



Government of Karnataka
Rural Drinking Water & Sanitation Department

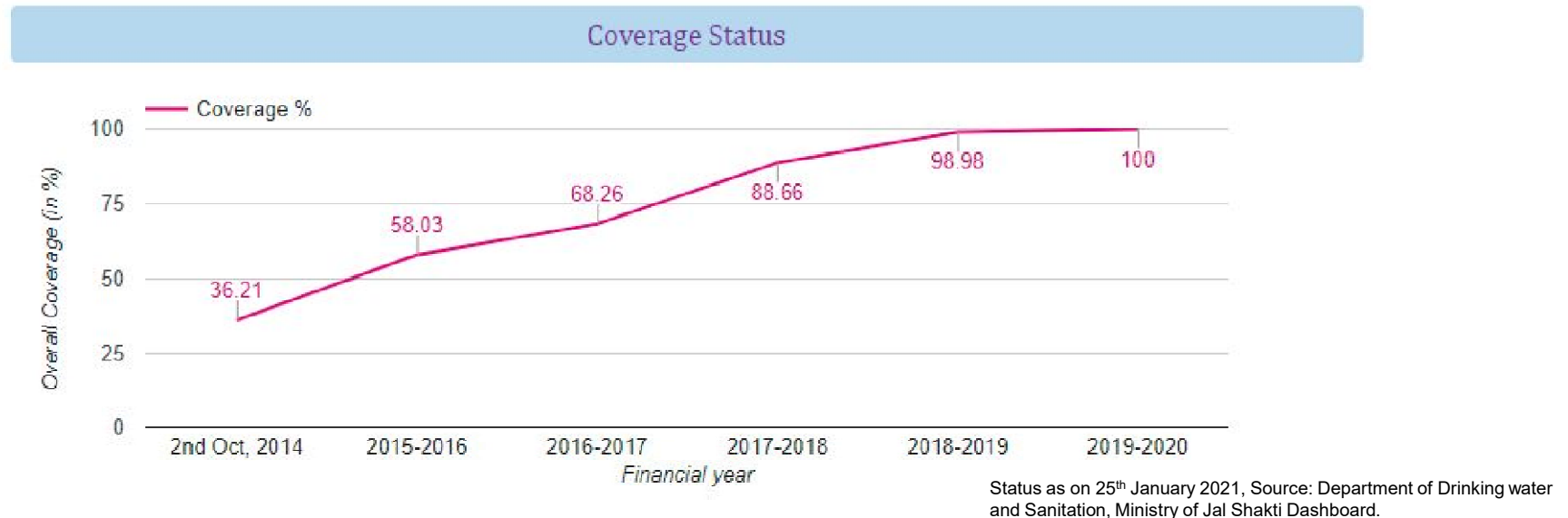


A New Approach to FSSM - Scale up in Karnataka



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SBM Journey in Karnataka



- 2014 – 2020 Swachha Bharat Mission – Grameen (SBM-G) focused mostly on construction of toilets to achieve Open Defecation Free villages.
- **46,31,875** toilets constructed under Swachha Bharat Mission - Gramin
- In 2020 SBM-G II guidelines were launched to address the issues faced after toilet construction and sustaining ODF status.
- SBM-G II is focused on both Black and Grey water Management.

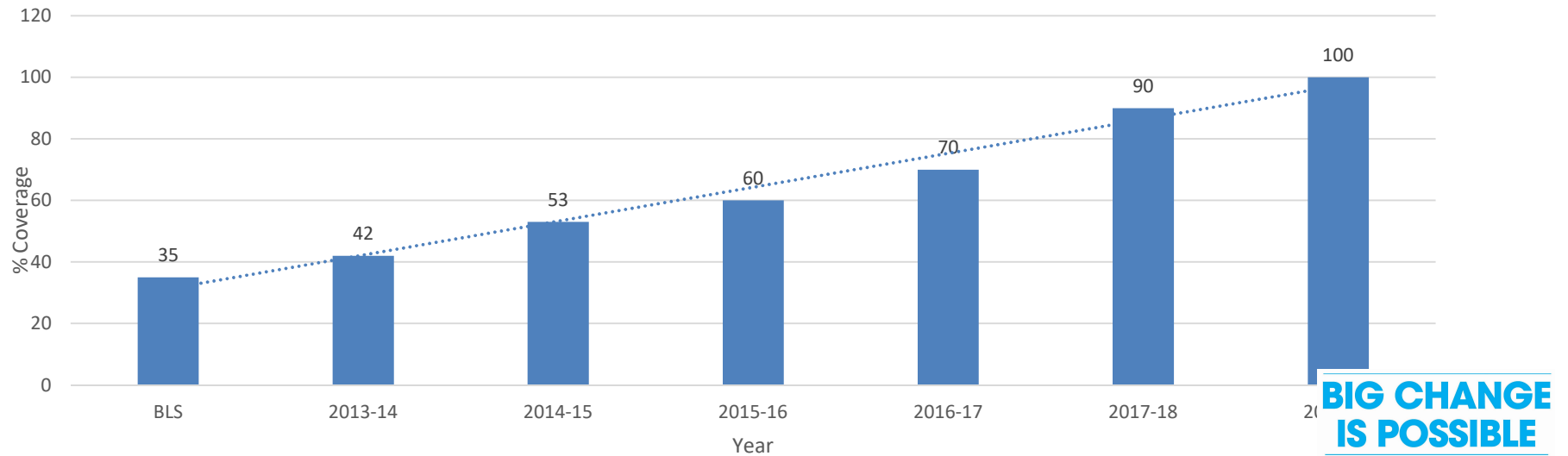
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Toilets Constructed

In 6 years we have achieved from 35% to 100% toilet construction

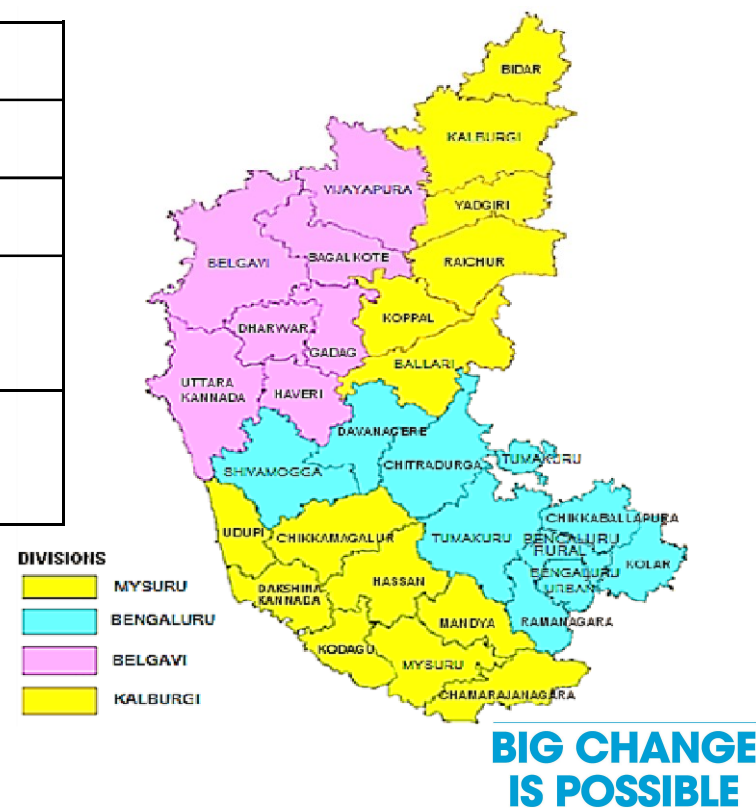
	As per BLS 2012	13-14	14-15	15-16	16-17	17-18	18-19	Total Toilets
Total no. of Toilets	2483889	510435	775742	526941	715334	1407025	708659	7280980
% of coverage	35%	7%	11%	7%	10%	20%	10%	100%





