TN US SP
TAMIL NADU URBAN SANITATION SUPPORT PROGRAMME

REPORT

DESLUDGING OPERATORS IN TIRUCHIRAPPALLI
AN OVERVIEW

March 2018

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Desludging Operators in Tiruchirappalli An Overview

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CONTENTS

CONTENTS (Contd)

Tables

Figures

Abbreviations

AMRUT	Atal Mission for Rejuvenation and Urban Transformation
BMGF	Bill and Melinda Gates Foundation
CMA	Commissionerate of Municipal Administration
CMWSSB	Chennai Metropolitan Water Supply and Sewerage Board
CT	Community Toilet
E. Pudhur	Edamalaipatti Pudhur
FS	Fecal Sludge
GoTN	Government of Tamil Nadu
L	Litres
MAWS	Municipal Administration and Water Supply
NNP	Narasimhanaicken Palayam
PNP	Periyanaicken Palayam
PPE	Personal Protective Equipment
PT	Public Toilet
Rs.	Rupees
SLB	Service Level Benchmarks
STA	State Transport Authority
STP	Sewage Treatment Plant
TNUSSP	Tamil Nadu Urban Sanitation Support Programme
TCC	Tiruchirappalli City Municipal Corporation
TSU	Technical Support Unit
ULB	Urban Local Body

Executive Summary

Executive Summary

Tiruchirappalli (Trichy) is a partially sewered city with 30-35% coverage, vast majority of households dependent on onsite sanitation systems, primarily septic tanks and pits. The city is serviced by nearly 30 active private desludging operators along with two ULB trucks that primarily service the requirements of community and public toilets.

E1.1. Objectives and Methodology

This report attempts to provide an overall perspective on desludging operators in the city, their operational practices as well as insights into their business. 24 semi-structured interviews were carried out with private desludging operators, specifically with vehicle owners between September and October 2017. In addition, at least five different operators were trailed to observe their practices while carrying out desludging activities.

E1.2. Operator Profile

Most desludging operators have been functioning in the city for more than 10-15 years with a transition to mechanical emptying through vacuum-pump-based trucks in the last 5-10 years. The private desludging business is largely family driven and male-dominated, 80 per cent of the surveyed truck owners doubled up as drivers or workers. It was also a hereditary occupation for a few operators associated with particular caste group (Scheduled caste/tribe).

In Trichy, there are cluster of operators based out of four locations in the city–Uyyakondan Thirumalai in the west, Subramaniyapuram and Edamalaipatti Pudhur in the south and Thiruverumbur in the east. However, private desludging vehicles are not restricted to operating within TCC administrative boundaries, and service customers in neighbouring village/town panchayats in and around Trichy. Operators typically begin servicing customers in the morning and ply their trade through the day. There is also a demand for desludging in the night (post 8 p.m.) from commercial establishments and institutions.

An operator vehicle comprises of truck chassis/cabin fitted with a matching vacuum pump compressor and tank size. Among the surveyed operators, 12 operators had purchased new truck chassis, 10 operators who bought a used chassis and later fabricated their tanker. Only a couple of operators reported buying an entirely used truck with tanker. Across operators, 6,000 litres (L) was the most commonly found tanker capacity.

Since August 2013, TCC has a licensing for private operators that involves payment of an annual license fee of Rs. 2,000 every year and a tipping fee of Rs. 30 for each disposal at the designated point. In addition, a non-judicial agreement acknowledging the ban on manual scavenging is signed. The requisition process mandates the installation of a GPS device, procurement of safety equipment and penalties for operating without a license. In the financial year 2017-18, 32 operators with 41 vehicles were licensed by the Corporation.

Business enquiries take place over the phone and price is negotiated based on customer location. Private desludging operators offer tariff on a per tanker trip basis. For an average distance of 10 kms to customer location, the price varies from Rs. 1,000–2,000 based on tanker size. Discounted pricing is offered for customers who regularly use their service. Additional fee maybe charged at the site based on work involved such as extra hosepipe length. While private operators were aware of the law banning the practice of manual scavenging, they did occasionally indulge in the practice to ensure customer satisfaction and charged add-on fee.

TCC also offers emptying services with varying tariff based on type of customer starting at Rs. 750 for a house for one tanker trip. However, the service time is longer as compared to private operators.

E1.3. Operational Practices

Desludging operators typically carry 3-4 hose pipe sections of sizes between 20-25 feet which according to them is sufficient for accessing most locations in the city.

TCC has made provisions for disposal of FS and septage by setting up decanting arrangements at four sewage pumping stations across the city. These are located in the four administrative zones - Anna Stadium (Ponmalai Zone), Vayaloor Road (K-Abhishekapuram Zone), Pookollai/Tanjore Road (Ariyamangalam Zone) and Vasudevan Street (Srirangam Zone). The FS and septage disposed is combined with sewage received at the pumping station and is treated at the STP at Panjappur. Private desludging operators opt for disposal of collected septage at any one of the decanting stations based on customer location. As a result, TCC has been able to tackle challenges related with disposal of FS/septage to a certain extent.

Presently, no form of PPE is actively used by private desludging operators and TCC workers who operate the ULB desludging trucks. During visits to the decanting station, spillage during disposal was observed but no attempts were made towards cleaning. In terms of risk, operators stated that they were aware of the perils of dealing with wastewater and sludge but had not encountered any untoward incidents.

E1.4. Decanting Station Usage

A monitoring exercise to understand decanting facility usage at the two most frequented decanting stations in the city – Anna Stadium and Pookollai was carried out for a period of one week between November 20th and 26th 2017. During the monitoring period, Anna stadium had an average of 75 trucks visits per 24-hour cycle – 8 a.m. to 8 a.m., with a minimum of 66 vehicles and a maximum of 86 vehicles while Pookollai decanting station had an average of nine trucks visiting over a twelve-hour period during the day with a minimum of four and a maximum of fourteen vehicles. At Anna stadium, peak-hour usage was found to be between 9 a.m. and 2 p.m. with no significant drop in weekday versus weekend usage. Private operator vehicles usage numbers were much higher as compared to TCC vehicles.

One of the objectives of the exercise was to verify if every truck visit was recorded at the decanting facility during record keeping hours. Large variation was observed between collected data and TCC records. It was observed that there is a tendency to keep the numbers consistent across days and to avoid showing spikes in facility usage pattern.

In terms of type of customer being serviced by the desludging vehicles during the monitoring period, households comprising of individual homes and apartments were the largest share with nearly 79 per cent followed by emptying of community/public toilets by TCC vehicles that stood at 9 per cent. Hotels/lodges/eateries and marriage halls contributed to 6 per cent while institutions and industry/factories were less than 5 per cent of the overall customer served. Mapping of the city areas served by the decanting station facility using customer locations reported by operators showed that Pookollai decanting station serves customers along Tanjore Road while Anna Stadium receives septage from customers located in Dindugal Road, Madurai Main Road and areas around the Trichy airport.

E1.5. Key Challenges and Way Forward

The report concludes with a summary of key challenges and throws light on the way forward. At the ULB level, streamlining the licensing of operators, improving record-keeping at the decanting station and putting in place measures to monitor operators to ensure all FS collected reaches the disposal facilities would be key. For the citizens, increasing awareness on the ban on manual scavenging and safe disposal similar to campaigns already undertaken by TCC on solid waste management would be required. An engagement with workers belonging to private desludging operators in terms of health checks and their health-seeking behaviour while in parallel improving handwashing facilities at the decanting station are likely next steps.

1

Introduction

1. Introduction

1.1. Fecal Sludge Emptying and Transportation in Tamil Nadu

Safe collection, handling and transport of fecal sludge (FS) is an integral part of a septage management program. Motorised emptying and transport consists of a truck with a stand-alone or mounted vacuum pump along with a storage tank. This is used to empty and transport septage minimising the risk of human contact with FS while eliminating the need for manual emptying. Tamil Nadu became one of the forerunners of septage management in India by issuing Operative Guidelines for Septage Management in 2014 recommending the licensing of septage vehicle operators and usage of safety equipment in compliance with the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013. The guidelines also included a local cluster-based approach for disposal of septage at designated Sewage Treatment Plants (STPs) within a radius of 18-20 kilometres (kms).

The Bill and Melinda Gates Foundation (BMGF) is supporting the Government of Tamil Nadu (GoTN) to achieve the sanitation mission of Tamil Nadu by helping set up a Technical Support Unit (TSU) within the Municipal Administration and Water Supply (MAWS). The Tamil Nadu Urban Sanitation Support Programme (TNUSSP) is aimed at helping Tamil Nadu improve urban sanitation and demonstrate innovations along the entire sanitation chain in two selected model urban locations – Tiruchirappalli (Trichy), and the two town panchayats of Periyanaicken-Palayam (PNP) and Narasimhanaicken-Palayam (NNP) in Coimbatore district.

1.2. Overview of Sanitation in Trichy

In the city of Trichy, Tiruchirappalli City Municipal Corporation (TCC) is the Urban Local Body (ULB) responsible for providing sanitation services including sewerage, storm water drainage and solid waste management to the city's residents. As per the Service Level Benchmarks (SLB) provided for the year 2016-17, the coverage of sewerage network services is at 26 per cent with a target of 30 per cent by the year 2017-18. Collection efficiency of the network is at 60 per cent with a target of 63 per cent by the year 2017-18[1]. This leaves the vast majority of services dependent on onsite sanitation systems, primarily septic tanks and pits. With a total population of 9,16,815 (Census 2011) spread across 4 administrative zones and 65 administrative wards, 25 wards are fully covered by sewerage network while an equal number partially covered and 15 wards are uncovered. The city has a phase-wise plan to move to a fully sewered network over the next 3-5 years through grants under central government sponsored Atal Mission for Rejuvenation and Urban Transformation (AMRUT) scheme.

As per Census 2011, the city has 70,124 household toilets connected to septic tanks while city records obtained in 2016 puts the number at 1,08,253[2]. However, there is a difference between the reported type of onsite system and the actual system. This can be explained by the fact that households assume that onsite systems are septic tanks when they are actually pits which are square or rectangular in shape.[3] In addition, nearly 50 per cent of the city's 457 community toilets/public toilets (CT/PTs) are connected to septic tanks.[4]

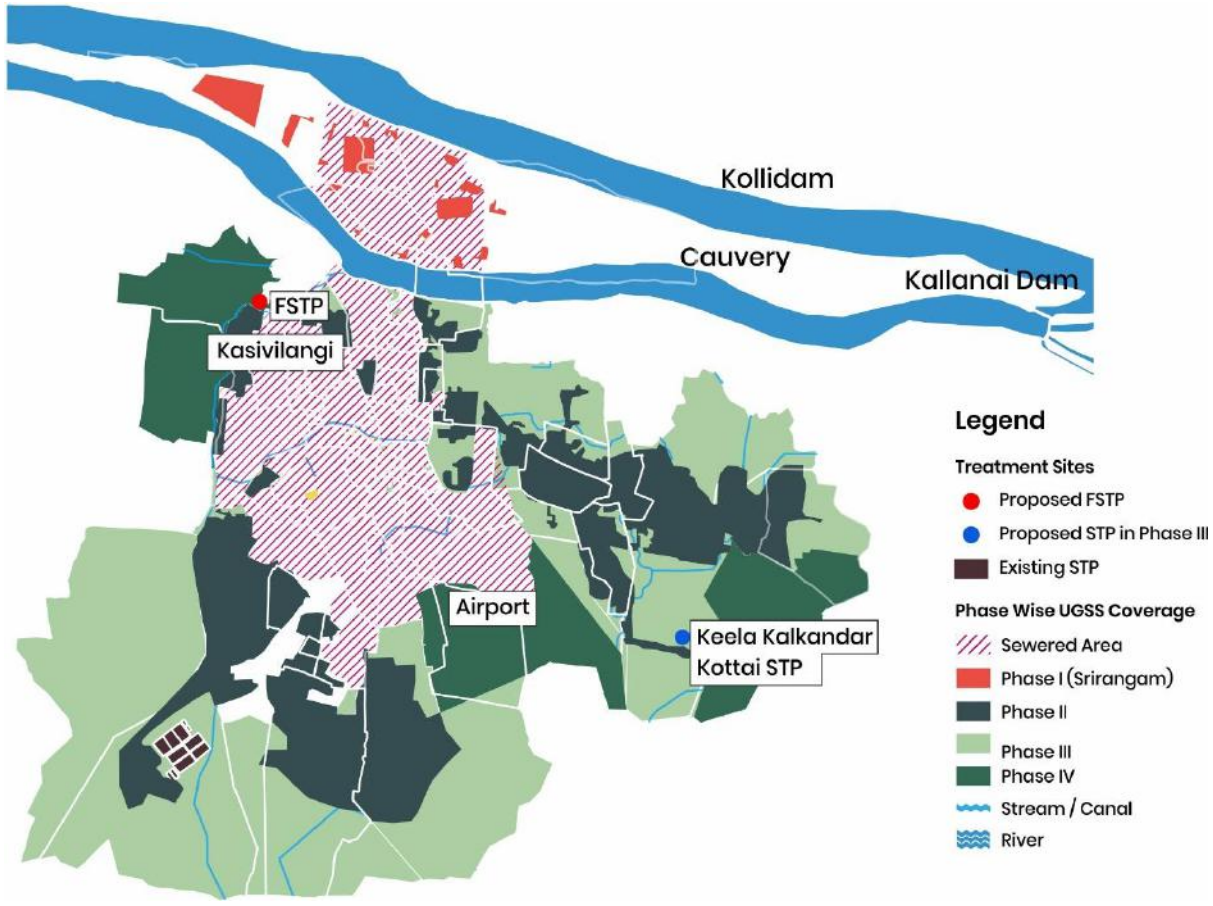
The city is serviced by nearly 30 private desludging operators who are active at any point in time. The ULB also owns two vacuum trucks that predominantly serve the CT/PTs. For disposal of FS and septage collected by operators, TCC has made provisions for co-treatment of FS and septage with

[1] "Standardizing Service Level Bench Marking" notification published by TCC dated 15.09.2017
[2] TNUSSP Scoping Study, 2015
[3] TNUSSP Baseline Survey, 2016
[4] TNUSSP Survey, 2017

sewage by setting up decanting arrangements in four sewage pumping stations across the city. These are located in the four administrative zones - Anna Stadium (Ponmalai Zone), Vayaloor Road (K-Abhishekapuram Zone), Pookollai/Tanjore Road (Ariyamangalam Zone) and Vasudevan Street (Srirangam Zone). The FS and septage disposed is combined with sewage received at the pumping station and is treated at the STP at Panjappur.

