



Promoting 3R through PPP Mode



Initiatives by Madhya Pradesh

10th April 2018

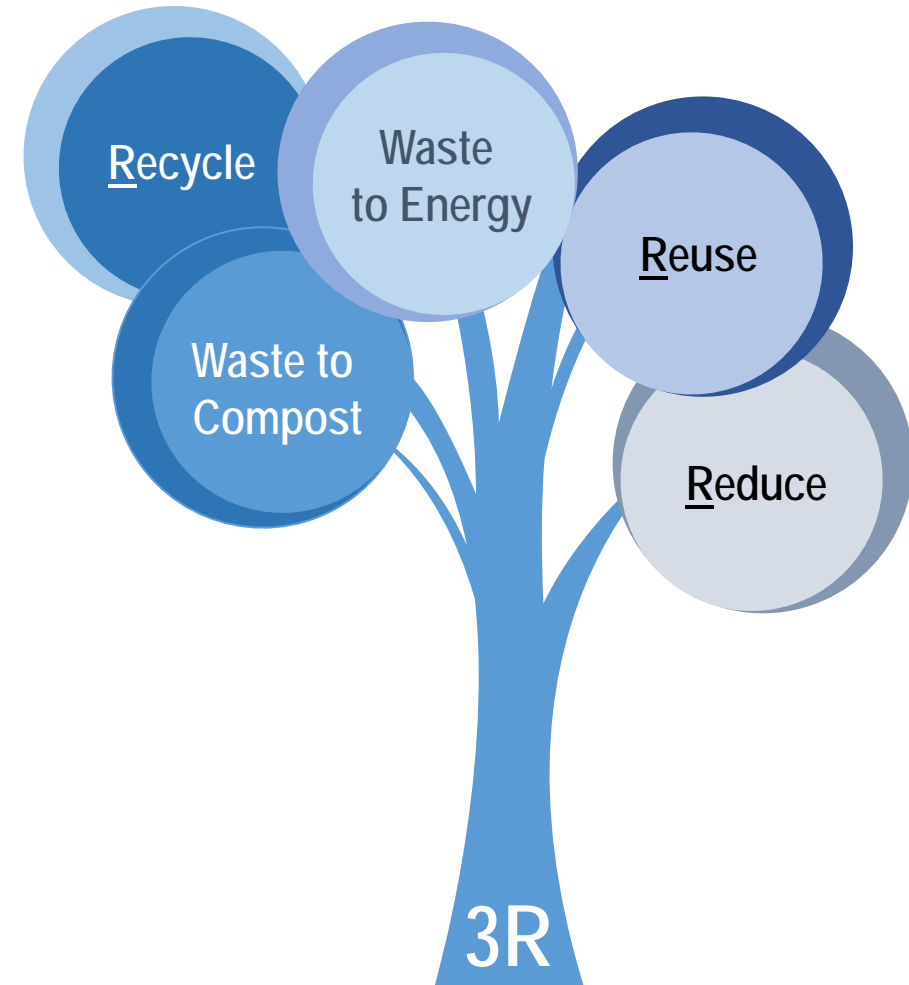
Presented by

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Department of Urban Development & Housing

Government of Madhya Pradesh



□ This all started with the 'Swachh Bharat Mission' ...



