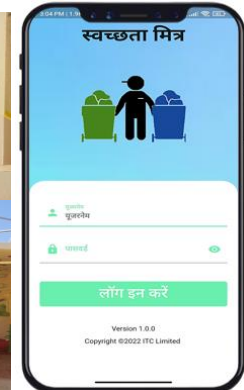


Community Based Model and Technology for Low Cost & Decentralized Waste Management



“My Waste – My Responsibility”

Clean Environment - Healthy Community

ITC SWM Programme- 40 Districts, 13 states

• Solid & Liquid Waste Management – 4 Models



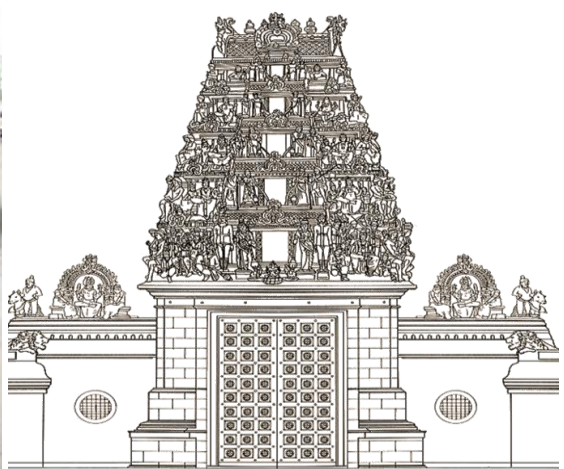
WOW : Large City Model



Decentralized : Town Model



Rural Waste Mgt. Model



Iconic/religious place Model

100 lakh+ HHs, Significant waste reduction to landfill

**Circular economy model
1,300+ temples**

• Key Tenets

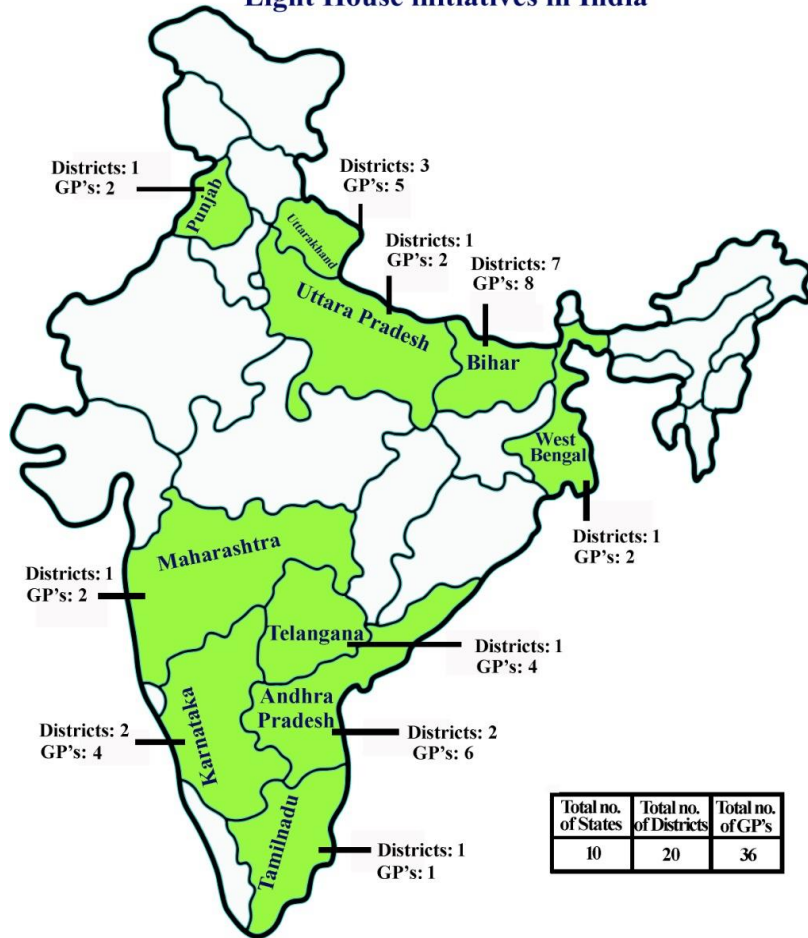


- **15,000+ Village Sanitation Committees/ Mohalla Committees/ Panchayats**
- **15 MoUs with State Govts**

