because of the flat terrain and partial & insufficient coverage of the project area with storm water drains, flooding and water stagnation is the recurrent feature in many areas during the monsoon period.
- 2.14** Storm Water Drains are maintained by the Department of Storm Water Drains. At present it maintains about 1660.31 km of Storm Water Drains.
- 2.15 ISWD:** Corporation of Chennai has proposed to take up the Integrated Storm Water Drainage (ISWD) project under TNSUDP for the expanded areas of Chennai Corporation. The project area has been divided in four Drainage Basins namely Kosasthalaiyar, Cooum, Adyar and Kovalam for planning and designing of storm water drainage networks.

## 2. Project Description

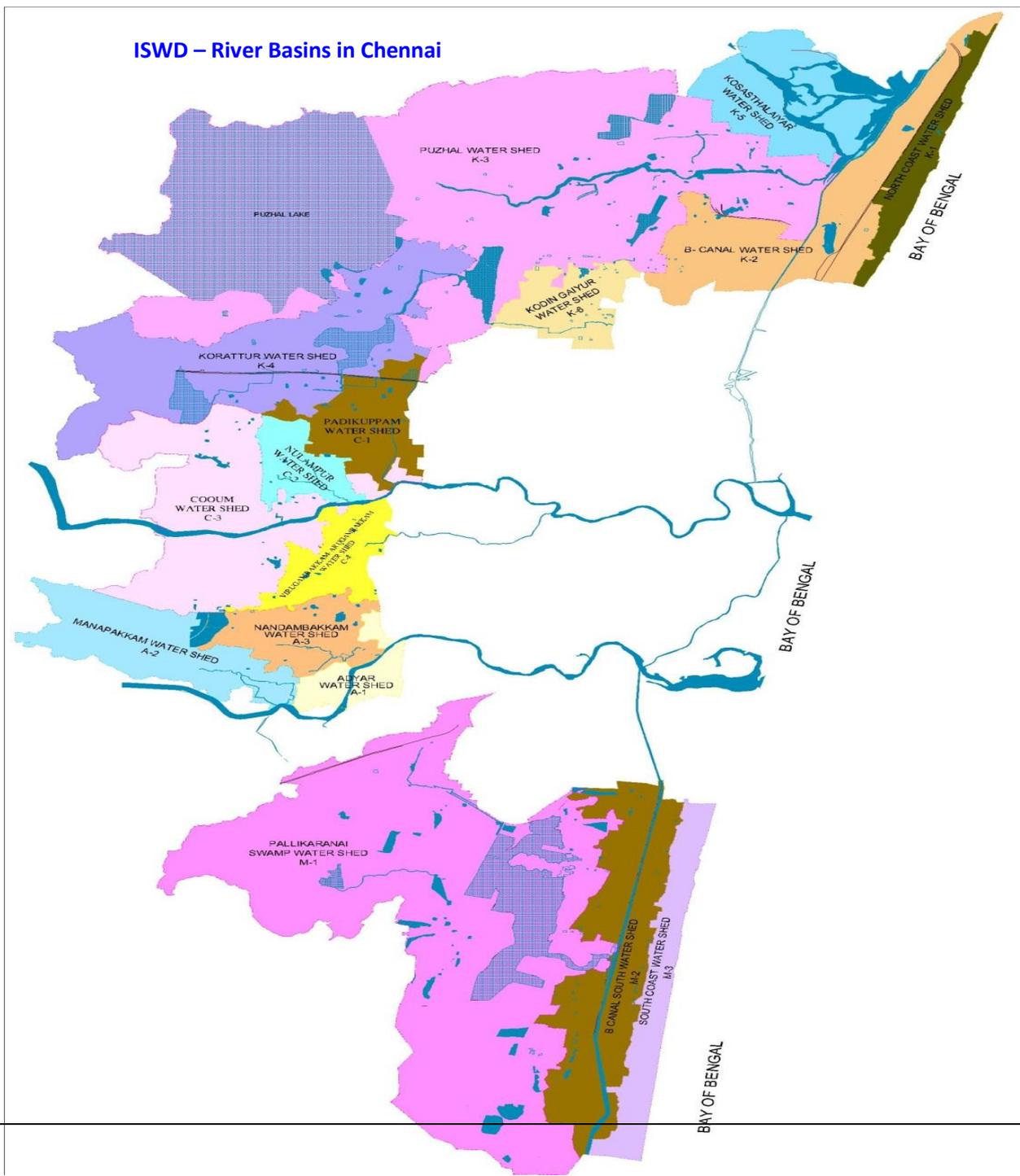
2.16 **ISWD:** Corporation of Chennai has proposed to take up the Integrated Storm Water Drainage (ISWD) project for the expanded areas of Chennai Corporation.