Previously, operator vehicles were allowed to dispose FS/septage directly at the STP. However, this practice was stopped once decanting arrangements were made at sewage pumping stations.

Figure 1.1: **TCC Sewered Network Coverage**



Source: Trichy City Corporation; TNUSSP Analysis, 2017

1.3. Objectives, Scope and Methodology

The report attempts to provide an overall perspective on how desludging activities are carried out in Trichy city. It broadly covers the following aspects:

- Operator profile including their background, vehicle ownership and types of customers served
- Extraction and transport practices followed by operators, tools used and occupational safety
- Usage pattern at decanting facilities in the city
- Pricing and insights into operator business model

The scope of this report is limited to operations within TCC administrative boundaries.

As a first step, a master list of desludging operators in the city was generated based on previous interactions carried out by TNUSSP partner organisation in Trichy, further refined using operator information obtained from TCC as well as field recce. This list was organised based on the operator's vehicle base location in the city which revealed a cluster of operators based out of four locations in the city–Uyyakondan Thirumalai in the west, Subramaniyapuram and Edamalaipatti Pudhur (E. Pudhur) in the south and Thiruverumbur in the east. It was decided to select a few operators from each cluster apart from covering operators based out of other locations in the city for carrying out interviews.

A total of 24 semi-structured interviews were carried out with operators, specifically with vehicle owners in order to understand their background, vehicle ownership and to gain insights into their business. This was carried out during September and October 2017 on an individual basis. During the same time period, at least five different operators were trailed to observe their practices while carrying out desludging of septic/holding tanks at households and establishments.

Preliminary inquiries were conducted at each of the four decanting stations in Trichy to understand the number of truck visits per day as well as obtaining TCC's private operator log records which were maintained at three of the stations. Based on the frequency of truck visits, two decanting stations – Anna Stadium and Pookollai were chosen for monitoring facility usage. For a period of one week between November 20th and 26th 2017, field staff were stationed to record the number of truck visits using a pre-defined template.

2 Desluding Operators in Trichy

2. Desludging Operators in Trichy

2.1. Operator Profile

During the course of interactions with owners of private desludging vehicles, it was found that most operators have been functioning in the city for more than 10-15 years though it was difficult to ascertain a precise year of commencement of operation. Over a period of time, a transition to mechanical emptying has taken place beginning with a suction pump system that comprised of a plastic tank, suction pump and hose pipe. Figure 2.1 shows an old truck used to empty sludge into a plastic tank to be transported for disposal.

Figure 2.1: **An Early Form of Mechanical Emptying Truck in Trichy**

Source: TNUSSP Study, 2017

More recently, technological advancements to vacuum-pump-based trucks have taken place in the last 5-10 years.

Semi-structured interviews were conducted with 24 private desludging vehicle owners cum operators. Of the 24 operators, 9 owned 2 trucks and all the operators had at least 1 of their vehicles licensed in the financial year 2017-18 or 2016-17. Eighty per cent of the owners doubled up as drivers or workers. The private desludging business is largely family driven and male-dominated. It is common to find the vehicle registered in the wife or mother's name while being operated by the husband or other male members of the family. Three operators had two brothers each running their own vehicle while one operator had his son operating a truck. Family not only included immediate members but even extended members such as brothers-in-law or uncles being part of their business. This also pointed to the fact that it was a hereditary occupation for a few and a caste demarcation of belonging to scheduled caste/tribe groups was disclosed by one of the operators.

2.2. Service Delivery

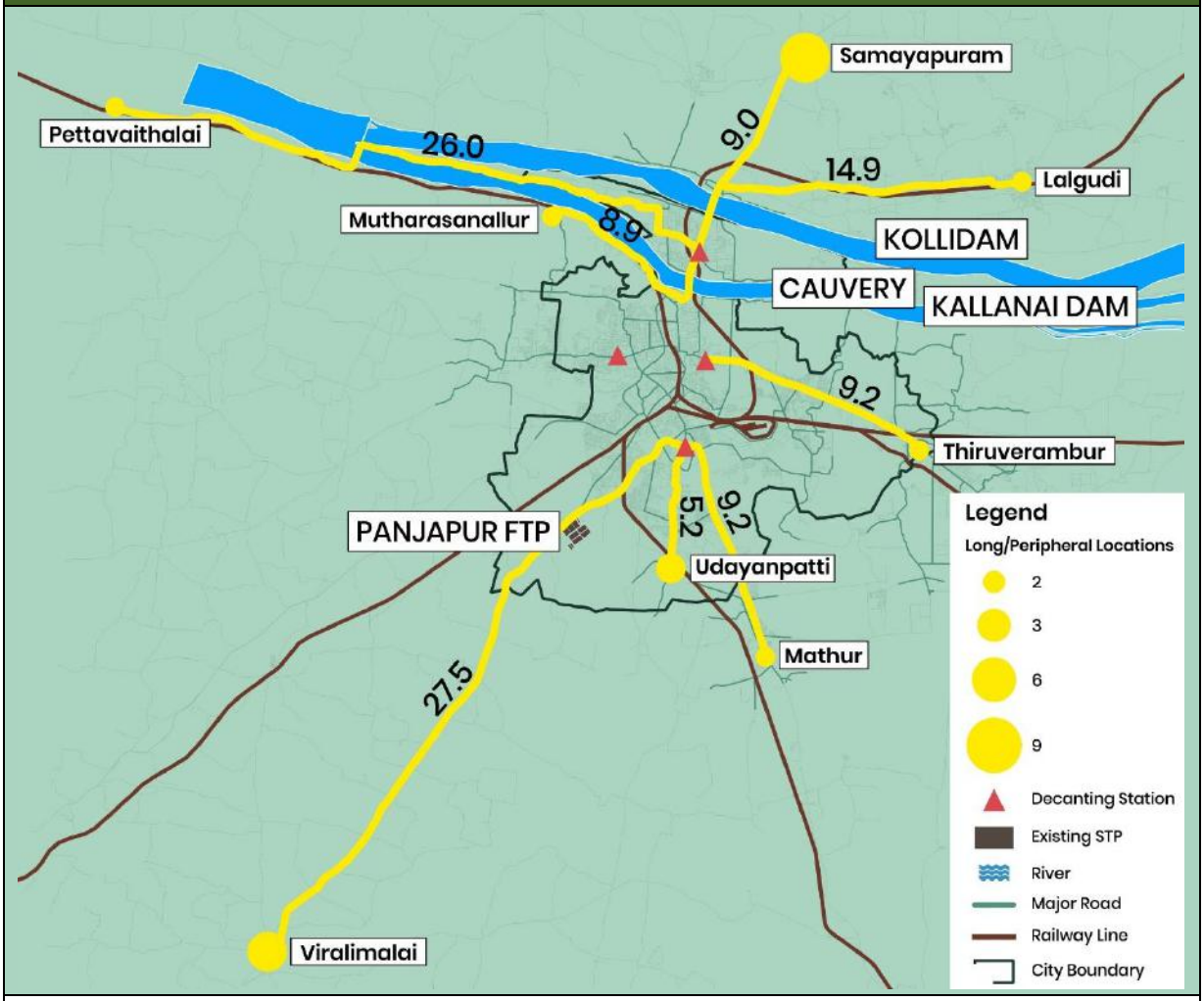
2.2.1. Operational Hours

Most private operators typically start their operations in the morning by 8 a.m. and end by 6 p.m. since workers tend to reside away from their truck base parking location. However, there is a demand for desludging in the night (post 8 p.m.) with hotels being a major driver apart from other commercial and institutional customers. Therefore, labour becomes a challenge for those operating in the night. With the Anna Stadium decanting station being open 24 hours to receive septage, disposal is no longer an issue. Since traffic is lesser during the night when compared to regular hours, it in turn reduces travel time.

2.2.2. Areas of Operation

Private desludging trucks not only operate within TCC administrative boundaries, but also extend their services to other areas in neighbouring village/town panchayats in Trichy district. They also serve areas in neighbouring districts such as Viralimalai town panchayat. A collective map of locations on the periphery of TCC limits (~10 kms) along with indicative long distances that were reported by more than one operator is shown in Figure 2.2.

Figure 2.2: Periphery/ Long Distance Locations Served by Private Operators



Source: TNUSSP Study, 2017

2.2.3. Customer Categories Served

In terms of customer mix, operators reported that households were giving them the largest (70-80 per cent) amount of business while 10-20 per cent was contributed by commercial customers primarily hotels/lodges/eateries and institutions such as schools, colleges and hospitals made up the remaining 10 per cent of customers. Industries/factories that are located beyond city boundaries were served only by a small set of operators. There was no significant change in customer mix among operators having more than one vehicle other than a couple of them mentioning that they had a regular set of customers to service.

2.2.4. Customer Contact

Interaction between private desludging operator and the customer predominantly takes place over a phone call where location and address of the customer and the rate for the emptying service is fixed. Additionally, couple of operators mentioned asking about access and size of the containment. Availability of kerosene or phenolic type disinfectant commonly referred to as *phenyl* is also enquired.

Private operators also claimed that they continue to receive requests from about 5-10 per cent of their customers, primarily households, for fully cleaning/emptying of their septic tanks which may indirectly refer to some form of manual emptying, although operators themselves are well aware of the prohibitory order in place banning the practice. During field visits trailing the operators, no manual emptying activity was encountered. In off-the-record conversations, few operators did refer to manual emptying in order to improve customer satisfaction and charging customers an additional fee in order to do so.

2.3. Vehicle – Truck/Tanker types

An operator vehicle is a combination of a truck chassis/cabin along with a tanker. Operators typically buy the truck chassis separately and send it to a tanker manufacturer who fabricates the tank and assembles it with a vacuum pump compressor mounted onto the truck chassis. The tanker storage capacity and vacuum pump rating largely depends upon the model of the vehicle chassis provided by the operator.

Truck chassis are made by large automobile manufacturers such as Tata and Ashok Leyland. Tata 909 and 1109 model chassis are most commonly used by operator trucks. The price of a new truck chassis can range between Rs. 10-16 lakhs (one lakh is equal to a hundred thousand) depending on the model and engine capacity. A used truck chassis is considerably cheaper between Rs. 4.5-6 lakhs depending on the number of years used as well as condition.

Tanker manufacturers cover a whole spectrum from large players such as Kam-avida and Whale Enterprise to Chennai-based manufacturers such as Saravana Industries and Sai Raghavendra Industries as well as small-time independent tank fabricators/assemblers in Trichy and neighbouring districts. One of the operators in the city who owns a Kam-avida-manufactured tanker stated that it cost him 16 lakhs to have his tanker fabricated. Both TCC tankers were manufactured by Whale Enterprise. Operators who had their tankers fabricated by Chennai-based manufacturers quoted anywhere between Rs. 4.5-6 lakhs while a similar range was also in place for local tank fabricators. Two of the operator owners interviewed were tanker manufacturers operating their own workshop for fabricating tankers for themselves as well as for others. Table 2.1 provides a summary of the average cost of truck/tanker for new/used vehicles.

Table 2.1: **Truck/tanker cost**	
Truck chassis/tanker type	**Cost**
New truck chassis + new tanker (Chennai/local tank manufacturer)	Rs. 15 to 20 lakhs
Used truck chassis + new tanker (Chennai/local tank manufacturer)	Rs. 9 to 12 lakhs
Used truck chassis + used tanker (purchased as a completely assembled vehicle)	Rs. 6.5 to 8 lakhs
Source: TNUSSP Study, 2017	

Among the 24 private desludging operators interviewed, 50 per cent had purchased new truck chassis, 10 operators claimed to have bought a used chassis and only a couple of operators reported buying an entirely used truck with tanker. Across operators, 6,000 litres (L) was the most commonly found tanker capacity. The higher range (8,000-10,000 L) tanker capacities were with private operators who owned more than one vehicle except for one operator who only had a single vehicle with 8,000 L capacity.

Table 2.2: **Tanker Capacity of Surveyed Operator' Vehicles**	
Tanker capacity in litres (L)	**Number of operator vehicles**
4,000	6
4,500	2
5,000	5
6,000	13
7,000	1
8,000	3
9,000	1
10,000	2
Source: TNUSSP Study, 2017	

Financing of operator trucks takes place through both formal and informal mechanisms. Most operators approach a third-party agent who arranges for a loan with the bank. Financing is provided for either the truck chassis alone or for both truck chassis and tanker. The scope of this report was limited to basic vehicle financing details.

2.4. Licensing of Vehicle Operators

In August 2013, TCC passed a resolution to introduce a system to regulate private desludging operators in the city citing that operators were carrying out indiscriminate disposal and not utilising the designated disposal points. For operating within TCC limits, private operators would pay an annual license fee of Rs. 2,000 every year and a tipping fee of Rs. 30 for each disposal at designated points. Imposition of a penalty of Rs. 5,000 was recommended for first-time offence along with the option to seize and auction vehicles if caught more than three times without a license. This was later published in the district gazette in order to make it a legal requirement.

The licensing of operator resides with the mechanical department of TCC, entrusted with the responsibility of issuing licenses to the private desludging operators in the city. The process consists of submitting a requisition form along with copies of vehicle documents, permits and tax receipts that are mandated as per the State Transport Authority (STA) for non-passenger goods carriage vehicles. The requisition form also includes a line item mentioning safety accessories namely mask, gloves and shoes to confirm if the private operator has obtained them.

In addition to the payment of the annual license fee, the owner/operator signs a non-judicial agreement complying with a state government order banning the practice of manual scavenging and a Madras High Court order preventing entry of sanitary workers into the septic tank except under extreme circumstances. It also mandates that the vehicle owner install a GPS device to track vehicle movement to prevent open disposal. Table 2.3 shows the number of vehicles licensed in the past two financial years which runs from April to March.

