

## **Model Terms of Reference:**

Developing a web based application for data collection, management and monitoring of desludging schedule in [NAME OF THE FSTP] Fecal Sludge Treatment Plant

Location..... India

Issued on: Date....

TECHNICAL SUPPORT UNIT:

**iihs**<sup>TM</sup>  
INDIAN INSTITUTE FOR  
HUMAN SETTLEMENTS

IN ASSOCIATION WITH:



**Keystone**

**CD** Consortium for  
DEWATS  
Dissemination  
Society

# **TERMS OF REFERENCE (TOR)**

## **Developing a web based application for data collection, management and monitoring of desludging schedule**

### **A. Background**

**Include relevant information.**

### **B. Rationale**

As per the [NAME OF THE ULB] Septage management DPR report, [DATE AND YEAR OF DPR PREPARATION], the estimated generation of fecal sludge will be based on a tank cleaning and septage collection frequency of once every two years, a process as per operative guideline chosen based on the average tank sizes in the [NAME OF THE ULB].

**Include relevant information about the FSTP.**

Currently, no mechanism or processes exists for collection and disposal of septage in [NAME OF THE ULB]. A need to institute a systemic process is hence imperative to ensure total sanitation in the town.

An annual schedule for cleaning and emptying household septic tanks by the [NAME OF THE ULB] and communicated to all households ahead in time, would not only control the system of desludging but also assist in regulate of septage management guidelines. A web based application or tool which will enable the [NAME OF THE ULB] administration to implement the desludging process in a systematic manner is therefore proposed.

### **C. Objective**

[NAME OF THE ULB] to develop a web base data system which enables the administration in

- Capturing and maintenance of accurate data on household users, septic tanks and volume pumped for billing and compliance.
- Creating automatized desludging schedule for households' basis operational guidelines and to promote the concept of 'On-demand' desludging with the public

## D. Scope of work

Develop a comprehensive web database in MS SQL, including but not limited to the following:

1. Review the existing database practice and assess the ability to upload the current database to the proposed system.
2. Creating household user profiles which includes user code, user photo, name, family member information, location, GIS location, Aadhaar card no, ward no, contact details.
3. A project database which incorporates indicators and measurements on septic tank of each household, the average volume pumped, activity wise data of desludging carried out, periodic intervention schedule/date required as per operative guidelines.
4. System to build an automatised desludging calendar /schedule for each household and generate digital forms for desludging.
5. An 'on-demand' request form to be created in the household and administrative page to create /update 'on-demand' request for desludging by the household user.
6. Develop digital forms –manifest forms, vouchers and payment receipts that are generated automatically based on the schedule. This should include user name, contacts, date and time, location of collection, periodicity within which collection and discharge should be carried out. Furthermore, these digital forms should also be generated for 'on-demand' request made by the user.
7. Create an interactive home page for database, containing brief about project, project location (including GIS Map), some basic data and result focus case study.
8. The User Interface need to be localized to the Regional language other than English.
9. A household user page, administrative user page to be created to reflect set of data base, digital forms and generate multiple reports as required for relevant monitoring indicators.

10. The database should be hosted through potential /existing portal of [NAME OF THE ULB] to upload and operate online. The dedicated space for the database should be specifically provided, the relevant accessibility to be discussed.
11. User-friendly interface compatible to low-bandwidth internet facilities from remote corners and coastal areas of the country, the system should be capable to handle [MENTION NUMBER OF USERS], with flexibility for further updates
12. Ensure a secure password protected login system to allow safe authentication. Different level of access to the web-database needs to be ensured e.g. Project management, Database administrator, household user any other office representative and field personnel, etc.
13. Ensure the provision and capability for automated backup of database each month, downloadable by Administrator and project staff.
14. Apart from development of web database, to provide backup support and troubleshooting service for a period of xx months from the date of implementation.
15. To provide training to the data administrators and staff operating web data base.

## **E. Key Deliverables**

1. Completed Web based application tool,
  - a. To capture, archive and retrieve information of the household users including household profile, septic tank usage, volume discharged/pumped and years of desludging.
  - b. Create desludging schedule for households' basis operational guidelines and on request.
  - c. Generate automatized manifest forms and vouchers to households for compliance and payment, on scheduled and 'On-demand' desludging.
  - d. Track private operators/truckers on assignments of desludging and discharge of sludge at treatment facility.
2. An operational and troubleshooting manual
3. Piloting the system as part of the testing phase
4. Training of the administrator and staff on the usage of the tool

For all the key deliverables listed above the external firm/agency should consult [NAME OF THE ULB] for assessing the user requirements especially in

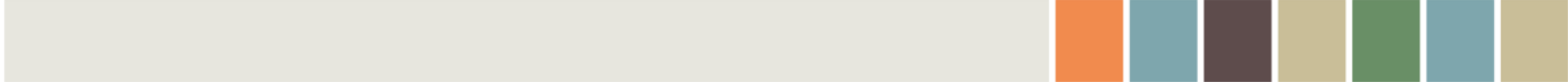
- Detailing project management and tracking indicators
- The current process and guidelines
- Determining information to be catalogued and stored
- Various forms of reports, formats and frequencies
- Basic software, hardware and data set requirements

#### **F. Guidelines for submitting proposal**

- The proposal detailing the design recommendation based on the scope of work, along with information requirement and implementation schedule.
- Financial proposal to be presented separately. This should include details on the time and rates of personnel, detailed expenses and expected scheduled of payment.
- The work has to be carried out in co-ordination with the [NAME OF THE ULB] and it will be necessary to make periodic presentations as required.
- The work is expected to complete in 12 weeks' time from the date of signing the contract

#### **G. Profile of the consulting firm/agency:**

1. Proven experience in designing, developing and maintaining of web-based database applications for development sector project/program for its long-term functionality.
2. Should have capability of installation and maintenance of server system prerequisite for establishing web database data collection system.
3. Experience and knowledge of various web programs -PHP, MS SQL, My SQL Server, web hosting.
4. Proven success in all stages of web development from conception to execution and good record in meeting stringent deadlines and maintaining confidentiality

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5. The consulting firm/agency should have IT experts who are capable in designing and development of web based application for social development project and a team who have ability and willingness to conduct regular troubleshooting at the field offices and partner office as per contract.

The expertise team should be comprised of:

- a) Team Leader: Masters in Information Technology or Computer Applications with 10 years of relevant experience in online database applications and web portal design and management
- b) Web Developer: Bachelor's in Information Technology or Computer Engineering with 7 years in designing web based application, user interface layouts /designs and web programming for large projects
- c) Web Application Tester: Bachelor's in Computer Science, Management of Information Systems with 8 years' experience in developing and executing test plans and test cases for web applications. A good knowledge and experience with QA tools and techniques including bug tracking systems.