

Resettlement Plan

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IND: Proposed Tamil Nadu Urban Flagship Investment Program (Tranche 2) - Tiruchirappalli Underground Sewerage System Phase III PART A

Prepared by Tiruchirappalli City Municipal Corporation, Government of Tamil Nadu, for the Asian Development Bank.

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CURRENCY EQUIVALENTS

(as of 20 June 2019)

Currency Unit	–	Indian rupee (₹)
₹1.00	=	\$0.0144
\$1.00	=	₹69.6025

ABBREVIATIONS

ADB	–	Asian Development Bank
ASO	–	assistant safeguards officer
BPL	–	below poverty line
CMSC	–	construction, management and supervision consultant
EUP	–	enter upon permission
FGD	–	focus group discussion
GIAC	–	governance improvement and awareness consultant
GOTN	–	Government of Tamil Nadu
GRC	–	grievance redress committee
GRM	–	grievance redress mechanism
IPP	–	indigenous peoples plan
MAWS	–	Municipal Administration and Water Supply Department
NOC	–	no objection certificate
PIU	–	program implementation unit
PMU	–	program management unit
PWD	–	Public Works Department
RCC	–	reinforced cement concrete
RFCTLARR	–	Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement
R&R	–	resettlement and rehabilitation
ROW	–	right-of-way
SIA	–	social impact assessment
SPO	–	social project officer
SPS	–	Safeguard Policy Statement
SRSE	–	social and resettlement safeguard expert
STP	–	sewage treatment plant
TNUFIP	–	Tamil Nadu Urban Flagship Investment Program
TNUFSL	–	Tamil Nadu Urban Infrastructure Financial Services Ltd.
TWADB	–	Tamil Nadu Water Supply and Drainage Board
UGSS	–	underground sewerage system
ULB	–	urban local body

NOTES

In this report, “\$” refers to US dollars.

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

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EXECUTIVE SUMMARY

Introduction. The Tamil Nadu Urban Flagship Investment Program (TNUFIP) is designed under the multi tranche financing facility modality of Asian Development Bank (ADB) financing and will primarily focus on improvement of water supply and sewerage services in selected cities of the state. TNUFIP is envisaged to be structured under three main components: (i) investment in municipal infrastructure namely water supply and sewerage; (ii) municipal reform-based activities; and (iii) technical assistance for design, supervision, program management, reforms, and climate change.

Subproject Scope. Thirty one percent of the Tiruchirappalli (Trichy) city is currently covered under a functional sewerage system and the remaining areas are proposed to be covered in three different phases: (i) Phase II-East Zone, (ii) Phase III-West Zone, and (iii) Phase IV-South Zone. It is proposed that Phase II and III will be implemented under ADB funded TNUFIP; with Phase II implemented under Tranche 1, and Phase III in Tranche 2. Phase IV is not yet planned. This subproject focuses on Phase III and includes provision of underground sewerage system (UGSS) to the West Zone comprising presently unserved, extended areas in the western part of the city. Phase III sewage generation will be connected to the sewage treatment plant (STP) proposed under Phase II. Proposed subproject components of the Trichy UGSS Phase III under ADB financed TNUFIP include: (i) laying of around 327 kilometer (km) of sewer network of PVC/DWC/CI pipes ranging from 200–1,000 millimeter (mm) dia.; (ii) laying of 24 km of pumping mains of 150–700 mm dia.; (iii) construction of seven sewage pumping stations; (iv) construction of 11 sewage lift stations; and (v) provision of 32,000 house service connections.

Key Findings. No private land acquisition is envisaged for implementation of proposed subproject components. Construction of proposed sewage pumping stations and lift stations will be either accommodated within the existing facilities' premises or on vacant government lands. A small temporary structure used for storage purpose is affected. In addition to this, the new sewer system is likely to cause temporary disruption to roadside economic activities. The new sewerage system is proposed to be laid within road right-of-way (ROW) in the center of the road, by cutting the black top portion. In wider roads, like state highway and national highway, divided roads etc., sewers will be laid along the edge of the road, but mostly within the black top portion. Potential temporary impacts are assessed due to laying of new pipe networks.

To estimate the potential temporary impacts, all roads/streets in project area were screened through transect walks for any encroachments on black top portion/ROW and detailed surveys were conducted in September 2018 for roads where temporary impacts were identified. Based on this, a total of 79 roadside movable/transitory businesses that are currently within the ROW are identified as potentially temporarily affected. These businesses are mainly eateries (52%) and flower, fruit, or vegetable sellers (29%). Close to 52% affected persons are mobile vendors while an additional 46% use road ROW for storage or display of wares with temporary structures that can be easily dismantled and removed. Only 2% of affected persons have small non-movable structures very close to pipeline ROW, and a minor change in the pipe alignment in these sections can help them continue their business post-construction. None of the surveyed potential affected persons belong to scheduled tribes. Around 5% of affected persons were identified as woman-headed households. Approximately 10% of affected persons were assessed to be below poverty line (BPL). Average income for potentially affected BPL is estimated at ₹173 per day and overall average income for all affected persons is ₹373 per day. The temporarily affected persons are expected to be able to continue with their business activity either at the same location or nearby; partial loss of income to each temporarily affected person

is anticipated for the period of disruption. Vulnerable affected persons comprise 43% of the total surveyed affected persons and comprise BPL, elderly (age above 60), scheduled caste, and woman-headed households.

Recommended Actions. A draft resettlement plan has been prepared for Trichy UGSS subproject components to mitigate impacts including loss of temporary storage structure of non-titleholder(s) at SPS-5 site and temporary economic impacts envisaged during construction/pipe laying. This draft resettlement plan is in line with the ADB Safeguard Policy Statement (SPS) 2009 and resettlement framework prepared for TNUFIP. The resettlement budget (including compensation and grievance redress mechanism costs) is estimated at ₹1.95 million which includes compensation against temporary livelihood loss for 25 days to each affected temporarily person and replacement cost of affected temporary storage structure. A detailed measurement survey will be conducted in sections ready for implementation, based on detailed design, and the draft resettlement plan updated, based on survey results. The draft resettlement plan will be reviewed by program management unit (PMU) and submitted to ADB for approval prior to start of construction. In line with the resettlement framework, the resettlement plan has also laid down the structured outline for required institutional and implementation arrangements with schedule, grievance redress mechanism (GRM), consultation and disclosure activities, and monitoring and evaluation. A summary of resettlement framework and resettlement plan in local language will be disclosed to all key stakeholders or their representatives through a city level stakeholder workshop. A hard copy of resettlement plan and resettlement framework summary will also be made available at urban local body offices and full documents will be uploaded at PMU/ program implementation unit (PIU)/ADB websites. The PIU's assistant safeguard officer will be responsible for updating and implementation of resettlement plan. The PMU's social project officer is responsible for approval and implementation monitoring of resettlement plan. The governance improvement and awareness consultant will assist in monitoring of resettlement plan implementation.

I. SUBPROJECT DESCRIPTION

1. The proposed Tamil Nadu Urban Flagship Investment Program (TNUFIP) is aligned to support in the following: (i) urban infrastructure across the state improved and world class cities focusing on universal access to 24x7 water supply services and sanitation facilities including tertiary treatment of sewage to become engines for economic growth developed¹; (ii) five industrial corridors developed (footnote 1); (iii) quality of life for all, especially the poor and the disadvantaged improved;² and (iv) a clean and sustainable environment provided.³ TNUFIP will focus on cities in five priority economic corridors: (i) Chennai–Hosur, (ii) Chennai–Tiruchirapalli, (iii) Coimbatore–Madurai, (iv) Coimbatore–Salem, and (v) Madurai–Thoothukudi. The reform-based component of the program will seek to provide results-based performance incentives to select cities and towns. The program shall also focus on transformative investments in 24x7 water supply, full sanitation coverage, smart water management, and urban climate change resilience drawing from the support of various Asian Development Bank (ADB) grant technical assistance. The TNUFIP is envisaged to be structured under three main components: (i) investment in municipal infrastructure namely water supply and sewerage, (ii) municipal reform-based activities, and (iii) technical assistance for design, supervision, program management, reforms, and climate change. TNUFIP will be implemented over an 8-year period beginning in 2018 and will be funded by ADB via its multitranche financing facility (MFF). The impact of the TNUFIP will be improved liveability and resilience in urban areas of economic importance in Tamil Nadu. Tranche 1 of TNUFIP covered underground sewerage system (UGSS) improvements in cities of Tirunelveli, Coimbatore, Trichy, Vellore, Rajapalayam and Chennai, and water supply system improvements in selected areas of Chennai Metropolitan region. Tranche-2 of TNUFIP will cover UGSS improvements in remaining areas of Vellore and Trichy and additionally cover cities of Ambur and Tirupur. Tranche 2 will also cover water supply system improvements in cities of Coimbatore, Madurai, and Tirupur.

2. Currently, only part of the Tiruchirappalli (popularly known as Trichy) city (~31%) is covered with a functional sewerage system (implemented in various stages) which is present in the higher density old city area (covering ~52% population). The existing system is connected to a sewage treatment plant (STP) at Panjapur. The sewerage master plan prepared for the city proposes to cover the remaining areas in three different phases: (i) Phase II-East Zone, (ii) Phase III-West Zone, and (iii) Phase IV-South Zone. It is proposed that Phase II and III will be implemented under ADB funded TNUFIP; with Phase II implemented under Tranche 1, and Phase III under Tranche 2. Phase IV is not yet planned. This subproject focuses on Phase III and includes provision of UGSS to the West Zone comprising presently unserved extended areas in the western part of the city. Phase III sewage generation will be connected to the STP proposed under Phase II. Proposed subproject components of the Trichy UGSS Phase III under ADB financed TNUFIP include:

- (i) laying of around 327 kilometer (km) of sewer network of PVC/DWC/CI pipes ranging from 200–1,000 millimeter (mm) dia.;
- (ii) laying of 24 km of pumping mains of 150–700 mm dia.;
- (iii) construction of seven sewage pumping stations;
- (iv) construction of 11 sewage lift stations; and

¹ Government of Tamil Nadu. 2012. [Vision 2030](#). Chennai.