Approach to Scale up FSM

Rural projected Population	4,43,48,705
Total number of toilets Constructed	72,80,980
Avg No of users per toilet	5-6
Avg population per Cluster (4-5 GP's)	44,349
Avg Household's per Cluster (4-5 GP's)	7392



Ma1



Fund Allocation

Projected Population(2021) : 4,43,48,705

Per capita Available : Rs.230

Total fund Available : Rs.1020 Crore

Total No. of 3KLD Plants required : 1109

Estimated Cost per Unit : Rs.60 lakhs

Total Fund Required = Rs.666 Crore

Remaining fund will be used for extension to 6 KLD wherever demand increases

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Slide 5

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Define source

Microsoft account, 12-08-2022



Clusters & Fund allocation

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Sl.No	District	2021 Population	Available Fund (@Rs.230/Capita)	Identified Land having > 1 acre	Proposed No of Units	Expected Expenditure @ 60.00 Lakhs/unit	Remaining fund
1	Bellary	7,51,139	17,27,61,878	56	19	11,26,70,790	6,00,91,088
2	Vijayanagara	10,62,558	24,43,88,331	79	27	15,93,83,694	8,50,04,637
3	Bidar	15,11,869	34,77,29,891	21	38	22,67,80,364	12,09,49,527
4	Kalaburagi	20,48,545	47,11,65,417	126	51	30,72,81,794	16,38,83,623
5	Koppala	13,68,497	31,47,54,369	45	34	20,52,74,589	10,94,79,781
6	Raichur	17,02,566	39,15,90,178	125	43	25,53,84,899	13,62,05,279
7	Yadgiri	11,28,674	25,95,94,987	89	28	16,93,01,079	9,02,93,909
8	Bagalkote	15,29,100	35,16,92,987	47	38	22,93,64,991	12,23,27,995
9	Belagavi	42,23,636	97,14,36,362	237	106	63,35,45,454	33,78,90,909
10	Dharawad	9,43,902	21,70,97,474	0	24	14,15,85,309	7,55,12,165
11	Gadag	8,11,075	18,65,47,232	0	20	12,16,61,238	6,48,85,994
12	Haveri	14,70,229	33,81,52,638	15	37	22,05,34,329	11,76,18,309
13	Uttara Kannada	12,05,127	27,71,79,283	1	30	18,07,69,098	9,64,10,185
14	Vijayapura	19,82,948	45,60,77,996	95	50	29,74,42,172	15,86,35,825
15	Chamarajanagara	10,01,109	23,02,55,070	14	25	15,01,66,350	8,00,88,720
16	Chikkamagaluru	10,63,409	24,45,84,063	154	27	15,95,11,346	8,50,72,718



Clusters & Fund allocation

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Sl.No	District	2021 Population	Available Fund (@Rs.230/Capita)	Identified Land having > 1 acre	Proposed No of Units	Expected Expenditure @ 60.00 Lakhs/unit	Remaining fund
17	Hassan	13,99,658	38,10,26,098	72	41	24,84,95,281	13,25,30,817
18	Kodagu	4,73,531	12,89,08,397	19	14	8,40,70,694	4,48,37,703
19	Mandya	14,97,407	40,76,36,113	228	44	26,58,49,639	14,17,86,474
20	Dakshina Kannada	10,93,563	29,76,98,468	44	32	19,41,51,175	10,35,47,293
21	Mysore	17,55,714	47,79,54,511	19	52	31,17,09,464	16,62,45,047
22	Udupi	8,43,300	22,95,69,872	21	25	14,97,19,482	7,98,50,390
23	Bengaluru urban	8,71,607	23,72,75,830	37	26	15,47,45,107	8,25,30,724
24	Bengaluru rural	7,22,179	19,65,97,345	51	21	12,82,15,660	6,83,81,685
25	Chikkaballapura	9,73,985	26,51,45,989	70	29	17,29,21,297	9,22,24,692
26	Chithradurga	13,29,923	36,20,42,278	110	39	23,61,14,529	12,59,27,749
27	Davanagere	13,16,487	35,83,84,623	27	39	23,37,29,102	12,46,55,521
28	Ramanagara	8,14,877	22,18,32,336	28	24	14,46,73,263	7,71,59,073
29	Shivamogga	11,29,026	30,73,52,490	207	33	20,04,47,276	10,69,05,214
30	Tumakuru	20,79,902	56,62,07,562	231	62	36,92,65,801	19,69,41,761
31	Kolar	10,56,328	28,75,62,059	156	31	18,75,40,473	10,00,21,586
Total		4,43,48,705	1020,02,02,128	2276	1,109	6,65,23,05,736	3,54,78,96,392

