# De-engineerizing Wastewater Poor as Partners

Dr. Renu Khosla Centre for Urban and Regional Excellence (CURE)

#### De-engineerization

There is today a lack of belief in the old format. Lets reformat development

#### Centre for Urban and Regional Excellence (CURE)

Un-thinking Slum Development and Make Change Happen







# Making a Water Resilient Community Delhi



### Chi (Kuccha) Houses .....



KUCCHA 1

KUCCHA 1

Estimated cost 1500 - 2000 Rps.

Estimated cost 20 - 30,000 Rps.

#### Ch Houses ..... Chaddar (semi pucca) Houses



KUCCHA 1

KUCCHA 1

SEMI PUCCA 1

PUKKA 1

Estimated cost 1500 - 2000 Rps.

Estimated cost 20 - 30,000 Rps.

Estimated cost 45 - 50,000 Rps.

Estimated cost 100,000 Rps.

#### Ch Houses ... Chaddar Houses ... Lintel Houses



KUCCHA 1

KUCCHA 1

SEMI PUCCA 1

PUKKA 1

PUKKA 1.5

PUKKA 2

PUCCA 2.5

Estimated cost 1500 - 2000 Rps.

Estimated cost 20 - 30,000 Rps.

Estimated cost 45 - 50,000 Rps.

Estimated cost 100,000 Rps.

est Estimated cost s. 130,000 Rps. Estimated cost 150,000 Rps.

Estimated cost 200,000 Rps.

No Plumbing and Too Small for Toilets

# Unconnected to Pani 2006-2013







## S' ed that Pipeline: ging Water Closer Home







#### The Business of Water





#### Pipe Dreams: Cluster Septic Tank and Recycled Pani





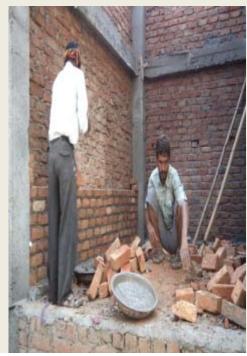




Th Ilateral Benefit
P , Potties, Nalli aur
N kaan









## The Big Picture Agra

#### Treat-Recycle-Reuse Waste Water







### A Small Drain



#### A Small Street





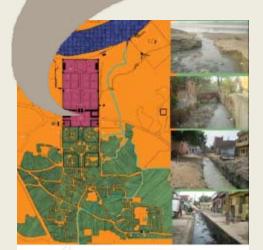
### A Small Toilet







#### Scaling Up: A Drain to the East of Taj Mahal





Control Sewage: intercept, divert, treat, rehabilitate-retrofit-build toilets - sewerage



Manage Solid
Waste: D2D
collection, disposal
all wastes





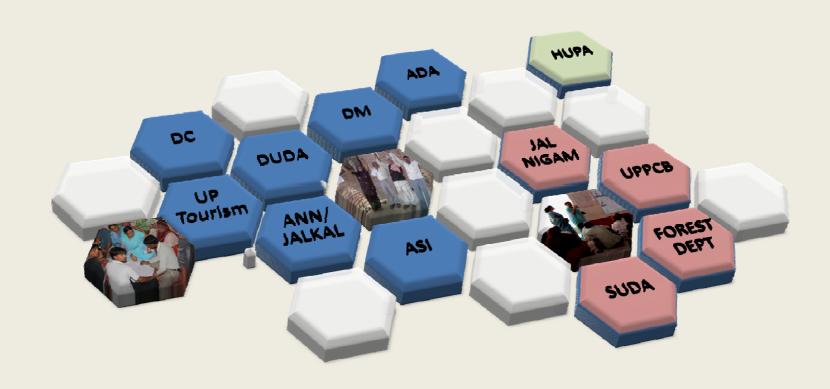
**Treat Liquid Waste:**micro projects to
improve environment
River Yamuna





Improve Physical-Surface Drains landscape for safe community spaces.

#### tnerships



# Dropping Water Tables Of Agra Recharging Ground Water and Revival of Water Wells





### The Un-planning

#### Well Restoration

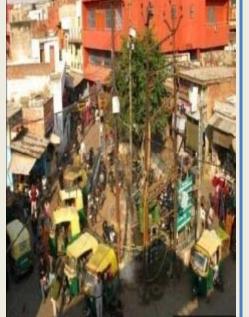






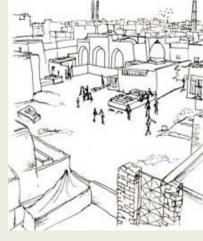












Re-engineering

#### **Ground Water Recharging**







Think Connectivity
De-engineer Designs
Be a Listening City
Make Poor Partners and Resource

Every Drop is Precious - Make it Count

#### Thank You