Challenges on Greywater in UP and Way Forward

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What is Greywater?

How much greywater is produced?

It is estimated that rural India generates about **15,000 to 18,000 Million Liters of greywater per day**

How much does Rural UP Produce	UP
Rural Population as per JJM Dashboard (Crore)	16.74
Greywater production @35LPCD (MLD)	5857.31

Enough to fill Kathauta Jheel more than 3 times- DAILY

Where does the greywater go?

Lack of structured arrangement for the collection and treatment

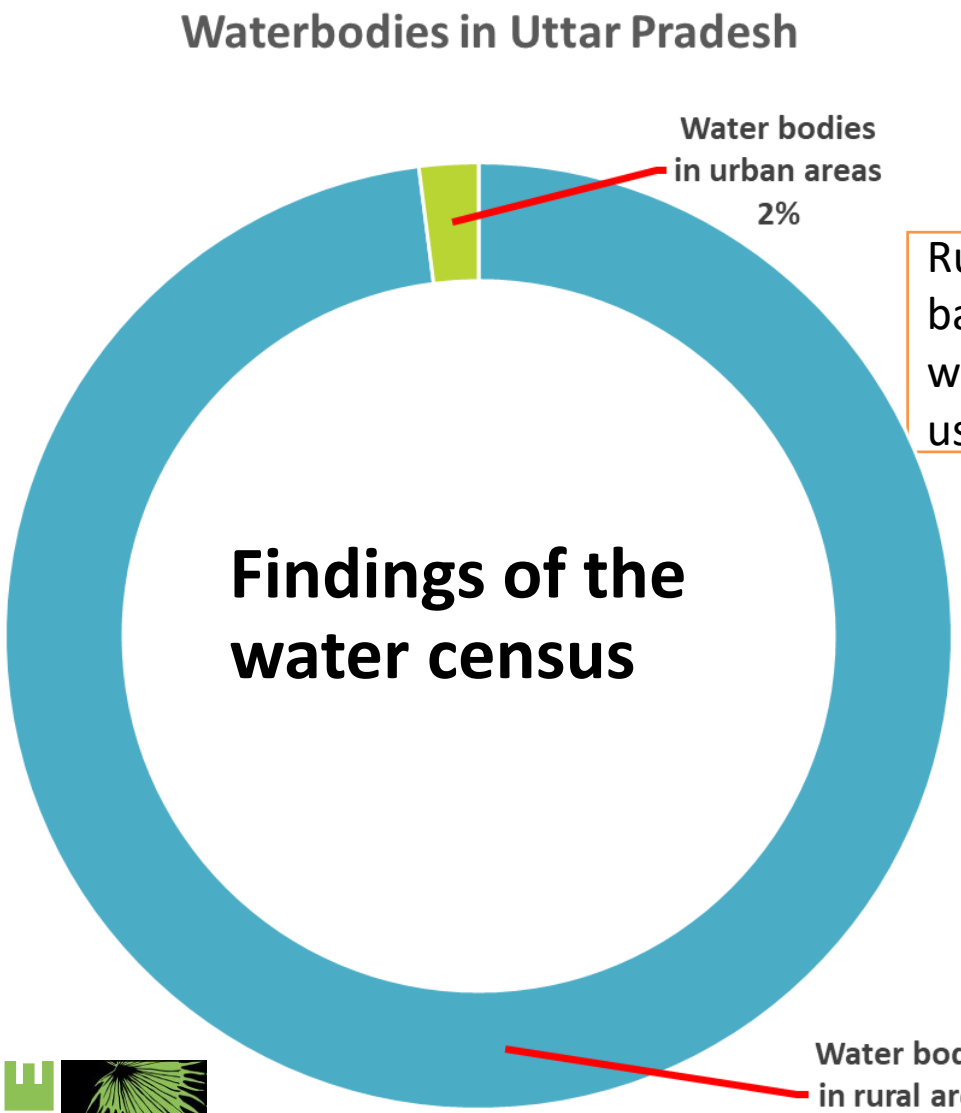
- **Consequences**
- Unpleasant and dirty surroundings
- Mosquito / vector breeding and subsequent health implications
- Contamination and pollution of water bodies
- Loss of precious natural resource

Indiscriminate disposal in the open

Surface drainage system

Polluted water sources

- CSE findings from Rae Bareli, Banda, Rampur, Jhansi -2023
- Banda- 2025



Rough Estimates- A rural household ends up spending a minimum of 100-150Rs extra towards health cost and clean drinking water cost

Rural health, increased costs, bad surroundings, restored waterbodies return back to as usual.