2.17 As per the GO MS No

2.18 The proposed integrated storm water drainage project is for the expanded areas of Chennai Corporation. The zones are

2.19 The project area has been divided in four Drainage Basins namely Kosasthalaiyar, Cooum, Adyar and Kovalam for planning and designing of storm water drainage networks.

2.20 Each Drainage Basin is further sub-divided into 16 (see Table-2.2) watersheds based on the natural barriers like river, drains, channels, railway lines, roads & highways and topography of the area. Entire expanded area drains the storm water into Bay of Bengal mainly through Cooum, Adyar and Kosasthalaiyar rivers. These rivers in turn are connected by major and subsidiary drains from



the individual water shed areas.

**Table-3.1 ISWD Drainage Basins and Zones**

	<b>Drainage Basins</b>	<b>Chennai Corporation - Administrative Zones</b>
I	Kosasthalaiyar Drainage Basin	Zone I, II, III and part area of zone VII
II	Cooum Drainage Basin	part area of zone VII & part area of zone XI
III	Adyar Drainage Basin	part area of zone XI & part area of zone XII.
IV	Kovalam Drainage Basin	IVX, XV and part area of zone XII

**Table-3.2 ISWD Drainage Basins and Water Sheds**

<b>Sl. no.</b>	<b>Drainage Basin</b>	<b>Name of Watershed</b>
1.	Kosasthalaiyar	K1.North Coastal
		K2.North B canal
		K3.Puzhal
		K4.Korattur
		K5.Kosasthalaiyar
		K6.Kodungaiyur
2.	Cooum	C1.Padi Kuppam canal
		C2.Nolampur
		C3.Cooum
		C4.Virugambakkam-Arugambakkam canal
3.	Adyar	A1.Adyar
		A2.Manpakkam
		A3.Nandampakkakam
4.	Kovalam	M1.Pallikaranai
		M2.South B Canal
		M3.South Coast

2.21 The drains in the study area are broadly divided into two groups as per drain classification in Chennai. Macro Drains and Major Micro Drains: Macro Drains for Chennai are defined as the Natural drains that are maintained by PWD and Major Micro Drains are the drains maintained by Corporation of Chennai and Micro Drains: The drains maintained by Chennai Corporation are called as Micro drains. The Micro drain consists of Collector Drains, Arterial Drains, and Feeder Drains.

**Table-3.3: Details of Drains across Basins in Expanded Areas**

Drainage Basin/Watershed	Collector drain(m)	Feeder drain(m)	Arterial drain (m)	Reconstruction	Total (m)
Adyar	38011	23418	10650	6464	78543
Cooum	72484	48233	41186	21783	183686
<b>Total</b>	<b>110495</b>	<b>71651</b>	<b>51836</b>	<b>28247</b>	<b>262229</b>

**Table-3.4: Abstract of Drains across basins and types in Expanded Areas**

Drainage Basin	Collector drain	Feeder drain	Arterial drain	Reconstruction of Drains	Macro & Major Micro Canals	(in m)
						Total Length
Adyar	38.011	23.418	10.62	6.46	3.66	82.169
Cooum	72.48	48.23	41.19	21.78	8.16	191.84
Kosasthalaiyar	109.812	230.562	27.44	24.34	8.772	400.926
Kovalam	96.933	172.546	41.508	37.422	11.031	359.44
<b>Total</b>	<b>317.236</b>	<b>474.756</b>	<b>120.758</b>	<b>90.002</b>	<b>31.623</b>	<b>1034.375</b>

### Project Components

2.22 This project involves construction of Collector drains, Feeder drains, Arterial drains and macro and major micro canal.

2.23 Construction of Collector Drain – Street Drains – will ends in feeder drains

2.24 Construction of Feeder Drain – feeder drains will join arterial drains

2.25 Construction of Arterial Drain – arterial drains will join in the Macro and Major Micro Canals

2.26 Macro and Major Micro Canal – will join the river

2.27 Other components are construction of culverts and cross drainage works, Rain Water Harvesting structures, Silt catch traps etc.,

### Implementation Plan and Arrangements

2.28 The sub project will be implemented by the Storm Water Drain Department of the Chennai Corporation.

2.29 Project Management Consultants (PMC) will be appointed by the CoC. At present it is planned to engaged two PMC agencies for the ISWD Project.

