



**GVAK, Deolapar**



**KKSU, Ramtek**



## Compact Faecal Sludge/Septage Separation and Treatment Plant

Shortlisted under CSIR Technology Transfer Commitments-2030

Technical  
Video of  
CFSST  
Plant



CFSST Plant  
at GVAK  
Deolapar  
125 L/day



CFSST Plant  
at KKSU  
Ramtek  
1000 L/day



**Swachh Bharat Mission**



**AMRUT**



**Sustainable development Goal**



## Contact

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## Current Scenario

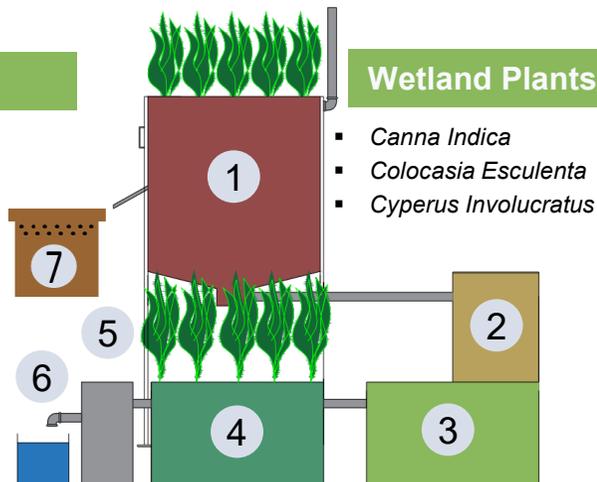
- India generates around 0.12 million tonnes of faecal sludge/septage on a daily basis.
- Almost 60% of urban India relies upon On-site Sanitation Systems (OSS)
- Faecal sludge /septage is generated from various types of on-site sanitation facilities such as septic tank, soak pit, aqua privy, twin pit toilets etc.
- Existing treatment facilities have limitations, such as more footprint for construction site, insufficient treatment, challenges in operation and maintenance, etc.

## Compact Faecal Sludge Separation and Treatment (CFSST)

- CFSST provides effective solid-liquid separation of Faecal sludge / septage as well as treatment of separated liquid and solid material.
- Solid-liquid separation works on the principle of gravity and evapotranspiration while the treatment of separated effluent works on the principle of Up-flow Anaerobic Baffled Reactor (UABR), Up-flow Constructed Wetland (UCW) and Upflow Dual Media Filter (UDMF).
- The separated solid content is treated in a biological system and turned into manure.

### Components of CFSST

- Media & plant - based solid liquid separator
- Storage tank
- UABR
- UCW
- Upflow dual media filter
- Disinfection & treated water
- Separated solids treatment



### Wetland Plants

- Canna Indica*
- Colocasia Esculenta*
- Cyperus Involucratus*

## Treatment Stages



Faecal Sludge    Separated Liquid    UABR Effluent    UCW Effluent    Treated Effluent



Processed Manure

### Performance of CFSST

Water quality	Faecal Sludge / Septage	Treated effluent
pH	5.5 – 6.5	5.5-8.5
TSS	>25000	< 50
BOD	>4000	< 30
COD	>20000	< 100
TN	>3000	< 100
TP	>100	< 5

All parameters in mg/L except pH

### Salient Features

- Media and plant based solid-liquid separation
- Nature-based treatment of faecal sludge
- Minimum requirement for energy/electricity
- Compact, covered and detachable
- Low capital and operation & maintenance costs
- Compliance of standards for separated treated liquid and treated solids

Material of Construction – FRP upto 1 KLD and RCC above 1 KLD

## Reuse and Recycle

Reuse of treated effluent in cultivating fodder, gardening, floriculture, cleaning and waterbody rejuvenation.

Processed manure in agriculture, gardening and soil enrichment.



### Treated Solids

Complies with the US-EPA Biosolid Standard and the FCO City Compost Standard

### IPR

**Patent**  
202311045768

**Trade Mark**  
6574903