Table 2.3: **ULB Licensing of Desludging Operator Vehicles**

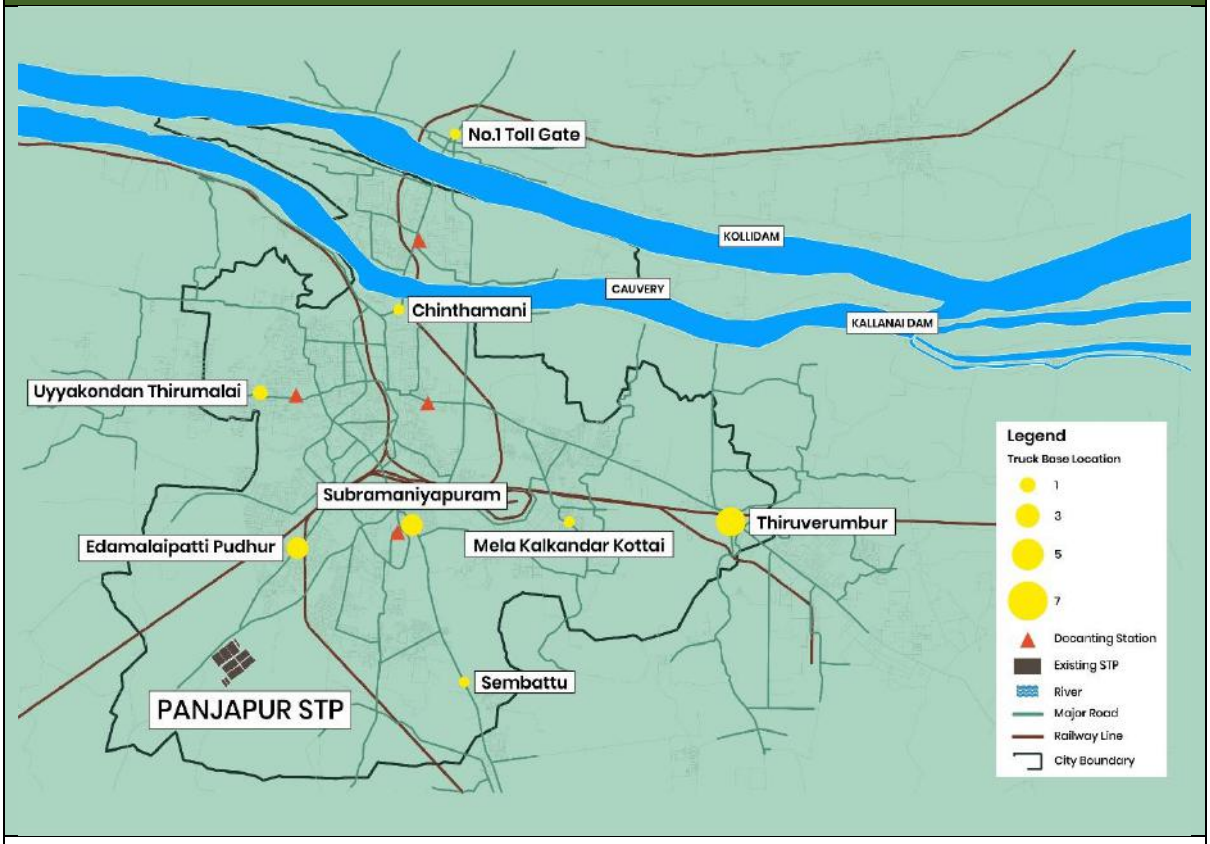
	Financial year	
	2017-18	**2016-17**
Vehicles registered	41	35
Number of operators	32	27
Number of unique operators	31	25
Source: TCC Records		

It was noticed that two vehicle owners carried out operations under different company names. When this question was posed to one of the owners, the response received was that since the second vehicle was purchased later than the first, they decided to operate it under a different name.

An attempt was made to understand whether the same set of vehicles renewed their license in the following year. A closer look revealed that 23 vehicles renewed their operating license in the year 2017-18. Among the 12 vehicles that did not renew, 7 vehicles were sold while 1 operator was planning to sell his vehicle and decided against renewal since it involved fee payment. Another two vehicles were servicing customers in neighbouring districts while there were two operator vehicles who were yet to renew but were operating within TCC limits.

It must be stated that since the vehicle is licensed rather than the operator, if the ownership of the vehicle is transferred to a different owner/operator, it can continue to run under the same license for the financial year. Figure 2.3 shows the base operating locations for the vehicles licensed in the year 2017-18.

Figure 2.3: **Private Desludging Operator's Base Location in Trichy**



Source: TNUSSP Study, 2017

At the end of every financial year in March, TCC informs operators that their license is up for renewal while following up with operators who use their decanting facilities on a regular basis. While the renewal process is itself straightforward upon fee payment, it is challenging for the TCC to get the entire set of private operators to renew. On the other hand, private operators claim that TCC is not strict in enforcing renewal in that it does not restrict access to decanting facilities due to non-renewal. Operators also claimed that they operate outside TCC boundaries and would prefer not to get their license renewed since it involves a fee while those looking to sell their vehicle in less than a year's time do not see the benefit in licensing due to the time frame. One more practice observed is that operators having more than one vehicle typically license one vehicle first and then license the other vehicles much later. While the state government issued Operative Guidelines for Septage Management in September 2014, Trichy continues to follow their own licensing mechanism based on the ULB resolution issued in 2013.

3 Current Desluding and Decanting Station Operational Practices in the City

3. Current Desludging and Decanting Station Operational Practices in the City

3.1. Tools

The list of tools and materials most commonly carried by desludging operators is summarised in Table 3.1.

Table 3.1: **Operator-used Tools/Materials along with their Purpose of Usage**

Tools	**Usage**
Hose pipe – 3/4/6 inch	Sludge suction
Crowbar (*Kadapparai*)	Break open septic tank covers as well as loosen ground
Spade *(Manvetti)*	Digging to clear area around septic tank
A modified version of the oar, referred to as *thuduppu*	Agitate the sludge
Chisel (*Uli*) and hammer	Break open septic tank covers
First aid box consisting of cotton, antiseptic liquid, pain relief spray or cream.	Emergency response
Packet of cement	Deal with requests to seal the lid of the tank
Spare pieces of rubber tube	Tie up loose joints while connecting the hose
Surgical mask commonly available at medical stores	Odour and face protection
Hose pipe/bucket for water	Diluting sludge in tank and cleaning purposes
Source: TNUSSP Study, 2017	

While not all tools may be carried by operators on a daily basis, the sludge suction hose pipe, crowbar, spade and modified oar are kept in their vehicle at all times. Tools such as hose pipe/bucket or pieces of rubber tube might be available at customer site while packet of cement can be purchased if required.

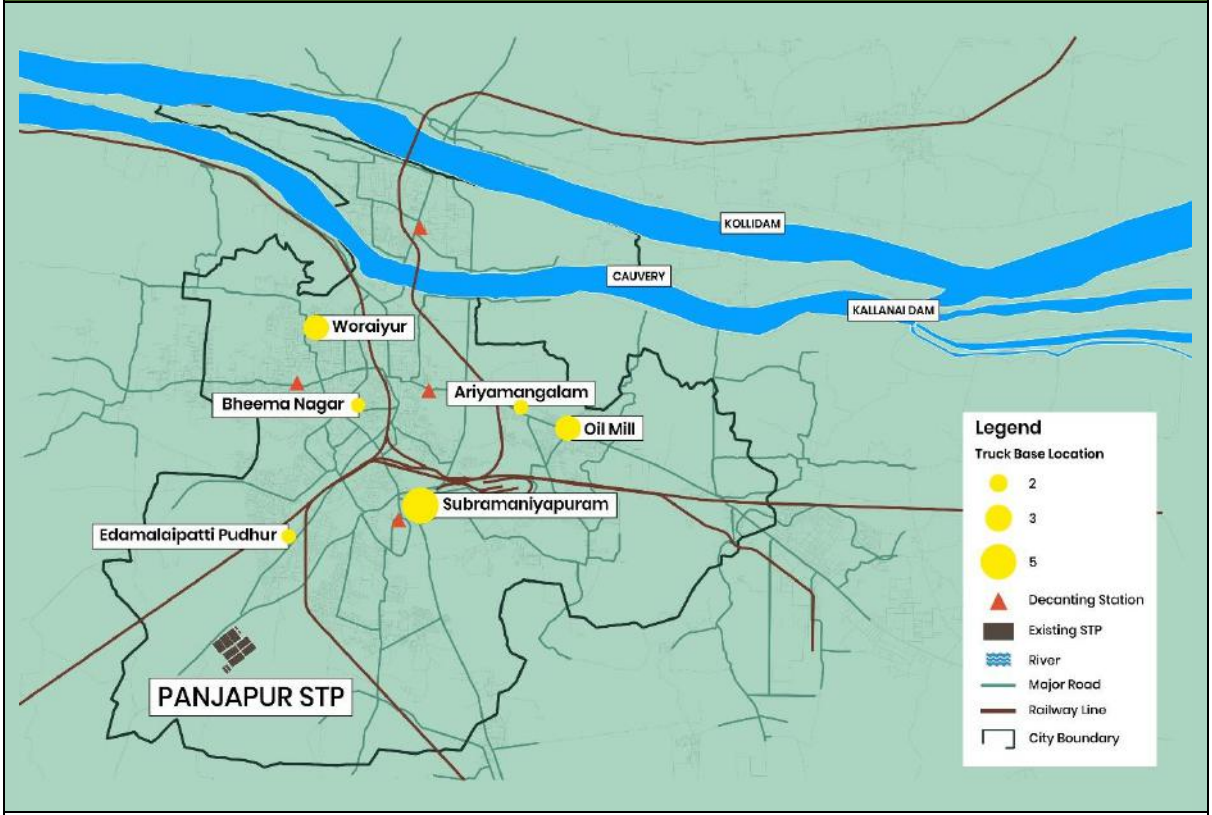
Figure 3.1: **Material/tool Used by Operator**

Source: TNUSSP Study, 2017

3.2. Navigating Narrow Lanes in the City

Operators typically carry 3-4 hose pipe sections of sizes between 20-25 feet. They claim that these meet the needs for accessing most streets and lanes in the city. In dealing with narrow lanes in the city, operators borrow additional hose pipe sections going up to 150-200 feet based on the requirement. However, the suction would be limited by the vacuum pump rating fitted in their vehicle. The map in Figure 3.2 shows the areas in the city where narrow streets have been reported by more than one operator.

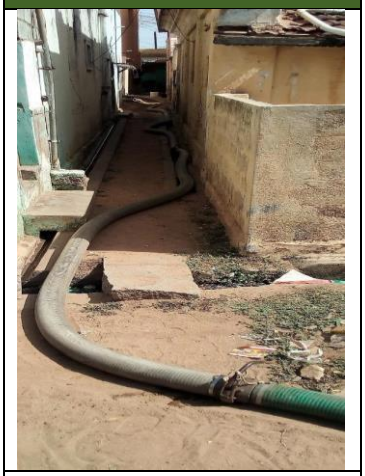
Figure 3.2: **Narrow Lanes in the City Reported by Private Operators**



Source: TNUSSP Study, 2017

During our field visits with operators, we came across only a single instance where a household in a narrow lane in E. Pudhur was being desludged that required additional hose pipes beyond normal length.

Figure 3.3: **Narrow Lane De-sludging at E. Pudhur**



Source: TNUSSP Study, 2017

3.3. Disposal Practices

Until 2012-13, the STP located at Panjappur was the only designated disposal point for private desludging operators with a tipping fee of Rs. 80 per load, which means one full tanker. This was later reduced to Rs. 30 per load through a corporation council resolution in August 2013 along with the provision of decanting arrangements at three existing sewage pumping stations- Anna Stadium serving the south and south-west parts, Pookollai catering to Tanjore Road and Vayaloor Road serving the western parts of the city. Provisions for decanting was usually the addition of a decanting port or inlet chamber where vehicles could discharge the septage under gravity without any disruption to existing pumping operations. Disposal option at Panjappur was later withdrawn once the three decanting facilities came up. A fourth decanting facility was added in the Srirangam Zone to cater to the needs of operators in the area. All of the above measures has meant that private desludging operators opt for disposal of collected septage at any one of the decanting stations based on customer location. Thereby, TCC has been able to tackle challenges associated with disposal of septage to a certain extent.

During the course of interactions, operators themselves admitted to reduced disposal of septage into the open due to enforcement by TCC and increasing customer awareness but at the same time reported that the city's canals and major drains presented opportunities for septage disposal since certain stretches were already polluted with sewage from households. This could be illustrated by when there is more than one load to be emptied from a large-size containment structure and the nearest decanting facility is more than a few kilometres away, the focus tends to be on business needs of servicing the customer quickly. A few open disposal locations reported by multiple operators include *oyamari* (burial ground), NH45 Chennai bye pass and Panjappur within city boundaries. If operators were servicing periphery areas such as Samayapuram, it was highly unlikely that they would travel to the city's decanting facilities for disposal. Few exceptions to this rule would be in the case of industry/factory loads which are served frequently by a dedicated private operator where the distance to disposal facility is factored into the price. Oversight by the owner/operator also plays a key role in ensuring that the vehicle is disposing septage at the decanting station.

3.4. Occupational Safety and Hazard

Personal Protection Equipment (PPE) is listed as a line item on the TCC license requisition form and mentions mask, gloves and shoes/boots with no standard/quality of safety gear to be purchased. The Operative Guidelines for Septage Management issued by the GoTN in 2014 states that 'Septage Transportation Vehicle Operators involved in the process of collection, treatment and disposal of sewage should be well trained and equipped with protective safety gears, uniforms, tools and proper vacuum trucks, to ensure safe handling of sewage.' The rules under the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 provide for a comprehensive list of safety gear that should be used. The Madras High Court order W.P. No. 24403/2008 referenced as part of the agreement signed by the private operator mentions safety gear. Prescribed by the Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB) in the scenario where mechanical equipment is not available or able to clear the obstructions/blocks, the board permits sanitary workers to enter into a manhole with these safety gadgets. A closer look at this list reveals hand gloves (PVC, leather, rubber, satin) and safety gumboots which are once again generic in nature failing to adopt a chemical/microorganisms risk and exposure-time based approach towards prescribing safety gears which is commonly found in European (EN)/ISO standards.

Presently, no form of PPE is actively used by private desludging operators and TCC workers who operate the ULB desludging trucks. During the interaction with desludging operators, surgical mask was found to be part of their daily tool set. When queried about the availability of PPE in the local market, four operators mentioned rubber gloves and surgical masks that were available at medical shops over-the-counter while a couple of operators referred to Palakkarai/Madurai Road where specialised stores sell safety equipment for industrial usage. They further stated that using safety gears may draw unnecessary attention while working in the city. A couple of operators reported that previous attempts at using gloves showed it to be inconvenient, although there was no proper recollection of when this attempt took place.

In terms of risk, operators stated that they were aware of the perils of dealing with wastewater and sludge but had not encountered any untoward incidents. In conversation with workers, they reported cuts/or bruises while working especially with removing the covers of septic tanks and were open to trying out safety equipment.

3.4.1. Gas Detection

When operators were asked about their approach to gas detection, they mentioned that preliminary enquiry with the customer would reveal whether the containment had been desludged in the past few years. The lack of vent pipe was another indicator which was used. On opening the tank lid, the presence of a strong distinct odour indicated the presence of gas. The lid was immediately left open for some time. The operators stated that such cases where septic tanks had not been desludged for longer periods were rarely encountered.