Implementation of
Municipal Solid Waste
Management

Awareness about sanitation
and its linkage with public
health

Private sector participation in
Capex and Opex

Behavioural Change
regarding healthy sanitation
practices

Capacity Augmentation
for ULBs

□ ... resulting in framework for '3R' → (1) Reduce (2) Reuse (3) Recycle

1

Minimize the amount of waste produced

- Awareness campaigns
- IEC Activities
- Workshops
- Citizen Involvement



2

Use materials more than once

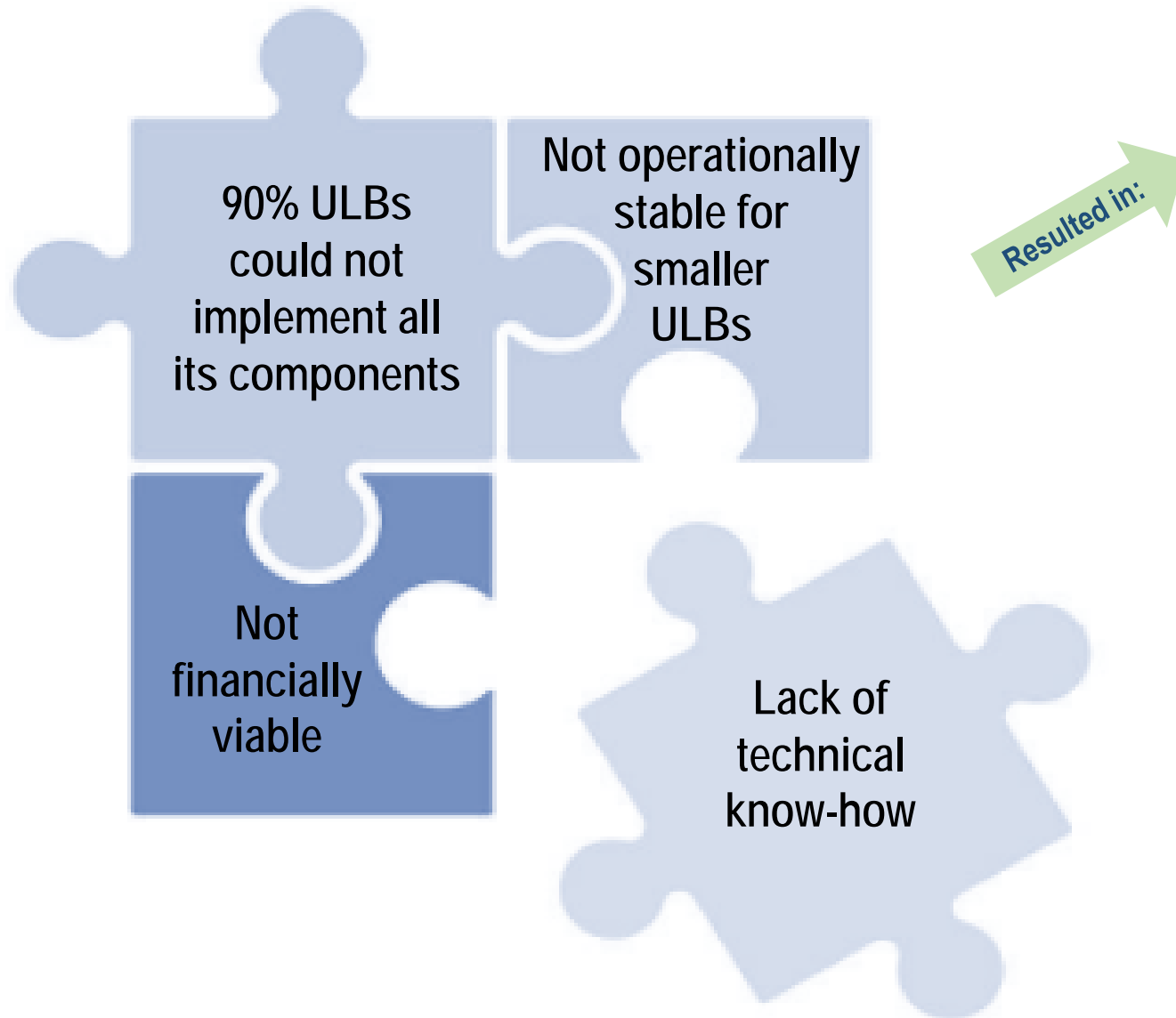
- One person's trash can be another person's treasure!
- Reusing plastics, Refurbishment
- Handcrafting

3

Reprocessing waste to make something new

- Solid Waste Management:
 - (1) Waste to Energy
 - (2) Waste to Compost
 - (3) Waste to other useful products

❑ Despite challenges in implementing Solid Waste Management...



Majority of the ULBs couldn't comply with Municipal Solid Waste Rules 2000/2016

(1) Collection

(2) Transportation

(3) Segregation

(4) Processing

(5) Scientific disposal of Municipal Solid Waste (MSW) in landfill sites.

