

A systematic approach to desludging in Karunguzhi

Scheduled Desludging Tool

S Palanisamy, S.M. Malayaman Thirumudikari,
Molly Hepzibha Grace, Mohanram Chandrasekaran

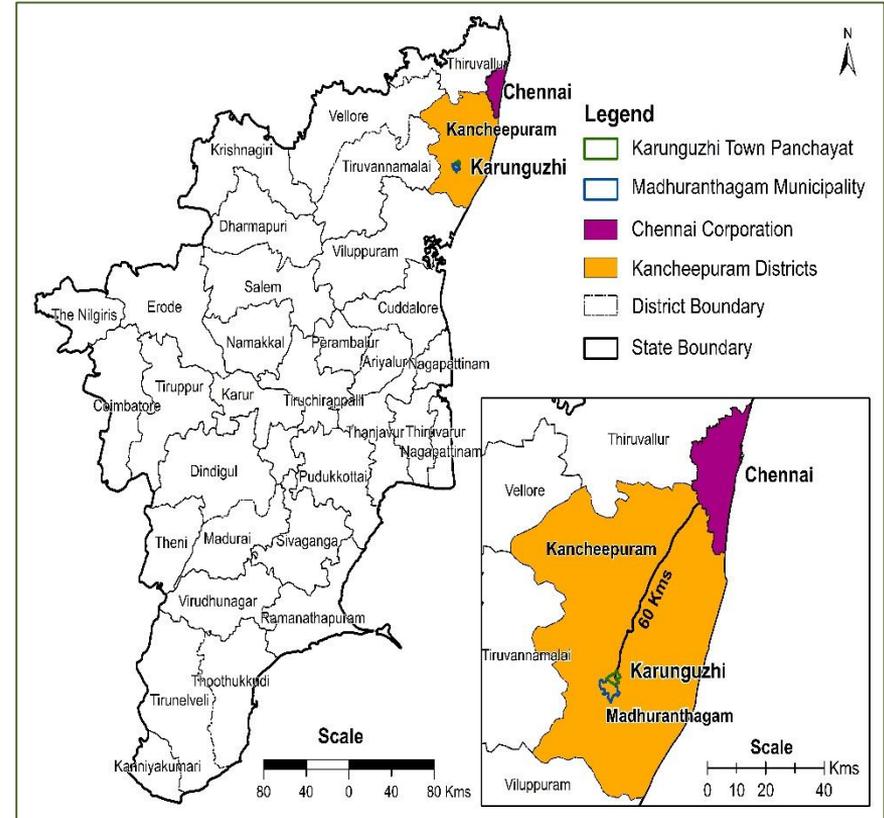
Tamil Nadu Urban Sanitation Support Programme



Karunguzhi

Town profile

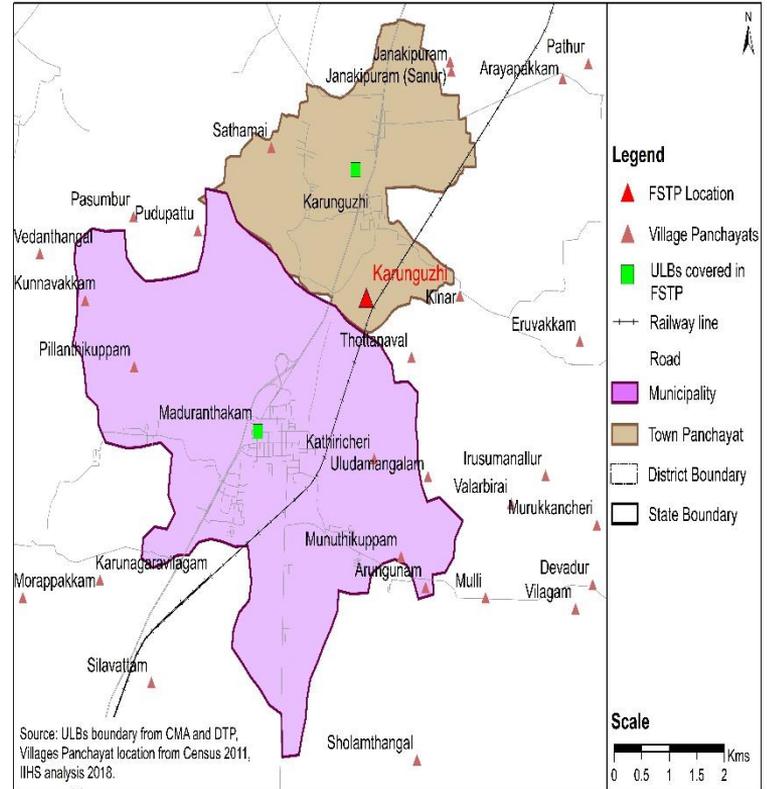
- Population : 12,485
- Households : 3,075
- Houses having OSS: 2,155
- Houses without toilet : 920. Toilets now constructed under SBM
- Community Toilets : 4 (30 seats)