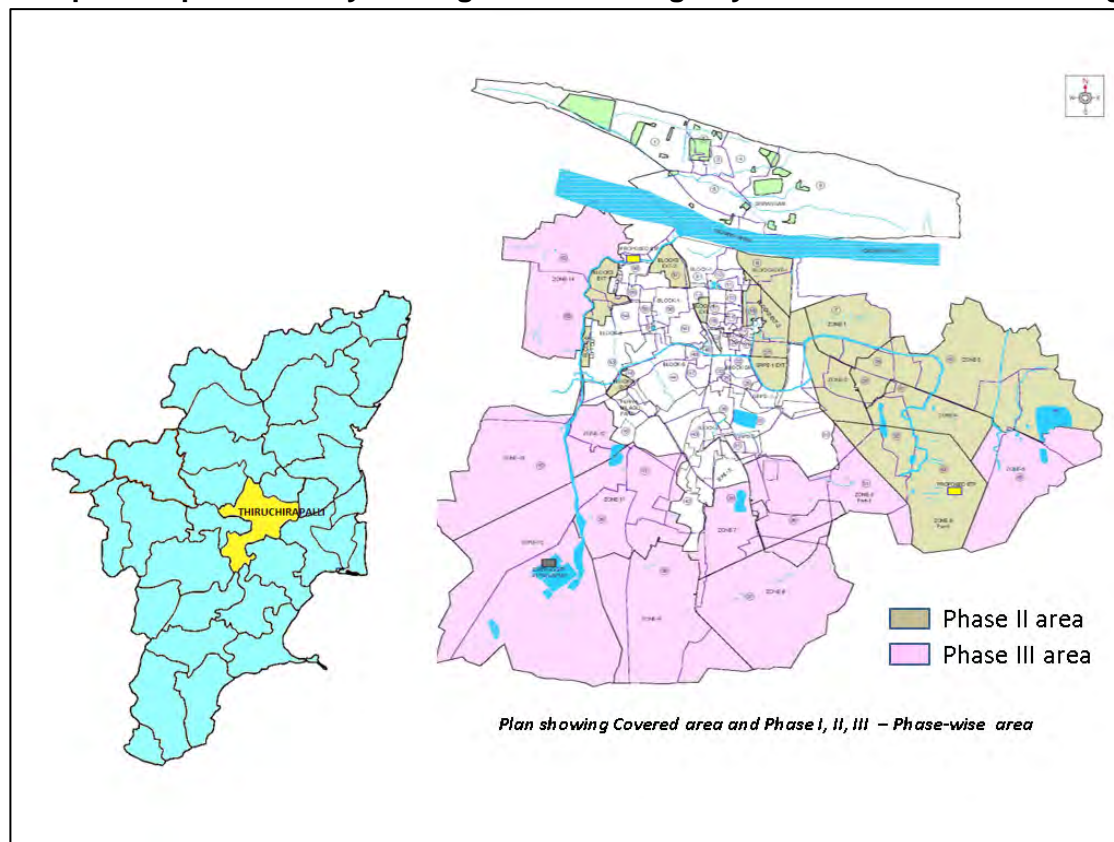
² Government of India. 2015. [Mission Statement and Guidelines, Atal Mission for Rejuvenation and Urban Transformation \(AMRUT\)](#). New Delhi

³ Government of India. 2015. [Smart Cities - Mission Statement and Guidelines](#). New Delhi.

(v) provision of 32,000 house service connections.

3. This draft resettlement plan is prepared for proposed sewerage subprojects in Trichy under Tranche 2 of ADB financed TNUFIP (Map 1) and is in line with the resettlement framework prepared for TNUFIP.

Map 1: Proposed Trichy Underground Sewerage System under ADB Financing



II. SCOPE OF LAND ACQUISITION AND RESETTLEMENT

4. Consistent with the subproject selection criteria, the proposed subproject avoids/minimizes involuntary resettlement impacts. Proposed sewage pumping stations and lift stations will either be accommodated within the existing facility premises or on government lands. No permanent/temporary land acquisition is envisaged for implementation of the proposed subproject components. Loss of a temporary structure used for storage on government land (sewage pumping site-5 site) in anticipation of ADB funded TNUFIP, was identified (refer Table 1 for details); the affected owner(s) will be identified by the ULB and impacts assessed and compensated in accordance with the resettlement framework for TNUFIP. The updated resettlement plan will include the socioeconomic profile and detailed assessment of loss to the structure owner.

5. Potential temporary resettlement impacts are identified due to rehabilitation and laying of sewer networks. Table 1 provides details of proposed subproject components under Trichy UGSS and the anticipated involuntary resettlement impacts. The sewer lines are generally proposed to be laid in the centre of the road/street; away from water supply and other utility lines to avoid problems in accessibility for future operation and maintenance. The proposed

sewerage system will be laid within road right-of-way (ROW) in the center of the road by cutting the black top portion. In wider roads, like state highway and national highway, divided roads etc., sewer lines will be laid along the edge of the road, but mostly within the black top portion. Laying of sewers either in the middle of the road or at the edge of the road under the black top portion/within the ROW will not require land acquisition or cause permanent displacement but is anticipated to cause temporary access disruptions and temporary income loss during construction.

6. All roads/streets in the project area were screened through transect walks for encroachments and detailed surveys in September 2018 were conducted for roads where temporary impacts were identified indicating potential temporary income loss to 79 roadside movable/transitory businesses. These are movable/transitory structures within the ROW belonging to non-titleholders. These impacts will be verified through detailed measurement surveys based on detailed design prior to implementation. The draft resettlement plan will be updated based on the results of detailed measurement and census surveys of affected persons. Appendix 1 provides a summary of transect walk surveys, which confirms that the impacts of sewer laying in Trichy are temporary. A majority of these are movable/transitory businesses within the ROW, belonging to non-titleholders. In line with ADB Safeguard Policy Statement (SPS) 2009, and based on the identified impacts, the Trichy subproject can be classified as involuntary resettlement category B. Resettlement plan preparation is required for Trichy subproject components in line with the ADB SPS 2009 and resettlement framework prepared for TNUFIP. This document is the draft resettlement plan for Trichy UGSS Phase-III.

7. To further minimize construction impacts, wherever possible, work will be executed during early hours of the day in order to avoid inconveniences to the public as well as traders and vendors. All safety norms would strictly be adhered to depending on the magnitude of work and the sensitivity of the location. Appendix 2 provides sample impact minimization measures template to be followed for pipe laying.⁴ The PIU will also ensure that all the necessary rules related to safety and security of the public and residents are followed by the contractor. The actual dates of construction schedule with respect to peak business hours, festival time, and special business days will be discussed with vendors, squatters, market committee members, and residents, and accordingly construction activities will be planned. After laying pipes the lane/road will be restored to its original condition (including bitumen, cement concrete and cement concrete interlocking tiles as applicable).

⁴ This will be updated based on the revised project scope and detailed drawings before project implementation.

Table 1: Proposed Subproject Components in Trichy Underground Sewaerage System Phase III

Sl. No.	Proposed Subproject Components	Scope of Land Acquisition and Rehabilitation and Resettlement (R&R)	Summary
1	<u>Sewer Network</u> . Laying of new 327 km of sewer network of DWC/CI pipes ranging from 200–1,000 mm dia.	Sewer pipes will be buried below in a trench in the middle of public roads within black top portion/ROW. For wider/divided roads sewers will be buried below in a trench on the edge of the road but still within the black top portion; within the existing ROW. Temporary impacts on movable businesses within ROW are envisaged on 79 affected persons.	Temporary economic impacts to 79 vendors assessed.
2	<u>Pumping Mains</u> . Laying of new 24 km (kilometer) pumping main of CI pipes ranging from 150–700 mm (millimeter) dia.	Pumping mains will be buried below in a trench in the middle of the road within ROW. No land acquisition and R&R envisaged.	No involuntary resettlement/ indigenous people impacts anticipated.
3	<u>Sewage Pumping Stations</u> . Construction of seven sewage pumping stations (Refer Annexure 3, 4 & 5 for layout drawings, site photos, ownership records and enter upon permission (EUPs) / no objection certificate (NOCs).	<u>Sewage Pumping Station-5</u> . The proposed sewage pumping station 5 is located at Indira Nagar and land belongs to Trichy Corporation (SF No. 65/1A). The site is currently covered with vegetation and on one side it is fenced and encroached, where temporary structure for storage purpose and trees observed. sewage pumping station 5 requires total area of around 999 square meter (m ²) and adequate land is available for the construction. Construction could have been done without disturbing the encroachment; however, the encroached structure was demolished by the corporation in anticipation of ADB project. The owner of the demolished structure and other assets (fence etc.) needs to be identified and a detailed socio-economic survey and consultations are required to arrive at entitlements/compensation in line with the Tamil Nadu Urban Infrastructure Flagship Improvement Program (TNUFIP resettlement framework). <u>Sewage Pumping Station-7</u> . The proposed sewage pumping station 5 7 is located at Lurdhu Nagar and land belongs to Trichy Corporation (Ward No: AF, Block No: 20, TS No: 146, SF No-119/1B). The site is classified as park land. The site is free of any structures and properly fenced on all sides with entrance gate. sewage pumping station 7 requires total area of around 790 m ² and adequate land is available for the construction. Balance land from the identified site can still be utilized for park with adequate buffer zone. No land acquisition and involuntary resettlement envisaged.	Loss of temporary shed built for storage purpose, loss of trees. No involuntary resettlement/ indigenous people impacts anticipated.

Sl. No.	Proposed Subproject Components	Scope of Land Acquisition and Rehabilitation and Resettlement (R&R)	Summary
		<p><u>Sewage Pumping Station-8.</u> The proposed sewage pumping station 8 is located at Viman Vihar, DTP layout -Kulavaipatty and land belongs to Trichy Corporation (Ward No: AW, Block No: 8, TS No: 70, SF.No. 304/1A1,307/9). The site is classified as children's park land. The site is free of any structures and currently covered with vegetation. sewage pumping station 8 requires total area of around 307 m² and adequate land is available for the construction. The remaining land from the identified site can continue to be utilized for children's park with adequate buffer zone. No land acquisition and involuntary resettlement envisaged.</p> <p><u>Sewage Pumping Station-9.</u> The proposed sewage pumping station 9 is located at Muthu Kumaraswamy Nagar, Sathnar and land belongs to Trichy Corporation (SF No. 62/1). The site is classified as park land. The site is free of any structures and currently covered with thick vegetation. Some local people are seen to access their agricultural lands through this site. As indicated by the officials, the people will continue to have this access as adequate land is available on the other side for the construction of sewage pumping station 9. Consultation with nearby agricultural landowners is suggested before contract award. sewage pumping station 9 requires total area of around 1,200 m² and adequate land is available for the construction. No land acquisition and involuntary resettlement envisaged.</p> <p><u>Sewage Pumping Station-10.</u> The proposed sewage pumping station 10 will be constructed within the STP premises at Panjapur. sewage pumping site-10 requires a total area of 794 m² and land belongs to Trichy Corporation (SF No. 248, 249). Adequate land is available for the construction of sewage pumping station 10.</p> <p><u>Sewage Pumping Station-11.</u> Alternative 1: The proposed sewage pumping station 11 site was initially located at Arasu Colony. This land belongs to Trichy Corporation and is classified as park site. The site is properly fenced from all sides; however, houses are located very close to it. The site is also used as common area for community functions like flag hoisting by nearby residents. Consultations with the community</p>	<p>No involuntary resettlement/ indigenous people impacts anticipated.</p> <p>No involuntary resettlement/ indigenous people impacts anticipated.</p> <p>No involuntary resettlement/ indigenous people impacts anticipated.</p> <p>No involuntary resettlement/ indigenous people impacts anticipated.</p>

Sl. No.	Proposed Subproject Components	Scope of Land Acquisition and Rehabilitation and Resettlement (R&R)	Summary
		<p>members indicated resistance to the construction of sewage pumping site within the identified site. Considering this, an alternate site has been identified.</p> <p>Alternative 2: An alternate site identified for sewage pumping station 11 is located within the premises of gasifier crematorium, Karumandapam. The land belongs to Trichy Corporation (Ward No: AL, Block No: 14, TS No: 103) and spread over 0.23 hectares. Sewage pumping station 11 requires total area of around 1,295 m² and adequate land is available for the construction. No land acquisition and involuntary resettlement envisaged. A separate entrance from the main road will be provided and compound wall be constructed between the crematorium and sewage pumping station to separate the premises.</p> <p><u>Sewage Pumping Station-12.</u> The proposed sewage pumping station 12 is located at Natchatra nagar, Karumandapam and land belongs to Trichy Corporation (Ward No: AA, Block No: 1, TS No: 33-5, 35-4, 39-3). The site is classified as park land and properly fenced on all sides. sewage pumping site-12 requires a total area of 916 m² and adequate land is available for the construction.</p>	No involuntary resettlement/ indigenous people impacts anticipated.
4	<p><u>Lift Stations.</u> Construction of 11 new lift stations at various locations of 2.0-3.0 m. collection well diameter.</p> <p>(Refer Annexure 3, 4 & 5 for layout drawings, site photos, ownership records and EUPs/NOCs).</p>	<p>For all lift stations, lift wells will be constructed on / along public roads (similar to manholes) where the sewer ends will terminate. Pumps will be installed in the well, and a control panel box will be installed near the well. Lift stations are proposed at following locations:</p> <ul style="list-style-type: none"> • lift station 5a: At VOC Nagar along the road • lift station 5b: At Suruti Kovil street, within corporation site along public toilet. Site is currently used for dumping construction material for nearby house, temporary use will be cleared. Site within well-developed residential area. • lift station 7a: At Thirumurugan Nagar, along road. • lift station 8a: At Sai nagar, along the road within developing residential area. • lift station 9a: At Kalinji Nagar, along road at the end of residential areas, backside corporation pond and private agricultural lands. • lift station 11b: At Kamaraj Street, at the crossroads. • lift station 11c: At Anbier Nagar, at the road junction near Madurai bypass 	No involuntary resettlement/ indigenous people impacts anticipated.