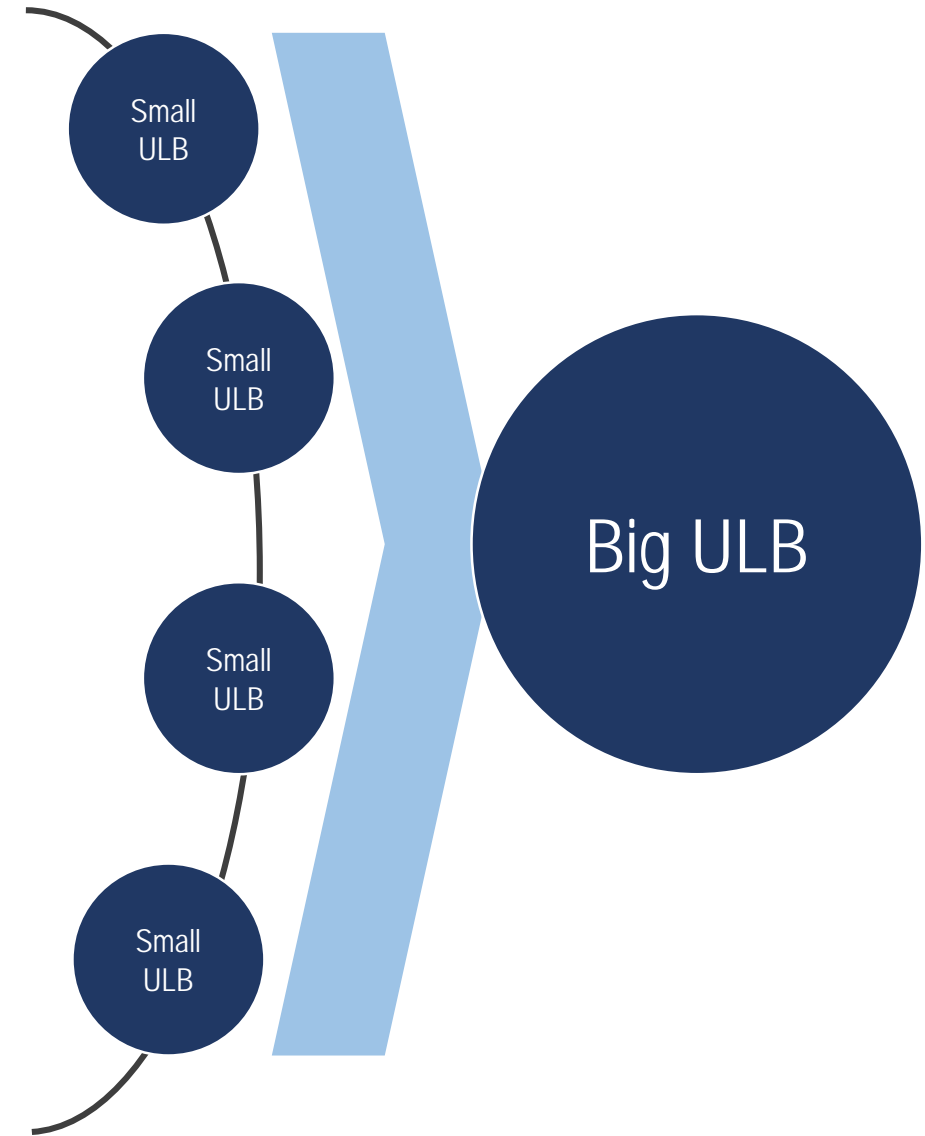
□ ...we found a way out through Public Private Partnerships (PPP)

- ▶ **Clustering ULBs** for effective Integrated Solid Waste Management on Regional Landfill concept – addressed concerns of smaller ULBs
- ▶ Larger ULB chosen as a **lead member** and smaller ULBs within a distance of 50-80 kms as cluster members.
- ▶ The **Regional Landfill site** to be situated in the lead member town.
- ▶ **MSW to be transported** from other ULBs for further processing and disposal at the Regional Landfill site.