Karunguzhi

FSTP

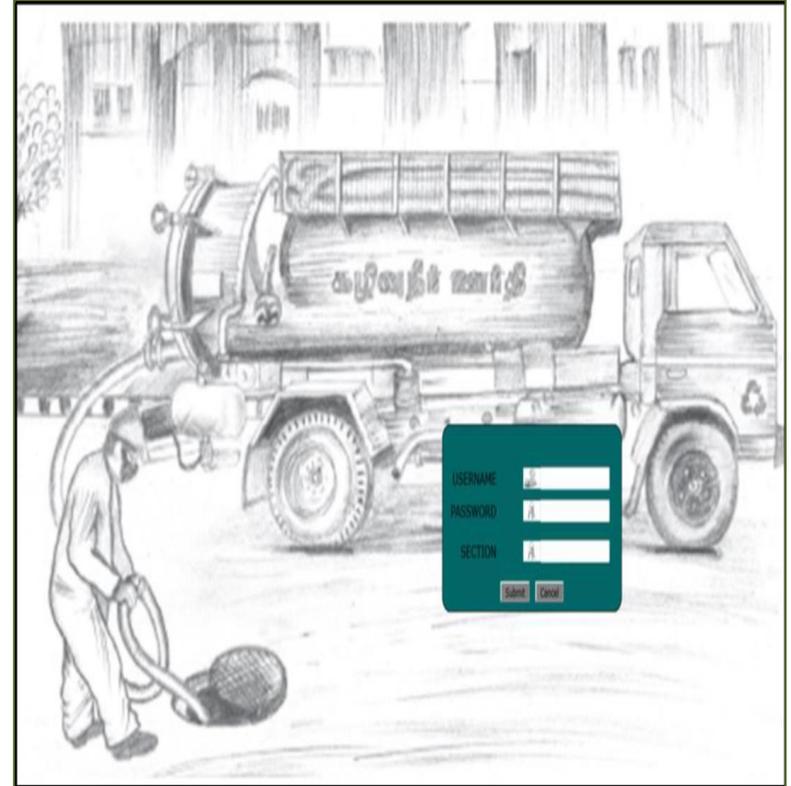
- First Town Panchayat with an FSTP
- FSTP designed to cater to the households in both in Karunguzhi and the adjacent Madhuranthgam Municipality
- A pilot project based on cluster approach



Karunguzhi De-sludging Tool

Need for a tool

- Septage collection process was virtually non-existent initially.
- High/inconsistent desludging charges by truckers
- Regulate desludging of the household in a systematic manner.
- Seamless mechanism to track and capture the desludging activity.
- Karunguzhi desludging tool was designed as web based application.



Household Profile

Administrator ☰ Karunguzhi Desludging Tool

Desludging Tool
Online

Search...

Consumer Details

- Consumer Summary
- Create Consumer Profile
- Import Consumer Data

Trucker Details

- Notice
- Desludging Status
- FSTP Station
- Un_Reg Trucker Details
- Reports

Create Consumer Profile

Owner Name	<input type="text"/>	No of Users	<input type="text"/>
Father Name	<input type="text"/>	Containment Type	<input type="text"/>
Door Num.	<input type="text"/>	Length(m)	<input type="text"/>
Street Name	<input type="text"/>	Breadth(m)	<input type="text"/>
City	<input type="text"/>	Height(m)	<input type="text"/>
District	<input type="text"/>	Mobile Num.	+91 <input type="text"/> -10 digits Only
State	<input type="text"/>	Alternative Num.	+91 <input type="text"/> -10 digits Only
Pincode	<input type="text"/>	Ward Num.	<input type="text"/>
Land Mark	<input type="text"/>	Aadhar Num.	12 digits Only
Rental/Self Occupied	<input type="text"/>	Email Id	example@gmail.com
		Last Desludge Date	dd/MM/yyyy

* All fields are mandatory

Submit

Containment type and measurements
number of users and last desludging date

Captures Householders name, address, rental info, ward number

De-sludging Operator /Trucker Profile

Administrator ☰ Karunguzhi Desludging Tool

Desludging Tool
Online

Search...