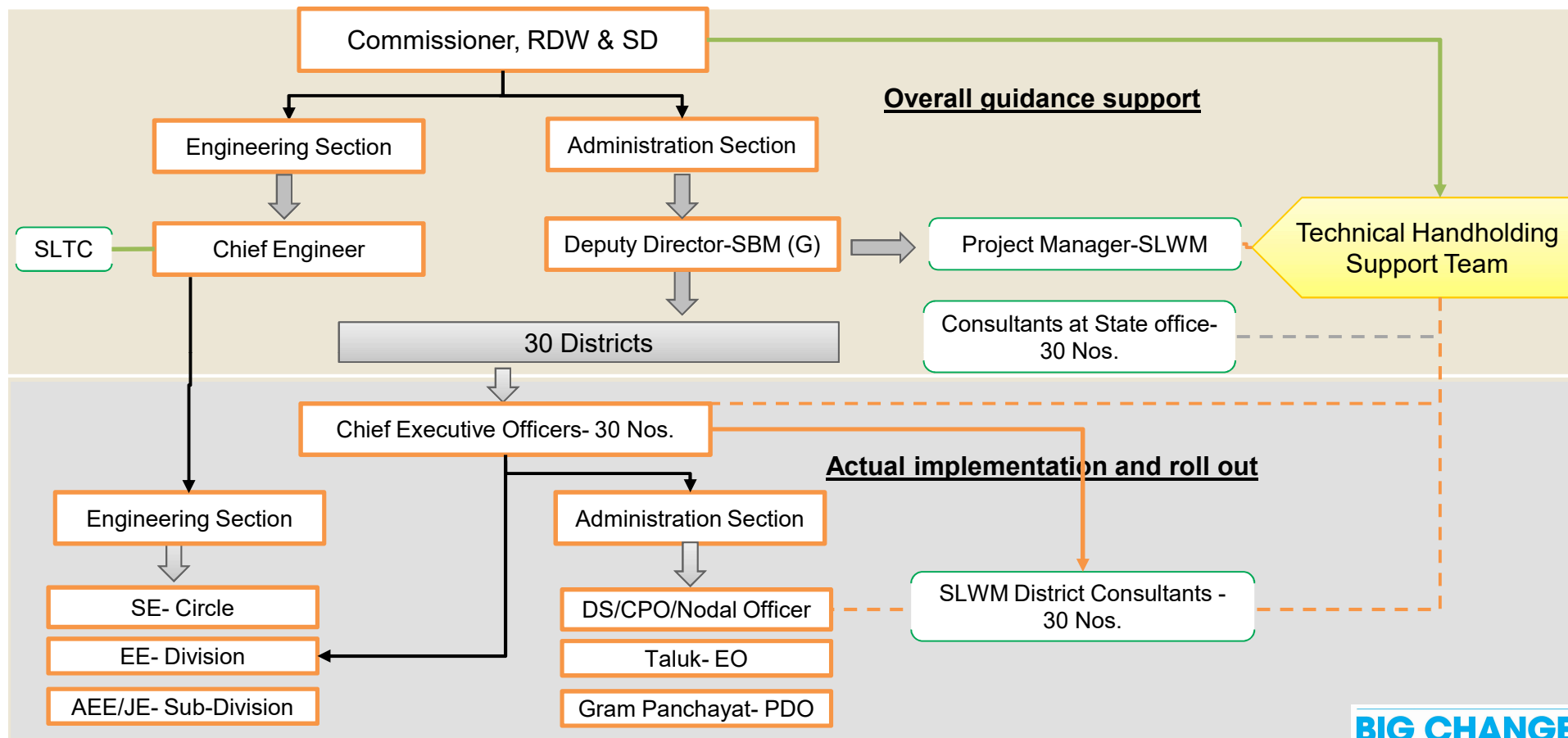


Cluster Households

No. of Households	Population @ 5 persons/HHs	No. of units	Expenditure @ 60Lakhs/unit
5000	25000	1774	106440
6000	30000	1479	88740
8000	40000	1109	66540
10000	50000	887	53220
12000	60000	740	44400

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Organizational structure for achieving scale-up of LWM



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Karnataka State Policy and Strategy for Sanitation and Waste Management in Rural Areas



KARNATAKA STATE POLICY AND STRATEGY FOR SANITATION AND WASTE MANAGEMENT IN RURAL AREAS

Rural Drinking Water and Sanitation Department (RDW&SD)



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Introduction and Background of the Policy

- The policy is based on the **SBM (G) guidelines, Karnataka Gram Swaraj and Panchayat Raj Act 1993, Environment Protection Act 1986, SWM Rules 2016 & PWM rules 2016**
- Management of **hazardous waste, bio-medical waste, e-waste, construction and demolition waste & industrial waste** is **excluded** from the scope of this policy
- This Policy is applicable to all the **Gram Panchayats** in the state of Karnataka.
- **Gram Panchayats have the primary responsibility at decentralized level** to provide proper sanitation and waste management facilities with handholding support from the state government

Vision: To provide **safe, affordable, sustainable, inclusive sanitation and Waste Management** to every individual in rural Karnataka leading to **improved public health and enhanced recovery of resources**

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Aim and Objective of the Policy



**ELIMINATE OPEN
DEFECATION**



**IMPROVE PUBLIC
HEALTH**



**ENSURE NO EXPOSURE OF
HUMAN FAECES**



**ENSURE NON-
CONTAMINATION OF
LAND AND WATER
RESOURCES**



**ENSURE
MAXIMUM
RESOURCE
RECOVERY AND
REUSE**

100% ODF STATUS
MAINTAINED BY
CONSTRUCTING NEW
TOILETS FOR EVERY NEW
HOUSE WITH **APPROPRIATE**
CONTAINMENT

CONVERT SINGLE-PIT
TOILETS TO TWIN-PIT
OR ANY OTHER
ACCEPTABLE SAFE
CONTAINMENT

PROVIDE **100%**
CONTAINMENT AND
TREATMENT OF FAECAL
SLUDGE AND
GREYWATER

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Roles and Responsibilities of GP/TP/ZP

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- The capital expenditure will be funded by GP/TP/ZP/Govt under SBM(G) scheme
- The periodical O & M expenses to be borne from the service fee fixed by the local authority.
- The respective GPs to provide the required land for setting up of the FSTP.
- Regulate desludging operators and direct them to deliver faecal sludge at the Project Site for treatment.
- Assist in all approvals & permissions including for sourcing of water both potable and for treatment, electricity supply and for environmental clearances

Overview of efforts by RDW&SD in LWM

- Launch of **State level LWM Policy, Strategy & Model Bye-laws** in 2019-20
- **GP-level piloting** commenced with **Bhagamandala GP** and **16 pilot GPs** covering about **230 GPs**
- Next step is to scale up from **230 to 6002 Gram Panchayats** across the State
 - An approach has been laid out by RDW&SD for planning and implementing LWM projects
 - **CDD Society** and **SAAHAS** onboarded for providing technical support
 - A **road map to scale up** has been developed for implementation over the next **4 years' period**
- Construction of **soak pit under MGNREGS** to address household greywater issue taken up in a few districts

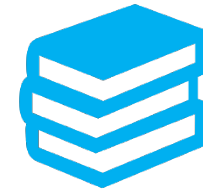
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Capacity Building



CAPACITY BUILDING TECHNIQUES

- PREPARATION OF TRAINING MODULES BY THE STATE FOR VARIOUS LEVELS OF TRAINING
- **MANDATORY EVALUATION** OF TRAINING FOR ALL THE PERSONNEL INVOLVED IN **SLWM**
- PUBLICATION OF SUCCESS STORIES AND GOOD PRACTICES ACROSS VARIOUS PUBLICATIONS INCLUDING TRAINING MATERIAL DEPARTMENTAL MAGAZINES