> *"Dealing with tanks which haven't been opened for many years requires certain amount of expertise which maybe beyond the capability of a relatively inexperienced worker. I am on standby or usually accompany them in such cases."*
>
> -Experienced private desludging operator

3.4.2. Cleanliness and General Hygiene

During visits to the decanting station, it was observed that the practice of washing hands by operators following disposal activities including connecting/disconnecting hose was mostly absent. Decanting facilities in the city themselves have poor arrangements in terms of handwashing stations. For example, Pookollai does not have an accessible hand wash station while Anna Stadium has a tap at one end of the facility.

Cleaning up spills of FS and septage were also a challenge. While spillage within the decanting station was left to dry and soil may be added, no lime/bleach solution was carried by the operators to clean up spills at the customer location. Mostly, water was used, at times along with phenolic type disinfectant.

3.5. Decanting Station Operations

The license issued for a private desludging operator vehicle mandates that disposal of FS has to take place at designated disposal point which, in turn, refers to any one of the four decanting stations in the city.

In order to understand the decanting station usage by private operators in the city, a monitoring exercise at the two most frequented decanting stations – Anna Stadium and Pookollai was carried out for a period of one week. In September 2017, TCC issued instructions to allow Anna Stadium decanting station to be operational for 24 hours to meet the requirements of operators who carried out desludging during night time (beyond 8 p.m.). Table 3.2 summarises the operational details of the two decanting facilities.

Table 3.2: Decanting Station Operational Details

	Anna stadium	**Pookollai/Tanjore Road**
Operational hours	24 hours	6 a.m. to 7 p.m.
Record keeper	TCC employee	Contracted pump operator

Table 3.2: Decanting Station Operational Details		
	Anna stadium	**Pookollai/Tanjore Road**
Record-keeping hours	9:00 a.m. to 4:30 p.m.	6 a.m. to 7 p.m.
Record-keeping information	Date, operator name, vehicle registration number, ward number, location of the customer served, receipt number and fee collected	
Tipping fee	Rs. 30 per truck per visit	
Source: TNUSSP Study, 2017		

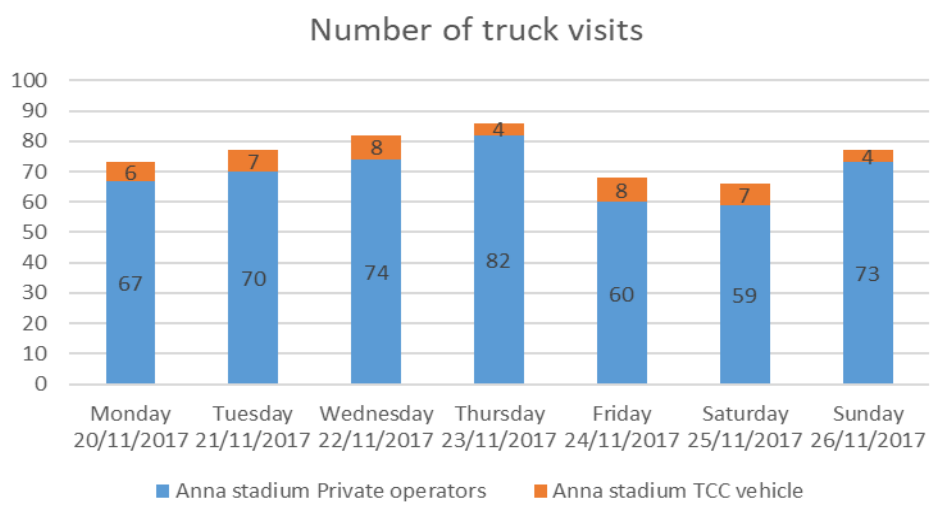
* TCC vehicles are excluded from record-keeping and tipping fee payment

Since the Anna Stadium decanting station is operational for 24 hours, field monitoring was divided into two shifts from 8 a.m. to 8 p.m. and 8 p.m. to 8 a.m. Data collected was summarised over a 24-hour period from 8 a.m. to 8 a.m. of the following day. Pookollai was monitored by one field staff to cover the operational hours from 6 a.m. to 7 p.m.. Although ULB-owned trucks are excluded from record keeping, it was prudent to include them in our observations to understand overall facility usage. Fieldwork was conducted in November 2017 which is typically the monsoon season in Tamil Nadu (October-December). A template format was used to capture operator name, vehicle registration number along with facility entry date and time. Brief interaction was held with each operator truck driver/worker upon every visit to record customer name/type, location and containment type being emptied.

3.5.1. Operator Truck Usage

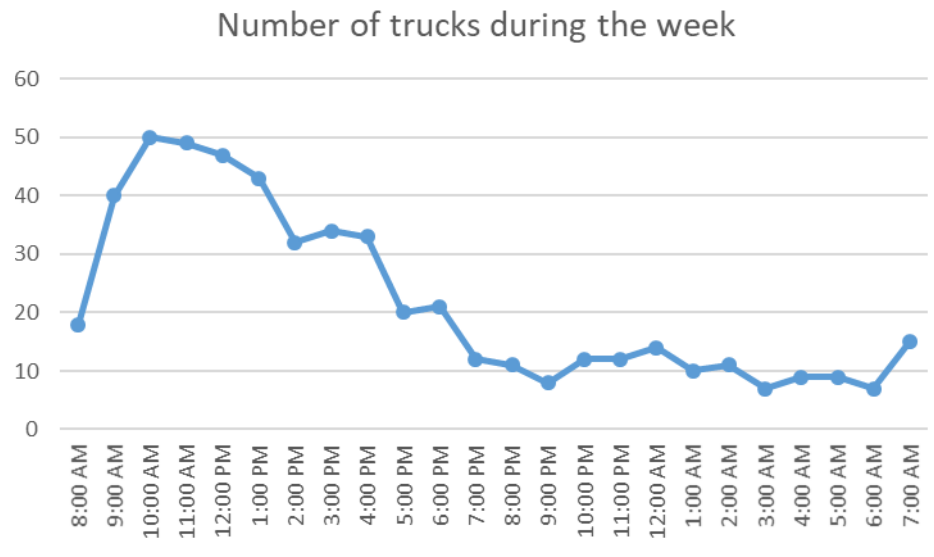
Prior to beginning the exercise, preliminary recce revealed that Anna Stadium is the most frequented decanting station in the city. This fact was substantiated in the monitoring period which showed an average of 75 trucks visits per 24-hour cycle – 8 a.m. to 8 a.m. during the week, with a minimum of 66 vehicles and a maximum of 86 vehicles. Peak-hour usage was found to be between 9 a.m. and 2 p.m. with no significant drop in weekday versus weekend usage. Private operator vehicles contributed the majority of the usage numbers as compared to TCC vehicles. Figure 3.4 below shows the number of truck visits at Anna Stadium over a 24-hour period day-wise and Figure 3.5 shows the total number of truck visits by the hour during the week.

Figure 3.4: **Decanting Facility Usage Pattern - Anna Stadium**



Source: TNUSSP Study, 2017

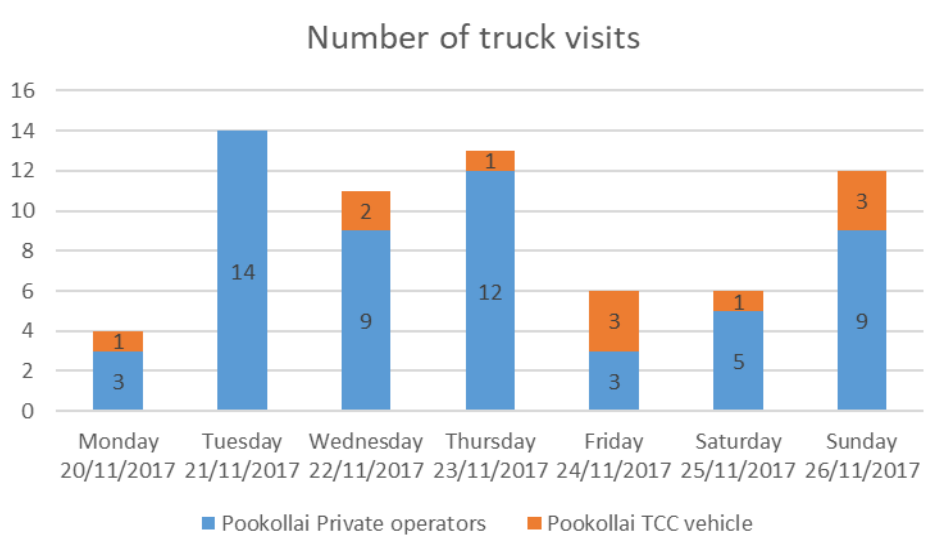
Figure 3.5: **Decanting Facility Usage Pattern - Anna Stadium by Time Slice**



Source: TNUSSP Study, 2017

This was contrasted by the findings at Pookollai decanting station that showed an average of nine trucks over a twelve-hour period during the day with a minimum of four and a maximum of fourteen vehicles. It would be safe to say that there is greater fluctuation over the week while peak hours are between 8 a.m. and 1 p.m.. One operator accounted for 36 per cent of truck visits. Figure 3.6 shows the number of truck visits at Pookollai during the monitoring period.

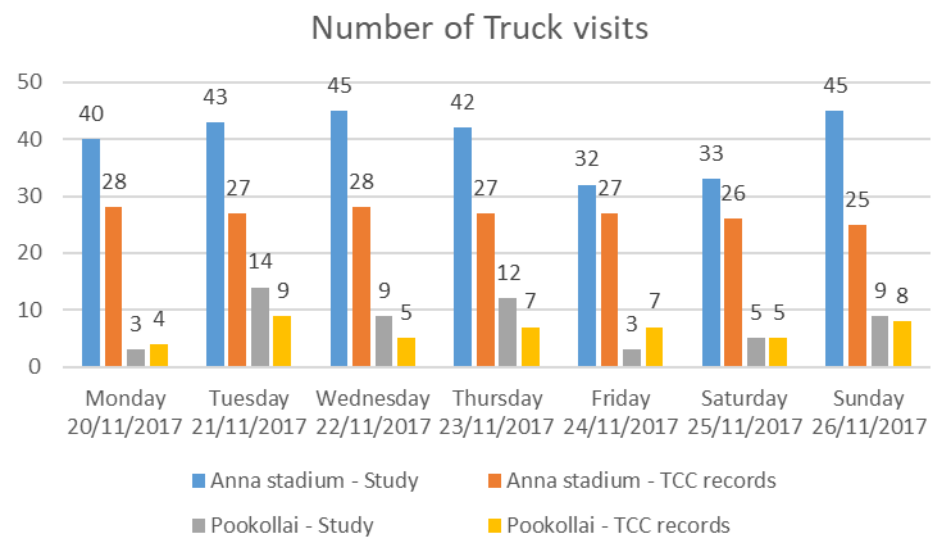
Figure 3.6: **Decanting Facility Usage - Pookollai**



Source: TNUSSP Study, 2017

One of the objectives of the decanting station survey was to verify if every truck visit was recorded at the decanting facility. This was performed by comparing data collected in the record register maintained at both decanting facilities. Since the TCC record keeper is present between 9 a.m. to 4:30 p.m. at Anna Stadium, study data for private operators were selected to match this time period.

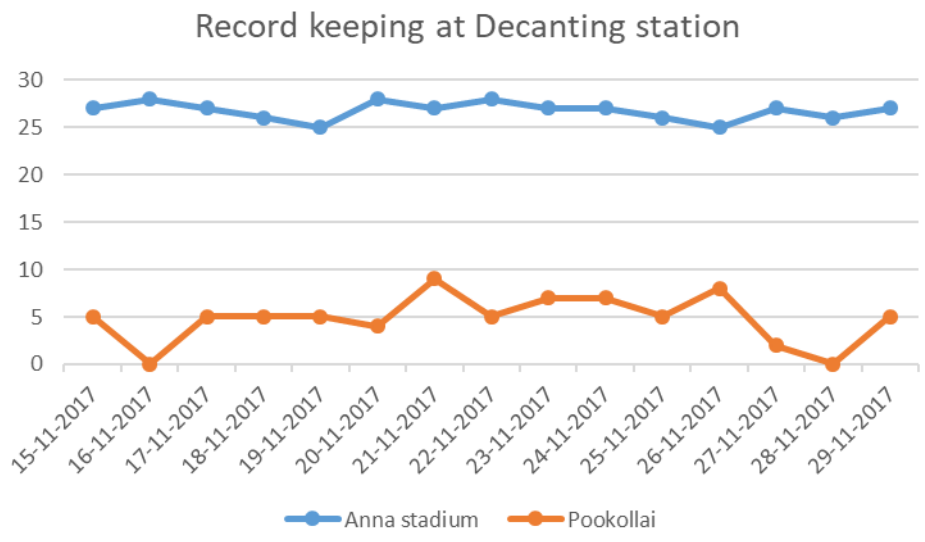
Figure 3.7: **Comparison of Study Data vs. TCC Records**



Source: TNUSSP Study, 2017

A large variation was observed between collected data and TCC records. Further, TCC records were obtained for few days prior and post the monitoring period in order to see if there was a pattern that could provide some sort of explanation. It was noticed that the record keeper may prefer to keep the numbers consistent since they visit the zonal offices at the end of each day to submit the overall tipping fee collected thereby avoiding showing spikes in usage pattern.

Figure 3.8: **TCC Record-keeping at Decanting Facilities**



Source: TNUSSP Study, 2017

3.5.2. Customer Categories Served

In terms of the loads received at the decanting station over the course of the entire monitoring week, households comprising of individual homes and apartments were the largest share with nearly 79 per cent followed by emptying of community/public toilets by TCC vehicles that stood at 9 per cent. Hotels/lodges/eateries and marriage halls contributed to 6 per cent of the total loads. Institutional facilities and companies/factories were less than 5 per cent of the overall customer type.

One large customer being an apartment complex, contributed 194 loads. However, the apartment complex was excluded when computing the numbers as it did not make any significant difference to the fact that households were the largest customer type.

When operators were asked about the containment structures that were emptied, septic tanks were the most common response received. For loads picked up from hotels, around 33 per cent was kitchen waste water which may point to a sort of holding tank structure rather than conventional septic tank. Similarly, at least three trips made to a factory in Viralimalai was to empty wastewater from their canteen.