Sl. No.	Proposed Subproject Components	Scope of Land Acquisition and Rehabilitation and Resettlement (R&R)	Summary
		<ul style="list-style-type: none"> • lift station 11d: At Rajeev Gandhi Nagar, within corporation land where public toilet is located, adequate space is available, on one side toilet and overhead tank (OHT) are present. • lift station 11e: At Indira Gandhi Nagar, at the road junction within residential area • lift station 11f: At Pilliyar police station, along national highway, however, will be placed along corporation road so no permission will be required. • lift station 12a: At Ashok Nagar along the road, kutcha road within residential layout. 	
5	<u>House Service Connections</u> . Provision of 32,000 house service connections with inspection chambers	Inspection chambers and house service connections will be provided within individual's property boundary. No land acquisition and R&R envisaged	No involuntary resettlement/ indigenous people impacts anticipated

Source: Trichy UGSS DPR, TCC and site visits.

III. SOCIOECONOMIC INFORMATION AND PROFILE

8. Transect walks identified a total of 79 affected persons whose businesses are likely to be temporarily affected during pipe laying, as they carry out their activities within or very close to the proposed pipeline ROW. These businesses are mainly eateries (52%) and flower, fruit or vegetable sellers (29%). The remaining (19%) are petty shops, automobile/scrap/welding units, and small furniture shops. Of the total surveyed affected persons, 20% were absentees. Close to 52% percent affected persons are mobile vendors and some of them indicated that they sometimes make rounds in nearby areas to sell their wares though their location is generally fixed. An additional 46% use road ROW for storage or display of wares with temporary structures that can be easily dismantled and removed. These affected persons were willing to remove the extended part of their shop or shift temporarily, given adequate notice. No damage to any structure is envisaged; structures on wheels can be easily moved while the remaining can be easily removed/dismantled without causing damage and assembled again. Affected people can continue their businesses at their original place once the construction work is completed and loss of income for the period of disruption will be compensated in line with the Resettlement Framework. Shops with extended activities on roads are all legal structures of titleholders while the remaining stalls on the roads were those of non-titleholders. Only 2% of affected persons have small non-movable structures very close to ROW and slight alignment in these sections can help continue their business post-construction.⁵

9. Street vending is quite a common practice in many cities of the state including Trichy and close to 43% of the affected persons present during the survey indicated that they have been operating their business at the present location for more than 10 years. An additional 21% indicated that they have this fixed location for more than 5 years while the remaining 37% said they have moved in respective places in last 1–5 years.

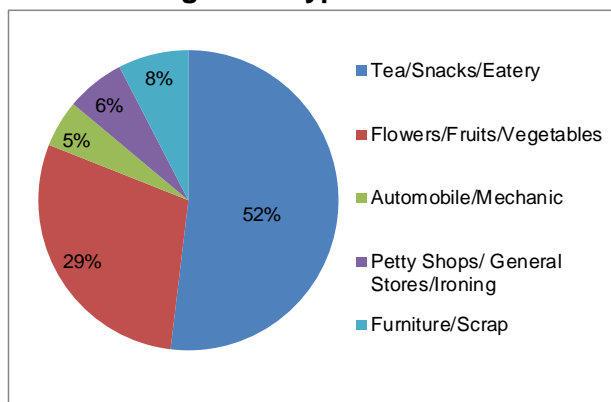
10. More than half businesses (56%) earn a monthly income between ₹5,000–₹10,000 while around 10% earn income between ₹3,000–₹5,000. Average monthly income (excluding the income of absentees which is not known) works out at ₹9,689 with minimum at ₹3,000 and maximum at ₹50,000. Considering a work week of 6 days (26 days per month), average daily income is estimated at ₹373 for all affected persons. The overall average is lower than the notified minimum wage rate at ₹643. A total of 70% of the affected persons are the sole breadwinners in their respective families. In case of 82% of the affected businesses, business owners and structure owners are the same while in the remaining cases business owners and structure owners are different. However, no structure loss is expected in either case. Hence, in both cases, only business owners will be compensated for the temporary loss of livelihood during construction, if any. In case any structure loss is identified during detailed measurement survey (DMS) before construction; it will be compensated in line with the policy principles and entitlement matrix of the resettlement framework of TNUFIP.

11. Among all business owners who were present during the survey, 15% were found to be elderly while the remaining were between 25–60 years of age. Among all present affected persons, only 5% are educated up to graduation level while among the remaining, 13% are illiterate, and 15% have basic reading skills, 8% have completed primary level (4th grade), 47% have studied up to 10th grade, while 12% have completed higher secondary schooling. Of the temporarily affected persons present during the survey, around 35% affected persons belong to scheduled caste category while the remaining belong to other backward classes. No scheduled

⁵ All the above-mentioned businesses are anticipated to face partial loss of income for a period of 25 days each, during construction.

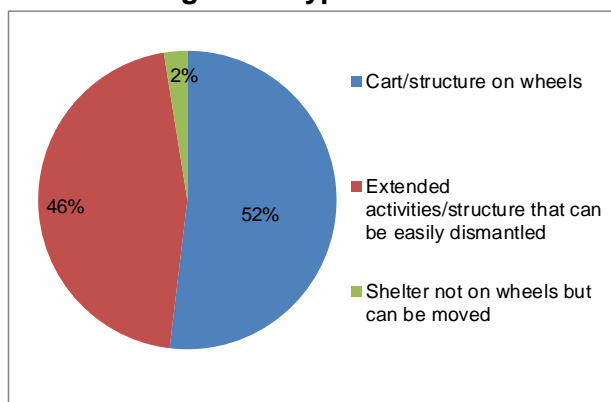
tribes were identified among the temporarily affected persons during resettlement surveys. Only 5% affected persons were identified as women-headed households, where the head of household is also the sole breadwinner. Total vulnerable affected persons comprise 43% of the total surveyed affected persons and comprise below the poverty line, elderly (age above 60), scheduled castes and women headed households. A total of 11% households fulfil multiple vulnerability criteria.

Figure 1: Type of Business



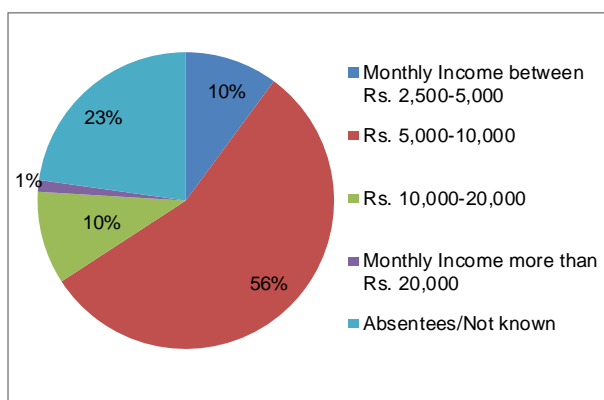
Source: Business Survey, 2018

Figure 2: Type of Structure



Source: Business Survey, 2018

Figure 3: Monthly Household Income



Source: Business Survey, 2018

12. The draft resettlement plan will be updated based on DMS on roads where pipelines will be laid before mobilization of contractor and revised resettlement plan will be submitted to the ADB for approval. Socioeconomic profile of affected person(s) who faced structure loss at sewage pumping site-5 site, will also be included in the updated resettlement plan. A census (100%) and socioeconomic surveys will be undertaken to register and document the status of all the affected persons within subproject impact area. Any temporary impacts or costs incurred by affected persons will be identified through the DMS and compensated at replacement cost, in line with the principles of the resettlement framework.

IV. INFORMATION DISCLOSURE, CONSULTATION, AND PARTICIPATION

13. Consultation with the primary and secondary stakeholders is an important tool for successful preparation and implementation of resettlement plan. The key stakeholders consulted during sub-project preparation, resettlement plan preparation and implementation, and program implementation include:

- (i) Heads and members of households likely to be affected;
- (ii) program beneficiaries, groups/ clusters of affected persons;
- (iii) Local voluntary organizations and community-based organizations;
- (iv) Government agencies and departments; and
- (v) Major project stakeholders, such as women, traders' associations, community-based organizations, etc.

14. Types of consultations during project preparatory technical assistance (PPTA) stage are presented in Table 2. Consultations with potentially affected persons were conducted during transect walks. The concerns expressed mainly included traffic disruptions and temporary impacts on livelihood, including duration of impact (Appendix 3). It was informed to surveyed potential affected persons that appropriate measures will be undertaken during construction to minimize impacts (including scheduling of activities during the early morning and reducing construction activities during the rush hour). It was also informed that, despite mitigation measures, any other unanticipated temporary impacts on livelihood would be compensated in accordance with the resettlement framework policy provisions. Consultations with residents of Arasu Colony indicated resistance for construction of sewerage pumping station 11 as the site is situated in a densely populated residential area and currently used for various community activities. Considering this, an alternate site was identified which is located at gasifier crematorium at Karumandapam (Table 1). Further consultations will also include focus group discussions (FGDs) and structured census surveys parallel to DMS in sections ready for implementation before the project implementation. These will be carried out by construction management and supervision consultant's (CMSC) social and resettlement safeguard expert (SRSE) who will work closely with program implementation unit (PIU) assistant safeguards officer (ASO) and PMU's social project officer (SPO). CMSC will also identify non-titleholder(s) at site sewage pumping station 5 before the start of civil works and conduct consultations with them to compensate them adequately for loss of temporary structure/trees/any other associated assets.

15. At this PPTA stage, disclosure activities include dissemination/distribution of summary of resettlement framework and resettlement plan in local language to key stakeholders including affected persons. The approved resettlement framework/resettlement plan (full documents) will also be disclosed on ADB and local government's websites and will be available in key local/state government offices. During the subproject implementation, construction schedules will be informed to all residents (including affected persons) prior to the commencement of pipe laying through signboards. The signboards will be in local language and will include at minimum:

(i) section likely to be affected, (ii) start and end dates, (iii) information on traffic rerouting if any, and (iv) contact information for questions/ grievances.

Table 2: Consultation and Disclosure Activities during Project Preparatory and Technical Assistance Stage

Activities	Details	Responsible Agency
Preliminary awareness about the project activities (completed)	City visits and series of meeting with key stakeholders (ULB, TWADB, DC etc. officials)	PMU/PPTA team
Baseline survey (completed)	Sample household socioeconomic surveys to understand baseline infrastructure situation, problems faced in service delivery, household's willingness to get connected to new systems and willingness to pay for it	DPR Consultants
Transect walks and business survey (completed)	Undertake transect walks and screening of project impact area to identify potential affected persons and record their socioeconomic and business profile.	PPTA team
City wide stakeholder consultation (proposed)	Dissemination of project related technical and other information to representatives of all key stakeholders (at one platform) and disclosure of summary of social safeguard documents in local languages	PMU/ PIU/ PPTA team

DPR= detailed project report, PIU = program implementation unit, PMU = program management unit, PPTA = project preparatory technical assistance, TWADB = Tamil Nadu Water Supply and Drainage Board, ULB = urban local body.