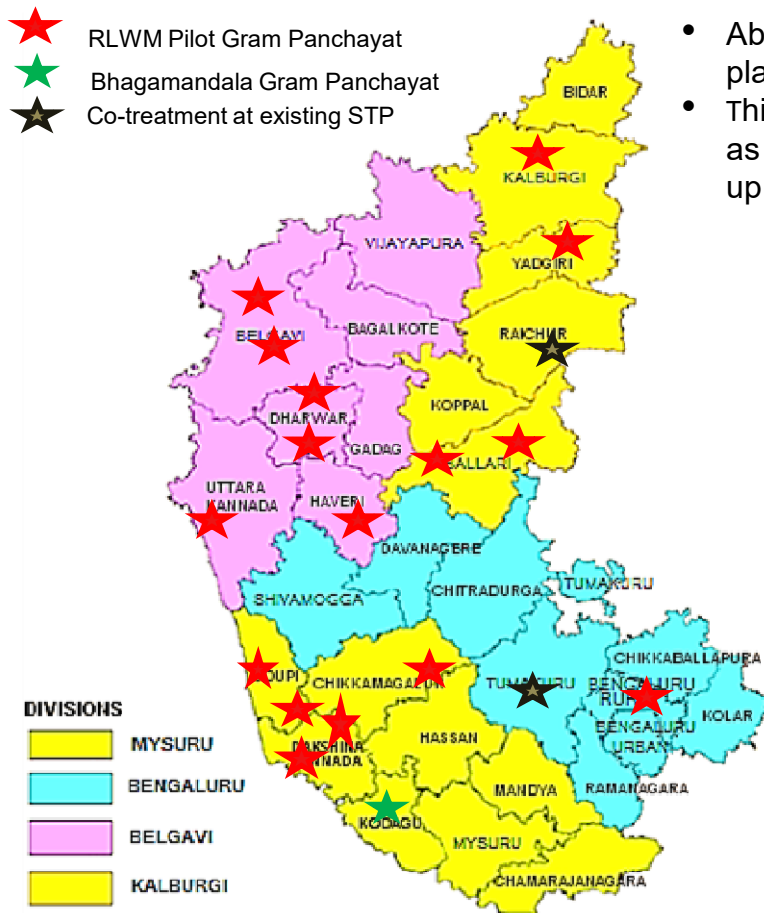


ROLE OF INSTITUTIONS

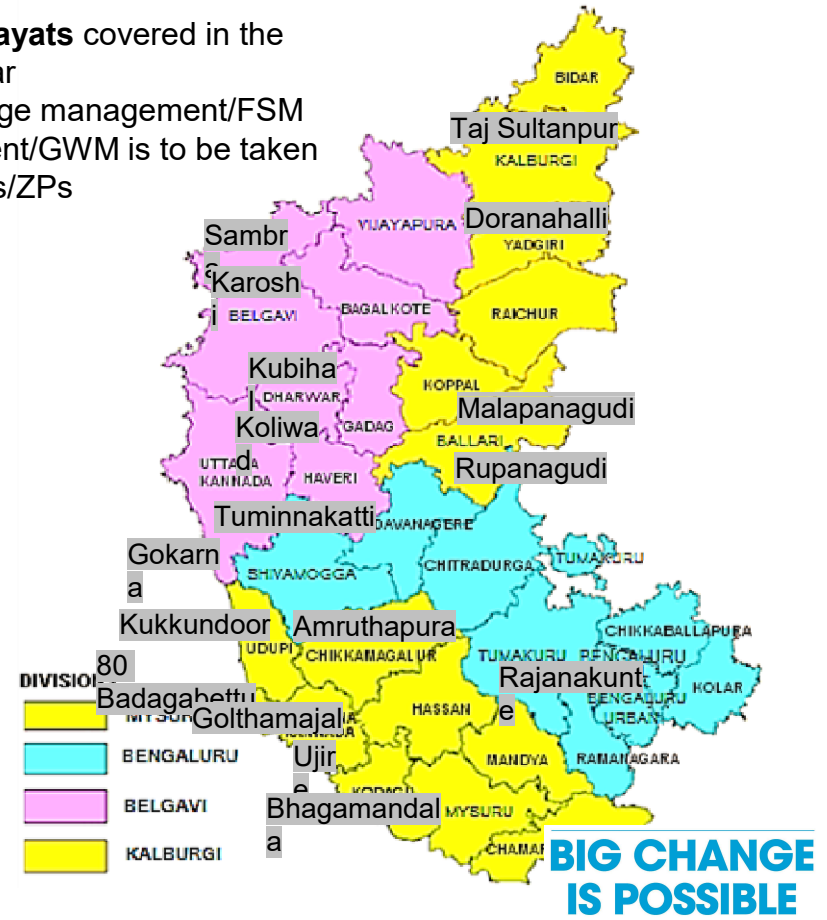
- INSTITUTIONS LIKE **KARNATAKA STATE RURAL DEVELOPMENT** AND **PANCHAYATH RAJ UNIVERSITY** AND **ABDUL NAZIR SAB STATE INSTITUTE OF RURAL DEVELOPMENT AND PANCHAYAT RAJ & OTHER KRCs** SHALL BE UTILIZED TO PROVIDE TRAINING AND AWARENESS ACTIVITIES
- CONTINUOUS EFFORTS TO DEVELOP APPROPRIATE COST-EFFECTIVE TECHNOLOGIES DULY VALIDATED BY KSPCB

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Current Coverage of GPs –Piloting



- About **230 Gram Panchayats** covered in the planned 17 clusters so far
- This is for only fecal sludge management/FSM as greywater management/GWM is to be taken up by the respective GPs/ZPs





Government of Karnataka
Rural Drinking Water & Sanitation Department
Rural Development & Panchayat Raj Department

Swachh Bharat Mission (Grameen)