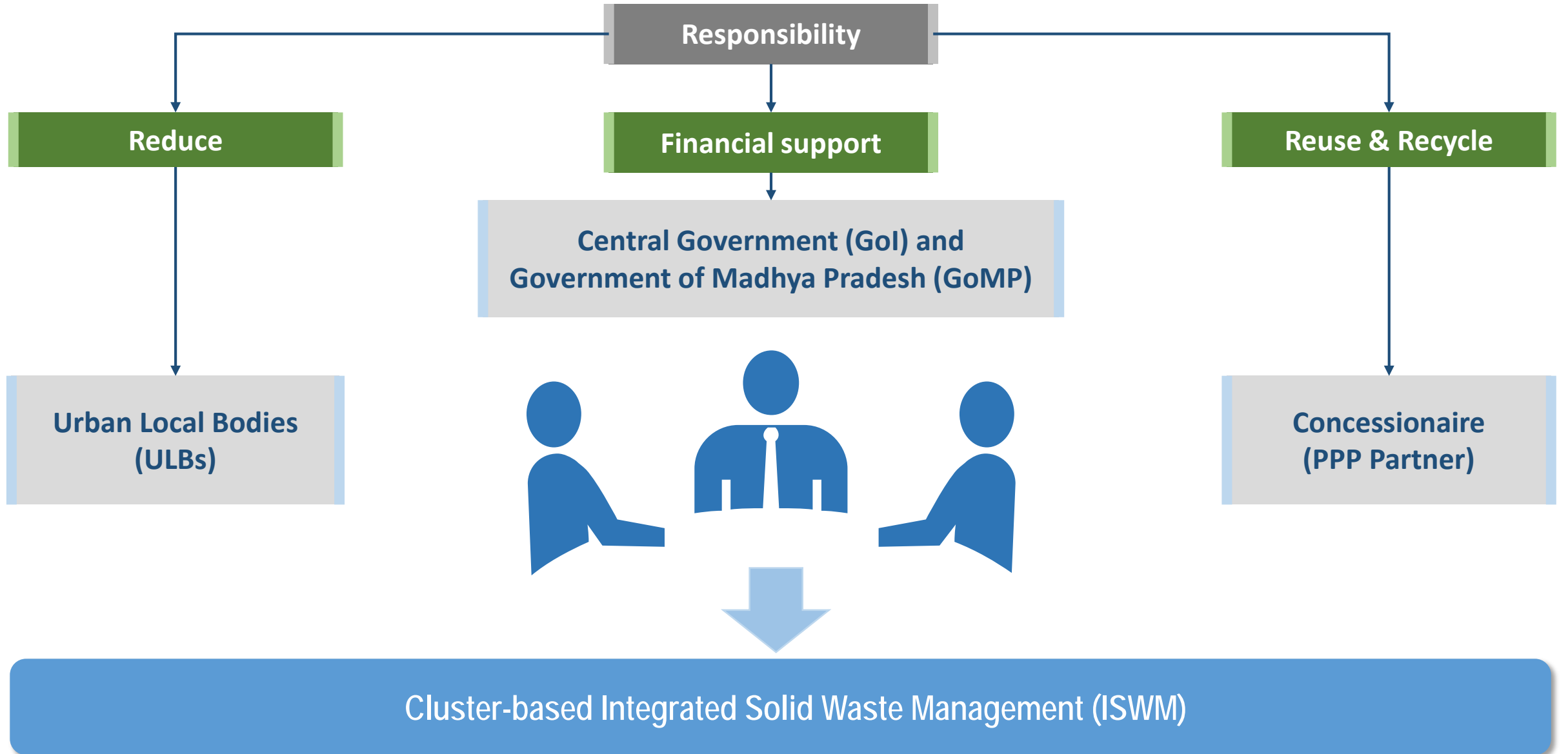
All Revenue from Sale of Product / By-product Accrued to Concessionaire.