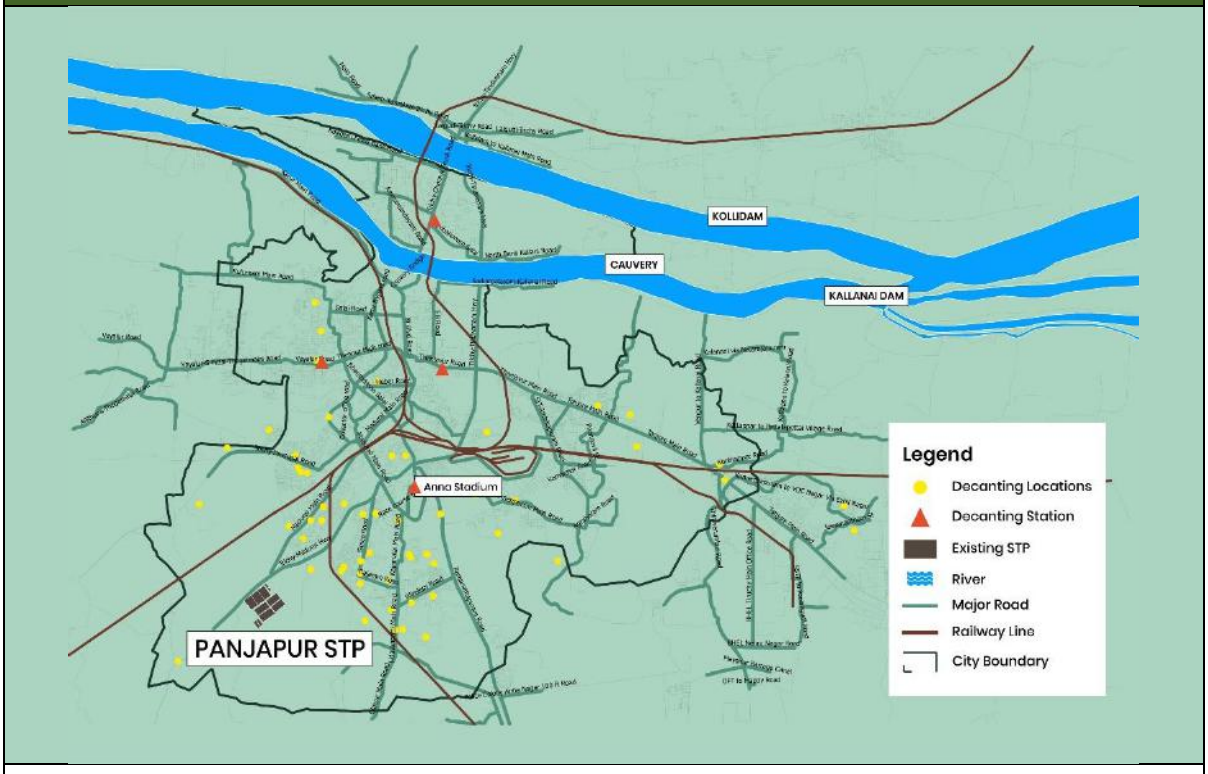
It was also noticed that multiple trips (two or more) are common to empty tanks belonging to commercial, institutional and industrial/factory type customers which may indicate large-size containment structures. For example, for a marriage hall, it took five load trips for the tank to be emptied while a couple of hotels preferred to have a regular emptying schedule every alternate day.

Table 3.3: **Customer Types Served by Desludging Vehicles in the City**				
	Overall numbers		**Excluding large apartment complex**	
Type of customer	**Number of trucks**	**Percentage**	**Number of trucks**	**Percentage**
Household (individual/apartments)	468	78.66%	274	68.33%
Institutional (college, schools , hospital)	16	2.69%	16	3.99%
Commercial (hotel/lodge, eateries, marriage halls)	37	6.22%	37	9.23%
Community/public toilet	54	9.08%	54	13.47%
Industry/factory	20	3.36%	20	4.99%
Source: TNUSSP Study, 2017				

3.5.3. Areas Served by Decanting Station

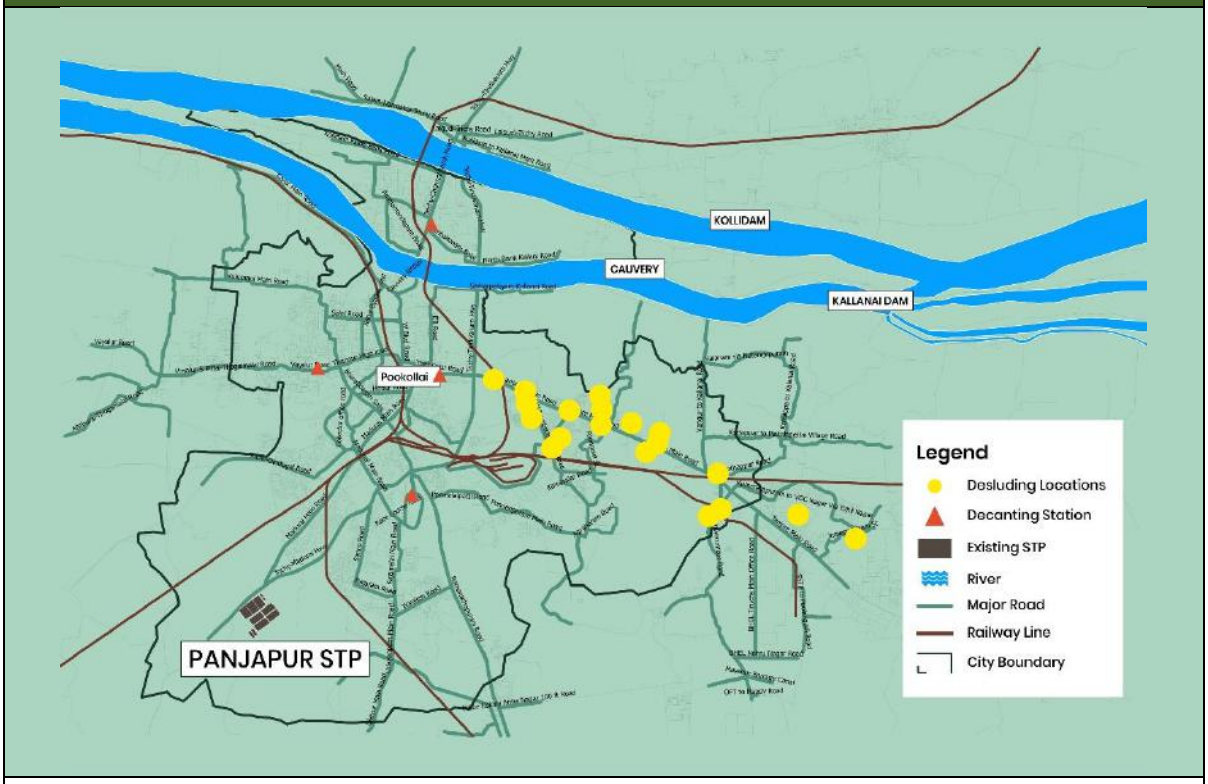
Mapping of the areas served by the decanting station facility was carried out by using customer locations reported by operators disposing septage at the two decanting stations. Pookollai decanting station primarily serves customers along Tanjore Road while Anna Stadium receives septage focused around Dindugal Road, Madurai Main Road and areas around the Trichy airport. Due to being operational for 24 hours, customer load picked up beyond 6 p.m. along Tanjore Road are directed to Anna Stadium decanting facility. Figures 3.9 and 3.10 show location clusters served by each of the decanting stations.

Figure 3.9: **Location Clusters Served by Anna Stadium Decanting Station**



Source: TNUSSP Study, 2017

Figure 3.10: **Location Clusters Served by Pookollai Decanting Station**



Source: TNUSSP Study, 2017

3.6. Business Operations

3.6.1. Pricing

TCC has published a tariff for servicing different types of customers using its own trucks. Tariff is based on a per load basis. For example, if a commercial establishment has a large holding tank of 10,000 L which is being serviced by operator vehicle with a tanker capacity of 6,000 L, it would take two trips to the decanting station to empty the tank and the establishment would be billed for two loads.

Table 3.4: **TCC Tariff for Desludging Services**

Customer type	First load	Second load onwards
House	Rs. 750	Rs. 500
Multi-storey building/apartment, commercial establishments (hotel, complex, lodge)	Rs. 2,000	Rs. 1,000
Government buildings	Rs. 500	Rs. 500
Private hospital and factory	Rs. 2,500	Rs. 1,250

Source: TNUSSP Study, 2017

Private desludging operators offer tariff on a per load basis as well. Table 3.5 shows private operator tariffs based on tanker capacity and distance to customer. For an average distance of 10 kms to customer location, the rate varies from Rs. 1,000–2,000 based on tanker size.

Table 3.5: **Private Operator Tariff**

Vehicle tanker capacity	**Tariff per load**	
	TCC limits/periphery areas (~10 kms)	**Long distance (20-30 kms)**
4,000-5,000 L	Rs. 1,000 to 1,200	Rs. 1,800 to 3,000
6,000 L	Rs. 1,200 to 1,500	
8,000-10,000 L	Rs. 1,600 to 2,000	
Source: TNUSSP Study, 2017		

There were four primary factors reported by operators that influence the tariff

- Distance to customer location
- Labour wages employed
- Length of hosepipe used
- Competition

Operators reported distance to customer's location as the primary factor for pricing which also refers to the amount of fuel they would spend to reach their destination. Wages paid to labour daily/monthly came up as a major factor as well. Length of hosepipe to be used to access containment structure was reported by 37.5 per cent of the operators. This would indirectly reflect on the vacuum pump operation time and fuel spent. Seven operators reported that competition also influences their pricing. They offered a lower price to acquire customers which could mean either offering better pricing for regular customers such as hotels or multiple loads from the same containment structure.

Four operators reported the amount of work required which could indicate a wide number of things such as thickness of sludge resulting in time taken to desludge. Any manual cleaning/emptying activity which may involve a worker getting into the tank would also increase the fee charged.

Distance to decanting facility was explicitly mentioned as a factor only by two operators but it could be partially accounted for in the distance to customer location. Urgency was not a consideration for pricing.

3.6.2. Expenses

It was important to understand the expenses incurred by a private operator on a regular basis. A driver's salary ranges between Rs. 8,000-10,000 and worker/helper salary ranges between Rs. 6,000-8,000. In addition, some operators paid a *bata* (daily allowance) of Rs. 100-200 for each day of work. Temporary worker/helper may be paid a daily wage of Rs. 200-250. Among operators in Trichy turnover of labour is low; operators claim that they have been able to retain their driver/workers for at least two to three years.

Diesel expenses on average are Rs. 500-1,000 per day but would depend on the customer location served. Maintenance expenses vary widely from Rs. 3,000-5,000 depending on age and condition of the vehicle. Cost of pump lubrication oil forms major part of frequently incurred expenses apart from cleaning costs. *Hafta* (bribe) payments are also made to police from time to time.

Other expenses on an annual basis include taxes paid to STA, vehicle insurance and repairs for wear and tear.

Table 3.6: **Private Desludging Operator Expenses**	
Expense components	**Amount**
Driver salary	Rs. 8,000 to 10,000 per month
Worker	Rs. 6,000 to 8,000 per month
Daily allowance	Rs. 100 to 200 per day
Diesel	Rs. 500 to 1,000 per day
Maintenance	Rs. 3,000 to 5,000 monthly depending on condition of vehicle
Source: TNUSSP Study, 2017	

4 Key Challenges & Way Forward

4. Key Challenges and Way Forward

4.1. Key Challenges

- Licensing and monitoring of operators: While the licensing of trucks is handled by the mechanical department of TCC, the monitoring of movement of trucks and disposal resides with the sanitary inspectors/officers of the respective zone. Installation of GPS devices in the vehicles is mandated as per the licensing agreement with TCC. However, no vehicles were installed with a tracking device.

- Additional decanting facilities: Operators have requested TCC to re-open the provision to decant at the STP at Panjappur to serve areas around Old Madurai Road.

- Record-keeping at decanting stations: The decanting station survey pointed out deficiencies in the record-keeping process at two decanting facilities. Even though Anna Stadium decanting facility is operational for 24 hours, no record-keeping is carried out after 4:30 p.m. until 9 a.m. the following day.

- Awareness at the consumer level: Unlike solid waste management, TCC has not undertaken recent initiatives to increase awareness among the public related to safe disposal of FS/septage and prevention of manual scavenging which exists in some form.

- Improving occupational safety and hygiene practices: While no major incidents have been reported by private operators in the city, there is a need to improve safety and hygiene of workers by adopting practices that may reduce risk and exposure while dealing with FS/septage.

4.2. Way Forward

- TCC should publicise the list of licensed private truck operators that households or establishments can obtain services from and highlight that manual emptying would lead to criminal proceedings. This might encourage private operators to renew their license at the start of the financial year. While ULB pricing for desludging services is lower than private operators, a willingness-to-pay exercise could be conducted across households to ensure that services are affordable to the larger public.

- Plans for new decanting facilities with the expanded coverage of the sewerage network along Tanjore Road may also benefit periphery areas beyond TCC limits.

- A few operators have suggested installing a tollgate type system at the entry gate of the decanting station to monitor trucks accessing the facility.

- While the tipping fee is minimal, disassociating it from the record-keeping process by using alternate payment modes such as prepaid might be worth exploring to see if record-keeping improves at the decanting facility. Currently, customer location is captured as part of the record-keeping process at the decanting station. By including customer name and mobile number as well as streamlining the record keeping at decanting facilities, SMS can be sent to the customer

confirming that the collected sludge was safely disposed at the decanting facility simultaneously sending a message to the operator vehicle owner for entries in their log book. Customers can verify/report if proper disposal has not taken place thereby flagging private operators to TCC. Additionally, private operators can also record their observations with respect to faulty containment structures. Once submitted at the decanting facility, TCC can verify and issue notices to those households/establishments for action.

- Quick wins maybe achieved by introducing messaging at decanting stations to promote hygiene among operator workers and having proper handwashing stations. Periodic health check-ups and vaccination for workers could be introduced while adoption of safety gears would be a longer term objective requiring further feasibility studies.