16+1 FSM Pilot project Progress Report as on 14.07.2022

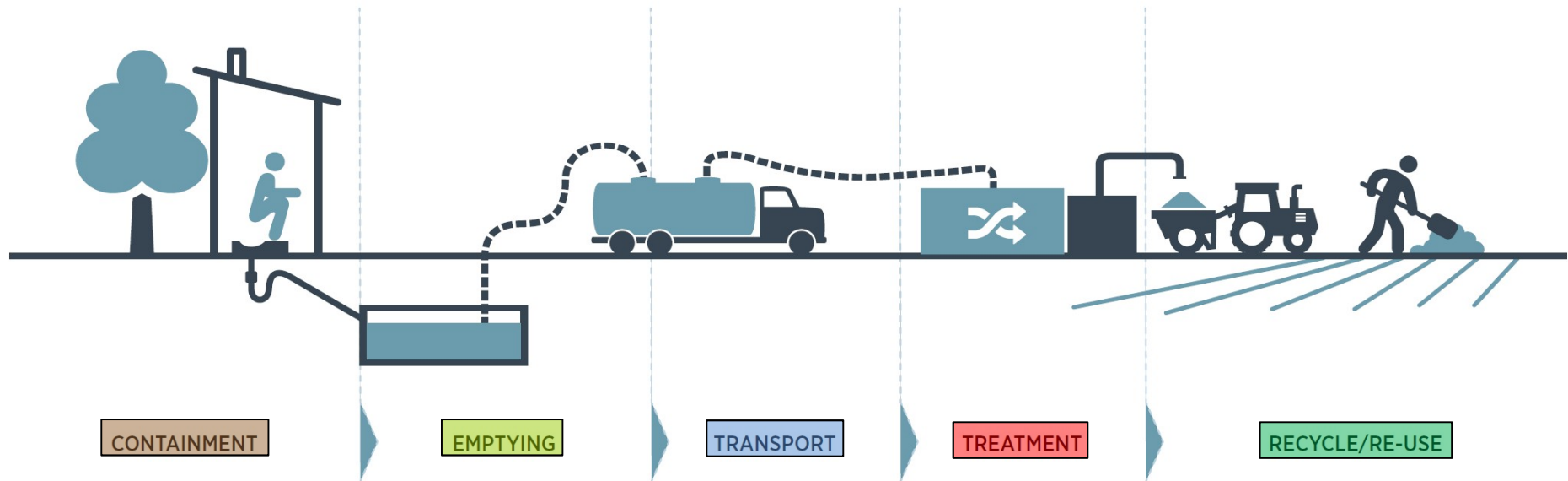


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Stages of FS Treatment

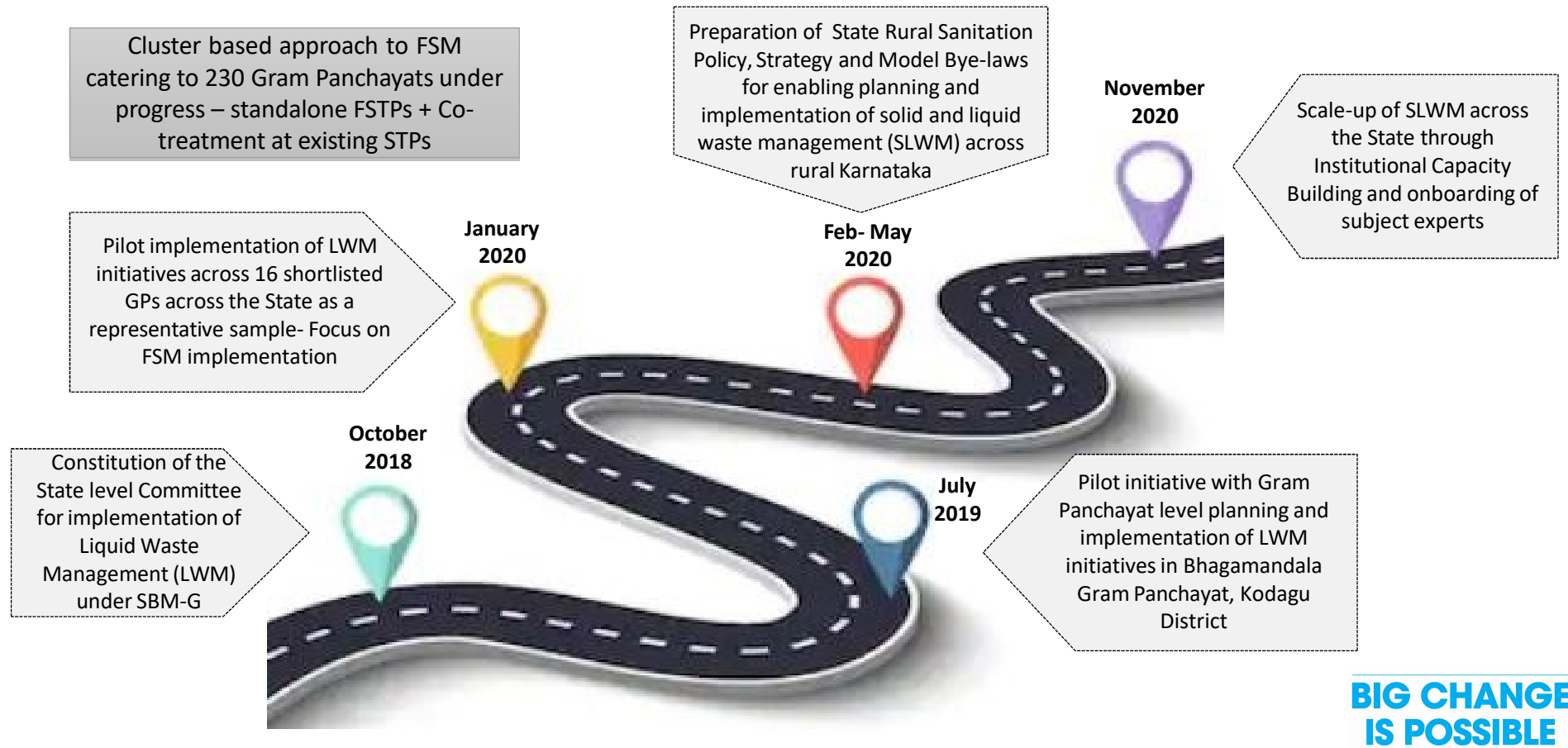
SANITATION VALUE CHAIN

Faecal sludge and septage management (FSSM) refers to the management of all stages of the sanitation value chain such as collection, containment, emptying, transport, treatment, disposal and reuse of faecal sludge from pit latrines, septic tanks or other onsite sanitation systems.



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Journey of Karnataka- Progress in rural FSM



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Action



The What?

- Onsite containment systems- single pits
- Desludging Machines- Smaller tractor driven tankers
- Existing operational STPs
- Standalone FSTPs



The How?

- Enabling framework-Policy, Strategy and supporting Bye-laws
- Pilot implementation
- Capacity development



The Who?

- Gram Panchayats
- Taluk Panchayats
- Zilla Panchayats
- Private desludging operators
- Technical Subject Experts



The When?

- Targets for FSM Coverage-GPs
 - 5% OF THE TOTAL BY 2021
 - 20% OF THE TOTAL BY 2022
 - 35% OF THE TOTAL BY 2023
 - 70% OF THE TOTAL BY 2024
 - 100% OF THE TOTAL BY 2025

The What??



CURRENT
PRACTICES OF
SANITATION



NEED FOR FSM IN
RURAL AREAS



PRIORITY OF
SOLUTIONS

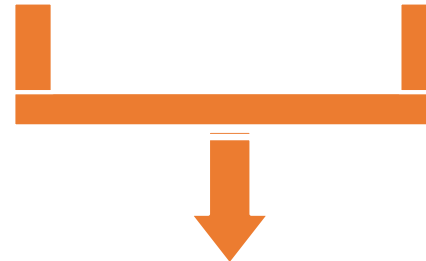
Prepared by CDD Society

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Current practices of Toilet construction



Empty after 2-3 years
and use digested sludge
as manure



Safe collection,
transportation and
treatment of toilet
waste

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What is the problem with Single Pits & Septic tanks?



Disposal of Fecal Sludge is done

30-40% in Agriculture Farms

40-60% in Water Bodies

10-20% in Open Land

**1 truck of septage dumped indiscriminately
= 5000 people defecating in the open**

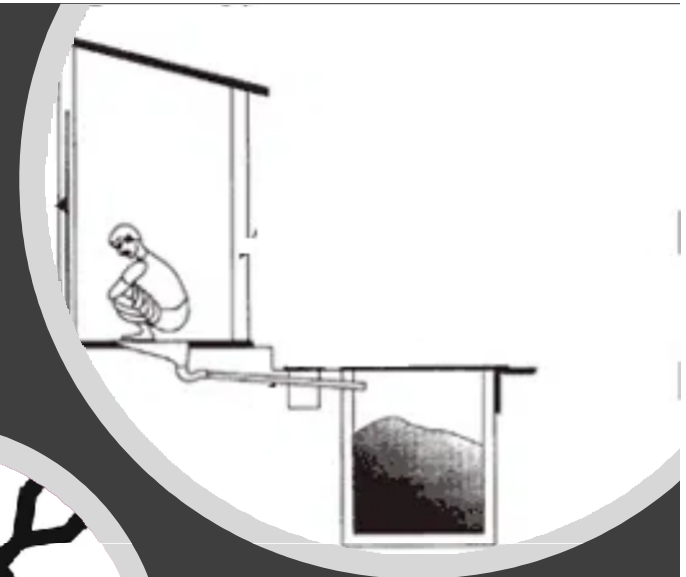
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Why FSM in rural areas??

- Over 46 lakh toilets constructed under Swachha Bharat Mission-Gramin-I
- More than 90% of households connected to single pit toilets in Karnataka
- Twin pit toilets not constructed as per ideal designs in several places
- Water supply target of 55 lpcd yet to be achieved- JJM work in progress
- Capital intensive sewerage work not suitable for rural areas given complexity in operation & maintenance works