Thus promoting 3R through PPP

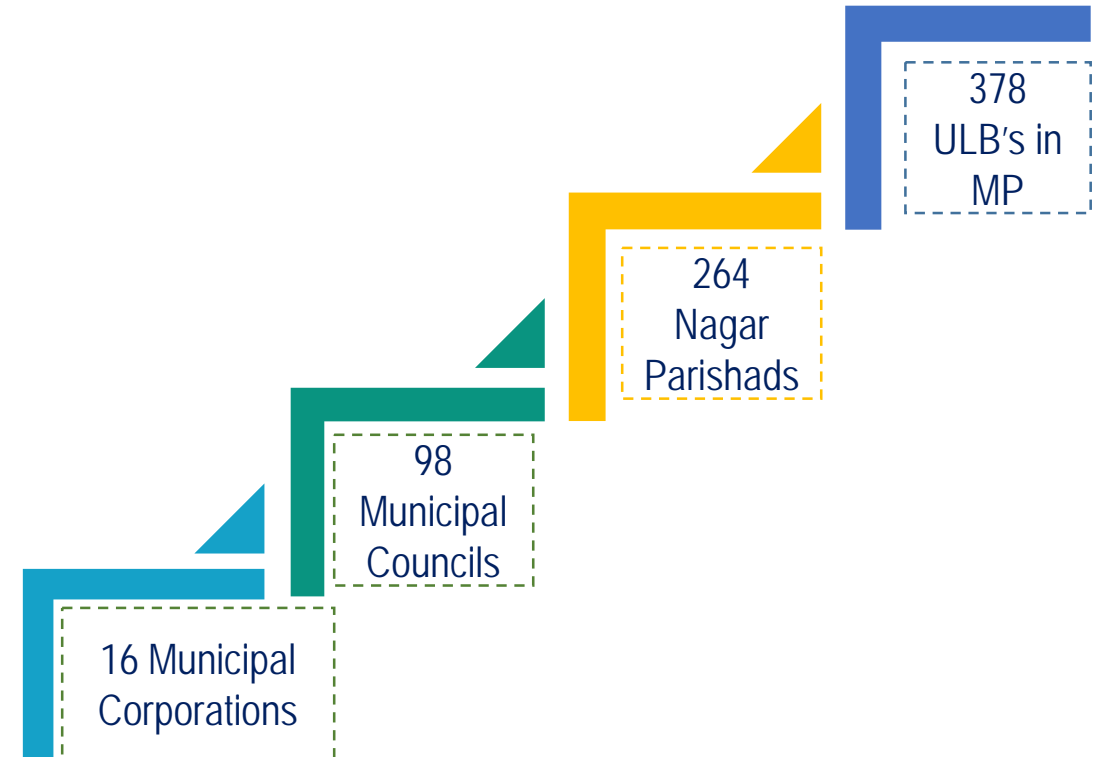


□ Key Partners in Integrated Solid Waste Management through PPP



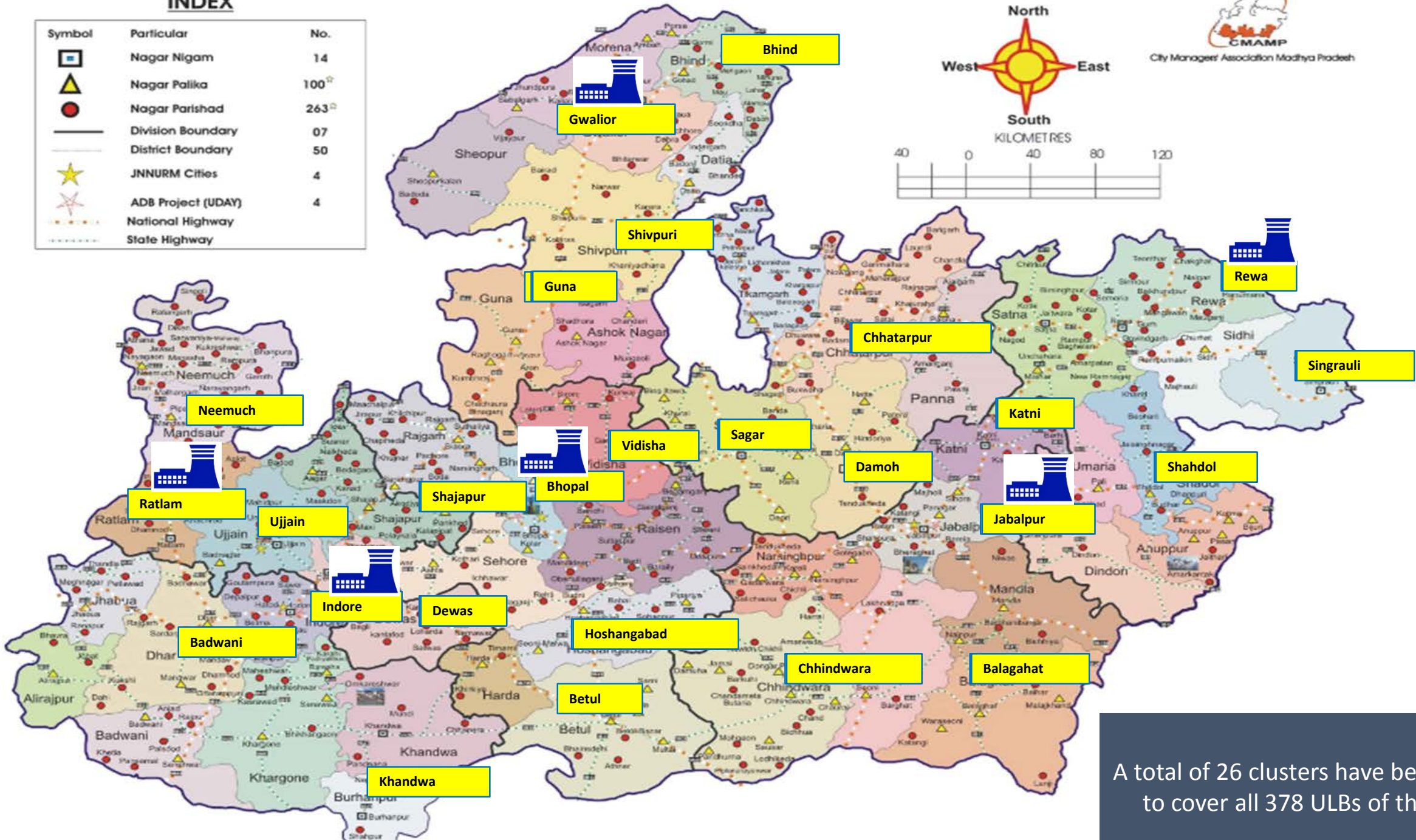
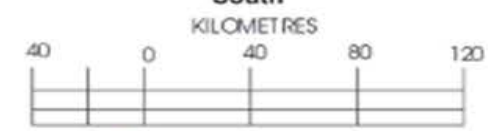
□ Modus Operandi (Functional)

- ▶ In order to optimize the waste collection, **clusters of ULBs** have been formed.
- ▶ Using this approach, **minimum total waste** becomes around **150 TPD**.
- ▶ A total of **26 clusters** covering **378 ULBs** constituted.
- ▶ **Satellite stations** proposed in large clusters. Waste to be brought from smaller ULBs to satellite stations in order to keep the transportation cost minimal.



INDEX

Symbol	Particular	No.
	Nagar Nigam	14
	Nagar Palika	100*
	Nagar Parishad	263
	Division Boundary	07
	District Boundary	50
	JNNURM Cities	4
	ADB Project (UDAY)	4
	National Highway	
	State Highway	



A total of 26 clusters have been formed to cover all 378 ULBs of the State.

□ Key Features: Financial



+



GoI: 35%
GoMP: 23.3%

Remaining from
Concessionaire



Bidding parameter:
Tipping Fees in
Rs / Ton*



Revenue from sale of product
/ by-product accrued to
Concessionaire**



License
Period



Falls Under the
Definition of
Infrastructure Project

21 year concession
Period

In-principle approval for
funding from bank

Freedom to design waste
processing technology

* Assured payment of tipping fee with provision of annual revision. In case of default of Tipping fees, the GoMP shall deposit the tipping fees in Escrow account of the Project.