If polluted- brings consequences

99% of the problem & the solution lies here

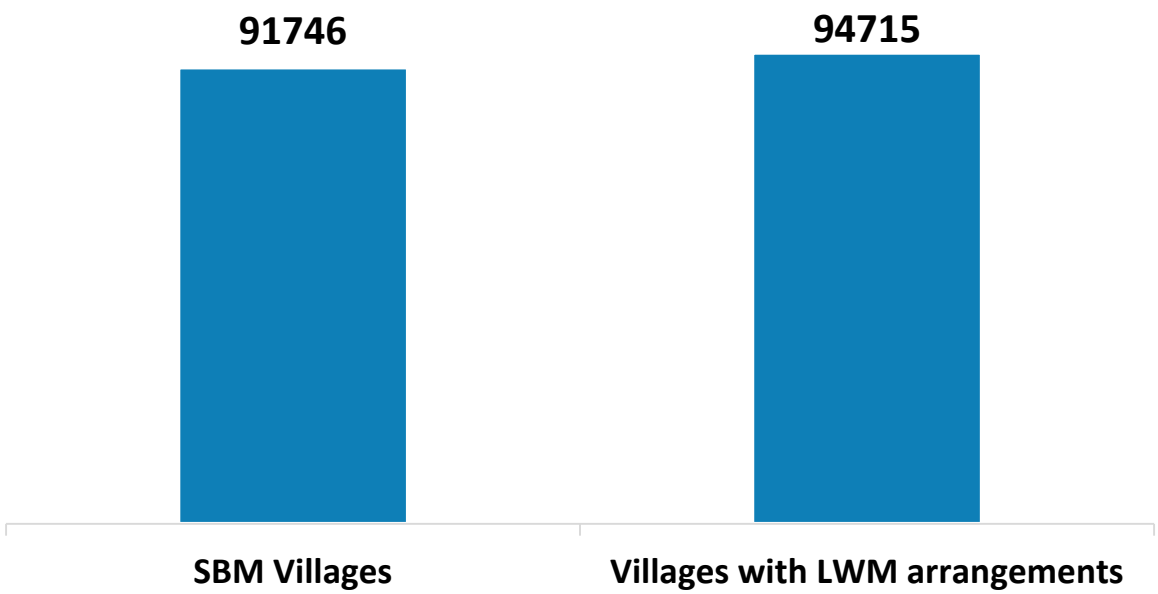
Managed well- Source Sustainability

Liquid Waste in Rural Areas

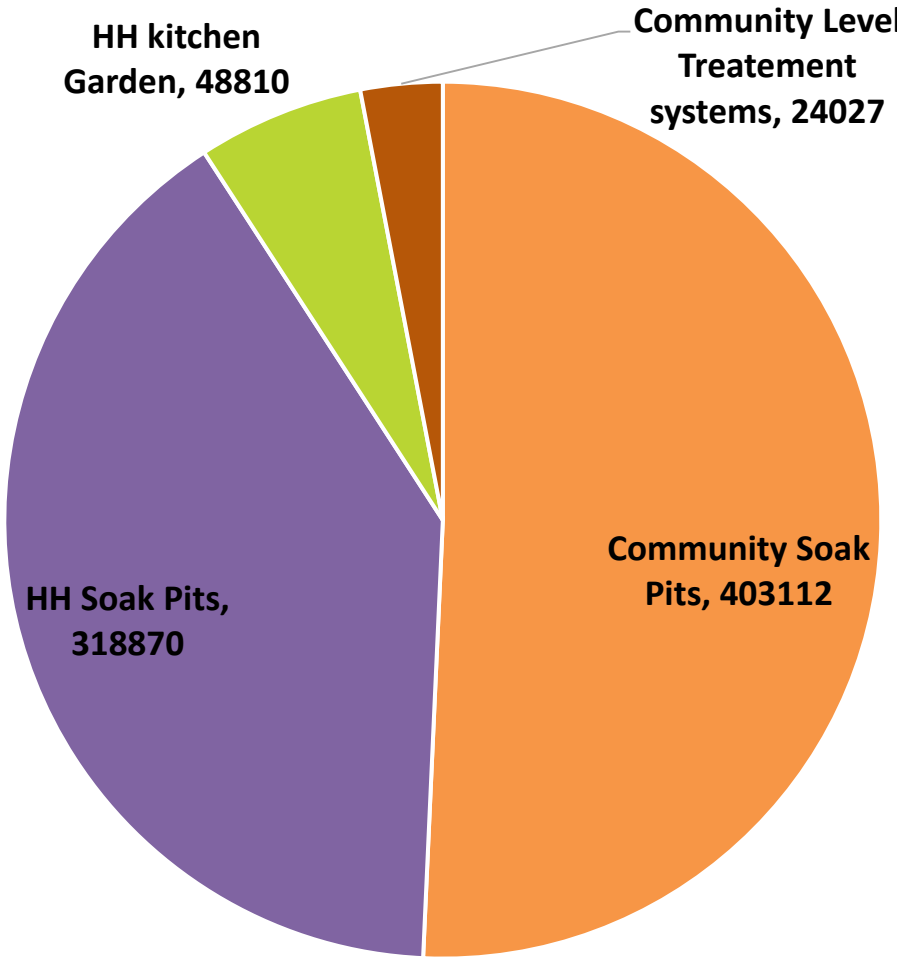
It also contains

- Animal/cattle Waste
- Leakages or improper containment systems- black water mixed with grey water.
- Increasing use of agricultural pesticides.
- Increasing use of soaps and detergents.
- Increasing usage of Pharmaceutical products and cosmetics
- Increase in usage of plastics

SBM-G dashboard-Uttar Pradesh



Village-Block-Banda	Structures
Samagra-Baberu	7 drains, 16 community soak pits
Mohanpurwa-Badokhar Khurd	11 drains, 4 HH soak pits, 5 community soak pits
Jaspura-Jaspura	9 drains, 13 community soakpit and 2 community level treatment system



- CSE observations - Improper drains and Soak pits wrongly tagged.
- Soak pits available- but not maintained

Is it enough? **What is needed?**

Present path being followed

- Choices- not considering climate change, groundwater and soil
- Random adoption of technology/soak pits
- Improper design of drains
- No treatment – open dumping
- Lack of awareness on community practices
- Lack of awareness generation on greywater management
- Focus on solid waste
- Lack of O&M