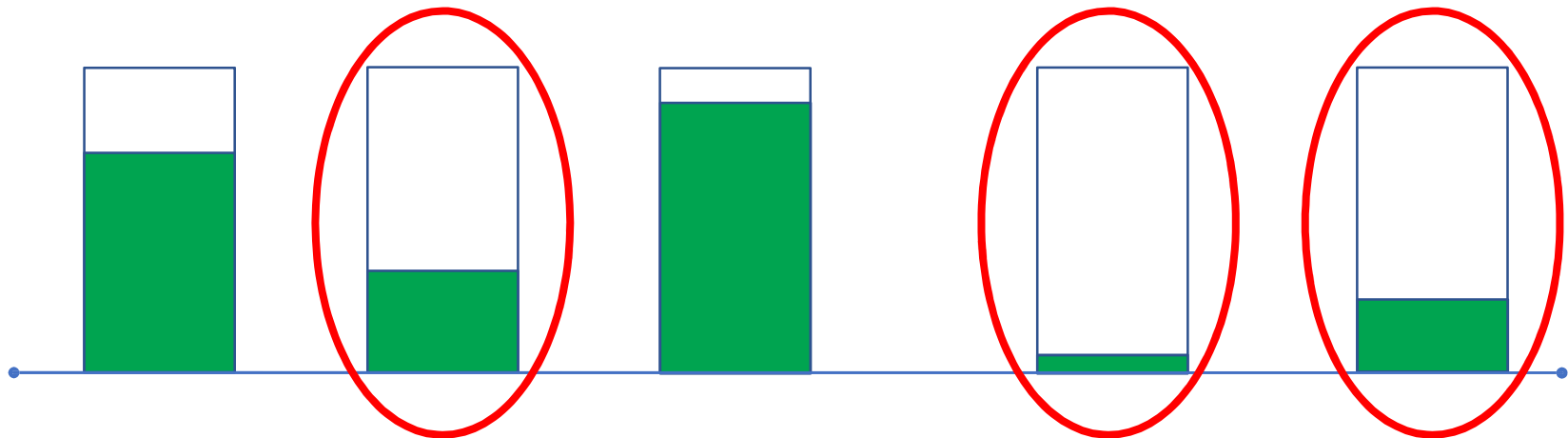
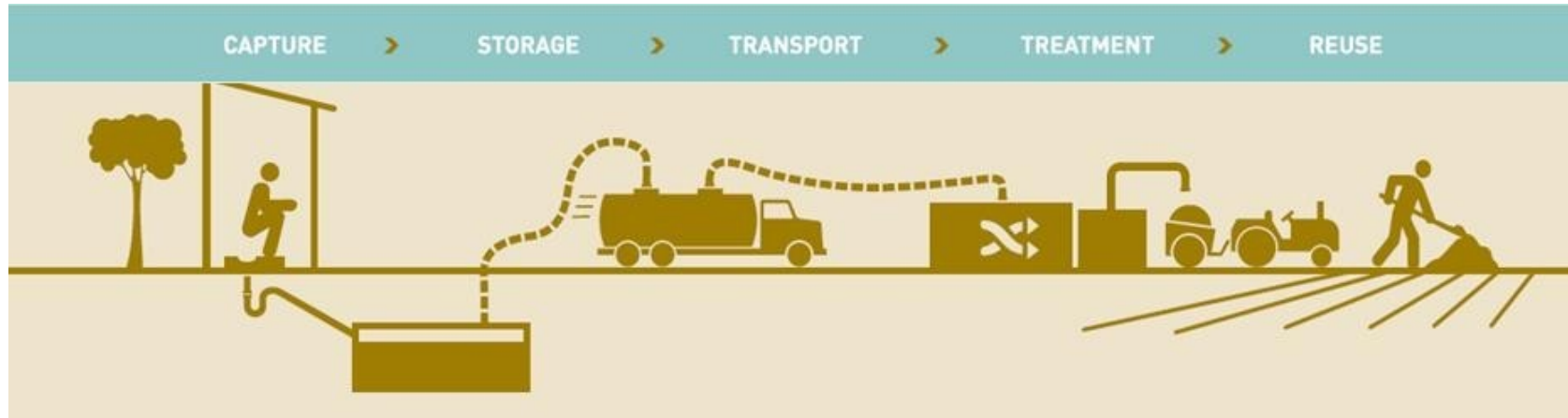
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Prepared by CDD Society



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Value



Planning and implementation of FSMS- At State level



Conducting
Survey and
Audit



Prioritising
Issues and
Risk
Assessment



Technology
Selection



Inclusion of
Sanitation Plan
into GP
Development
Plan,



Preparation
DPRs and
Micro Plans



Allocating Roles
and
Responsibilities
across diff.
stakeholders



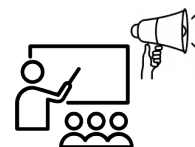
Financial
Planning
and
Budgeting



Areas of
Convergence



Setting up of
Capital
Infrastructure



Training and
Awareness

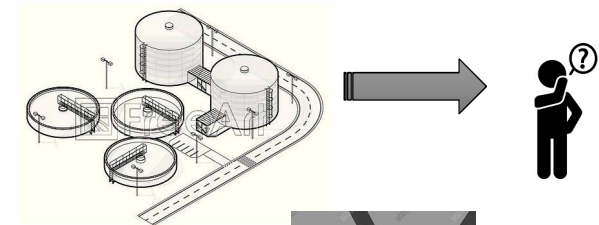
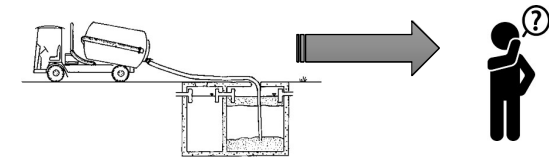
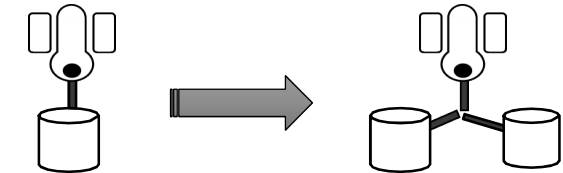


Monitoring
&
Evaluation

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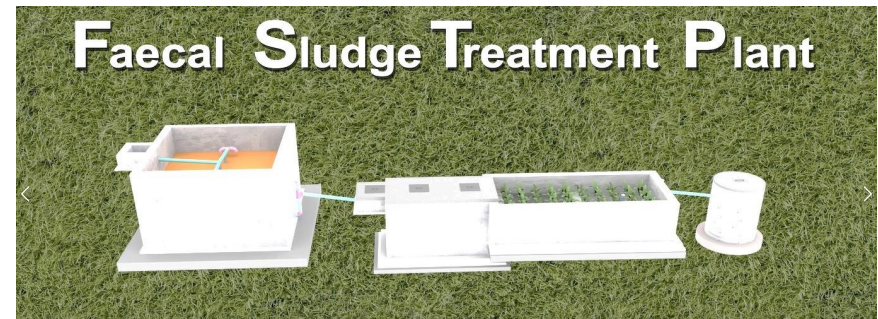
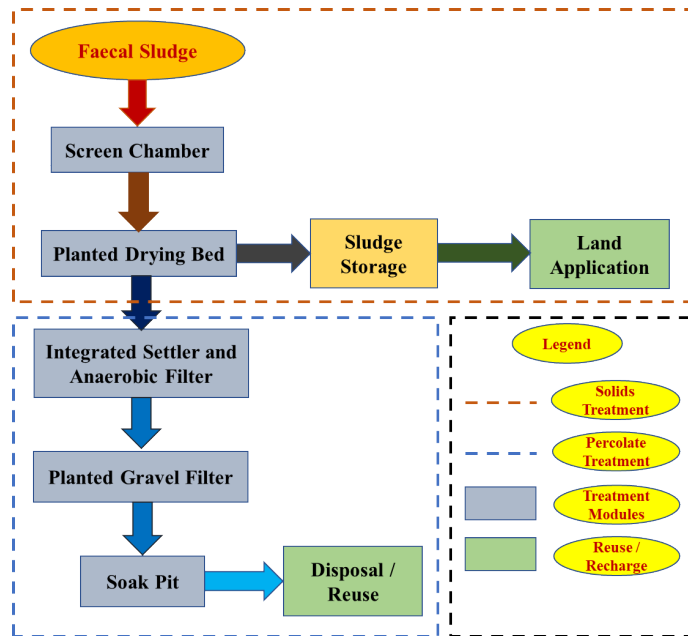
Key activities to be carried out