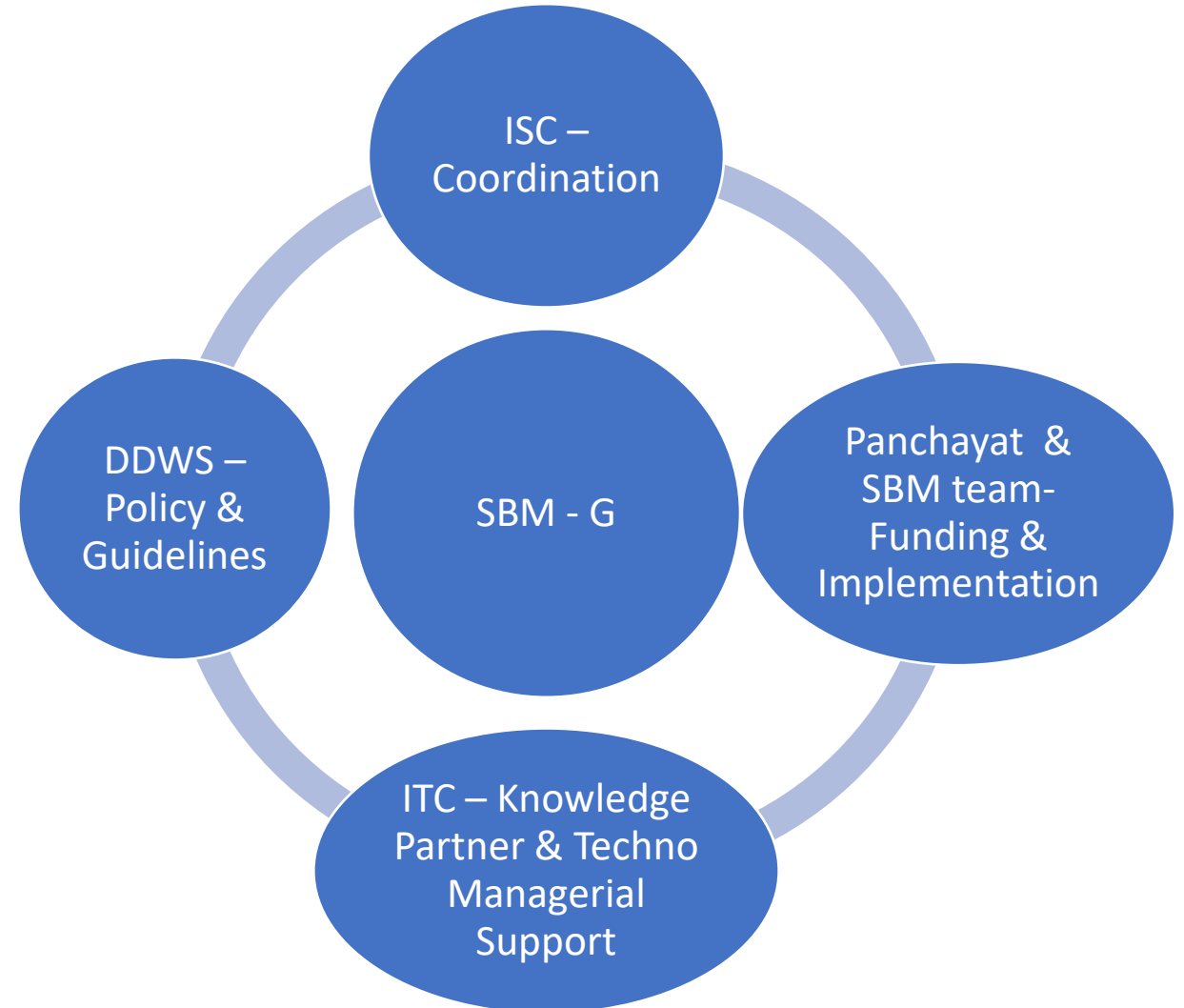
ITC's Collaboration with Light House Initiative (LHI)

All India Partnership: 10 states & 36 GPs out of 75 selected GPs under LHI

Light House initiatives in India



Roles of various partners of LHI



22 GPs out of 36 became Model till date

The Process of Waste Management



1. Inception Phase

- Mobilization
- Institution Strengthening



2. Planning phase

- Participatory Plan Preparation
- Gram Sabha Approval



3. Implementation phase

- Construction of Right Infra & operationalization
- Model declaration



4. Sustenance phase

- Monitoring – Process & Performance
- Maintenance of Infra

Focus Areas:

- High impact behaviour change campaigns – *#SwachhtaSeSamridhhi*, *#GangaRath*, *#AlagKaro*, *#MyWasteMyResponsibility*
- **Women and Frontline Cadre Involvement**– SHGs, ASHA and Anganwadi
- **User charges for sustainability**
- **Performance Monitoring -Pilot of Swachh Mitra App**
- **Well Being Of Waste Collectors** – Financial lit, social security linkages

1. Model of SHGs involvement in Waste Management

Context of SHGs involvement in waste management

Strength of SHGs

- High involvement of women in HH waste mgt. specially in rural areas
- Non political cohesive group. Very strong influencers.
- Financial & Institutional discipline. Good at managing local micro enterprises

Challenges of Rural Waste Mgt.

- Behavior change requires sustained effort by an institution
- Vendor participation in waste supply chain difficult due to low volume
- User fee collection by GP challenge

Participate : SHG for Awareness Creation



Influence : Convincing for segregation & user fee



Sustain : By acting as a service providers for GPs



1. Model of SHGs involvement in Waste Management

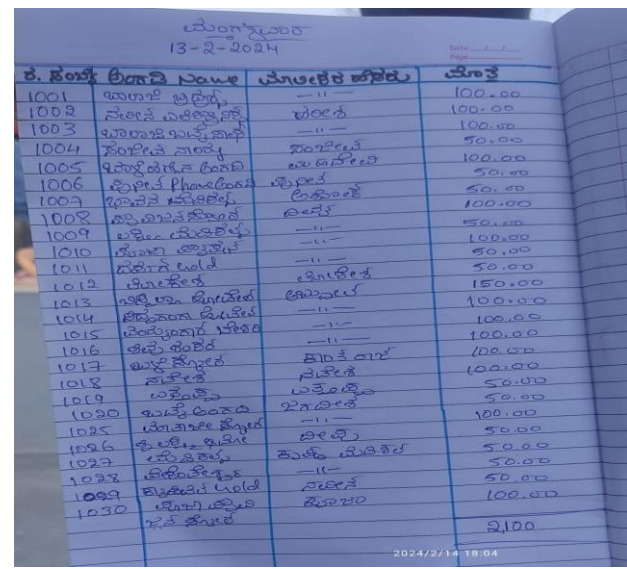
❑ SHGs involvement as service provider helped in behavior change & decentralization

Indicator	SHG Model	Panchayat Model
HH Covered	100%	85%
Source Segregation	82%	37%
Composting	75%	39%

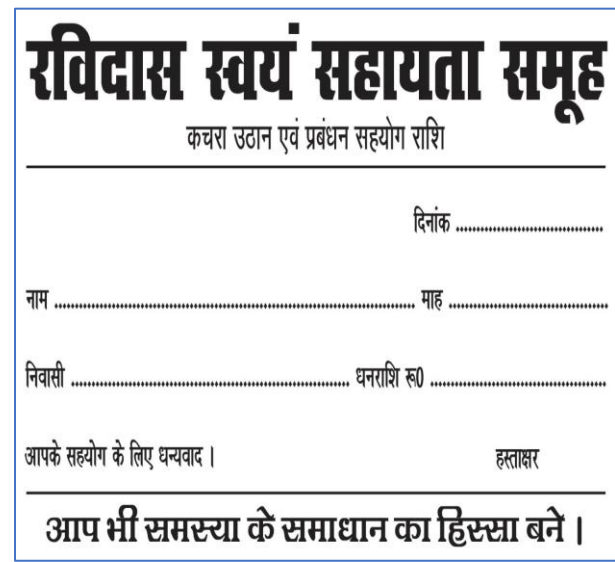
Financial Analysis - SHG vs Panchayat Model Mysuru*

S. No.	Cost items	SHG	Panchayat
1	Fixed cost -One time (Rs)	7,26,800	14,80, 800
2	Recurring Cost- Monthly (Rs)	22,325	39,933
3	Revenue - Monthly (Rs)	24,367	7,430
4	Profit Monthly (Rs)	2,042	- 32,503

- Avg HHs- approx. 1,300
- 120 SHGs done MoU with GPs. **38 SHGs working as service providers.**
- **Enablers** : Resolution by GPs for HHs to pay user fee. 6-12 months financial & handholding support for sustainability.