Annexures

Annexure 1: Interview Questionnaire with Desludging Operators

Name of the operator:

Vehicle number:

Tanker size:

Owner name:

Contact number:

1. Desludging (long pipe) and narrow lanes

    A. Compressor/pump rating

    B. Total length of the pipe

    C. Length of each pipe

    D. How is desludging done in narrow lanes and hilly areas

    E. Appropriate length of pipe for desludging long-distance houses

    F. Where are the narrow lane areas in the city?

2. Pricing factors

    A. Rates of desludging in TCC areas

    B. Factors for pricing
        i. What are primary & secondary factors?

    C. Peripheral areas & rates

3. Areas

    A. How many kms is considered long distance?

    B. Rates for those areas

    C. Do you also consider distance to the decanting facility? If no, then what do you do when you have to go far?

4. Business

    A. Salary of workers

        Number of workers: Driver: Helper:

    B. Other maintenance costs per month

C. Diesel per day

D. Medical & other miscellaneous expenses (*hafta*)

E. How long have these drivers/workers been with you?

5. Parking

A. Current parking location

B. Parking issues at regular parking location

C. Parking issues during the day at any point

6. Gas detection in septic tank

A. How do you detect gas?

B. What precautions are generally taken for gas?

C. How many do you see in a month, not desludged for a long time and having gas?

D. How often do you encounter hard sludge difficult to remove? If so, in which cases, please describe

E. What are other risks encountered such as getting hurt while opening slab?

F. What are some of the reasons for not following any of the mandated precautions?

7. PPE

A. Are you using any PPE?

B. Do you know about the availability of PPE?

C. Are the workers interested in using PPE?

8. Police harassment

A. Do you face harassment? If yes, what are some of the reasons?

9. TCC license

A. Are your vehicles registered with TCC?

B. Does TCC approach you for renewal or do you initiate it by yourself?

C. What are some of the reasons for not renewing license?

10. Desludging vehicle

A. Vehicle manufactures

B. Rates of the trucks

C. Tanker cost

D. Loan & interest rate

12. Customer category

A. Types of customers by category (per cent)

B. Which type of customer gives maximum business?

13. Desludging at night

A. What type of customer avails these services?

B. What are some of the challenges faced?

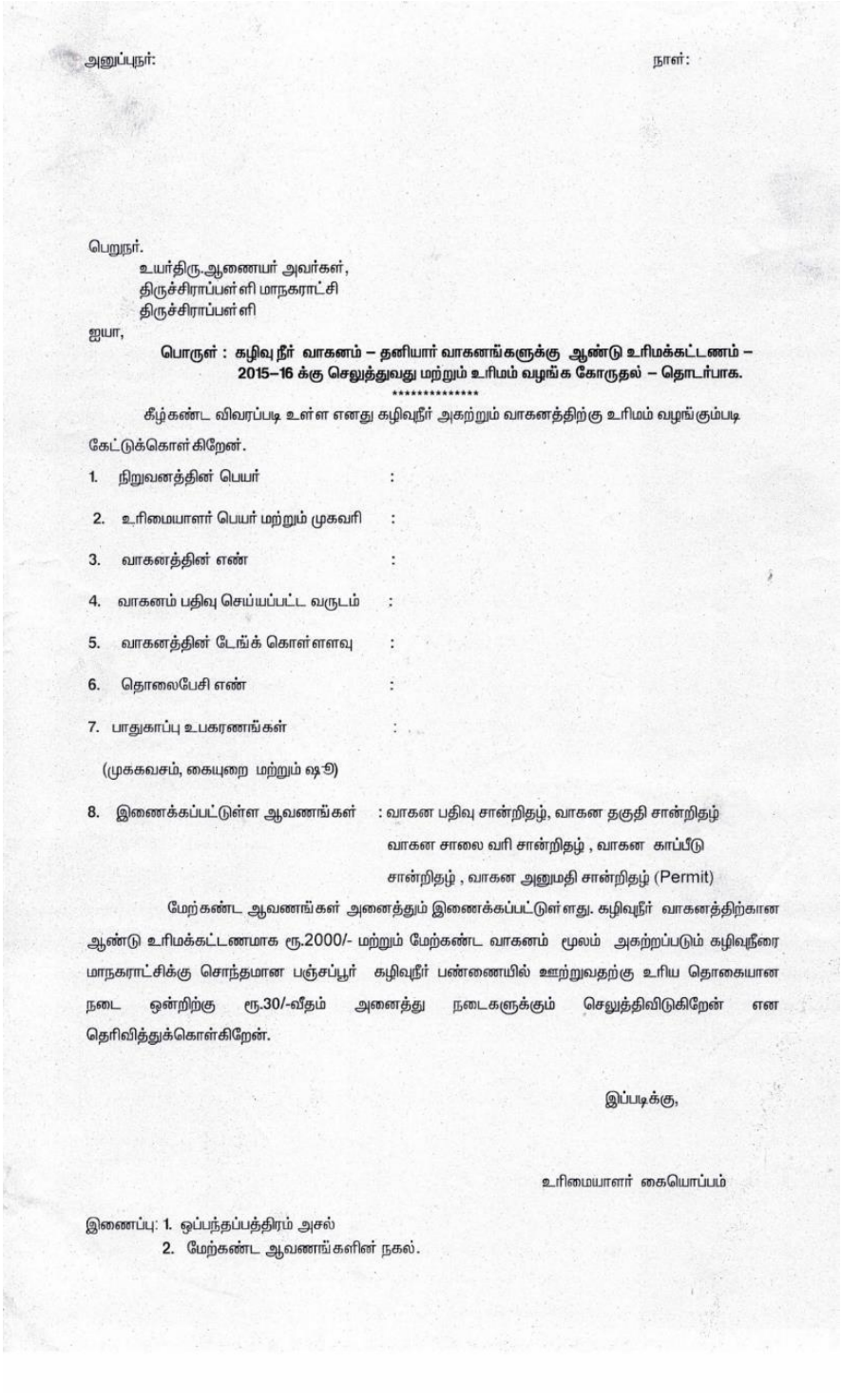
14. Open disposal sites

15. Customer call

A. What are the typical things discussed, questions asked?

B. How often do you get requests for getting into septic tanks? How do you handle them?

Annexure 2: Private Desludging Operator License Requisition Form



அனுப்புநர்: நாள்:

பெறுநர்.
உயர்திரு.ஆணையர் அவர்கள்,
திருச்சிராப்பள்ளி மாநகராட்சி
திருச்சிராப்பள்ளி

ஐயா,

பொருள் : கழிவு நீர் வாகனம் – தனியார் வாகனங்களுக்கு ஆண்டு உரிமக்கட்டணம் – 2015–16 க்கு செலுத்துவது மற்றும் உரிமம் வழங்க கோருதல் – தொடர்பாக.

****

கீழ்கண்ட விவரப்படி உள்ள எனது கழிவுநீர் அகற்றும் வாகனத்திற்கு உரிமம் வழங்கும்படி கேட்டுக்கொள்கிறேன்.

1. நிறுவனத்தின் பெயர் :
2. உரிமையாளர் பெயர் மற்றும் முகவரி :
3. வாகனத்தின் எண் :
4. வாகனம் பதிவு செய்யப்பட்ட வருடம் :
5. வாகனத்தின் டேங்க் கொள்ளளவு :
6. தொலைபேசி எண் :
7. பாதுகாப்பு உபகரணங்கள் :

(முககவசம், கையுறை மற்றும் ஷூ)

8. இணைக்கப்பட்டுள்ள ஆவணங்கள் : வாகன பதிவு சான்றிதழ், வாகன தகுதி சான்றிதழ் வாகன சாலை வரி சான்றிதழ் , வாகன காப்பீடு சான்றிதழ் , வாகன அனுமதி சான்றிதழ் (Permit)

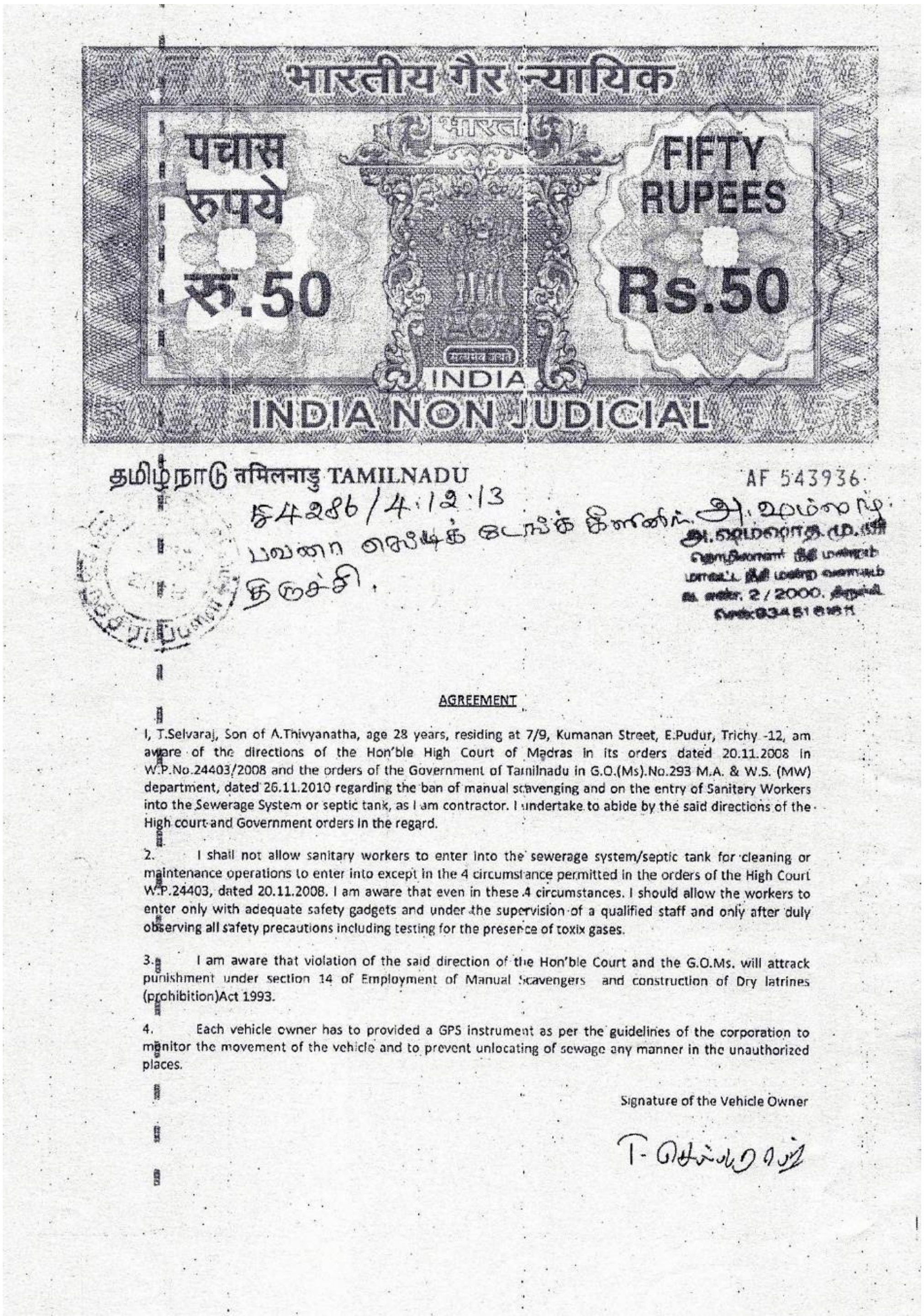
மேற்கண்ட ஆவணங்கள் அனைத்தும் இணைக்கப்பட்டுள்ளது. கழிவுநீர் வாகனத்திற்கான ஆண்டு உரிமக்கட்டணமாக ரூ.2000/- மற்றும் மேற்கண்ட வாகனம் மூலம் அகற்றப்படும் கழிவுநீரை மாநகராட்சிக்கு சொந்தமான பஞ்சப்பூர் கழிவுநீர் பண்ணையில் ஊற்றுவதற்கு உரிய தொகையான நடை ஒன்றிற்கு ரூ.30/-வீதம் அனைத்து நடைகளுக்கும் செலுத்திவிடுகிறேன் என தெரிவித்துக்கொள்கிறேன்.

இப்படிக்கு,

உரிமையாளர் கையொப்பம்

இணைப்பு: 1. ஒப்பந்தப்பத்திரம் அசல்
2. மேற்கண்ட ஆவணங்களின் நகல்.

Annexure 3: Non-judicial Agreement between TCC and Private Desludging Operator


भारतीय गैर न्यायिक

पचास रुपये

रु.50

FIFTY RUPEES

Rs.50

INDIA

INDIA NON JUDICIAL

தமிழ்நாடு तमिलनाडु TAMILNADU

AF 543936

AGREEMENT

I, T.Selvaraj, Son of A.Thivyanatha, age 28 years, residing at 7/9, Kumanan Street, E.Pudur, Trichy -12, am aware of the directions of the Hon'ble High Court of Madras in its orders dated 20.11.2008 in W.P.No.24403/2008 and the orders of the Government of Tamilnadu in G.O.(Ms).No.293 M.A. & W.S. (MW) department, dated 26.11.2010 regarding the ban of manual scavenging and on the entry of Sanitary Workers into the Sewerage System or septic tank, as I am contractor. I undertake to abide by the said directions of the High court and Government orders in the regard.

2. I shall not allow sanitary workers to enter into the sewerage system/septic tank for cleaning or maintenance operations to enter into except in the 4 circumstance permitted in the orders of the High Court W.P.24403, dated 20.11.2008. I am aware that even in these 4 circumstances. I should allow the workers to enter only with adequate safety gadgets and under the supervision of a qualified staff and only after duly observing all safety precautions including testing for the presence of toxix gases.

3. I am aware that violation of the said direction of the Hon'ble Court and the G.O.Ms. will attrack punishment under section 14 of Employment of Manual Scavengers and construction of Dry latrines (prohibition)Act 1993.

4. Each vehicle owner has to provided a GPS instrument as per the guidelines of the corporation to monitor the movement of the vehicle and to prevent unlocating of sewage any manner in the unauthorized places.