- Retrofitting of single pits to twin pits or other acceptable systems
- Assessing current practices and future demands for desludging services
- Identification of existing treatment systems in the vicinity- Co-treatment in Sewage treatment plants or cluster level faecal sludge treatment plants (FSTPs)
 - Streamlining desludging and FSTP operations over long term
- Arrangements through Memorandum of Understanding amongst cluster GPs



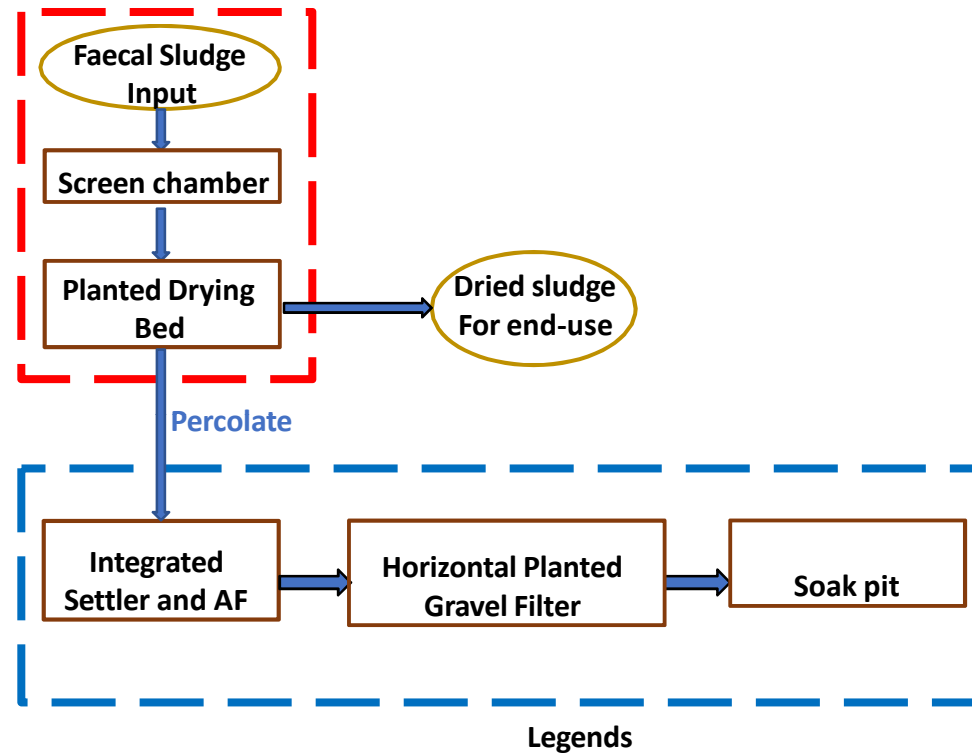
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Faecal Sludge Treatment Concept



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Proposed Concept



Sludge Treatment — —
Percolate Treatment — —

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CAPACITY BUILDING & IEC/BCC

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Capacity Building and Technical Handholding for scale up activities

- Over 55 workshops/trainings conducted covering about 3500 functionaries at all levels
- Different modules of workshops developed at different levels-
 - Sensitization
 - Orientation & Planning
 - Designing and DPR preparation
 - Operations & Sustenance
 - Training-of-Trainers



Potential Challenges

Low demand for uptake of FSMS immediately

- Large sized containments leading to low frequency of desludging
- Behavioral constraints especially in remote villages

Land and location constraints for setting up of FSTPs

Knowledge gap in ground functionaries

Aspirations for duplicating urban amenities (sewerage and STPs)

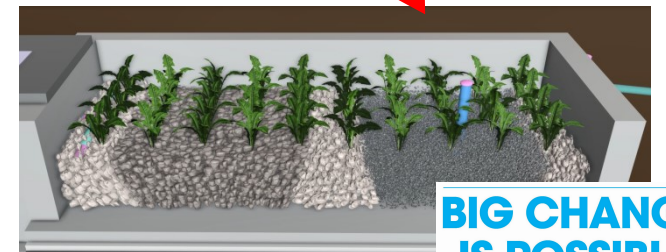
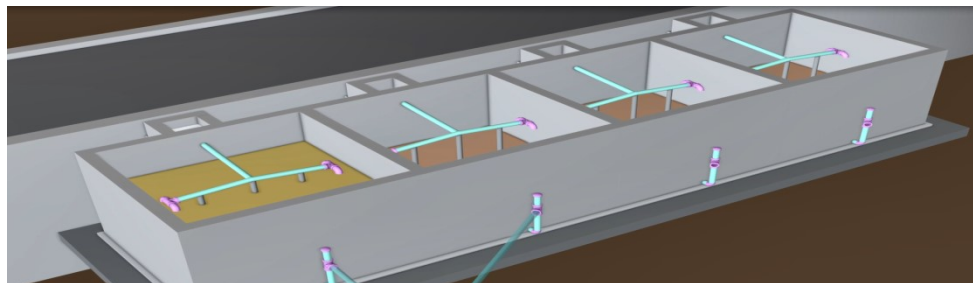
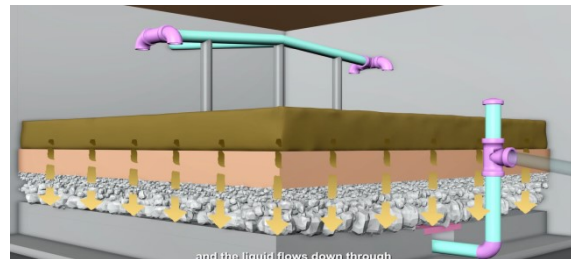
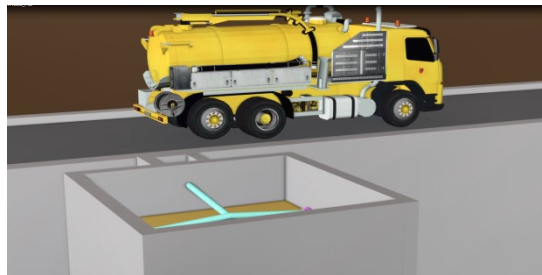
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Space requirement for 3KLD

S. No.	Module Name	No. of units	Area of each unit (sqm)	Total area (sqm)
1	Screening Chamber	12	17	204
2	Planted Drying Beds	12		
3	Integrated Settler and Anaerobic Filter	1	10	10
4	Horizontal Planted Gravel Filter	1	14	14
5	Swale	1	8	8
Total area for treatment modules				236
Total area for supporting civil structure (including road)				811
Total built up area of FSTP site (sqm)				1047
Total built up area of FSTP site (guntas)				10.4 ~ 10

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Faecal Sludge Management - Pilot Projects