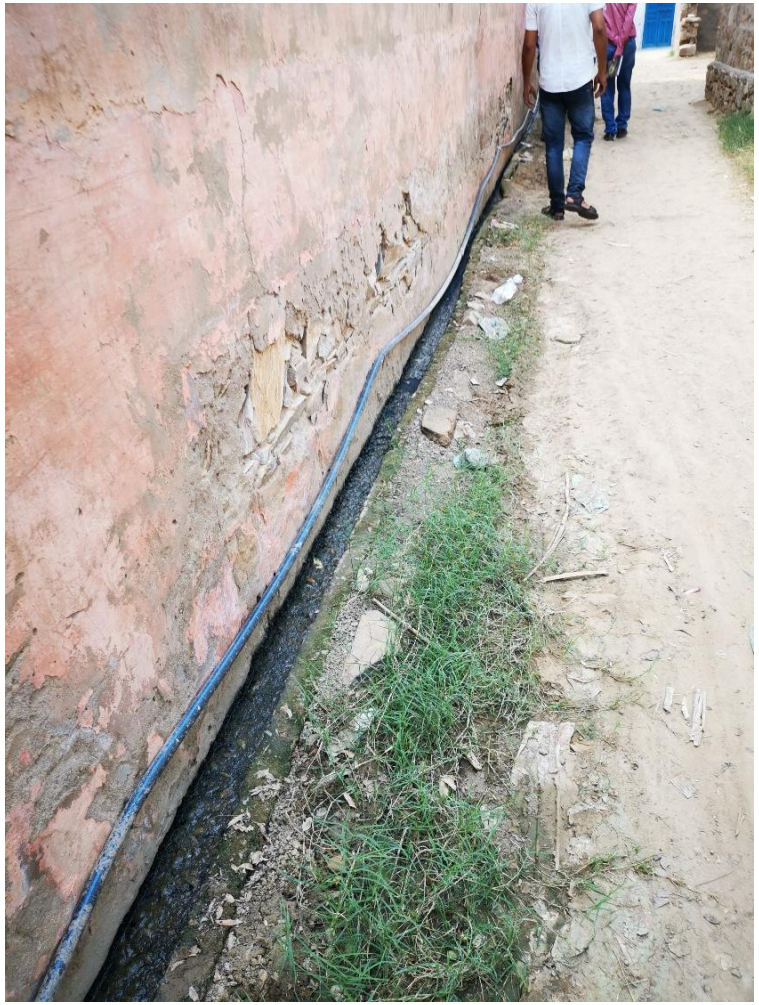
Key challenges

Lack of funds to construct HH level management systems

Lack of technical know-how of open drains

Inadequate solid waste management

Lack of adequate O&M of village level treatment systems



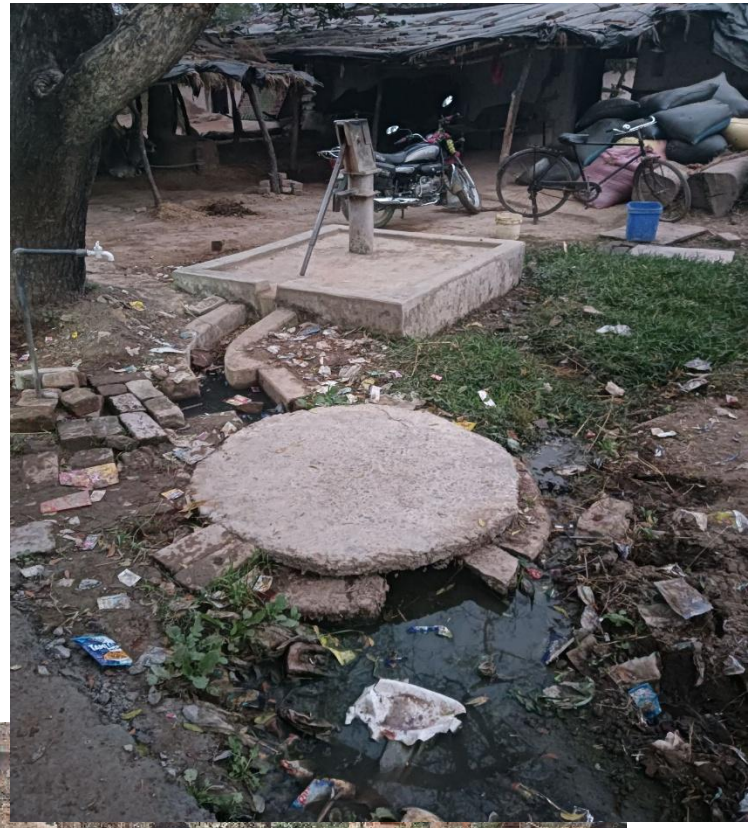
Lack of drains

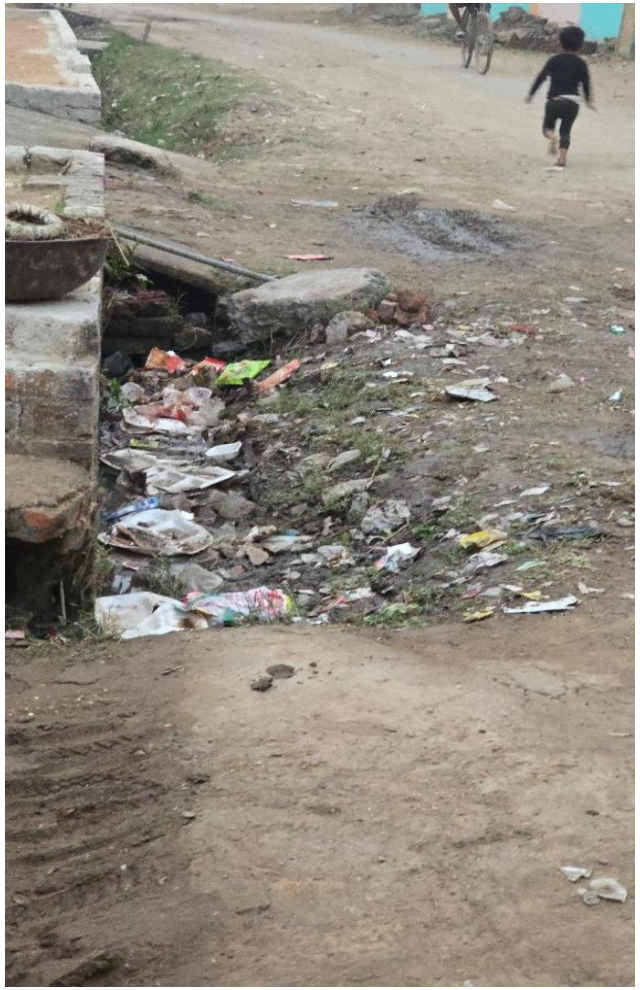
Faulty Drains-Lack of Planning

Story of grey water

CSE

Wrong structures and lack of maintenance





Clogged Drains

CSE

Wrong structures and lack of maintenance

Consequences

- Polluted Ponds
- Water logged fields
- Contamination of drinking water supplies and waterbody degradation
- What remains unseen- groundwater pollution