Record of user fee, Bilikere GP, Mysuru, Karnataka



Receipt issued by SHG for user fee, Nandi GP, Saharanpur, UP

- ❑ Moving towards enterprise in waste mgt
- ❑ Financial support from SRLM & policy support from SBM required

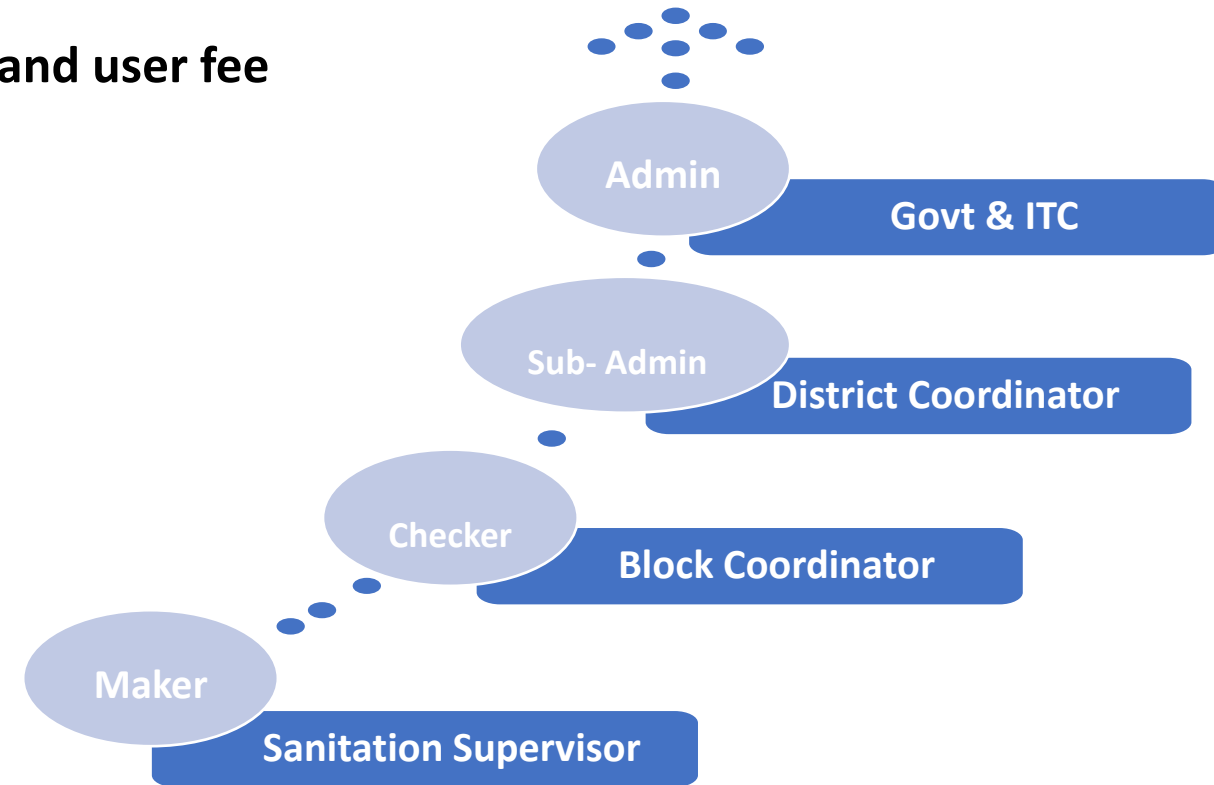
2. Use of technology in monitoring

Need for system

- ❑ ITC & Lohiya Swachh Bihar Abhiyan (LSBA) partnership for implementation of decentralized SWM in Ganga Grams
- ❑ **12 districts, 59 blocks, 261 GPs, 452 villages and 5 Lakh HHs**
- ❑ Monthly monitoring of **waste collection, management and user fee collection** was huge challenge for LSBA
- ❑ **Bihar** – 8,053 GPs, 36,891 villages, 1.68 crores HHs

Swachhta Mitra App has been created for real time tracking the progress of the SWM Programme

- ❑ The app has **two Modules**:
 - Desktop Module**(Web based) – For Admin and Sub-admin
 - Mobile Module**(Android) – For Field staff and Supervisor
- ❑ The app has 4 type of Users interface – Maker, Checker, Sub Admin & Admin