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Sl.No	District	Taluk	Mother GP	Approved DPR cost	Tender approved cost	Releases	Expenditure	Capacity
1	Chikkamagaluru	Tarikere	Amruthapura	66.18	44.75	33.09	33.09	3 KLD
2	Udupi	Karkala	Kukundur	67.59	39.48	52.96	33.79	6 KLW
		Udupi	80 Badagabettu	63.94	36.05	55.13	36.05	3 KLD
3	Dakshina Kannada	Belthangady	Ujire	74.30	60.00	88.93	20.02	18 KLW
		Bantwal	Golthamajal	63.48	57.16	63.48	15.70	18 KLW
4	Bangalore Urban	Bangalore North	Rajanakunte	44.40	34.97	44.40	22.21	12 KLW
5	Kalaburagi	Kalaburagi	Taj Sultanpur	34.33	27.41	34.33	16.87	6 KLW
6	Ballari	Ballari	Rupanagudi	27.20	22.04	27.20	4.80	3 KLW
		Hospete	Malpangudi	44.06	27.99	44.06	18.81	12 KLW
7	Yadgir	Shahpur	saidapura	0.00	0.00	0.00	0.00	-
8	Belagavi	Belagavi	Sambra	73.71	0.00	73.71	0.00	9 KLW
		Chikkodi	Karoshi	56.58	54.00	56.58	53.22	3 KLD
9	Haveri	Rannebennur	Malnayakanahalli	77.74	63.00	77.74	0.00	3 KLD
10	Dharwad	Kundgol	Kubhihala	45.97	36.23	45.97	0.00	9 KLW
		Hubli	Koliwad	47.65	0.00	0.00	0.00	9 KLW
11	Uttara Kannada	Kumta	Gokarna	75.00	0.00	0.00	0.00	12 KLW
12	Kodagu	Madakeri	Bagamandala	241.00	165.00	100.00	82.37	3 KLW
Grand Total			17	1103.13	668.08	797.58	336.93	

16 Pilot projects Present status

- **O&M Training completed**

1. Rajanakunte
2. Amruthapura
3. Taj Sultanpur

- **Trial runs completed**

1. Rajanakunte
2. 80 Badagabettu
3. Kukkundoor
4. Taj Sultanpur
5. Amruthapura
6. Malapanagudi
7. Bhagamandala (Not part of 16 pilots project)

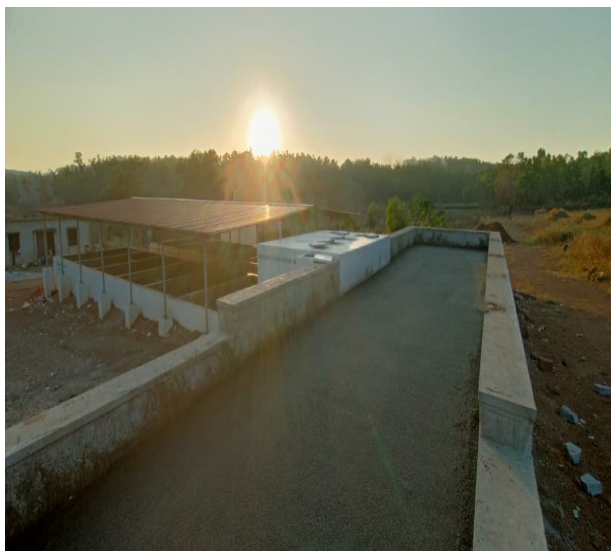
- **Construction work in progress with expected timeline of completion in next 2/3 months-**

1. Rupanagudi
2. Golthamajal
3. Ujire
4. Karoshi
5. Kubihal

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80 Badagabettu GP, Udupi

District	Taluka	Mother GP	No. associated GPs	Approved DPR cost	Tender approved cost	Releases	Expenditure	Present Status
Udipi	Udupi	80-Badagabettu	63.94	36.05	39.48	55.13	36.05	Trail Run Completed



**BIG CHANGE
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Kukkondoor GP, Udupi

District	Taluka	Mother GP	No. associated GPs	Approved DPR cost	Tender approved cost	Releases	Expenditure	Present Status
Udupi	Karkala	Kukundur	6	67.59	39.48	52.96	33.79	Trail Run Completed



**BIG CHANGE
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Bagamandala GP, Kodagu

District	Taluka	Mother GP	No. associated GPs	Approved DPR cost	Tender approved cost	Releases	Expenditure	Present Status
Kodagu	Madakeri	Bagamandala	10	241.00	165.00	100.00	82.37	Water test has been completed Rectification in progress



**BIG CHANGE
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Rajankunte GP, Bengaluru Urban

District	Taluka	Mother GP	No. associated GPs	Approved DPR cost	Tender approved cost	Releases	Expenditure	Present Status
Bangalore Urban	B'lore North	Rajanakunte	18	44.40	34.97	44.40	22.21	Trail run, O and M and Handholding to GP has been completed



**BIG CHANGE
IS POSSIBLE**

Amruthpura GP, Chikkamagaluru

District	Taluka	Mother GP	No. associated GPs	Approved DPR cost	Tender approved cost	Releases	Expenditure	Present Status
Chikkamagaluru	Tarikere	Amruthapura	11	66.18	44.75	33.09	33.09	Trail run completed



Malapanagudi GP, Ballari

District	Taluka	Mother GP	No. associated GPs	Approved DPR cost	Tender approved cost	Releases	Expenditure	Present Status
Ballari	Hospete	Malpangudi	11	44.05	27.99	44.06	18.81	Trail run completed



**BIG CHANGE
IS POSSIBLE**

Rupangudi GP, Ballari

District	Taluka	Mother GP	No. associated GPs	Approved DPR cost	Tender approved cost	Releases	Expenditure	Present Status
Ballari	Ballari	Rupanagudi	8	27.20	22.04	27.29	4.80	PDB & screening chamber completed and proposed for flood protection wall due to seepage of water ,Settler and AF earth work ongoing



**BIG CHANGE
IS POSSIBLE**

Tajasultanapur GP, Kalaburagi

District	Taluka	Mother GP	No. associated GPs	Approved DPR cost	Tender approved cost	Releases	Expenditure	Present Status
Kalaburagi	Kalaburagi	Taj Sultanpur	1	34.33	27.41	34.33	16.87	Trail run completed



**BIG CHANGE
IS POSSIBLE**

Golthamajalu GP, Dakshina Kannada

District	Taluka	Mother GP	No. associated GPs	Approved DPR cost	Tender approved cost	Releases	Expenditure	Present Status
Dakshina Kannada	Bantwal	Golthamajal	24	63.48	57.16	63.48	15.70	Trail run completed



**BIG CHANGE
IS POSSIBLE**

Ujire GP, Dakshina Kannada

District	Taluka	Mother GP	No. associated GPs	Approved DPR cost	Tender approved cost	Releases	Expenditure	Present Status
Dakshina Kannada	Belthangady	Ujire	23	74.30	60.00	88.93	20.02	Construction work in progress



**BIG CHANGE
IS POSSIBLE**

Karoshi GP, Belagavi

District	Taluka	Mother GP	No. associated GPs	Approved DPR cost	Tender approved cost	Releases	Expenditure	Present Status
Belagavi	Chikkodi	Karoshi	14	56.58	54.00	56.58	53.22	Trial run to be conducted



**BIG CHANGE
IS POSSIBLE**

Kubhihal GP, Darwad

District	Taluka	Mother GP	No. associated GPs	Approved DPR cost	Tender approved cost	Releases	Expenditure	Present Status
Darwad	Kundgol	Kubhihala	6	45.97	35.55	45.98	0.00	Construction work in progress



**BIG CHANGE
IS POSSIBLE**



Thank you