2.30 The Chennai Corporation will appoint Environmental and Social Safeguards specialists.

## SIA & RAP for ISWD to Expanded Areas of Chennai Corporation

- 2.31** Under TNSUDP, the storm water drainage network in the Adayar and Cooum basins are proposed to be taken up in a total of 39 packages. The ISWD works for drainage at an estimated cost of Rs.949.21 Crores.
- 2.32** The works for drainage network in Adayar basin are proposed under 9 packages for a total length of 82311m at a cost of Rs. 250.06 Crores. This includes as a separate package the Nandambakkam canal for a length of 3669m,.
- 2.33** The works for drainage network in Cooum basin are proposed under 30 packages for a total length of 188015 m at a cost of Rs. 699.15 Crores. This which includes the Padikuppam canal (2778m), Korattur TNHB canal (1927m), Ambattur SIDCO canal (1061m), and Nolumbur canal (2390m) as four separate packages.

### **3 Social Impact Assessment (SIA)**

- 3.1 The Objective of Social Impact Assessment is to assess the social impacts arising out of implementation of Integrated Storm Water Drainage project to the expanded areas of f Chennai Corporation.
- 3.2 Various type of Storm Water Drains proposed to be constructed are Macro Drains comprises of canal and Micro Drains consisting of Arterial Drains, Feeder Drains and Collector Drains.

#### **Approach and Methodology:**

- 3.3 Baseline socio economic survey of the Project Affected Persons (PAPs) was carried using a structured schedule.
- 3.4 Grievance Redressal Mechanism in line with Environmental and Social Framework (ESMF)
- 3.5 To estimate the cost for LA& RR in line with the Environmental and Social Framework
- 3.6 To address the impacts and its mitigation measures through Resettlement Action Plan.
- 3.7 **Cut off date:** The Census Socio Economic Survey was started on 30.10.2014 which is the cut off date for this sub project.

#### **Regulatory Framework – Social**

##### **National and State :**

- 3.7.1 The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act 2013.
- 3.7.2 The Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014
- 3.7.3 The Scheduled Tribes and other Traditional Forest Dwellers(Recognition of Forest Rights) Act, 2006.
- 3.7.4 Right to Information Act, 2005

##### **Operational Policies of the World Bank**

- 3.7.5 4.10 Indigenous People.
- 3.7.6 4.12 Involuntary Resettlement.
- 3.7.7 World Bank Policy on Access to Information and Disclosure

#### **Environmental and Social Management Framework (ESMF)**

- 3.8 As per the ESMF three broad categories of economic and social impacts that would be mitigated are
  - 3.8.1 Loss of land and assets
  - 3.8.2 Loss of shelter or homestead lands,
  - 3.8.3 Loss of income or means of livelihood and
  - 3.8.4 Loss of collective impacts on groups such as loss of community assets,

common property resources and others.

### Social Impacts in ISWD Project

**3.9 Land Requirement:** The Storm Water Drains comprises of Major Drains and Micro Drains. The Major Drains are Canals which are maintained by the Corporation of Chennai. The Micro Drains such as Arterial, Feeder and Collector Drains.

**3.10** These drains are proposed to be constructed in the Corporation roads and canals maintained by the Chennai Corporation. As per design, this project does not require any private land. Hence there will not be any land acquisition as well as transfer of government land. **This project doesn't involve acquisition of private land or land alienation.**

### Nature and Magnitude of Impacts

**3.11** To understand the nature and magnitude of impacts, the impacts are classified into two heads, (A) Impacts in Major Drains (Construction of drains in canals) and (2) Impacts in the Micro Drains (Micro Drains consists of Feeder Drains, Collector Drains and Arterial Drains)

### Socio Economic Survey of PAFs

**3.12** The Socio economic survey was carried in the major drains in order to identify the impacts across the expanded areas of the Chennai Corporation. The survey was carried out using a structure questionnaire and field tested. The Survey was started on 30.10.2014 which is the Cut off Date for this survey. The Survey Questionnaire is provided in the annexure.

**3.13** The Survey was carried out in the expanded area of Chennai corporation in the major micro canals where the social impacts are identified. The survey covered Padikuppam Canal, Ambattur SIDCO canal, Nolambur Canal and Nandampakkam Canal.

**Table 4.1 Project Affected Families in Macro Canals**

Name of Macro Canals	No. of PAF	%
Ambattur SIDCO Canal	17	3.7
Padi Kuppam Canal	306	67.25
Nolambur Canal	99	21.75
Nandampakkam Canal	33	7.25
<b>Total</b>	<b>455</b>	<b>100</b>

Source: Census Socio Economic Survey, 2014

**3.14** There are about 455 Project Affected Households are identified across the extended areas of Chennai Corporation falling in the two river basins Adyar, Cooum.