16. Continued involvement of those affected by the subproject will be ensured. An intensive information dissemination and feedback campaign for affected persons will be conducted by the PIU from the time of resettlement plan preparation to implementation and monitoring. The proceedings of such campaigns shall be documented. All the comments made and concerns raised by the affected persons will be documented in the subproject records and summarized in sub-project monitoring reports.

17. During revised resettlement plan preparation, PIU/project management unit (PMU) will be responsible for issuing various required public notices. For temporary impacts, the date of census survey will be considered as the cut-off date. Printed information/boards shall be displayed/erected in project affected area at a common place. Similarly, list of affected persons will be published at common places with contact details of CMSC/PIU officials. The list will be displayed area-wise and at the same time for the entire city. This will help avoid affected persons moving into other areas and identify any duplication of affected persons. CMSC will facilitate affected persons to approach lists in their area and get confirmation on any duplication, missing/absent affected persons.

18. In addition, draft/final resettlement framework/resettlement plan will be made available in urban local body (ULB), PIU and PMU offices. The resettlement framework and resettlement plan will be disclosed in ADB's website and the ULB/PMU websites. Further, final resettlement plans will be disclosed in ADB, PMU, and PIU/ULB websites; and information dissemination, through subproject specific leaflets and public announcements, and consultation will continue throughout program implementation. The project leaflets will be distributed by governance improvement and awareness consultant (GIAC)/CMSC to the affected communities for their information. A sample project information dissemination leaflet is attached in Appendix 6.

V. GRIEVANCE REDRESS MECHANISM

19. A common grievance redress mechanism (GRM) is in place to redress social, environmental, or any other project related grievances, as Trichy is also a tranche 1 town for TNUFIP. The GRM described below has been developed in consultation with stakeholders. Public awareness campaign will be conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign will ensure that the poor, vulnerable and others are made aware of grievance redress procedures and entitlements per project entitlement matrix, and PMU and concerned PIUs will ensure that their grievances are addressed.

20. Affected persons will have the flexibility of conveying grievances/suggestions by dropping grievance redress/suggestion forms in complaints/suggestion boxes or through telephone hotlines at accessible locations, by e-mail, by post, or by writing in complaints register in ULB or PIU or implementing agency offices. PIU safeguards officer will have the responsibility for timely grievance redress on safeguards and gender issues and for registration of grievances, related disclosure, and communication with the aggrieved party.

21. GRM provides an accessible, inclusive, gender-sensitive and culturally appropriate platform for receiving and facilitating resolution of affected persons' grievances related to the project. A two-tier grievance redress mechanism is conceived, one, at project level and another, beyond project level. For the project level GRM, a grievance redress committee (GRC) will be established in PIUs; and safeguards officer and social and gender officer will be responsible for creating awareness among affected communities and help them through the process of grievance redress, recording and registering grievances of non-literate affected persons.

22. GRM aims to provide a time-bound and transparent mechanism to voice and resolve social and environmental concerns linked to the project. All grievances – major or minor, will be registered. Documentation of the name of the complainant, date of receipt of the complaint, address/contact details of the person, location of the problem area, and how the problem was resolved will be undertaken. PIU will also be responsible for follow-through for each grievance, periodic information dissemination to complainants on the status of their grievance and recording their feedback (satisfaction/ dissatisfaction and suggestions).

23. In case of grievances that are immediate and urgent in the perception of the complainant, the contractor, and supervision personnel of the CMSC and PIU will resolve the issue on site, and any issue that is not resolved at this level will be dealt at PIU head level for immediate resolution. Should the PIU fail to resolve any grievance within the stipulated time period, the unresolved grievances will be taken up at ULB level. In the event that certain grievances cannot be resolved even at ULB level, particularly in matters related to land purchase/acquisition, payment of compensation, environmental pollution etc., they will be referred to the district level GRC headed by the district collector. Any issue which requires higher than district level inter-departmental coordination or grievance redress, will be referred to the state level steering committee.

24. GRC will meet every month (if there are pending, registered grievances), determine the merit of each grievance, and resolve grievances within specified time upon receiving the complaint-filing which the grievance will be addressed by the state-level steering committee. The steering committee will resolve escalated/unresolved grievances received.

25. **Composition of Grievance Redress Committee.** GRC will be headed by the district collector, and members include: ULB/PIU head, safeguards officer of PIU, representative of

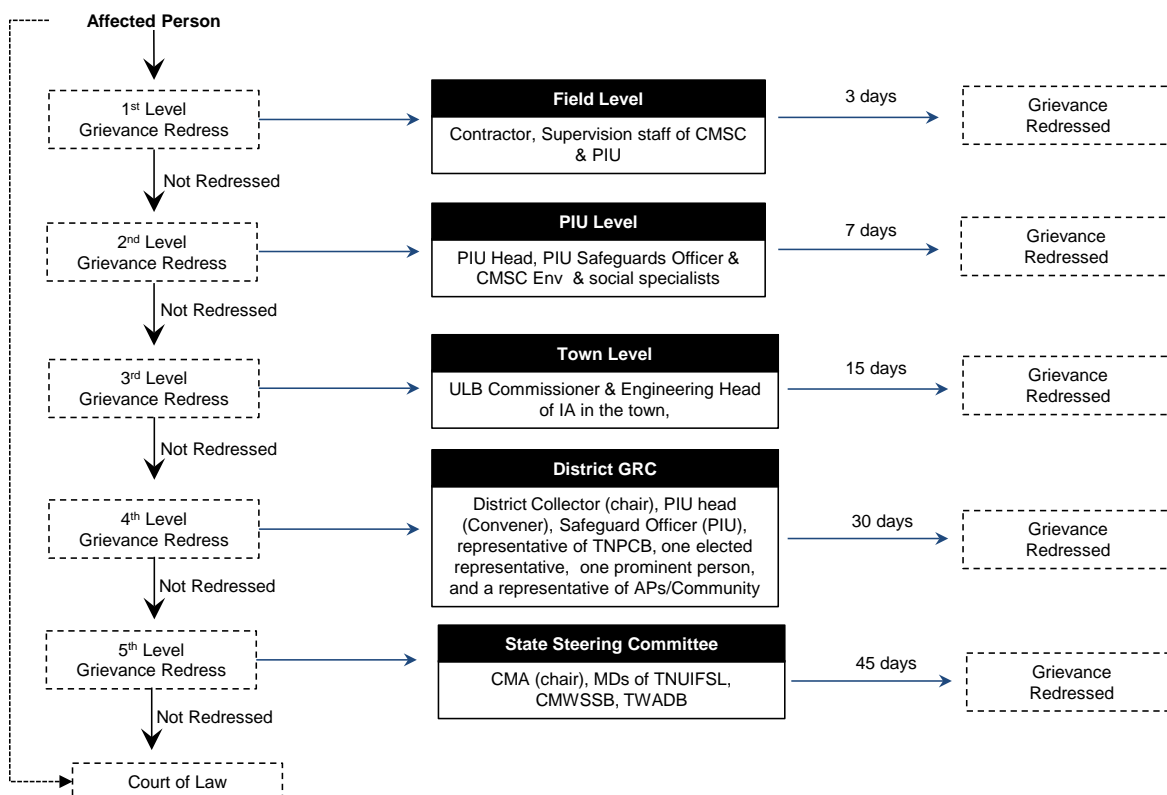
Tamil Nadu Pollution Control Board (TNPCB), one elected representative/prominent citizen from the area, and a representative of affected community. GRC must have a women member.

26. **State Level Steering Committee.** The state level steering committee will include the commissioner of Municipal Administration as chair, while members include managing directors of Tamil Nadu Urban Infrastructure Financial Services Ltd. (TNUIFSL), Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB), Tamil Nadu Water Supply and Drainage Board (TWADB) and others as applicable.

27. **Areas of Jurisdiction.** The areas of jurisdiction of the GRC, headed by the district magistrate will be: (i) all locations or sites within the district where subproject facilities are proposed or (ii) their areas of influence within the District. The steering committee will have jurisdictional authority across the state (i.e., areas of influence of subproject facilities beyond district boundaries, if any).

28. The multi-tier GRM for the project is outlined below (Figure 4), each tier having time-bound schedules and with responsible persons identified to address grievances and seek appropriate persons' advice at each stage, as required. The GRC will continue to function throughout the project duration. The implementing agencies/ ULBs shall issue notifications to establish the respective PIU level grievance redress cells, with details of composition, process of grievance redress to be followed, and time limit for grievance redress at each level.

- (i) **First Level Grievance.** The contractor and construction management and supervision consultant (CMSC) supervision personnel and PIU supervision personnel can immediately resolve issues on-site in consultation with each other and will be required to do so within 3 days of receipt of a complaint/grievance.
- (ii) **Second Level Grievance.** All grievances that cannot be redressed within 3 days at field/ward level will be brought to the notice of PIU social safeguards officer (SSO). PIU will resolve the grievance within 7 days of receipt of compliance/grievance in discussion with the CMSC and the Contractor. PIU SSO will be supported by the CMSC SSS at this stage.
- (iii) **Third Level Grievance.** All the grievances that are not addressed by PIU within 7 days of receipt will be brought to the notice of the town level committee, of which ULB commissioner will be the chairperson, and will be assisted by the concerned city level engineers. The town level committee will meet twice a month and determine the merit of each grievance brought to the committee. The PIU SSO will be responsible to see through the process of redressal of each grievance. The town level committee will resolve the grievance within 15 days of receiving the complaint.
- (iv) **Fourth Level Grievance.** All grievances that are not addressed by the town level committee within 15 days, and which require the district collector's intervention, will be escalated to the district level GRC, chaired by the district collector. The district level GRC will have the district collector as chair, PIU head as convenor, and safeguard officers of the PIU, representative of TNPCB, one elected representative, one prominent person/member of the community, and a representative of affected persons/community as members. At least one member of the GRC will be a woman. The GRC will resolve the grievance within 30 days of registration.
- (v) **Fifth Level Grievance.** Any grievance that remains unresolved by the GRC will be escalated to the state level steering committee.

Figure 4: Grievance Redress Process

APs= Affected Persons, CMA= Commisionerate of Municipal Administration, CMWSSB= Chennai Metro Water Supply and Sewerage Board, CMSC= construction management and supervision consultant, IA= implementing agency, MD= managing director, PIU= program implementation unit, PMU= program management unit, TNUIFSL= Tamil Nadu Urban Infrastructure Financial Services Ltd., TWADB= Tamil Nadu Water and Drainage Board.

29. The project GRM notwithstanding, an aggrieved person shall have access to the country's legal system at any stage and accessing the country's legal system can run parallel to accessing the GRM and is not dependent on the negative outcome of the GRM. In case of grievance related to land acquisition, resettlement and rehabilitation⁶, the affected persons will have to approach a legal body/court specially proposed under RFCTLARR, 2013; Land Acquisition, Rehabilitation and Resettlement Authority (LARRA).

30. In the event that the established GRM is not in a position to resolve the issue, the affected person also can use the ADB Accountability Mechanism through directly contacting (in writing) the complaint receiving officer at ADB headquarters or the ADB India Resident Mission. Before submitting a complaint to the Accountability Mechanism, it is necessary that affected persons make a good faith effort to solve the problem by working with the concerned ADB operations department and/or the resident mission. Only after doing that, and if they are still dissatisfied, will the Accountability Mechanism consider the compliant eligible for review. The complaint can be submitted in any of the official languages of ADB's developing member countries. The ADB Accountability Mechanism information will be included in the project-relevant information to be distributed to the affected communities, as part of the project GRM.