Signature of the Vehicle Owner

Annexure 4: Receipt of Annual License Fee Payment by Private Desludging Operator

ORIGINAL

திருச்சிராப்பள்ளி மாநகராட்சி
TIRUCHIRAPPALLI CITY CORPORATION

வரிவிதிப்பு எண் / விண்ணப்ப எண் Assessment No. / Application No.	0	பற்றுச் சீட்டு எண் Receipt No	1175101676
வரிவிதிப்புக்குரியவர் / விண்ணப்பதாரர் பெயர் Name of Assessee / Applicant	G. PARAMESWARI	நாள் Date	27/04/2017
விலாசம் Address	12/22 BHARATHI STREET T.V.KOVIL, SRIRENGAM,TRICHY	கோட்டத்தின் பெயர் Zone Name	PONMALAI
செலுத்துபவர் பெயர் Remitted by	SELF	வார்டு எண் Ward No.	WD-35
சேவை மையம் / வசூல் மையம் Collection Centre	GOC FACILITATION COUNTER-1		

வரி விவரம் / கணக்கு தலைப்பு எண் / Tax Type / Purpose	காலம் / Period	நிலுவை / Arrear	நடப்பு / Current	மொத்தம் / Total
OTHER INCOME SARANYA SEPTIC LORRY TN 47 M1387				2000.00

தொகை எழுத்தால் Rupees in Words Rupees Two Thousand Only 2000.00

வ. எண். Serial No.F 0283634

Duplicate Copy No: 1

காசாளர் கையொப்பம் Signature of the Cashier

Annexure 5: TCC Summary of Desludging Operator Vehicles for the Year 2015-16

Tiruchirappalli City Corporation

Details of Collection of Sewage Liquid Waste by Private Operating Vehicles

Council Res. No.	:	200, dated, 29.08.2013
District notification No	:	1, dated: 13.01.2014
License Fees	:	Rs.2000/- Per Vehicle / Year
Collection fees for let out sewage water	:	Rs.30/- Per Trip
Fine for operating with out licensed Vehicle	:	Rs.5000/-
No. of license issued for Private Gulper Vehicles	:	35 No's (Year – 2016-17)
License fees Collected	:	Rs. 70,000/-
No. of Trips (From:1.04.2015 to 31.03.2016)	:	2472 Trips
Collected fees (From: 1.04.2015 to 31.03.2016)	:	Rs.74,160/-
Total Sewage water let out through decanting arrangements through private Gulper Lorries (From: 1.04.2015 to 31.03.2016)	:	14.83 MLD (2472 Trips x 6000 Ltr)
Corporation Vehicles let out Qty (From: 1.04.2015 to 31.03.2016)	:	24 MLD (2990 Trips x 6000 Ltr)
No. of decanting Arrangements (3 No's)	:	1.. Anna stadium Main Pumping Station 2. Tanjore Road sub pumping station 3. Vayalore Road sub pumping station

Annexure 6: TCC Summary of Desludging Operator Vehicles for the Year 2016-17

Tiruchirappalli City Corporation
Details of Collection of Sewage Liquid Waste by Private Operating Vehicles

Council Res. No.	:	200, dated, 29.08.2013
District notification No	:	1, dated: 13.01.2014
License Fees	:	Rs.2000/- Per Vehicle / Year
Collection fees for let out sewage water	:	Rs.30/- Per Trip
Fine for operating with out licensed Vehicle	:	Rs.5000/-
No. of license issued for Private Gulper Vehicles	:	41 No's (Year – 2017-18)
License fees Collected	:	Rs. 82,000/-
No. of Trips (From:1.04.2016 to 31.03.2017)	:	5240 Trips
Collected fees (From: 1.04.2016 to 31.03.2017)	:	Rs.1,57,200/-
Total Sewage water let out through decanting arrangements through private Gulper Lorries (From: 1.04.2016 to 31.03.2017)	:	31.44 MLD (5240 Trips x 6000 Ltr)
Corporation Vehicles let out Qty (From: 1.04.2016 to 31.03.2017)	:	16.85 MLD (2808 Trips x 6000 Ltr)
No. of decanting Arrangements (3 No's)	:	1.. Anna stadium Main Pumping Station 2. Tanjore Road sub pumping station 3. Vayalore Road sub pumping station

Annexure 7: List of Private Desludging Operators Licensed for the Year 2017-18

TRICHIRAPPALLI CITY CORPORATION
2017-18 - Registered Private Septic Tank cleaning Vehicles & Owner's Details

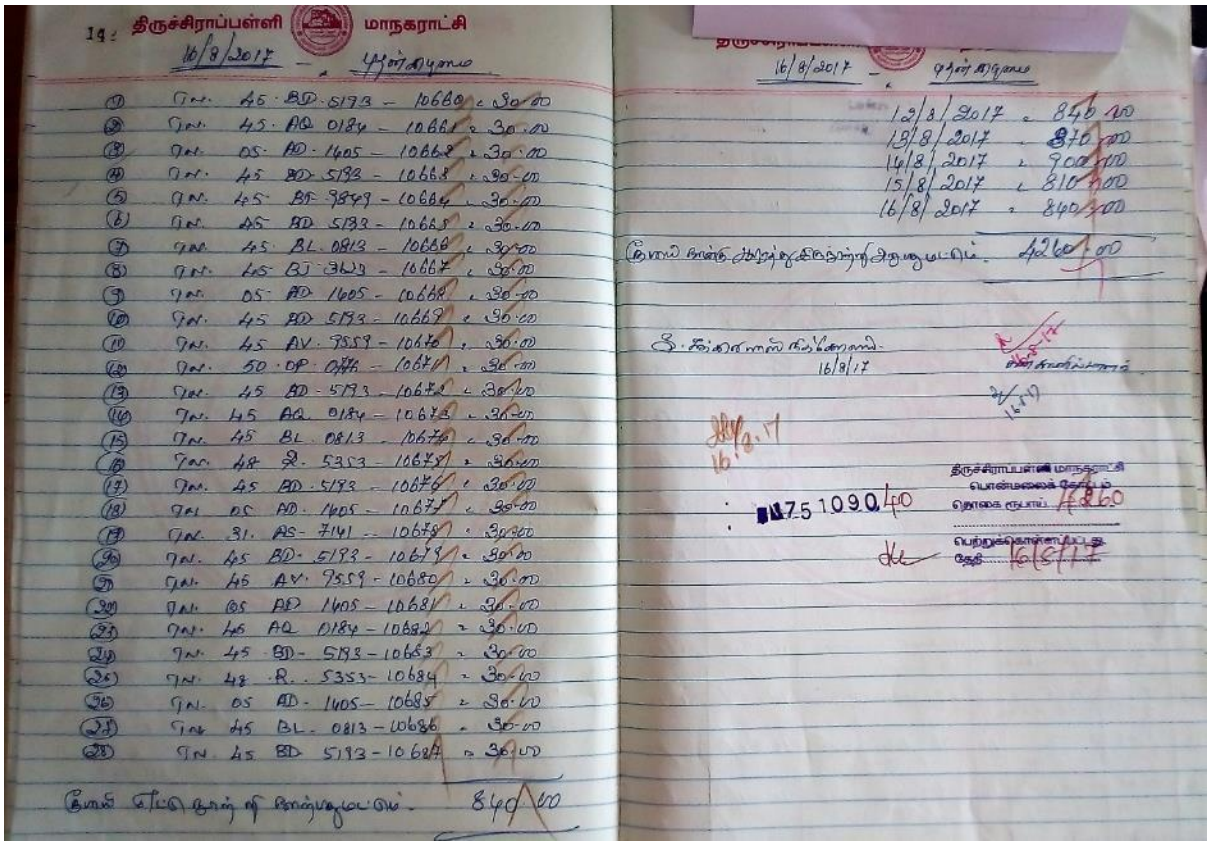
Sl. No	Vehicle Details		Mobile	Owner's Details
	Regn. No.	Septic Tank Name		
1	TN 45 Q 0184	SURYA Septic Tank	9842442332	A.SyedMohamed, 107,Raja Street, Subramaniyapuram, trichy
2	TN 45 BD 5193	SURYA Septic Tank	9842442332	A.SyedMohamed, 107,Raja Street, Subramaniyapuram, trichy
3	TN 49 AK 4200	BKM Septic Tank	9842671115	M.Bakkiyaraj, RamachandraNager, E-Puthur,Trichy - 12.
4	TN 45 BE 7706	PRIYA Septic Tank	9842465944	N. Kumar, 40/6,DVDB, Complex, TVS Tolgate, Subramaniyapuram, trichy
5	TN 48 R 5353	PRIYA Septic Tank	9842465944	N. Kumar, 40/6.DVDB, Complex, TVS Tolgate, Subramaniyapuram, trichy
6	TN 45 AV 9559	VALLI septic Tank	9698462755	D.Valli, W/o.durairaj, 168, vivekanandher nager, Mathur, Puthukottai.
7	TN 45 BL 0813	SRI KAVERI Septic Tank	9865611544	S.Ramesh, 120, SahayaMatha kovil Street, Malaiyadi varam, ponmalaipatti, Trichy- 4.
8	TN 48 AC 8703	VKM Septic Tank	9843223339	G.Vani, 6th street, E- puthur, Trichy- 12.
9	TN 48 AF 5770	VKM septic Tank	9843223340	G.Vani, 6th street, E- puthur, Trichy- 12.
10	TN 36 W 1233	RAJA Septic Tank	9842831053	P.Raja, S/o. A.ponnusamy, Tiruvarampur, Trichy - 13
11	TN 69 L 0583	BAVANA Septic Tank	9865020471	T.Selvaraj, 7/9,Kumaran Street, E-Puthur, Trichy - 12.
12	TN 45 BF 9849	SRI KAUVERY Septic Tank	9865611544	S.Ramesh, SahayaMatha kovil Street, Malaiyadi varam, ponmalaipatti, Trichy- 4.
13	TN 45 AH 7138	M.K.M Septic Tank	9944739958	K.Murugan, 81/A, Edamalai patti puthur, New street, Trichy - 12.
14	TN 39 H 2747	ARASU Septic Tank	9443592342	L.Deva, 38,R.S.Road Srirangam, Trichy-6
15	TN 38 V 3024	JAYAM Septic Tank	9488605756	L.Deva, 38,R.S.Road Srirangam, Trichy-7
16	TN 49 AK 4198	MARIA Septic Tank	9842470602	A.Shanthi w/o. Arumugam 7B,Arunachalam Nagar M.K.Kottai, Trichy
17	TN 45 BF 9808	RAJU Septic Tank	8973045045	R.Karuppaiah, 2/2 MF Type Railway Colony Trichy.

18	TN 47 M 1387	SARANYA Septic Tank	9362062570	G.parameshwari 12/22, Bharathi Street, T.V. Kovil, Trichy
19	TN 31 AM 8287	BABUKUTTY Septic Tank	9842403863	A.Periyanan, Kalnayakan street, woraiyur, Trichy
20	TN 45 AR 5018	BABUKUTTY Septic Tank	9842404473	A.MariMuthu, Kalnayakan street, woraiyur, Trichy
21	TN 70 E 6289	CHITHRA Septic Tank	9047331450	Valarmathi, 34 E, Poosari street, Chinthamany, Trichy
22	TN 36 7530	DHEEPAM Septic Tank	9894426059	B.Muthu Kumar, 33/27,vadikal Street, Keela Vasal, Srirangam
23	TN 45 BL 1733	RAJU Septic Tank	8973045045	R.Karuppaiah, 2/2 MF Type Railway Colony Trichy.
24	TN 60 D 7875	MEETHURA SRI Septic Tank	9345193672	S.Govindraj, 55 Valluvar Nagar, Thiruverumbur, Trichy
25	TN 57 AW 0813	KALI SRI Septic Tank	9944005485	R.Periyasamy, 2,Kalnayakan street, woraiyur, Trichy
26	TN 45 BK 3292	R.M.S. Septic Tank	9994035072	M.Sarathkumr, 4,Kalnayakan street, woraiyur, Trichy
27	TN 45 AX 5260	GAYATHRI Septic Tank	9843131889	A.Karthik, 11/52 xavier market street Cauvery nagar, Thiruverumbur, Trichy - 13.
28	TN 31 AY 1507	MAHESHWARI Septic Tank	9842915989	D.Mahendran, kakkan colony, thiruverambur, trichy.
29	TN 23 AX 7466	VISNU PRIYA Septic Tank	9842694866	K.Rathinam, Valluvar Nagar, Thiruverumbur, Trichy - 20.
30	TN 48 AH 0824	SUBA Septic Tank	9842483276	D.Cellaiah, 92/H ,vadikal street, srirangam
31	TN 48 W 0815	SUBA Septic Tank	9842483276	D.Cellaiah, 92/H ,vadikal street, srirangam
32	TN 45 BA 2130	SRI SAI Enterprises	9842499913	K.Aravalli, 98A, SahayaMatha kovil Street, PonmalaiPatti, trichy.
33	TN 45 BJ 3623	SRI AMMAN septic Tank	9842434422	M.Padmavathi, 86/99,SahayaMatha kovil Street, Malaiyadi varam, ponmalaipatti, Trichy- 4.
34	TN 05 AD 1405	SRI HARI Septic Tank	9944088054	P.Manimaran, 1, Kalinga nager, K.Sathanur, Trichy.
35	TN 18 E 2804	SHAKTHI VINAYAGAR Septic Tank	9750113938	Rajasekar, 101, Bharathi Nagar, Grow Fort, Trichy
36	TN 31 AS 7141	KEERTHANA Septic Tank	9994273282	M.Sumathi w/o. Manikandan, D.No.3, LIC Colony K.Sathanur Road, Trichy-21.