**3.15** In adyar basin the total PAFs is 455 and in Cooum basin it is 422 PAFs.

**Table 4.2 Distribution of Head of the Households of the PAFs**

Male headed	Female Headed	Total
345	110	445
(75.82)	(24.17)	(100)

Source: Census Socio Economic Survey, 2014

**Table 4.3 Distribution of PAFs by Type of House**

Sl.No	Type of Structure	No. of Structure	%
1	Concrete	166	36.48
2	Tiled	45	9.89
3	Thatched	70	15.38
4	Asbestos	103	22.63
5	Others	71	15.60
	Total	455	100

Source: Census Socio Economic Survey, 2014

**3.16** It is observed from the survey of affected structure 36.48 % are Concrete structures and asbestos sheet houses are 22.63 %, 15.38 % are thatched structures.

## 4 Resettlement Action Plan (RAP)

4.1 To mitigate the social impacts identified in the previous section this section deals with the Resettlement Action Plan

**Table 5.1: Nature and Magnitude of Impacts in ISWD**

Name of Macro Canals	No. of PAF	%
Ambattur SIDCO Canal	17	3.7
Padi Kuppam Canal	306	67.25
Nolambur Canal	99	21.75
Nandampakkam Canal	33	7.25
<b>Total</b>	<b>455</b>	<b>100</b>

Source: Census Socio Economic Survey, 2014

4.2 **Definitions:** Fully affected are those need to be resettled. Partially affected are the structures which are partly affected due to construction of SWD. Temporary Impacts means the impacts related to access to the property during construction. This will be reconstructed as the SWD design is the covered one, this cover slabs will be provided once the construction of drain is completed. And doesn't require any compensation as the cost for reconstruction is provided in the Estimate.

### 4.3 Baseline Socio Economic Information of the PAFs.

4.3.1 **Demographic Profile:** (Household by Gender, Religion, Social Group, Family Size, Age Group)

4.3.2 **Socio Economic Profile:** (Educational Level of PAPs, Occupation Status of PAP, Household Income, Housing Related Information (Type of House, Ownership, Having Kitchen, Toilet, Bath, Electrified, Water Supply, Cooking Medium, Indebtedness, Assets – Durables etc., Health Status (Type of Illness, days of hospitalised, access to health facilities). Livelihood Status of the PAPs,

4.3.3 **Gender Dimension** of PAPs (Female Headed Households, age, edn, occupation etc., no. of Females PAPs, Distribution of Women PAP by Age, Edn, Occupation, Marital Status), Gender Specific issues relating to present residence and expected issues in the resettlement site,)

4.3.4 Access to Social Welfare Schemes and Assistance current status and expected assistance in the resettlement areas.

4.3.5 Site Specific Information for the PAF (Duration of Residence, by id proof , ownership residence in other parts of the Chennai, Any other information)

4.3.6 Type and Magnitude of Impacts

4.3.7 Compensation for Land, Compensation for Structures, Entitlements for the PAFs.

4.3.8 Budge Estimate and Budget Sources.

### **Entitlements for the PAF as per the Draft ESMF for TNSUDP**

- 4.4 Entitlement Matrix.** The compensation for the PAFs will be under preparation and will be included in the next stage of report.
- 4.5 Additional/Unidentified Impacts.** In addition to already identified impacts, it is expected that there may be some additional impacts due to changes in the alignments or additional impacts may be encountered during the implementation. All these additional impacts as and when encountered will be mitigated in accordance with the principals and procedures outlined in the ESMF. In case of additional impacts, addendums to this RAP will be prepared to mitigate those impacts. In addition, appropriate measures will take to prevent any new squatting or encroachments in the project area. If additional encroachments or squatting is noticed, then these will be removed to avoid the situations of people claiming the entitlements for their dependence on the site for livelihood or shelter.
- 4.6 TNSCB -** The PAFs are proposed to be resettled in the TNSCB multi storied apartments/tenements. The procedure for the allotments to the PAFs are as follows: 1. Survey to be carried out using Form 2 of the TNSCB. 2. Biometric Survey; 3. Issue of Photo ID to the PAF. 4.Allotment as per form 3.
- 4.7** The cost of the flat is Rs.7.5 lakhs of which 90 % from the JNNURM grant and 10 % is the beneficiary contribution. The 10 of the contribution will be about Rs.500 per month. Initially the PAF has to pay five months equated contribution as advance which will be borne by the CoC. In addition free transportation for shifting and free food for 3 days will be provided by the CoC.
- 4.8 TNSCB -** Conditions of TNSCB, payment terms, resettlement mechanism, duration of the resettlement, cost of houses, tenure of payment, Bio metric information.