** PPA is to be executed between concessionaire and Madhya Pradesh Power Management Com. Ltd. As levelized Power Tariff rate shall be INR 6.39 / Unit for the whole concession period.

□ Salient Features

Single agency to cover complete value chain

All ULBs to sign an **Inter-ULB Agreement** authorizing bigger town of the cluster to act as lead member.

Feasibility study reports prepared for estimating project costs.

Financial model, both for 'waste to energy' and 'waste to compost' prepared **considering the expenditure**

Standard bid documents prepared with well defined roles **of all stakeholders**.

Independent Engineer (an agency) to monitor implementation and O&M of project.

Existing sanitation workers to be engaged in road sweeping, drain cleaning and specific area cleaning (no overlap or work conflict of the existing workers with Private Operators).

IEC activities to inform and educate citizens about their role in solid waste management.

Affordable user charges based on economic status and commercial activities of citizens, introduced.

Well defined **performance indicators**.

□ Use of Technology for Effective Implementation

GPS to be used for monitoring of SWM vehicles.

Sensors and RFID to be used for monitoring of Bins.

Heat Sensors to be used for waste treatment (energy) operations

Drone Camera to monitor operations at the landfill site

Grievance redressal through easy to operate mobile app

Control Room for monitoring of all the SWM activities

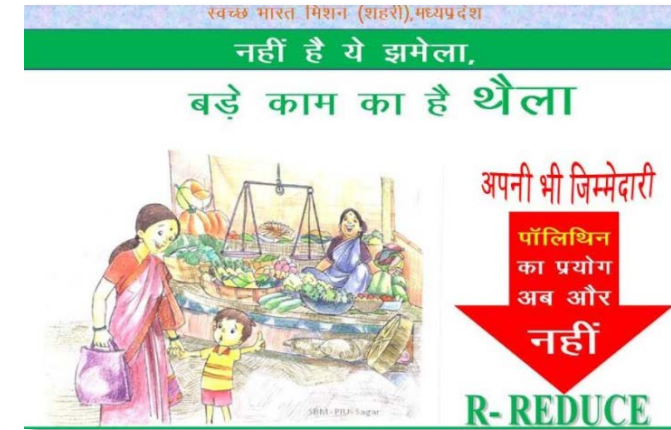
Reduce, Reuse: Creating awareness among citizens through ULBs



Involvement of popular mass media.
Billboards, hoardings, Jingles.

Students and children motivated.
Project rationale and ensuing benefits explained.

All 378 ULBs covered.
Extensive focus on 'Reduce' and 'Reuse'.



□ Transforming Madhya Pradesh through 3R Initiatives

Current Achievements on 3R

- ▶ Developers to collect 4,129 TPD from 78 ULBs in 8 Clusters.
- ▶ Waste to Energy: (WTE)
 - ▶ 11 MW energy being produced at Jabalpur plant.
 - ▶ 58 MW to be produced by Bhopal, Rewa, Gwalior, Indore.
Concessionaire appointed.
- ▶ Waste to Compost (WTC)
 - ▶ Katni and Ujjain – Fully Operational
 - ▶ Sagar – Under Implementation
- ▶ 17 Live Tenders: both WTE and WTC
- ▶ **Huge behavioral changes** among citizens in effective waste disposal.
- ▶ **Integrated** thousands of rag pickers with various recycling companies and provided them consistent source of income and better life.



22/34 towns secured positions within first 100 cities in the country

❑ Successful Implementation of Initiative at Jabalpur

Waste to Energy Plant on PPP Model



- ▶ Katondha Power Plant, Jabalpur developed on PPP Model.
- ▶ 11.5 MW installed capacity of energy plant.
- ▶ Cleanliness has improved environmental conditions.

□ Current Scenario

SAGAR



Door to Door collection



Awareness and cooperation



Cleanliness of town

KATNI



Thank You



स्वच्छ

भारत

एक कदम स्वच्छता की ओर