⁶ The Authority admits grievance only with reference to the land acquisition and R&R issues under the RFCTLARR, 2013.

31. **Recordkeeping.** Records of all grievances received, including contact details of complainant, complaint received date, nature of grievance, agreed corrective actions and the date these were effected and final outcome will be kept by ULB/ PIU (with the support of CMSC) and submitted to PMU.

32. **Information Dissemination Methods of the Grievance Redress Mechanism.** The PIU, assisted by CMSC will be responsible for information dissemination to affected persons and general public in the project area on grievance redress mechanism. Public awareness campaign will be conducted to ensure that awareness on the project and its grievance redress procedures is generated. The campaign will ensure that the poor, vulnerable, and others are made aware of grievance redress procedures and entitlements per this resettlement framework including contact details of officials/members of GRC, where/how to register grievance, various stages of grievance redress process, time likely to be taken for redress of minor and major grievances, etc. Grievances received and responses provided will be documented and reported back to the affected persons. The number of grievances recorded and resolved and the outcomes will be displayed/disclosed in the PIU, offices, ULB notice boards, and on the web, as well as reported in the semi-annual environmental and social monitoring reports to be submitted to ADB. A sample grievance registration form has been attached in Appendix 6.

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

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

VI. LEGAL FRAMEWORK

35. The policy framework and entitlements for the TNUFIP are based on:

- (i) The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (RFCTLARR), 2013 and RFCTLARR GOTN Notified Rules, 2017;
- (ii) Environmental and Social Management Framework (ESMF) of TNUIFSL;
- (iii) ADB SPS, 2009; and
- (iv) The agreed entitlement matrix and resettlement framework.

36. The salient features of government and ADB policies are summarized below. The resettlement principles and procedures to be followed for social safeguards under TNUIFP are detailed out in the resettlement framework document. In case of discrepancy between the policies of ADB and the government, gap-filling measures will be adopted to bridge the discrepancies. Core involuntary resettlement principles for the TNUFIP to be followed for each subproject, including sample subprojects are:

- (i) Screening of the project to identify involuntary resettlement impacts and risks. Minimizing and avoiding land acquisition and resettlement impacts of each subproject by exploring all viable alternative designs;
- (ii) Where unavoidable, time-bound resettlement plans be prepared and affected persons will be assisted in improving or at least regaining their pre-program standard of living;
- (iii) Full information and close consultations with affected persons including consultation with affected persons on compensation, disclosure of resettlement information to affected persons, and participation of affected persons in planning and implementing subprojects will be ensured; Disclose a draft resettlement plan,

including documentation of the consultation process in a timely manner to affected persons and other stakeholders. Disclose the final resettlement plan and other documents such as the monitoring reports to affected persons and other stakeholders;

- (iv) Where the resettlement impacts are unavoidable, the displaced persons should be assisted in improving or at least regaining their standard of living;
- (v) Vulnerable groups comprising below poverty line households, including female-headed households, disabled persons, elderly, children, landless, non-titled households with no tenure security, and schedule castes and scheduled tribe households will be given special assistance;
- (vi) Payment of compensation to affected persons including non-titled persons (e.g., informal dwellers/squatters, and encroachers) for acquired assets at replacement cost;
- (vii) Payment of compensation and resettlement assistance prior to the contractor taking physical acquisition of the land and prior to the commencement of any construction activities;
- (viii) Provision of income restoration and rehabilitation; and
- (ix) Establishment of appropriate grievance redress mechanisms.

37. A detailed description of each compensation measure and assistance is provided in the entitlement matrix attached in resettlement framework while a Trichy subproject specific/applicable entitlement matrix is given in Table 3. Affected persons will be entitled to a combination of compensation measures and resettlement assistance, depending on the nature of ownership rights of lost assets and scope of the impact, including social and economic vulnerability of the affected persons.

VII. ENTITLEMENTS, ASSISTANCE, AND BENEFITS

38. During the fact-finding mission (April 2019) it was noticed that a temporary structure (storage shed) recorded at the sewage pumping station 5 site had been demolished in anticipation of ADB funded TNUFIP. In line with the policy principles and entitlement matrix of the TNUFIP, owner(s) of the structures/encroached land will be identified and adequately compensated.

39. Potential temporary economic impacts identified for Trichy subproject range from 20–30 days of construction time for each road stretch of about 500 m. In a majority of the roads, impacts will be avoided as the sewer network will be laid in the middle of the road. In wider and divided roads where work needs to be undertaken on both sides of the road, impacts can be avoided/minimized by taking construction on one side of the road at a time. In such cases temporarily affected persons will be assisted in moving to the other side of the road and returning their temporary structures to the original location after construction is completed. Affected people can continue their businesses at their original place once the construction work is completed and loss of income for the period of disruption will be compensated in line with the resettlement framework. Where moving is not required, access will be ensured by the contractor through measures prescribed in environmental management plan. During implementation, if a larger number of affected persons are identified at one place (e.g. vegetable market), an alternate place in the vicinity will be identified so that they can continue with their economic activities.

40. Majority of potentially affected persons use movable stalls that can be shifted to nearby locations, if properly informed. Advance notice regarding construction activities, including duration and type of disruption provided to temporarily affected persons once contractor's work

plans are finalized, with minimum 7 working days. If required, they will also be assisted to temporarily shift for continued economic activity. For example, they will be assisted to shift to the other side of the road or nearby areas where there is no construction. Ensuring there is no income or access loss during sub-project construction is the responsibility of contractors.

41. If construction activities result in unavoidable livelihood disruption, compensation for lost income based on the net income or as per notified minimum wage rates, whichever is higher will be provided. Vulnerable affected persons will be given priority in project construction employment. Compensation and assistance to temporarily affected persons will be made prior to their shifting from original place of business (if required) and before start of civil works. Since most affected households have moveable stalls, identification cards should be distributed 7 days before compensation. In summary, temporarily affected persons will be provided with:

- (i) Advance notice regarding construction activities, including duration and type of disruption provided to temporarily affected persons once contractor's work plans are finalized, with minimum 7 working days;
- (ii) Contractor's actions to ensure there is no income/ access loss consistent with the initial environmental examination. This includes: leaving spaces for access between mounds of soil, providing walkways and metal sheets to maintain access across trenches for people and vehicles where required, increased workforces to finish work in areas with impacts on access, timing of works to reduce disruption during business hours, phased construction schedule and working one segment at a time and one side of the road at a time;
- (iii) Assistance to mobile vendors/hawkers to temporarily shift for continued economic activity. For example, assistance to shift to the other side of the road where there is no construction; and
- (iv) For construction activities involving unavoidable livelihood disruption (temporary income loss), compensation for lost income for the period of disruption.

Table 3: Entitlement Matrix⁷

No.	Impact Category	Entitlements	Explanations
Impacts to Non-title holders (Squatters, encroachers, tenants, leaseholders)			
A	Encroached Structure	Cash compensation for the affected structure as per the replacement cost without depreciation and right to salvage material.	Replacement value of the encroached structure without depreciation
Unforeseen Impacts^a			
A	Unforeseen Impacts	Unforeseen impacts encountered during implementation will be addressed in accordance with the principles of this resettlement framework.	-
Temporary Economic Impacts during implementation			
A	Temporary Economic Impacts	Compensation for loss of income for the duration of impact based on net income worked out as per IT returns or based on notified minimum wage rates, whichever is higher.	Advance notice provided to temporarily affected persons once contractor's work plans are finalized, with minimum 7 working days.

⁷ Any changes required in the entitlement matrix pursuant to any amendments in the LARR 2013 Act and Rules notified by the GOTN will be incorporated with the concurrence of the ADB. All cash allowance in the entitlement matrix will be revised at the rate of 5% per annum starting from financial year 2017-2018.

No.	Impact Category	Entitlements	Explanations
Impacts to Community Assets			
A	Community Assets	Wherever possible the community assets will be relocated/ restored in consultation with community. When the relocation/restoration of the community assets are not feasible, they will be replaced/provided afresh.	-

^a If unanticipated involuntary resettlement impacts are found during implementation, a social impact assessment will be conducted and the resettlement plan updated or a new resettlement plan prepared, in accordance with ADB SPS 2009.

VIII. RESETTLEMENT BUDGET AND FINANCING PLAN

42. The resettlement budget for Trichy subproject is estimated at ₹1.95 million. The costs are indicative estimates to be confirmed post detailed measurement survey based on detailed design and comprise GRM and consultation costs. Resettlement plan costs will be confirmed during detailed project preparation/implementation.

Table 4: Resettlement Cost

	Details	Qty.	Unit	Unit cost (₹)	Total Cost (₹)
1	Temporary Income Loss				
	Provisional sum for compensation of temporary income loss at notified minimum wage rate ^a for 79 affected persons for 25 days ^b	1,975	Days	643	1,269,925
	Sub Total 1				1,269,925
2	Provisional Sum for Loss of Temporary Storage Structure/Assets at sewage pumping site-5 site^c				50,000
	Sub Total 2				50,000
3	Surveys, consultations, grievances and awareness				
	DMS for resettlement plan updating ^d		Lump sum		200,000
	Consultation, grievance redress, disclosure ^e		Lump sum		250,000
	Sub Total 3				450,000
	Sub Total 1+2+3				1,769,925
	Contingency @ 10%				176,993
	Grand Total (₹)				1,946,918

Notes:

^a Government of Tamil Nadu, Labour and Employment Department. 2017. *Government Order (2D) No. 62 dated 11 October 2017. Minimum Wages Act, 1948 (Central Act XI of 1948): Revision of minimum rates of wages for employment under any local authority - Orders Issued.* Chennai Government of Tamilnadu, Labour and Employment Department. 2017. *Government Order (2D) No. 62 dated 11 October 2017. Minimum Wages Act, 1948 (Central Act XI of 1948): Revision of minimum rates of wages for employment under any local authority - Orders Issued.* Chennai

^b For the purpose of budget preparation in the draft resettlement plan, notified minimum wage rate is used, as per the entitlement matrix. Costs in the updated resettlement plan will be based on a comparison of census and socio-economic survey data on income with the prevailing notified minimum wage rate at the time of compensation payment and the higher of the two will be used, for the period of disruption.

^c This is an indicative cost for demolished temporary structure (storage shed), fencing, trees or any other associated assets. This cost will be revised at actual/replacement cost in the updated RP, based on inventory of loss and socioeconomic survey of affected person(s). Costs will include compensation for loss of structure, trees, assets or

any other identified loss and other benefits in line with the Resettlement Framework including vulnerability benefits, as applicable.

^d Detailed measurement surveys (DMS) will be conducted in sections ready for implementation, based on detailed design to confirm impacts.

^e The allocation for disclosure includes cost of translation of the resettlement plan to Tamil.

43. All land acquisition and resettlement costs will be borne by the government/ULB/PIU. Under TNUFIP, it is suggested that payment will be directly made by PIU to affected persons. The CMSC SRSE/GIAC will be involved in facilitating the disbursement process and will facilitate opening bank accounts for the affected persons (both permanent and temporary losses) who do not have bank accounts.