2. Use of technology in monitoring

How App works




2. Use of Technology in monitoring


Begusarai's Panchayat level monitoring data: 1st to 10th Feb



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स्वच्छ भारत
एक कदम स्वच्छता की ओर



लोहिया
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उभियान
बिना किलो कील-फिलेड को, शौचालय सब को लिए

ITC MISSION SUNEHRA KAL: (BIHAR)LSBA (ADMIN)

ITC_WASHI

Sr.No	District Name	Block	Panchayat	Total Waste (MT)	Organic Waste (MT)	Plastic Waste (MT)	Land Fill (MT)	Dry Waste (MT)	MLP (MT)	Total Households	Households Doing Home Segregation	Households Doing Home Composting	Manure Generated	Manure Sold
1	BEGUSARAI	BALLIA	Bhawanand Pur	0	0	0	0	0	0	0	0	0	0	0
2	BEGUSARAI	BALLIA	Paharpur	0	0	0	0	0	0	0	0	0	0	0
3	BEGUSARAI	BALLIA	Tajpur	0	0	0	0	0	0	0	0	0	0	0
4	BEGUSARAI	BALLIA	Pokhariya	0	0	0	0	0	0	0	0	0	0	0
5	BEGUSARAI	BALLIA	Bhagatpur	0	0	0	0	0	0	0	0	0	0	0
6	BEGUSARAI	BALLIA	Manserpur	0.2201	0.0097	0.0021	0	0.102	0.0002	2069	1000	1	0	0
7	BEGUSARAI	BALLIA	Fatehpur	0.0123	0.0036	0.0021	0	0.0035	0.0001	3804	400	0	0	0
8	BEGUSARAI	BALLIA	Salehchak	0	0	0	0	0	0	0	0	0	0	0

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2. Use of Technology in monitoring

App 1.0 version

- Used for monthly meetings and reviews by SMD and LSBA team
- Pilot testing of less than 1 year. Larger scale load testing done for Bihar
- Paper work still required for audit trails
- Manpower required for data entry

App 2.0 version

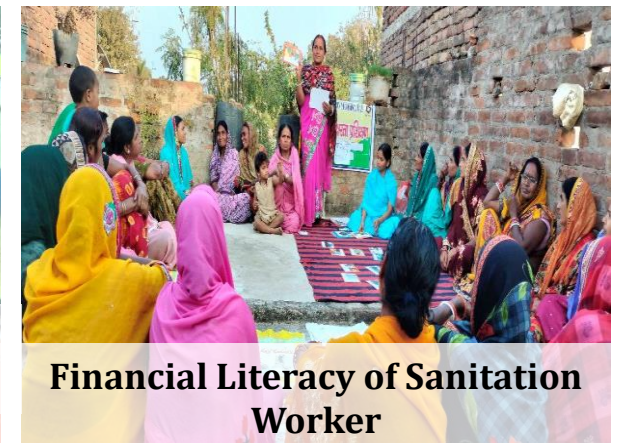
- Incorporating learning of V1.0, adding new features
- Learning from other Apps
- Two way communication through App - Using it for training and awareness
- Leader board for award/ reward system



Thank You



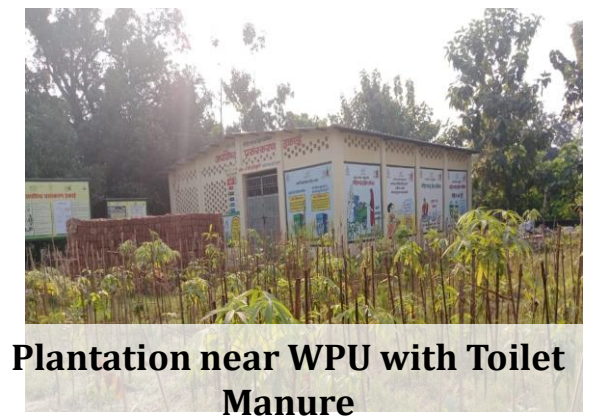
**Regular Health check up camps
- Sanitation Worker**