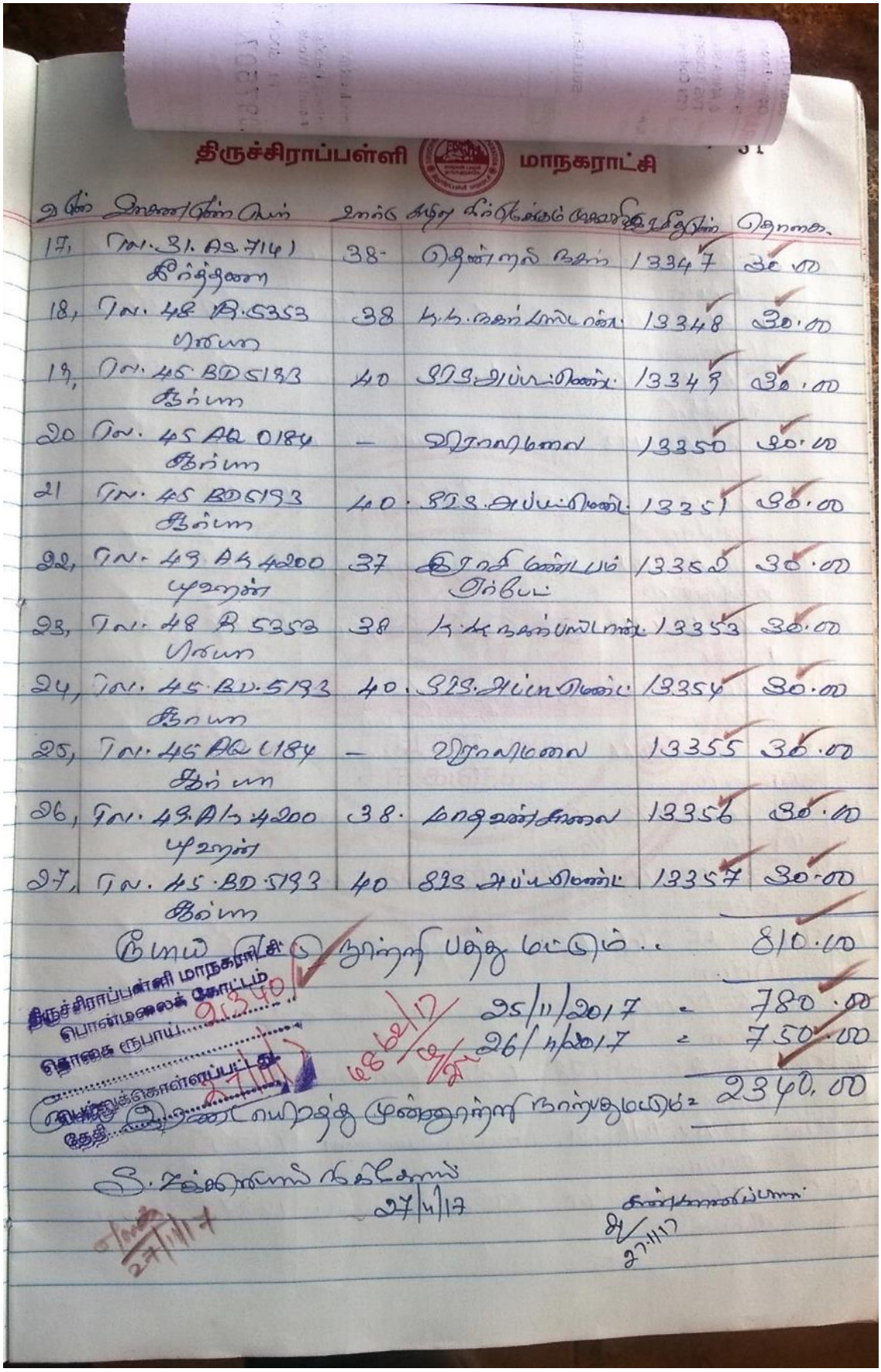
37	TN 50 AC 0774	THIRU MALAIYAN Septic Tank	9842424231	K.Karthikeyan, Prakash Street, 6thStreet, Thiruverumbur, Trichy - 20.
38	TN 57 AY 2268	DEEPA Septic Tank	9688774418	S.Deenathayalan 35 B, Marriyamman kovil street, Kakkan colony, Thiruverumbur, Trichy-15
39	TN50 P 1456	THIRU MALAIYAN Septic Tank	9842424231	K.Karthikeyan, Prakash Street, 6thStreet, Thiruverumbur, Trichy - 20.
40	TN 37 AC 6989	MARIA Septic Tank	9842470602	A.Shanthi w/o. Arumugam 7B,Arunachalam Nagar M.K.Kottai, Trichy
41	TN 59 AF 8092	Sri NARASHIMAR Septic Tank	9894914761	M.maiaiyandy, 26/63, Ambdekar Nagar, Thiruvanaikovil, Trichy

Annexure 8: Anna Stadium Decanting Facility – Record-keeping

Annexure 8.1: Record-keeping Format without Customer Details until August 2017



Annexure 8.2: Record-keeping Format since September 2017



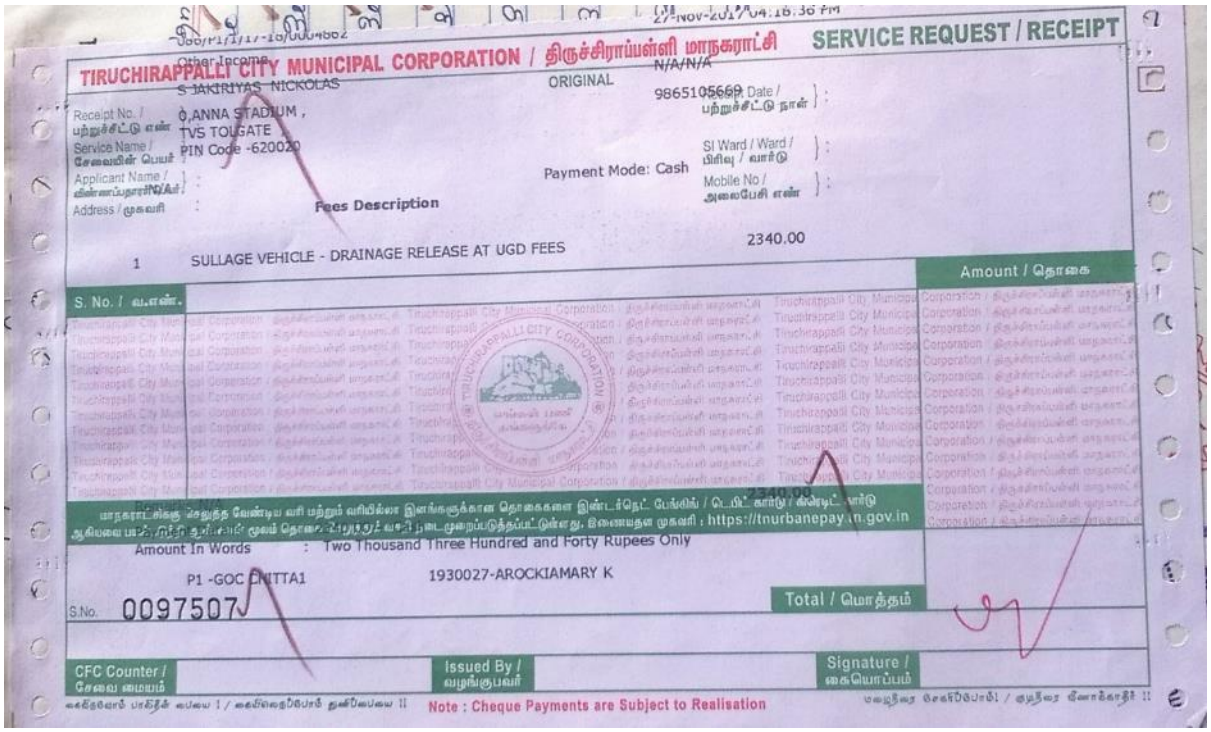
திருச்சிராப்பள்ளி மாநகராட்சி

17,	TN. 31. AQ 7141 கீர்த்தனா	38	தென்னூர் நகர்	13347	30.00
18,	TN. 48 B. 5353 ஸ்ரீயா	38	க.க. நகர் பைபாஸ்	13348	30.00
19,	TN. 45 BD 5193 சேர்மா	40	818 அப்பாவிண்ட்	13349	30.00
20	TN. 45 AQ 0184 சேர்மா	—	விநாயகமலை	13350	30.00
21	TN. 45 BD 5193 சேர்மா	40	818 அப்பாவிண்ட்	13351	30.00
22,	TN. 49 AK 4200 புரூஸ்ன்	37	திருச்சி மண்டபம் ரிங்ரோட்	13352	30.00
23,	TN. 48 B 5353 ஸ்ரீயா	38	க.க. நகர் பைபாஸ்	13353	30.00
24,	TN. 45 BD 5193 சேர்மா	40	818 அப்பாவிண்ட்	13354	30.00
25,	TN. 45 AQ 0184 சேர்மா	—	விநாயகமலை	13355	30.00
26,	TN. 49 AK 4200 புரூஸ்ன்	38	காதர்பேட்டை	13356	30.00
27,	TN. 45 BD 5193 சேர்மா	40	818 அப்பாவிண்ட்	13357	30.00
	மேலும் நிகழ் நூற்று பத்து மட்டும் ..				810.00
	திருச்சிராப்பள்ளி மாநகராட்சி பொன்மலைக் கோட்டம் தொகை ரூபாய் 2340		25/11/2017	:	780.00
			26/11/2017	:	750.00
	ஒப்புக்கொள்ளப்பட்டது தேதி 27/11/17			=	2340.00

S. சுப்பிரமணி சுகடேசன்
27/11/17

கண்காணிப்பாளர்
27.11.17

Annexure 8.3: Zonal Office Receipt for Daily Submission of Collected Tipping Fees



TIRUCHIRAPPALLI CITY MUNICIPAL CORPORATION / திருச்சிராப்பள்ளி மாநகராட்சி

SERVICE REQUEST / RECEIPT

ORIGINAL

Other Income

S JAKIRIYAS NICKOLAS

Receipt No. / பற்றுச்சீட்டு எண்

Service Name / சேவையின் பெயர்

Applicant Name / விண்ணப்பதாரர்

Address / முகவரி

0,ANNA STADIUM ,
TVS TOLGATE
PIN Code -620020

N/A/N/A

9865105669

Receipt Date / பற்றுச்சீட்டு நாள்

Payment Mode: Cash

SI Ward / Ward / பிரிவு / வார்டு

Mobile No / அலைபேசி எண்

S. No. / வ.எண்.	Fees Description	Amount / தொகை
1	SULLAGE VEHICLE - DRAINAGE RELEASE AT UGD FEES	2340.00

மாநகராட்சிக்கு செலுத்த வேண்டிய வரி மற்றும் வரியில்லா இனங்களுக்கான தொகைகளை இன்டர்நெட் பேங்கிங் / டெபிட் கார்டு / கிரெடிட் கார்டு ஆகியவை பயன்படுத்தி தாங்களே மூலம் தொகை செலுத்தும் வசதி நடைமுறைப்படுத்தப்பட்டுள்ளது. இணையதள முகவரி : https://tnurbanepay.in.gov.in

Amount In Words : Two Thousand Three Hundred and Forty Rupees Only

P1 -GOC CHITTA1

1930027-AROCKIAMARY K

S.No. 0097507

Total / மொத்தம் 2340.00

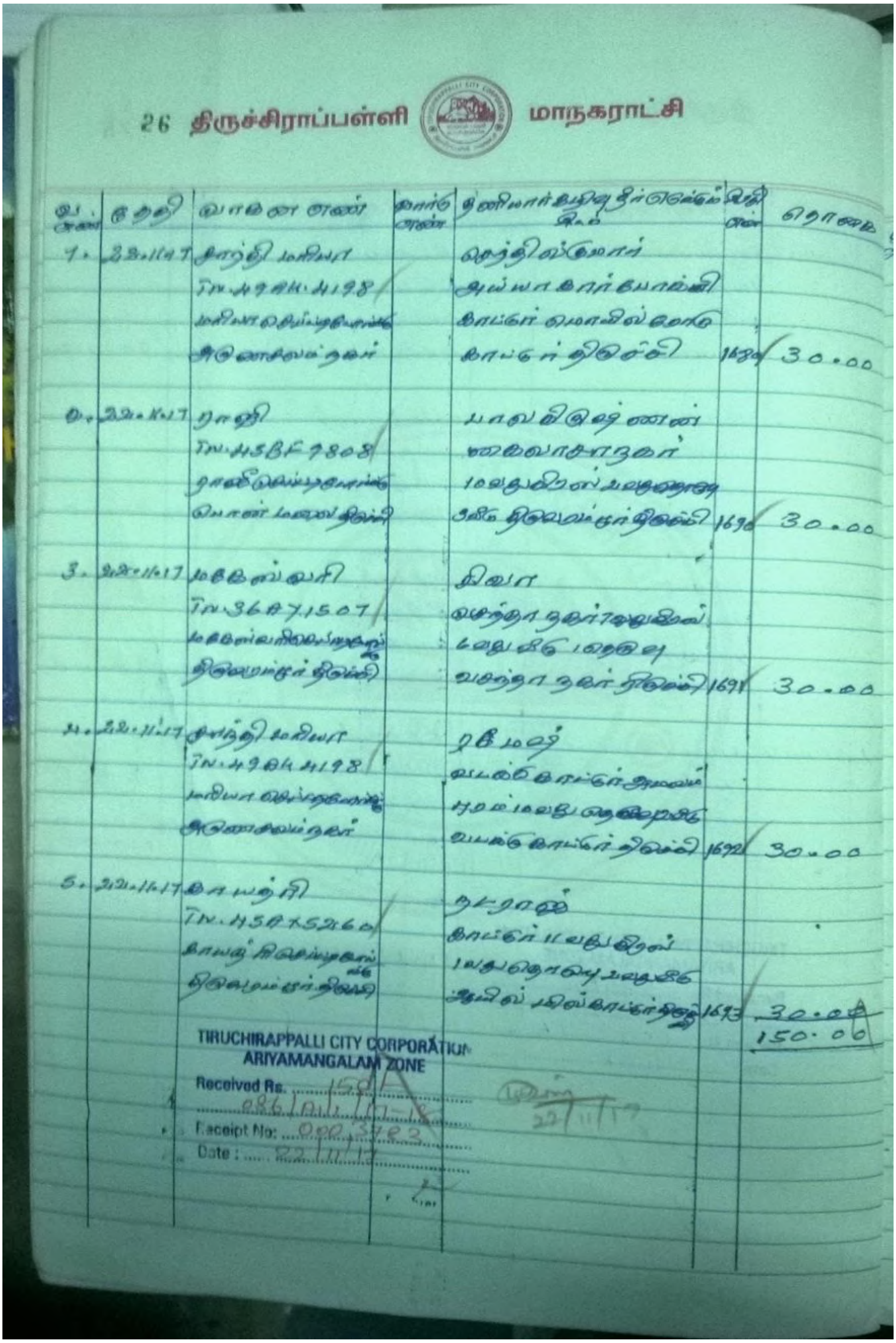
CFC Counter / சேவை மையம்

Issued By / வழங்குபவர்

Signature / கையொப்பம்

Note : Cheque Payments are Subject to Realisation

Annexure 8.4: Pookollai Decanting Facility – Record-keeping Format



26 திருச்சிராப்பள்ளி மாநகராட்சி

TN 49 BK 4198 — 1689 — 30.00

TN 45 BF 7808 — 1690 — 30.00

TN 36 A 7150 — 1691 — 30.00

TN 49 BK 4198 — 1692 — 30.00

TN 45 AK 5260 — 1693 — 30.00

150.00

TIRUCHIRAPPALLI CITY CORPORATION
ARIYAMANGALAM ZONE
Received Rs. 150/-
Receipt No: ... 3782
Date: 22.11.17

TN US SP

TAMIL NADU URBAN SANITATION SUPPORT PROGRAMME

Tamil Nadu Urban Sanitation Support Programme (TNUSSP) supports the Government of Tamil Nadu and cities in making improvements along the entire urban sanitation chain.

The TNUSSP is implemented by a consortium of organisations led by the Indian Institute for Human Settlements (IIHS), in association with CDD Society, Gramalaya and Keystone Foundation.

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IIHS CHENNAI: Floor 7A, Chaitanya Exotica, 24/51, Venkatnarayana Road, T.Nagar, Chennai-600017.

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