IX. INSTITUTIONAL ARRANGEMENTS AND IMPLEMENTATION SCHEDULE

44. The Municipal Administration and Water Supply Department (MAWS) acting through the TNUIFSL will be the state-level executing agency. A program steering committee, headed by principal secretary, MAWS, GOTTN, will provide overall guidance and strategic directions to the program. A PMU for TNUFIP, headed by the managing director, TNUIFSL acting as program director will be established within TNUIFSL for overall management, planning, implementing, monitoring, reporting, and coordinating of TNUFIP. The Commissioner of Municipal Administration will act as the deputy program director in the PMU. The project urban local bodies (ULBs), represented by respective municipal commissioners, will be the implementing agencies for works in cities/towns and will establish PIUs headed by a municipal engineer as full-time project manager. For sewerage and water supply works in Chennai, CMWSSB, represented by its managing director, will be the implementing agency and establish a PIU headed by a superintending engineer as full-time project manager. PIUs will be responsible for overseeing implementation of the various projects on a day-to-day basis. ULBs under the program with less project implementation capacity, may utilize implementation support from the TWADB to act as PIU. The project managers of the PIUs will be supported by technical, financial, safeguards, and administrative staff from a CMSC recruited by TNUIFSL. For the capacity development and incentivized reforms components, Commissionerate of Municipal Administration (CMA) acting through its Commissioner, will be responsible for carrying out these activities and establish a PIU.

45. A program steering committee, headed by principal secretary, MAWS, and members comprises of: (i) managing director, TNUIFSL (convener); (ii) commissioner of Municipal Administration; (iii) managing director, CMWSSB; (iv) managing director, TWADB; and (v) managing director, Tamil Nadu Urban Finance and Infrastructure Development Corporation (TUFIDCO).

46. **Program Management Unit.** PMU will (i) monitor the project and have overall responsibility for ensuring adoption and compliance of resettlement framework and ADB SPS 2009. Additionally, PMU will monitor PIUs for: (i) identifying and preparing subprojects, (ii) reviewing resettlement plans prepared by PIU/ ULB, (iii) ensure adoption and compliance of resettlement framework in land acquisition and other safeguards, (iv) guide in awareness campaigns and participation programs, (v) organize and operate the program performance monitoring system, (vi) prepare and submit timely reports to ADB, and (vii) design and organize capacity building programs. PMU will be assisted by CMSC in managing and guiding the overall implementation of the program. Social project officer (SPO) of PMU will responsible for all land acquisition and resettlement matters from PMU side. PMU SPO will perform responsibilities like: (i) addressing social safeguards issues, (ii) implementing the resettlement framework, (iii) report to projects head with respect to land acquisition and resettlement plan implementation in the sub-projects, (iv) monitoring physical and financial progress on land acquisition activities and

updating the PMU on the same, (v) monitoring implementation of safeguards plans (resettlement plan), (vi) guiding the PIUs as and when necessary, and (vii) endorsing and submitting periodic monitoring reports.⁸

47. **Program Implementation Unit.**⁹ PIUs will be established in each of the participating ULBs within their structure or at TWADB and in CMWSSB. For Trichy UGSS subproject PIU will be established at ULB supported by CMSC. PIU ASO will assist PMU SPO in implementation of the social safeguards at the PIU level. The PIUs will be responsible for implementation of the resettlement plans. PIUs will undertake internal monitoring and supervision and record observations throughout the project period to ensure that the safeguards and mitigation measures are provided as intended. PIUs will be responsible for: (i) conduct briefing to contractors on safeguards requirements including GRM; (ii) implementing and monitoring safeguards compliance activities, public relations activities, gender mainstreaming activities, and community participation activities; (iii) coordinating with district administration and GIAC for land acquisition and resettlement and rehabilitation (R&R) aspects and addressing any problems and/or delays; (iv) monitoring physical and financial progress on land acquisition and R&R activities; (v) organizing monthly meetings with the PIU to review the progress on R&R; and (vi) share all reports relating to land acquisition, alienation, R&R activities etc. and status to PMU.

48. **Construction, Management and Supervision Consultant.** The implementing agency will be assisted by a CMSC SRSE. The SRSE will: (i) based on final designs, carry out census and socioeconomic surveys/verification surveys for the affected people and update resettlement plan in line with the TNUFIP resettlement framework; (ii) identify requirement for any enter upon permissions (EUPs)/No Objection Certificates (NOCs) for sub-project sites and assist PIUs in obtaining the same prior to start of civil works. Prepare any additional safeguard documentation, if required, such as due diligence reports; (iii) assist PIU in day-to-day implementation of resettlement plan activities and ensure contractors comply with conditions of resettlement framework/resettlement plan; (iv) take proactive action to anticipate and avoid delays in implementation, and ensure gender equality and social inclusion during implementation; (v) assist PIU in conducting public consultation and disclosure activities; (vi) assist PIU in preparing periodic social safeguard monitoring reports as per Project Administration Manual requirements; (vii) under guidance of GIAC, assist PIU in establishing a system and indicators, focusing on gender and vulnerable households, to monitor social safeguards including GRM activities; (viii) support GIAC in conducting training focused on involuntary resettlement safeguards implementation capacity of the PIUs; and (ix) assistance to PIU/PMU in any other social safeguard related tasks.

⁸ The monitoring report will focus on the progress of implementation of the IEE/EIA and EARF, resettlement plan/resettlement framework and IPP/IPPF (if applicable), issues encountered and measures adopted, follow-up actions or corrective actions required, if any, as well as the status of compliance with subproject selection criteria and relevant loan covenants.

⁹ If the subproject triggers new LARR, PIU will facilitate land acquisition through District Collector and will provide all details of land acquisition to CMSC SSE/PMU. CMSC SSE will incorporate the same in Resettlement Plan and check its compliance with resettlement framework/ADB SPS 2009 to make necessary additions (if any). PIU will bear the cost of any deviation or non-compliance or involuntary resettlement impact due to or in anticipation of ADB funded TNUFIP, to comply with the resettlement framework/ADB SPS 2009. Government procedures under RFCTLARR Act will run parallel to the required surveys and preparation/updating of resettlement plan for the subproject as per the agreed resettlement framework. The final compensation will be arrived at and disbursement of payments will take place in accordance with government procedures and as per the agreed resettlement framework for TNUFIP.

49. **Governance Improvement and Awareness Consultants.** The scope of service will include, but not be restricted to, implementation, monitoring and reporting of the consultation and participation plan (CPP); gender action plan (GAP), and monitor and guide resettlement plan implementation and lead involuntary resettlement trainings. Specific tasks related to social safeguards include: (i) monitor and guide PIUs on resettlement plan implementation, with particular reference to significant impacts; (ii) lead involuntary resettlement training and capacity building on involuntary resettlement/ indigenous people safeguards to project PIUs and CMA; (iii) guide PIUs to set up grievance redress mechanisms, record keeping and feedback mechanisms; and (iv) guide PIUs in keeping detailed records of progress and establishing monitoring and reporting systems for resettlement. GIAC will also provide guidance to PIUs on specific requirements for indigenous peoples plan (IPP) implementation, if safeguard requirements 3 is triggered.

50. To build the institutional capacity for resettlement plan preparation and implementation, following key training activities will be undertaken. The cost of trainings for all project cities and staff will be borne by project's capacity building program by PMU. The detailed cost and specific modules will be customized for the available skill set after assessing the capabilities of the target participants and the requirements of the project.

Table 5: Indicative Training Needs Assessment

Description	Target Participants and Venue
1. Introduction and Sensitization to Social/ Involuntary Resettlement/Indigenous Peoples Safeguards (1 day) - ADB Safeguards Policy Statement - Government of India and Tamil Nadu applicable social safeguard acts - Incorporation of social/resettlement components under EMP into the project design and contracts - Monitoring, reporting and corrective action planning	All staff and consultants involved in the project At PMU, Chennai First year of the launch of TNUFIP.
2. Resettlement Plan implementation (2 days; 2 times during implementation with interval of 1 year in-between) - Roles and responsibilities - Resettlement Plan components and stages in implementation - Construction schedules and timelines - Public relations - Consultations - Grievance redress - Monitoring and corrective action planning - Reporting and disclosure - Timely documentation	All staff and consultants involved in the subproject All contractors prior to award of contract At each PIU
3. Experiences and best practices sharing (1 day) - Experiences on Resettlement Plan implementation - Issues and challenges - Best practices followed	All staff and consultants involved in the project All contractors All consultants At PMU Chennai

ADB= Asian Development Bank, EMP= environmental management plan, PIU= program implementation unit, PMU= program management unit, TNUFIP = Tamil Nadu Urban Flagship Investment Program.

Table 6: Institutional Roles and Responsibilities

Activity	Responsible Agency
Sub-project Initiation Stage	
Finalization of sites for sub-projects	PIU

Activity	Responsible Agency
Disclosure of proposed land acquisition and sub-project details by issuing Public Notice	PIU
Meetings at community/household level with affected persons	PIU/CMSC
Resettlement Plan Preparation and Updating Stage	
Conducting Census of all affected persons	PIU/ULB
Conducting FGDs/meetings/workshops	PIU/ULB
Computation of replacement values of land/properties proposed for acquisition and for associated assets	PIU/ULB and as per RFCTLARR 2013 for Land Acquisition
Categorization of affected persons for finalizing entitlements	PIU/ULB
Formulating compensation and rehabilitation measures	PIU/ULB
Conducting discussions/meetings/workshops with affected persons and other stakeholders	PIU/ULB
Fixing compensation for land/property with titleholders	As per RFCTLARR 2013 for land acquisition
Finalizing entitlements and rehabilitation packages	PIU/ULB
Disclosure of resettlement plan	PIU
Approval of resettlement plan	PMU/ ADB
Sale deed execution and payment	PIU/ULB
Taking possession of land	PIU/ULB
Resettlement Plan Implementation Stage	
Implementation of proposed rehabilitation measures	PIU/CMSC
Consultations with affected persons during rehabilitation activities	PIU/ CMSC
Grievances redressal	CMSC/PIU/GRC/PMU
Internal monitoring	PMU/PIU/ULB

ADB= Asian Development Bank, CMSC= construction, management, and supervision consultant, FGD= focus group discussion, GRC= grievance redress committee, PIU program implementation unit, PMU= program management unit, RFCTLARR= The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013, ULB= urban local body.

51. Implementation of Resettlement Plan. All proposed subproject utility sites will be secured prior to the contract award and start of civil works. Prior the contract award, for all TCC/government lands, PIU will confirm that there are no legacy issues related to acquisition of the sites (i.e., year in which land was acquired/obtained, whether acquired in anticipation of ADB funding, whether all compensation has been paid and accepted, and whether there are any pending legal/other issues). This could be in the form of self-certification by the owner department/TCC. This will be submitted to ADB through PMU before contract award and start of civil works. The resettlement plan will also be disclosed in English and its executive summary including applicable entitlements and eligibility in Tamil, prior to contract award.

Table 7: Schedule of Resettlement Implementation

	2019	2020		2021	2022	2023	2024
		H1	H2				
Appointment of GIAC							
Awareness generation among affected persons on entitlements, impact avoidance and mitigation measures to be implemented by the contractor							
Conduct detailed measurement surveys, census surveys, and issuance of identification cards in sections ready for construction							
Identify Vulnerable affected persons, if any*							
Update draft resettlement plan to reflect surveys, consultations, design changes, and due diligence results							
Consultations and disclosure							
Review and approval of updated Resettlement Plan (PMU and ADB)							
Training/capacity building of PMU and PIU safeguards officers, engineers and other staff, CMSC supervision staff and contractor's staff							
Payment of compensation							
Handover of sites and alignments to contractors							
Start of civil works							
Internal monitoring, including surveys of affected persons on entitlements, satisfaction surveys							
Repair/reconstruction of affected facilities, structures, utilities, if any				Immediately, in consultation with other departments, as required			

ADB= Asian Development Bank, CMSC= construction, management, and supervision consultant, GIAC= government improvement and awareness consultant, GRM= grievance redress mechanism, PIU= program implementation unit, PMU= program management unit.