Traditional Practices- case example Banda



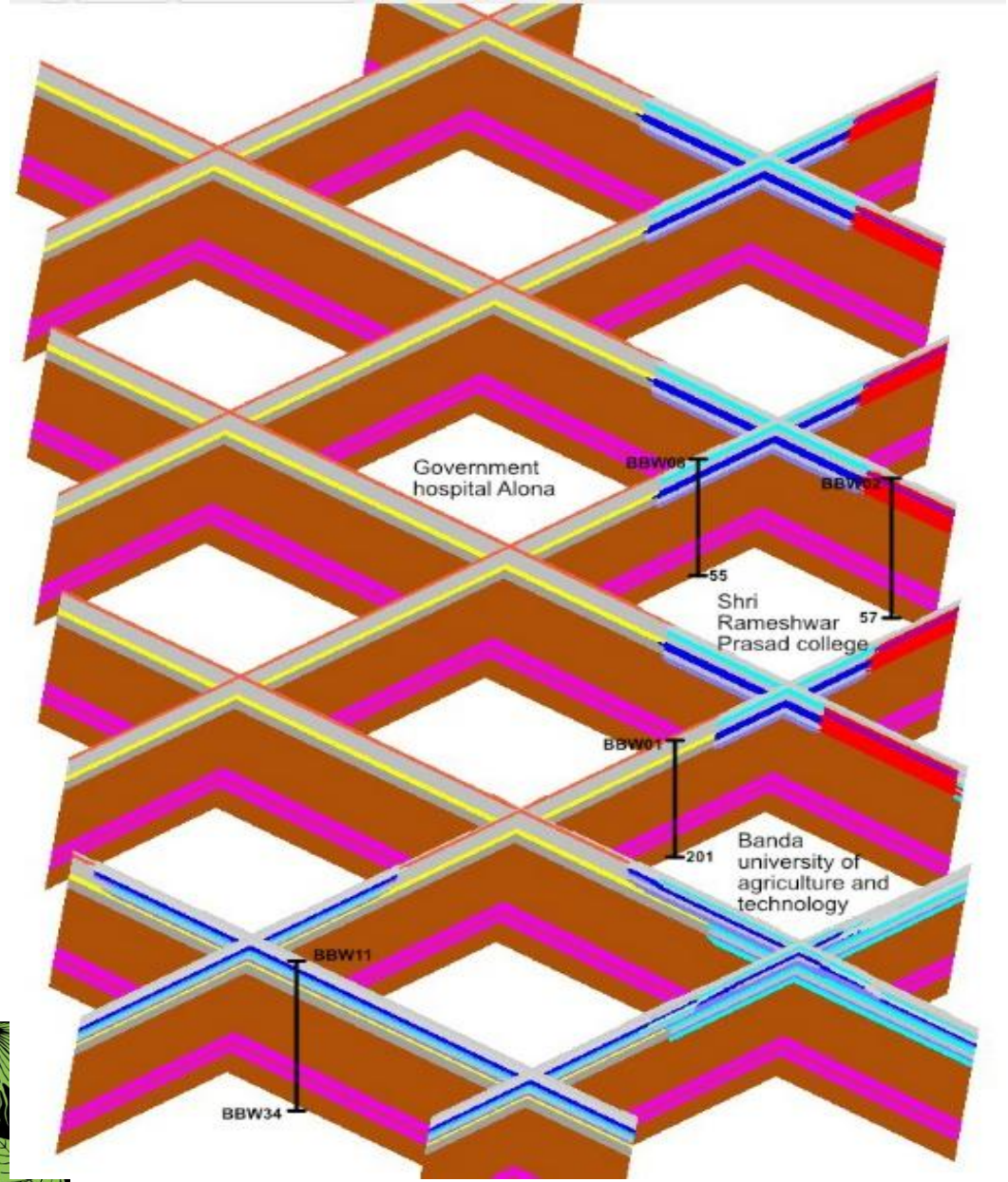


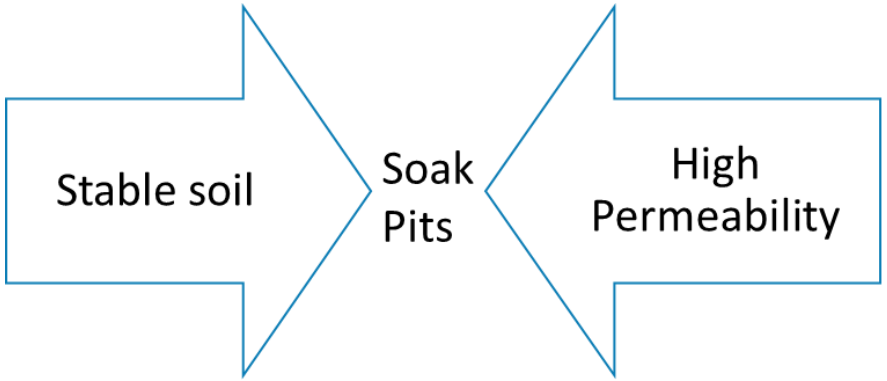
Previously HH had a covered collection pit like structures just outside the house which would be used by cattle for drinking water or would percolate down. They would open it during rain for automatic wash off. –**PRACTICES CHANGED and FORGOTTEN- CAN IT BE STILL MADE RELEVANT-JJM INCREASES WATER CONSUMPTION-IF YES THEN HOW?**

Factors which govern the greywater production

- Number of People → More population larger the quantums produced
- Quality & Quantity → More Water-Easily available and good quality -more usage
- Cost of Water → Free Water-more usage → These would also govern the management and choices for management of greywater
- Lifestyle/storage/ consumption → Near urban areas or in interiors- different consumption patterns
- Climate/Weather → More rain-less consumption Summers –more consumption basis availability

Understanding the soils and choice of solution





Choice of solution based on

- **Water filtration capacity-** Sand has highest, followed by loam
- Groundwater
- Cost of solution adopted
- Community acceptance and need

Way Forward

- Reduce Wastage of Water
- Plan for community ownerships and community audits
- Development of a village action plan-
    - A mapped and pre-planned drainage network –
    - Correct estimation of greywater generated:
    - Create a manual of the suitable technologies for managing greywater for each of the district
    - Planning for reuse of treated greywater
- Building capacity
    - Skilling up of VB GRAM-Grameen workers
- Awareness of the communities

Choice of Solution

As JJM comes- consumption increases.

Adopt solutions considering soil, groundwater, cost, need, community acceptance

Not everything fits everywhere

THANK YOU