MENU

- Consumer Details
- Trucker Details**
- Trucker Summary
- Create Trucker Profile
- Notes
- Desludging Status
- FSTP Station
- Un_Reg.Trucker Details
- Reports

Create Trucker Profile

Owner Name	<input type="text"/>	Father Name	<input type="text"/>
Door Num.	<input type="text"/>	Mobile Num.	+91 <input type="text"/> -10 digits only
Street Name	<input type="text"/>	Alternative Num.	+91 <input type="text"/> -10 digits only
City	<input type="text"/>	Ward Num.	<input type="text"/>
District	<input type="text"/>	Aadhar Num.	12 digits only
State	<input type="text"/>	Vehicle Model	<input type="text"/>
Pincode	<input type="text"/>	Septage License holder	<input type="text"/>
Trucker Name	<input type="text"/>	License holder address	<input type="text"/>
Vehicle Num.	<input type="text"/>	Effective From	<input type="text"/>
Pollution Control Num.	<input type="text"/>	Effective Till	<input type="text"/>
Pollution Validity Date	<input type="text"/>	Vehicle GPS	Yes/No
Insurance validity Date	<input type="text"/>	Vehicle License	<input type="text"/>
Fitness validity Date	<input type="text"/>	Insurance Num.	<input type="text"/>
Vehicle Volume (Cm)	<input type="text"/>		

* All fields are mandatory

Submit

Truck Owner name, address, organisation, vehicle license, pollution and insurance validity, septage license and capacity

Scheduled De-sludging

Administrator

Desludging Tool

Generate Automatic Notice

From Date: 01/09/2018 To Date: 28/09/2018 Show

Edit	Generate Notice	Connect to On Demand Page	Owner Name	Street Name	Phone Num.	Aadhar Num.	Last Cleaned Date	Notice
<input type="checkbox"/>	Generate Notice	On Demand	Elango	Muthuvinayagar Koil Street	7358437949	836103852020	01/04/2014	01/04
<input type="checkbox"/>	Generate Notice	On Demand	Shree	Miluvakkam	9999999999	123456789011	14/08/2017	15/08
<input type="checkbox"/>	Generate Notice	On Demand	Rahul	Besant Nagar	9999999999	123456789011	27/09/2017	15/05
<input type="checkbox"/>	Generate Notice	On Demand	Mani	Adyar	9999999999	123456789011	19/09/2017	18/09

Total Number of Count: 4

The tool creates an automatic schedule based on the last desludging date which can be listed month on month

System generated notices are issued with a timeframe to desludge

Karunguzhi Town Panchayat
Kancheepuram District

Order No: 102/2017/ Date: 27-09-2018

Notice 1

The septage from the household toilets and commercials establishment collected in their septic tanks of those residents of Karunguzhi town panchayat, Kancheepuram district, are emptied by the private truck operators and are being dumped into canals, water bodies and road sides in the locality, which led to environment pollution and public health hazards. In order to overcome the issues, the Government of Tamil Nadu has taken initiatives to implement septage management guidelines. Karunguzhi has been identified as pilot to implement the septage management guidelines. To prevent public health problems, households are advised to empty septic tanks in a safe manner and the collected septage being treated through modern technology and reused for agriculture purposes.

Hence, Thiru/Tmt Elango, residing at Door. No 2 a, Muthuvinayagar Koil Street, in the Ward No: 2 at Karunguzhi town panchayat has to empty / de-sludge the septic tank once in two years. According to this, you are requested approach the panchayat office to desludge your septic tank by paying a fee of RS..... of which RS..... has already been paid. You are requested pay the remaining fee amount at the panchayat office.