### **Grievance Redressal Mechanism**

- 4.9** The Corporation of Chennai will have the following mechanism to address the grievance of the project affected. The details of the Project Level Grievance Redressal Committee are as follows:
- 4.10 Grievance Redressal Committee:**
- The Commissioner
  - The Zonal Officer /Regional Deputy Commissioners of CoC
  - A person of Local refute
  - Elected representative of the Ward
- 4.11** All the grievances relating to the implementation of Integrated Storm Water Drain in Coom Basins shall be addressed to the Zonal Officers/ Regional Deputy Commissioners of the respective zones of the project area.
- 4.12 Public Consultation and Disclosure:** The draft SIA-RAP will be disclosed in the websites of CoC and TNUIFSL.

**4.13 Time Table. The following is the time table for implementation of key activities of this RAP.**

No	Activity	Responsibility	Target Date
1	Completing resurvey of PAFs,	CoC	Completed
2	Issue of Photo ID Cards to PAFs.	CoC	Planned
3	Details of R&R Cost and alternatives	CoC	Under preparation
4	Payment of R&R Assistance	CoC	Prior to award of contract
5	Resettlement of displaced families	CoC	Prior to award of contracts
6	Approval and Disclosure of RAP including PAP list	CoC	December 20

**4.14 Budget for RAP Implementation:**

**Budget:.** The total cost of Implemeniton of this RAP is. Rs. 31.00 crores and will be funded by CoC. The break-up is as follows.

No	Budget Item	Amount ( Rs)	Remarks
1	Cash assistance for loss of Structures		Will be finalised by December 20
	R&R Assistance		
2	Resettlement cost and Payment to the TNSCB for the flats.		
3	Implementation support (consultants, NGO, etc.) as required.		
4	Administrative Expenses		
5	Contingency		
6	End Term R&R Impact Assessment	10 % of the total RR cost	

**4.15 Readiness Certificate:** After the completion of the R&R measures as stated in the RAP the respective Zonal Officers will certify the completion of RAP and readiness of the sites prior to award of contracts.

**4.16 Coordination with Civil works.** The RAP will be financed and disclosed prior to award of work contract and prior to hand over of the encumbrance structures, the affected people will be paid cash assistance or alternative resettlement and paid R&R assistance in line with the provisions of this RAP. Prior to hand over of these stretches and land to the contractors, the payment of cash assistance and R&R measure and relocation of affected common properties will be certified by the respective Zonal Officer.

**4.17 Implementation Arrangements:** The implementation of the RAP will be carried out for by the Storm Water Drain Department of the Corporation of Chennai. The Environmental and Social Safegurads specialists in the Corporation will assist the implementation of RAP.

**4.18 Monitoring and Evaluation:** The implementation of RAP will be monitored by the E&S Specialists of the Corporation of Chennai. The physical and financial progress of the RAP implementation will be submitted to TNUIFSL/ World

Bank till the completion of RAP implementation.

- 4.19 Impact Assessment:** Impact assessment will be done after one year from the date of resettlement, to document and to assess the impact of resettlement and rehabilitation of PAFs. The positive impact will be documented and will be disclosed through audio & visual media. If there are any negative impacts than corrective/mitigation measures will be taken.

**Key Baseline Socio-Economic Indicators for Impact Evaluation****( to be included in the next version)**

<b>Impact Evaluation Indicators</b>	<b>Base line value</b>	<b>Impact Evaluation (as per implementation schedule)</b>
<b>1. Income</b>		
Average Monthly Income		
<b>2. Occupation</b>		
<b>3. Access to Basic Amenities</b>		
Proportion of house holds having water supply connection		
Proportion of house holds having telephone connection		
Proportion of house holds having close access to community water resource		
Proportion of other amenities located within 1 km (PHC/playground/ Park, etc)		
<b>4. House type</b>		
Thatched		
Tiled		
Vacant Plot		
Others (Specify)		
<b>5. Other Assets</b>		
Proportion of households having BW/Colour Television		
Proportion of households having mobile phone		
Proportion of households having cattle		
Proportion of households having two wheelers		
Proportion of households having water supply connection		
Proportion of households having electricity connection		

Annexure  
List of PAFs  
**( To be included in the next version)**