**Financial Literacy of Sanitation
Worker**



Monthly GPIC Meeting



**Plantation near WPU with Toilet
Manure**

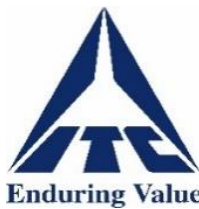


**Use Charge Collection Including
Institution**



**Trash barrier for avoiding plastic
in river - Ganga Gram Munger**

Results-2: Cost and Sustainability Analysis



	SHG Model (Project)	Other Model (Control)
Fixed cost (Rs) – One Time		
Dustbins- HH	17,500	1,06,667
Segregation & Processing Unit	1,26,000	8,00,000
Furniture	-	833
Compost pit-NADEP	14,500	-
Vehicle	5,60,000	5,60,000
Try-Cycle carts /Pushcart	-	-
Bins	-	6,667
Materials	2,300	3,333
Others-PPE, Gloves, Shoes, Scale etc	6,500	3,300
Sub Total	7,26,800	14,80, 800
Recurring Cost(Rs)- Monthly		
Waste Collector Honorarium	18,000	18,667
Vehicle running cost-petrol	2,600	13,933
Misc cost- Electricity, Water, repairs	450	6,000
Others/Operational	1,275	1,333
Sub Total	22,325	39,933
Project Revenue (Rs) Monthly		
User Fees	21,697	3,600
Compost sale	25	1,930
Recyclable sale	2,645	1,900
Sub Total	24,367	7,430
Profit (Rs) Monthly	2,042	-32,500

❑ Fixed Cost

- Control villages have 2.5 times higher cost
- Project villages has lower cost due to decentralization and behaviour change

❑ Recurring Cost

- Control villages have higher recurring cost due to larger infrastructure and centralization

❑ Revenue

- Project villages are able to enforce user fee thus will be able to sustain it

❑ Livelihood

- SHG model provides livelihood to women from village

2. Use of Technology in monitoring

Real time State Dashboard – User Fee



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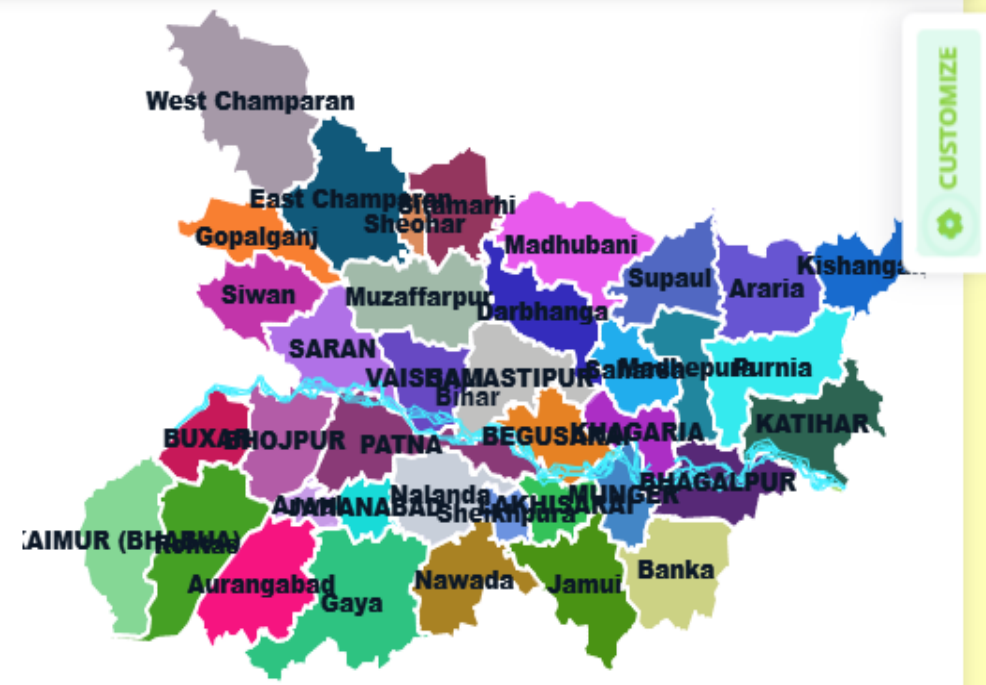
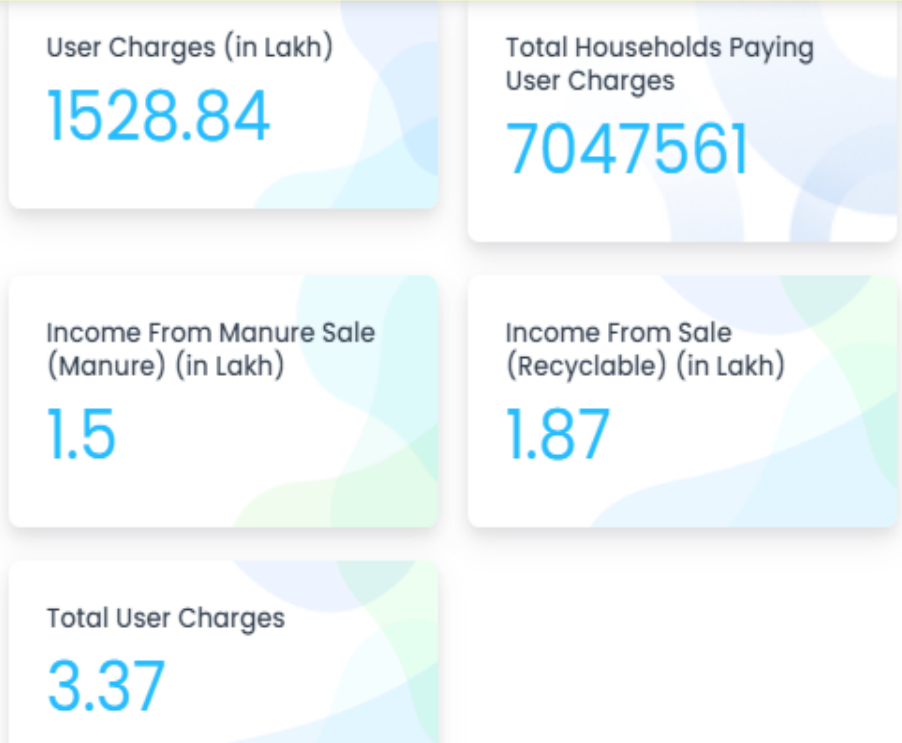
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- Dashboard
- District
- Reports New
- Change Password