Executive Officer
Karunguzhi Town Panchayat

To
Mr./ Ms. _____

De-sludging date

The screenshot displays the 'Administrator' interface for the 'Karunguzhi Desludging Tool'. The main section is titled 'Generate Automatic Notice' and includes a date range selector with 'From Date' and 'To Date' fields, both set to 'dd/MM/yyyy', and a 'Show' button. Below this is a table with the following columns: 'Scheduled Date', 'Notice Date', 'Notice Issue Date 1', 'Reason 1', 'Notice Issue Date 2', 'Reason 2', 'Notice Issue Date 3', 'Reason 3', 'Date Of Desludging', and 'Remarks'. The table contains four rows of data. The first row is highlighted in yellow, showing a 'Notice Date' of 01/04/2018, 'Notice Issue Date 1' of 27/09/2018, 'Reason 1' of 'No Response', 'Notice Issue Date 2' of 01/09/2018, 'Reason 2' of 'No Response', 'Notice Issue Date 3' of 19/09/2018, 'Reason 3' of 'accepted', and 'Date Of Desludging' of 27/09/2018. The other rows show dates from 2017 and 2018 with 'Automatic' remarks. At the bottom, there are 'Update' and 'Cancel' buttons, and a status indicator 'Total Number of Count: 4'.

Scheduled Date	Notice Date	Notice Issue Date 1	Reason 1	Notice Issue Date 2	Reason 2	Notice Issue Date 3	Reason 3	Date Of Desludging	Remarks
	01/04/2018	27/09/2018	No Response	01/09/2018	No Response	19/09/2018	accepted	27/09/2018	Automatic
	15/08/2017	26/09/2018						12/09/2017	Automatic
	15/05/2018	25/09/2018						14/05/2018	Automatic
	18/09/2018	24/09/2018						13/02/2018	Automatic

Total Number of Count: 4

Update Cancel

Tool tracks issue of notice and response from the household.

The households on receipt of notice, registers to desludge with the TP office on a specific date on paying a nominal fee.

Assigning Trucker

Administrator ☰ Karunguzhi Desludging Tool

Desludging Tool Online

Search...

MENU

- Consumer Details
- Trucker's Details
- Notice
- Desludging Status
- FSTP Station
- Un_Reg Trucker's Details
- Reports

Generate Records

From Date: To Date:

har Num.	Alter Num.	Trucker Owner Name	Vehicle License	Trucker Name	Vehicle Num.	Amount	Record Num.	Record Date	Remarks
1789011	9999999999								Automatic
5789011	9999999999	Parvathi	<input type="text" value="TN00005"/>	<input type="text" value="JBR"/>	<input type="text" value="TN13AE0004"/>	<input type="text" value="1000"/>	<input type="text" value="50749"/>	<input type="text" value="27-09-2018"/>	Automatic
1852020	9790760149	Parvathi	TN00007	KPN	TN11AC4563	200	117766	27-09-2018	Automatic
1789011	9999999999								Automatic

Total Number of Count: 4

A registered vehicle is assigned online to carry out desludging for the household on specific date as requested

Assigning Trips

Administrator

Desludging Tool

Generate Records

From Date: dd/MM/yyyy To Date: dd/MM/yyyy Show Trucker Allocated Details

Edit	Generate Record	User Id	Date of Desludging	Owner Name	Street Name	Phone Num.	Aadhar Num.	Alt. Num.
<input type="checkbox"/>	Generate Record	107	12/09/2017	Swami	Vilakkulam	9999999999	123456789011	9999999999
<input checked="" type="checkbox"/>	Generate Record	105	12/09/2016	Mani	Adyar	9999999999	123456789011	9999999999
<input checked="" type="checkbox"/>	Generate Record	106	12/09/2016	Mani	Adyar	9999999999	836103852020	9790760149
<input type="checkbox"/>	Generate Record	106	12/09/2016	Mani	Adyar	9999999999	123456789011	9999999999

Confirm Box

Would you like to allocate this trucker for the next House

Yes No

Total Number of Count: 4

A vehicle can be allotted to max of 5 households in a single trip

Generating bill/record

Administrator

Desludging Tool
Online

Search...

Generate Records

From Date: dd/MM/yyyy To Date: dd/MM/yyyy Show Trucker Allocated Details

Edit	Generate Record	User Id	Date of Desludging	Owner Name	Street Name	Phone Num.	Aadhar Num.	Alter Num
<input type="checkbox"/>	Generate Record	107	12/09/2017	Swami	Villivakkam	9999999999	123456789011	9999999999
<input type="checkbox"/>	Generate Record	105	13/02/2018	Mani	Adyar	9999999999	123456789011	9999999999
<input checked="" type="checkbox"/>	Generate Record	10	28/03/2018	Elango	Muthuvinayagar Koil Street	7358437949	836103852020	9790760149
<input type="checkbox"/>	Generate Record	106	14/05/2018	Rahul	Besant Nagar	9999999999	123456789011	9999999999

Total Number of Count: 4

The bill generated is handed over to the trucker.