Note: The cut-off date for non-titleholders, is the date of the start of the census survey. The date of Land Acquisition Notification under Section 11 of the RFCTLARR Act, 2013 is the cut-off-date for titleholders losing land and structures, if any. Endorsement and disclosure of finalized resettlement plans consistent with the resettlement framework to be undertaken.

X. MONITORING AND REPORTING

52. Resettlement plan implementation will be closely monitored by the PMU. PIU will prepare monthly progress reports on implementation of resettlement plan and submit to PMU, documenting actual achievements against targets fixed and identifying reasons for shortfalls, if any. These reports will feed into the overall monitoring reports for the TNUFIP which will be generated every quarter for the first year of implementation and bi-annually thereafter. Details to be covered under internal monitoring are elaborated in resettlement framework. An end-term impact evaluation to assess the effectiveness of implementation of the resettlement plan will be carried out. The evaluation will focus mainly on effectiveness of resettlement measures taken to address the assessed impacts, in accordance with agreed principles in the resettlement framework.

DETAILS OF POTENTIAL TEMPORARY IMPACTS

Sl. No	Name of Business Owner	Type of Business	Type of Structure	Years of Business at present location	Average Monthly Profit	Vulnerability	Age of Affected Persons	Caste/Tribe/Community	Total members of the family	Educational status
1	Laxmanan	Petty Shop	Structure that can be moved	20	5,000	BPL	45	OBC	3	Upto 12 th grade
2	Absentee	Sugarcane Juice	Mobile Vendor	NA	NA	NA	NA	NA	NA	NA
3	Veerapandi A	Sugarcane Juice	Mobile Vendor	10	10,000		33	OBC	4	Upto 10 th grade
4	Mohan D	Tender Coconut	Extended activities/structure	2	10,000	SC	29	SC	5	Upto 12 th grade
5	Udhayakumar	Tender Coconut	Extended activities/structure	19	10,000		36	OBC	6	Upto 4 th grade
6	Fatima Mary	Flower Vendor	Extended activities/structure	50	5,000	BPL, SC	55	SC	2	Upto 10 th grade
7	Rettamalai S	Tea Shop	Structure that can be moved	3	8,000	Elderly	64	OBC	4	Upto 10 th grade
8	Vijayakumar	Chicken Shop	Extended activities/structure	1	6,000	SC	43	SC	4	Upto 10 th grade
9	Banu	Fruit Shop	Mobile Vendor	NA	NA	NA	NA	NA	NA	NA
10	Mariyayi	Fruit Shop	Mobile Vendor	15	8,000		35	OBC	4	Illiterate
11	Rajkumar P	Tiffin Centre	Extended activities/structure	12	10,000		43	OBC	4	Upto 10 th grade
12	Karuppiyah	Vegetable Shop	Mobile Vendor	1	10,000		35	OBC	3	Upto 10 th grade
13	Chitra C	Fruit Shop	Mobile Vendor	20	10,000	SC	56	SC	2	Reading knowledge
14	Absentee	Snacks Shop	Mobile Vendor	NA	NA	NA	NA	NA	NA	NA
15	Murugesan S	Flower Vendor	Extended activities/structure	10	9,000		38	OBC	10	Upto 10 th grade
16	Annapoorani	Flower Vendor	Extended activities/structure	30	6,000		45	OBC	5	Reading knowledge
17	Perumal	Tender Coconut	Mobile Vendor	NA	NA	NA	58	NA	NA	NA
18	Absentee	Fish Fry stall	Mobile Vendor	NA	NA	NA	NA	NA	NA	NA
19	Absentee	Fish Fry stall	Mobile Vendor	NA	NA	NA	NA	NA	NA	NA
20	Sahul Hameed	Tiffin Centre	Mobile Vendor	15	10,000		55	OBC	4	Upto 4 th grade
21	Mohammed Hariff	Chicken snacks stall	Mobile Vendor	9	6,000		47	OBC	4	Upto 10 th grade
22	Absentee	Tiffin Centre	Mobile Vendor	NA	NA	NA	NA	NA	NA	NA
23	Karunamurthy P	Pot Shop	Extended	4		SC	32	SC	4	Graduation

Sl. No	Name of Business Owner	Type of Business	Type of Structure	Years of Business at present location	Average Monthly Profit	Vulnerability	Age of Affected Persons	Caste/Tribe/Community	Total members of the family	Educational status
			activities/structure		10,000					
24	Jothilakshmi	Fruit and Flower Vendor	Mobile Vendor	8	10,000	SC	40	SC	4	Upto 12 th grade
25	Ganesan	Snacks Stall (Vadai)	Mobile Vendor	20	9,000	SC, Elderly	60	SC	4	Upto 4 th grade
26	Palaniyammal	Banana Shop	Mobile Vendor	18	10,000	WHH	48	OBC	6	Reading knowledge
27	Pappa	Banana Shop	Mobile Vendor	6	6,000	Elderly	60	OBC	2	Reading knowledge
28	Kumudha	Tender Coconut	Mobile Vendor	17	10,000		37	OBC	5	Upto 10 th grade
29	Kumar	Fruit Stall	Extended activities/structure	3	10,000		47	OBC	7	Upto 10 th grade
30	Absentee	Sugarcane Juice	Extended activities/structure	NA	NA	NA	NA	NA	NA	NA
31	Sithar	Tiffin Centre	Mobile Vendor	2	7,000		46	OBC	4	Upto 4 th grade
32	Rajendran	Tea Shop	Extended activities/structure	4	10,000		38	OBC	8	Upto 10 th grade
33	Ranganayagi	Tiffin Centre	Mobile Vendor	10	7,000	WHH, Elderly	61	OBC	6	Upto 10 th grade
34	Raja	Flower Vendor	Extended activities/structure	4	4,000	BPL, SC	27	SC	7	Upto 4 th grade
35	Krishnan	Flower Vendor	Extended activities/structure	1	4,000	BPL, Elderly	60	OBC	2	Illiterate
36	Senthamarai	Bajra Porridge Shop	Mobile Vendor	18	9,000	Elderly	65	OBC	2	Upto 10 th grade
37	Karuppaiah	Banana and Flower Vendor	Mobile Vendor	20	9,000	SC	55	SC	5	Illiterate
38	Babu Khan	Fish Stall	Mobile Vendor	25	15,000		48	OBC	4	Illiterate
39	Mallika	Flower Vendor	Extended activities/structure	15	NA	NA	45	NA	NA	NA
40	Absentee	Tiffin Centre	Mobile Vendor	NA	NA	NA	NA	NA	NA	NA
41	Selvi K	Tiffin Centre	Mobile Vendor	18	9,000	SC	45	SC	5	Upto 10 th grade
42	Lakshmi M	Flower Vendor	Extended activities/structure	1	5,000	BPL, SC	32	SC	7	Illiterate
43	Absentee	Mutton Shop	Extended activities/structure	NA	NA	NA	NA	NA	NA	NA
44	Lakshmi	Tiffin Centre	Mobile Vendor	NA	NA	NA	25	NA	NA	NA
45	Mani	Chicken wire mesh	Extended	1		Elderly	68	OBC	5	Reading

Sl. No	Name of Business Owner	Type of Business	Type of Structure	Years of Business at present location	Average Monthly Profit	Vulnerability	Age of Affected Persons	Caste/Tribe/Community	Total members of the family	Educational status
		cage	activities/structure		6,000					knowledge
46	Nagalakshmi S	Tiffin Centre	Mobile Vendor	27	9,000		45	OBC	4	Upto 12 th grade
47	Pitchai R	Tender Coconut	Mobile Vendor	5	9,000	SC, Elderly	65	SC	4	Illiterate
48	Dhanalakshmi	Ironing Shop	Mobile Vendor	20	9,000		43	OBC	2	Upto 10 th grade
49	Murthy	Two wheeler mechanic	Extended activities/structure	18	15,000	Physically Challenged, SC	54	SC	2	Upto 10 th grade
50	Absentee	Tiffin Centre	Mobile Vendor	NA	NA	NA	NA	NA	NA	NA
51	Susai	Sugarcane Juice	Extended activities/structure	1	6,000	Elderly	65	OBC	4	Upto 10 th grade
52	Jesuraj	Juice Stall	Mobile Vendor	5	15,000		44	OBC	4	Upto 10 th grade
53	Absentee	Tender Coconut	Mobile Vendor	NA	NA	NA	NA	NA	NA	NA
54	Vijyalakshmi	Flower Vendor	Extended activities/structure	10	6,000		36	OBC	4	Illiterate
55	Abirami	Flower Vendor	Mobile Vendor	27	9,000	SC	49	SC	4	Reading knowledge
56	Periyakka	Flower Vendor	Mobile Vendor	28	6,000	WHH, SC	47	SC	2	Illiterate
57	Meenatchi	Fruit Stall	Mobile Vendor	15	15,000	WHH, Physically Challenged, SC	45	SC	2	Upto 10 th grade
58	Christy Rajakumari	Flower Vendor	Extended activities/structure	10	3,000	BPL	46	OBC	2	Upto 12 th grade
59	Absentee	Tiffin Centre	Mobile Vendor	NA	NA	NA	NA	NA	NA	NA
60	Absentee	Fruit Stall	Mobile Vendor	NA	NA	NA	NA	NA	NA	NA
61	Bazurudeen	Snacks Stall	Mobile Vendor	20	15,000		38	OBC	3	Reading knowledge
62	Mannavan	Thatched roof material shop	Extended activities/structure	2	5,000	BPL, SC, Elderly	70	SC	2	Reading knowledge
63	Senthil Velmurugan	Furniture Mart	Extended activities/structure	5	10,000	SC	50	SC	4	Upto 10 th grade
64	Dhanasekaran	General Stores	Extended activities/structure	10	5,000	BPL	32	OBC	2	Upto 10 th grade
65	Thomas Thangaraj	Firewood Shop	Extended activities/structure	8	10,000	Elderly	63	OBC	5	Reading knowledge

Sl. No	Name of Business Owner	Type of Business	Type of Structure	Years of Business at present location	Average Monthly Profit	Vulnerability	Age of Affected Persons	Caste/Tribe/Community	Total members of the family	Educational status
66	Selvam	Steel Almirah Repairs	Extended activities/structure	13	8,000		51	OBC	3	Upto 10 th grade
67	Ganesh K	Old Paper Mart	Extended activities/structure	3	15,000		39	OBC	5	Upto 10 th grade
68	Raja	Waste Paper Mart	Extended activities/structure	12	10,000		30	OBC	6	Upto 10 th grade
69	Akbar	Tender Coconut	Extended activities/structure	1	9,000		35	OBC	6	Upto 12 th grade
70	Kalaighanar	Tea Shop	Extended activities/structure	20	8,000		47	OBC	4	Upto 10 th grade
71	Ramasamy	Cycle Repairs	Extended activities/structure	20	10,000	SC	42	SC	5	Upto 10 th grade
72	Anbalagan P	Tiffin Centre	Extended activities/structure	1	10,000		53	OBC	3	Post gradation
73	Mohanraj	Grill Works	Extended activities/structure	5	20,000	SC	50	SC	4	Upto 12 th grade
74	Rajendran	Old Iron Scrap	Extended activities/structure	10	15,000	SC	50	SC	7	Upto 10 th grade
75	Ganesan	Puncture Shop	Extended activities/structure	10	10,000	Elderly	61	OBC	6	Upto 10 th grade
76	Sivakumar A	Fruit and Vegetable Shop	Extended activities/structure	3	50,000		38	OBC	4	Post gradation
77	Absentee	Snacks Stall	Mobile Vendor	NA	NA	NA	NA	NA	NA	NA
78	Absentee	Tender Coconut	Mobile Vendor	NA	NA	NA	NA	NA	NA	NA
79	Absentee	Snacks Stall	Mobile Vendor	NA	NA	NA	NA	NA	NA	NA

BPL = below poverty line, SC=scheduled caste, WHH = woman headed household.