2. Use of Technology in monitoring

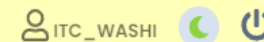
Real time district level monitoring data: 1st to 10th Feb



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ITC MISSION SUNEHRA KAL: (BIHAR)LSBA (ADMIN)




- Dashboard
- District
- Reports New
 - Coverage
 - Financial
 - Operational
 - Human Resources
 - Chronic Spot
 - Unapproved Data New
 - Progress Report New
- Change Password

Sr.No	District Name	Block	Panchayat	Total Waste (MT)	Organic Waste (MT)	Plastic Waste (MT)	Land Fill (MT)	Dry Waste (MT)	MLP (MT)	Total Households	Households Doing Home Segregation	Households Doing Home Composting	Manure Generated	Manure Sold
1	BEGUSARAI	7	69	0.1935	0.0434	0.0122	0.0175	0.1326	0.0009	8859	2766	783	50	50
2	BHAGALPUR	11	107	4.8086	1.184	0.1031	3.346	0.2786	0.0162	7256	4837	1913	13950	9394
3	BHOJPUR	3	39	3.1076	0.013	0.2439	0.635	2.4596	0.014	10130	6293	412	0	0
4	BUXAR	5	47	2.0331	0.3955	0.0738	1.4387	0.1989	0.0183	12437	7618	1685	0	0
5	KATIHAR	4	38	6.7462	2.398	0.1633	3.4085	0.9397	0.0592	36132	13234	352	20	0
6	KHAGARIA	3	58	0.5549	0.162	0.0968	0.134	0.2589	0.0137	29689	29689	4767	5936	2104
7	LAKHISARAI	2	14	2.0915	2.091	0.0005	0	0.0005	0.0002	3890	2290	15	30	0
8	MUNGER	4	47	1.2653	0.093	0.1543	0.915	0.2573	0.0125	4775	2178	69	355	314
9	PATNA	9	89	15.5999	4.9958	0.781	8.0035	2.6007	0.162	63617	42533	36	10	16
10	SAMASTIPUR	3	21	0.0035	0	0.003	0	0.0035	0	1736	1736	18	0	0
11	SARAN	3	38	1.4441	1.07	0.0248	0.248	0.1261	0	5811	585	21	12	1
12	VAISHALI	6	49	7.7168	2.917	0.1428	3.904	0.8958	0.0102	22656	7332	4	110	110


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2. Use of Technology in monitoring


Begusarai's Panchayat level monitoring data: 1st to 10th Feb



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अभियान
फिरा किली कौज-रिजोड के, शौचालय सब के लिए

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3	BEGUSARAI	BALLIA	Tajpur	0	0	0	0	0	0	0	0	0	0	0
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