The volume of sludge is noted in the bill by the trucker

Collection and Transport Record

Record No: 597419
Date: 27-09-2018

POINT OF COLLECTION / Transporter of Septage

I. Identification of Waste

a. Volume :
b. Type : Septic Tank / Others
c. Source : Residential / Commercial / Restaurant / Portable Toilet / Others (Please Specify)

Details of Consumer/ Waste Generator

a. Name :
b. Phone Num : 9999999999
c. Address : 4, 12, Villivakkam, cheemai, chennai, tamil nadu
d. Pincode : 600035
e. Amount to be Paid : 100

The undersigned being duly authorized does hereby certifies the accuracy of the source and type of septage collected and transported.

Date : Signature :

II. Details of Transporter / Operator

a. Name : Parvathi
b. Pzcm# :
c. Vehicle License # : TN00095
d. Pzcm out date :

The above described wastewater was picked up and hauled by me to the disposal facility name below and was discharged. I certify that the foregoing is true and correct.

d. Signature of authorized agent and title :

Acceptance by : Karunguzhi Town Panchayat / Municipality's authorized STP. The above operator delivered the described wastewater to this disposal facility and it was accepted.

Disposal Date :

Amount Collected from Operator :

Signature of Authorized signatory and title :

Note : (Subject to the terms and conditions of Karunguzhi Town Panchayat / Municipality.

Tracking disposal

The screenshot shows the 'Administrator' interface for the 'Karunguzhi Desludging Tool'. The left sidebar menu has 'FSTP Station' circled in red. The main content area displays 'Decanting Station - Registered Consumer' with search filters for 'From Date: 04/09/2018' and 'To Date: 27/09/2018'. A table below shows one record:

Edit	User Id	Record Num.	Consumer Name	Date of Desludging	Trucker Owner Name	Record Date	Trucker Name	Vehicle Num.	Volume	Desl
<input type="checkbox"/>	102	117766	Elango	27/09/2018	Parvathi	27-09-2018	KPN	TN11AC4563		Open

Total Number of Count: 1

The site operator updates the volume and date of disposal against the bill and closes the desludging status.

On assignment of date and trucker the record moves in to FSTP site page.

This screenshot shows the same record from the previous screenshot, but now in an edit mode. The 'Desludging Status' dropdown menu is open, showing options: 'Open', 'Open', and 'Completed'. The 'Volume' field is set to 10000 and the 'Record Date' is 27-09-2018. Below the table are 'Update' and 'Cancel' buttons.

of Desludging	Trucker Owner Name	Record Date	Trucker Name	Vehicle Num.	Volume	Desludging Status	Reason	Tipping Fee	Desludging Amount
9/21	Parvathi	27-09-2018	KPN	TN11AC4563	10000	Completed		50	200

Total Number of Count: 1

De-sludging status - Updated

Administrator ☰ ★ Karunguzhi Desludging Tool

Desludging Tool ● Online

Search... 🔍

MENU

- Consumer Details <
- Trucker Details <
- Notice <
- Desludging Status**
- PSB Station <
- Un_Reg Trucker Details <
- Reports <

Desludging Status

From Date: To Date:

User Id	Consumer Name	Date of Desludging	Trucker Owner	Record Num.	Record Date	Trucker Name	Vehicle Num.	Volume	Desludging Sta
100	ilaya	13-08-2018	Parvathi	673817	13-08-2018	JBR	TN13AE0004	2000	Completed
102	Elango	27/09/2018	Parvathi	117766	27-09-2018	KPN	TN11AC4563		Open

Total Number of Count: 2

Tool automatically updates the last desludging date against the household on bill closure

Demand based De-sludging

The screenshot displays the 'Administrator' interface for the 'Karunguzhi Desludging Tool'. The main section is titled 'On Demand'. It features a search bar and date filters: 'From Date: dd/MM/yyyy' and 'To Date: dd/MM/yyyy'. A 'Show' button is present, along with a search input containing '9790760149'. Below this is a table with the following data:

Edit	Generate Record	User Id	Date of Desludging	Owner Name	Street Name	Phone Num.	Aadhar Num.	Alter Num.
<input type="checkbox"/>	Generate Record	100		Ilaya	velacherry	9790760149	123456789012	3726154234

A callout box points to the interface with the text: "The tool also caters to a demand-based desludging request raised by the households."