Note: The DMS survey during detailed design will confirm whether any of the potential impacts identified can be avoided, whether there are any additional temporary impacts and how many (if any) will require shifting assistance.

SAFETY MEASURES FOR PIPELAYING-SAMPLE TEMPLATE

Type of road	Average width (m)	Max. Pipe dia (mm)	Max. width of actual excavation (mm)	Method of excavation	Working width (m) from one edge	Length of single working stretch (m)	Method of traffic management	Remarks
Bituminous	5	300	700	Mechanical (mini digger)	2	200	Flagmen at both ends plus no parking sign for 100m on either end	Night time working may be opted at busy sections with prior permission, stake holder consultation and noise control measures.
	6	-do-	-do-	-do-	-do-	-do-	-do-	-do-
	7.5	-do-	-do-	-do-	-do-	-do-	-do-	-do-
Concrete	2	100	250	Manual	0.5	50	Flagmen at both ends. Only pedestrian traffic will be allowed.	-do-
	3	100	250	Manual	1	50	-do-	-do-
	4	150	350	Manual	1	100	Flagmen at both ends. Pedestrian traffic can be allowed during works. Vehicles will be allowed after day's work by covering the trench with steel plates.	-do-
	5	150	350	Mechanical	2	200	Flagmen at both ends plus no parking sign for 100m on either end	-do-
	6	200	500	Mechanical	2	200	-do_	
Tiles	2	50	150	Manual	0.5	50	Flagmen at both ends. Only pedestrian traffic will be allowed.	-do-
	3	100	250	Manual	0.5	50	-do-	-do-
Earthen road	1	50	150	Manual	0.5	50	Controlled by general operative. Only pedestrian traffic will be allowed.	
	2	50	150	Manual	0.5	50	-do-	









Notes:

1. Works will be carried out with due intimation to ULB / PWD and after stakeholder consultations
2. All service providers (electricity, telecom, OFC, cable TV, gas etc.) shall be notified and consulted well in advance to identify bottlenecks and possible solutions.
3. Reinstatement will be carried out in two phase – temporary and final.
4. Special festival, business (local bazar) etc. days will be strictly followed and works causing disturbance will not be carried out on those days.
5. No drainage channel shall be disturbed/stopped during construction works. Any drain affected by construction works shall be set right as early as possible and definitely before onset of monsoon.
6. The pedestrian area shall be always kept free from debris / trip hazard

7. Environmental Management Plan (EMP) shall be strictly followed for all works and also dealing with any asbestos cement pipes.
8. Land contamination, if encountered, shall be immediately brought to the notice of the PIU/PMU and remedial measures shall be taken as advised. Disposal of contaminated earth shall be as advised by the PIU/PMU experts.
9. Night time work, if any, shall be carried out after due authorization with adequate safety and security measures. Acoustic hood shall be used on equipment to reduce noise pollution.
10. PIU will ensure public announcement of the construction schedule, installation of warning signs before reaching the construction site, and provision of detour if necessary.

SITE VISITS AND CONSULTATIONS

SITE PHOTOS – Trichy UGSS Phase III

SPS8 at Viman Vihar		SF7 at Lurdhu Nagar	
			
SPS9 at Sathnar			
			
SPS11 Alternative 1 at Arasu Colony		SPS11 Alternative 2 at Gasifier Crematorium	
			
SPS11 Alternative 2 at Gasifier Crematorium			
			

SITE PHOTOS – Trichy UGSS Phase III	
SPS12 at Natchatra Nagar	SPS10 at Panjapur STP
	
SPS5 at Indira Nagar	
	
SPS5 at Indira Nagar, above structure is now demolished	
	
Pumping main alignment	
	
lift station-5a-VOC Nagar	lift station-5b- At Suruti Kovil street
lift station-5a-VOC Nagar	lift station-5b- At Suruti Kovil street

SITE PHOTOS – Trichy UGSS Phase III

lift station-5a-VOC Nagar



lift station-5b- At Suruti Kovil street



lift station-7a At Thirumurugan Nagar



lift station-8a : At Sai nagar



lift station-9a At Kalinji Nagar



lift station-11b At Kamaraj Street




lift station-11c At Anbier Nagar



lift station-11d At Rajeev Gandhi Nagar








SITE PHOTOS – Trichy UGSS Phase III

lift station-11e At Indira Gandhi Nagar	lift station-11f At Pilliyar police station
	
lift station-12a At Ashok Nagar	
	

Consultations during Transect Walks, September 2018

PPTA Team and municipal officials informed about: (i) Issues related to open defecation, disposal of sewage and wastewater into roadside drains eventually polluting the natural streams and rivers; its health impacts; (ii) Need for comprehensive underground drainage system in the city; (iii) Area covered by the project; (iv) Disturbance in traffic movement and to businesses during construction work; (v) Assistance will be provided in continuing affected businesses at different location; (vi) No structure loss; (vi) Compensation for lost income, if any.

Location	No. of Participants	Topics Discussed	Issues Raised
Stalin Nagar Ward No.39 (Pipe Diameter: 200mm to 250mm; Depth:1.10m to 4.00 m; Trench Width: 0.8m to 1.10m and Road width: 6m)	Total =18 M=16, F=2 	Mostly comprise of middle-class families and this colony had been established in 1980. Garbage collection is done every day and all houses have separate septic tank. No house has extended into the footpath area. If it rains the place gets flooded and roads are not maintained properly.	<ul style="list-style-type: none"> During the UGSS work access should be provided for cars and bikes and should be completed quickly. They will give their full support for the work. Provision should be there for cars and schools vans to enter into the road when work is in progress.
Amman Nagar Ward No. 42 (Pipe Diameter: 200mm; Depth	Total 22 M=12, F=10	Most are people who have settled here after retirement and comprise of middle and upper middle class. All houses have septic tanks and no one has	<ul style="list-style-type: none"> There will be full cooperation for the UGSS work and willing to adjust during works, but the work should not prolong and should be

Location	No. of Participants	Topics Discussed	Issues Raised
: 1.80m to 2.00m; Trench Width: 0.8m to 1.10m and Road width: 6.5m)		extended their house into the road. Garbage collection is done daily. Due to the warehouse nearby, there is nuisance of insects. Storm water drain work is incomplete and is a hindrance to our movement. Drinking water supplied is slightly coloured.	completed quickly. <ul style="list-style-type: none"> There are many senior citizens and hence the work should be completed quickly.
Shesashayee Nagar War No. 38 (Pipe Diameter: 200mm to 700mm; Depth : 1.10m to 2.75m; Trench Width: 0.80 m to 1.10m and Road width: 26m)	Total 15 M=0, F=15 	All belong to middle class families and have been here for about 40 years. They had represented Municipality / Corporation 10 years ago saying that they will contribute 1/3 rd of the cost for UGD in their area. But, did not get any response. Further because of that they have not planed avenue trees also, as UGD scheme will may require cutting of trees. When it rains water enters into many houses as this is a low-lying area.	<ul style="list-style-type: none"> The residents wholeheartedly welcome this UGSS project and would give all necessary support during works. Work should be executed and completed quickly. Should not affect movement of school van and milk supply.
Crawford Colony War No.41 (Pipe Diameter: 200 mm to 300 mm ; Depth: 1.40 m to 5.50 m; Trench Width: 0.80 m to 1.10 m and Road width: 41m)	Total 9 M=6, F=3 	The families have been here for over 100 years and comprise of upper middle class. In the last 10 years the area is well developed. There are no residential activities that has extended on to the road and all have toilets with septic tanks. Many apartments are coming up. Drinking water is coloured and there are many street dogs.	<ul style="list-style-type: none"> The residents welcome the UGSS project and would extend all support. Work should be done quickly, and proper protective measures should be taken while digging for laying pipes. After finishing one street, they should start the next street and should not dig up all streets at a time.
Dindigul Main Road Ward No.45 (Pipe Diameter: 200mm, 350 to 500; Depth : 1.10 to 4.5m; Trench Width: 0.80 m to 1.10m and Road width: 20m)	Total = 13 M=10, F=3 	They are into the business of tea shops, mobile shops, petty shops, electronic shops, saloon and chicken centres. They are in this place for more than 50 years. If there is heavy rain, water gets stagnated on the road, mosquito problem and traffic are other issues in this area.	<ul style="list-style-type: none"> Expressed full support for the UGSS project but indicated that work should be completed quickly. Work should be done in such a manner that their income is not affected. Proper protection should be made where pits are dug for this work.

Photographs of Affected Persons facing Potential Temporary Impacts – Tiruchirapalli

1. Laxmanan – M 94431 79576



2. Absentee



3. Veerapandi A – M 98420 25939



4. Mohan D – M 96007 22488



5. Udhayakumar – M 80984 61647



6. Fatima Mary – M 96297 75385



7. Rettamalai S – M 96556 66056



8. Vijayakumar – M 99420 23175



Photographs of Affected Persons facing Potential Temporary Impacts – Tiruchirapalli

9. Banu



10. Mariyayi– M 97903 26889



11. Rajkumar P – M 81908 71519



12. Karuppiyah – M 93741 40573



13. Chitra C – M 0431 2459405



14. Absentee



15. Murugesan S – M 99430 25479



16. Annapoorani – M 99437 73317



Photographs of Affected Persons facing Potential Temporary Impacts – Tiruchirapalli

17. Perumal



18. Absentee



19. Absentee



20. Sahul Hameed – M 97873 58016



21. Mohammed Hariff – M 86754 42254



22. Absentee



23. Karunamurthy P – M 99435 78242



24. Jothilakshmi – M 94899 48932



Photographs of Affected Persons facing Potential Temporary Impacts – Tiruchirapalli

25. Ganesan – M 86754 42254	26. Palaniyammal – M 87549 65415
	
27. Pappa	28. Kumudha – M 95854 44884
	
29. Kumar – M 97860 05993	30. Absentee
	
31. Sithar – M 97885 08345	32. Rajendran – M 99409 56841
	

Photographs of Affected Persons facing Potential Temporary Impacts – Tiruchirapalli

33. Ranganayagi – M 97915 29891	34. Raja – M 97904 28468
	
35. Krishnan – M 97507 20210	36. Senthamarai – M 97917 96699
	
37. Karuppaiah – M 99447 38598	38. Babu Khan – M 73737 08070
	
39. Mallika – M 99447 38598	40. Absentee
	

Photographs of Affected Persons facing Potential Temporary Impacts – Tiruchirapalli

41. Selvi K – M 87604 09684	42. Lakshmi M
	
43. Absentee	44. Laxmi
	
45. Mani – M 95857 06889	46. Nagalakshmi S – M 82209 31328
	
47. Pitchai R	48. Dhanalakshmi – M 97877 28793
	

Photographs of Affected Persons facing Potential Temporary Impacts – Tiruchirapalli

49. Murthy – M 97507 78849	50. Absentee
	
51. Susai – M 94434 11237	52. Jesuraj – M 99659 85228
	
53. Absentee	54. Vijiyalakshmi – M 93606 11487
	
55. Abirami – M 97863 95051	56. Periyakka – M 98658 26376
	

Photographs of Affected Persons facing Potential Temporary Impacts – Tiruchirapalli

57. Meenatchi – M 99405 31050



58. Christy Rajakumari – M 7373511995



59. Absentee



60. Absentee



61. Bazurudeen – M 82707 75833



62. Mannavan – M 98432 78178



63. Senthil Velmurugan- M 9843164789



64. Dhanasekaran – M 99940 56817