The bottom screenshot shows a similar interface but with a 'Trucker' column added to the table. The 'Date of Desludging' is set to '27/09/21'. The 'Trucker' column contains the name 'Parvathi'. Below the table, it says 'Total Number of Count: 1' and has 'OK' and 'Cancel' buttons.

Edit	Generate Record	User Id	Date of Desludging	Owner Name	Street Name	Phone Num.	Aadhar Num.	Alter Num.	Trucker
<input checked="" type="checkbox"/>	Generate Record	100	27/09/21	Ilaya	velacherry	9790760149	123456789012	3726154234	Parvathi

A callout box points to the 'Trucker' column with the text: "Bills are raised by assigning a vehicle to households which has raised the demand for desludging with the TP office on a specific date on paying a nominal fee."

Other features of the tool

The image displays two screenshots of the Karunguzhi Desludging Tool interface. The top screenshot shows the 'BULK UPLOAD PORTAL' with a 'Choose File' button and an 'Upload' button. A callout box points to the 'Upload' button with the text 'Bulk upload of consumer or Trucker Data'. The bottom screenshot shows the 'Consumer Summary' page with a table of consumer data. A callout box points to the 'Edit' column of the table with the text 'Edit options on for data updates'.

BULK UPLOAD PORTAL

Select File: No file chosen

* Upload only Excel files (.xlsx)

[Click here to download the sample Template File](#)

Consumer Summary

From Date: dd/MM/yyyy To Date: dd/MM/yyyy Show Userid or Name or Search

Edit	User Id	Owner Name	Street Name	Phone Num.	Alter Num.	Aadhar Num.	Containment Type	Length(m)	Brd
<input type="checkbox"/>	100	Ilaya	velacherry	9790760149	3726154234	123456789012	SepticTank	3	4
<input type="checkbox"/>	101	Babu	VPN Street	9998098098	8754809009	986642325790	SepticTank	12	25
<input type="checkbox"/>	102	Elango	Muthuvinayagar Koil Street	7358437949	9790760149	836103852020	SepticTank	3	2
<input type="checkbox"/>	103	Vinod	Kumaran street	9875642468	7876544346	864576970809	SepticTank	12	25
<input type="checkbox"/>	104	Raji	LDG Road	7975434678	8755447890	579780890085	SepticTank	12	25

Total Number of Count: 8

Other features of the tool

Administrator

Desludging Tool
Online

Search...

MENU

- Consumer Details
- Trucker Details
- Notice
- Desludging Status
- FSTP Station
- Un_Reg Trucker Details
- Reports

Un Registered Trucker Summary

Edit	User Id	Owner Name	Ward Num.	Door Num.	Street Name	City Name	District	State	Pincode	Contact Num.	Altermobile Num.
<input checked="" type="checkbox"/>	100	Pradeep Kuma	2	123/45	Gandhi Street	chennai	Kanchipuram	Tamil Nadu	678904	9889990294	9024234234
<input type="checkbox"/>	101	Banumathi	1	23/78	Ranganadhar Street	Chennai	Kanchipuram	Tamil Nadu	688989	9868686786	8675675675
<input type="checkbox"/>	102	sarathi	2	22	leo complex	chennai	kanchipuram	tamilnadu	600100	3553636561	5436645674
<input type="checkbox"/>	103	Owner Name	12	1	Street Name	chennai	chennai	tamil nadu	600086	9999999999	9999999999

Total Number of Count: 4

Report Summary

From Date: 01/09/2001 To Date: 27/09/2018 Download

Save As

This PC > Desktop

Organize New folder

Name	Date modified	Type	Size
DETAILED REPORT06-09-2018-11-46-17-	9/6/2018 11:49 AM	Microsoft Excel 97...	3 KB

File name: DETAILED REPORT27-09-2018-11-18-52-AM

Save as type: Microsoft Excel 97-2003 Worksheet

Save Cancel

Downloadable excel reports

Data on unregistered vehicle disposing sludge at the FSTP

Challenges

- Households with common septic tank.
- Transitioning from manual records to a systematic process

Advantages of the tool

- Systematic desludging process for households.
 - Awareness on scheduled desludging among the public.
 - Affordable and standardised desludging fee.
- Tracking non-compliance and unsafe discharge practices
 - Avoiding manual scavenging
 - Source of continuous income for truckers
- Effective tool to monitor the systems progress as well as it's management.