

Slum Upgrading – A crucial building block for creating resilience to climate change

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India is facing a complex and multifaceted climate crisis like the rest of the World

- India stands **third worst-affected** country due to climate-induced natural disasters (United Nations global assessment report on disaster risk reduction 2015).

01

Out of 36 states and union territories in the country, 28 are prone to the natural disasters

02

Almost 58.6 percent of the landmass is prone to earthquakes of moderate to very high intensity

03

Over 40 million hectares (12 percent of land) are prone to floods/river erosion

04

Of the 7,516 km long coastline, close to 5,700 km is prone to cyclones and tsunamis

05

India largely remained insulated from pandemic till coronavirus outbreak. Last severe pandemic was Spanish Flu, in 1918, that claimed 12 million

Source: NDMA, Annual Report 2018-19, Govt of India

COVID- 19 spotlighted the fragility of the urban system in the face of a disaster



1.89x higher risk of COVID-19 cases in slums as compared to those living in urban non-slum areas

Source: ICMR, 2020



Only 6% of the poorest 20% have access to non-shared sources of improved sanitation, compared to 93.4% of the top 20%

Source: Berkhout, et al., 2021



94 Million Indians are at greater risk of COVID-19 because of lack of access to clean water

Source: Paliath & Raman, 2020

Shared sanitation facilities

- ~40% lack access to both a toilet and a bathroom within their house (NSS 2018)
- Reliance on CTs and PTs → these places became potential sites for spread of infection (Malerkotla, Bhilai, Ajmer and Delhi)

Shared water supply source

- 60% rely on a shared source of water (NSS 2018)
- Use of “water ATMs”, and water tankers (Delhi, Dhenkanal)
- Water shortage → foregoing regular handwashing (Jhansi, Delhi)

Source: *Re FORM: Lessons for Urban Governance futures from the Pandemic'*. CPR Research Report

WASH is central to build resilience to climate change

“Unless adequate water and sanitation services are quickly provided to emergency-affected children and their families, disease and death will follow. And unless good hygiene is consistently practiced, the danger of diarrhoea, cholera and other disease outbreaks will persist. This is true in all types of emergencies, from rapid onset natural disasters to long-term crises caused by a range of complex factors.” - UNICEF

Lack of WASH infrastructure increases the number of people affected due to disasters, beyond direct affected victims.

Investment in WASH can be reversed due to disasters, if DRR measures are not taken into account upfront


COVID-19 pandemic spotlighted, shared water sanitation facilities and poor maintenance in slums could become hotspots

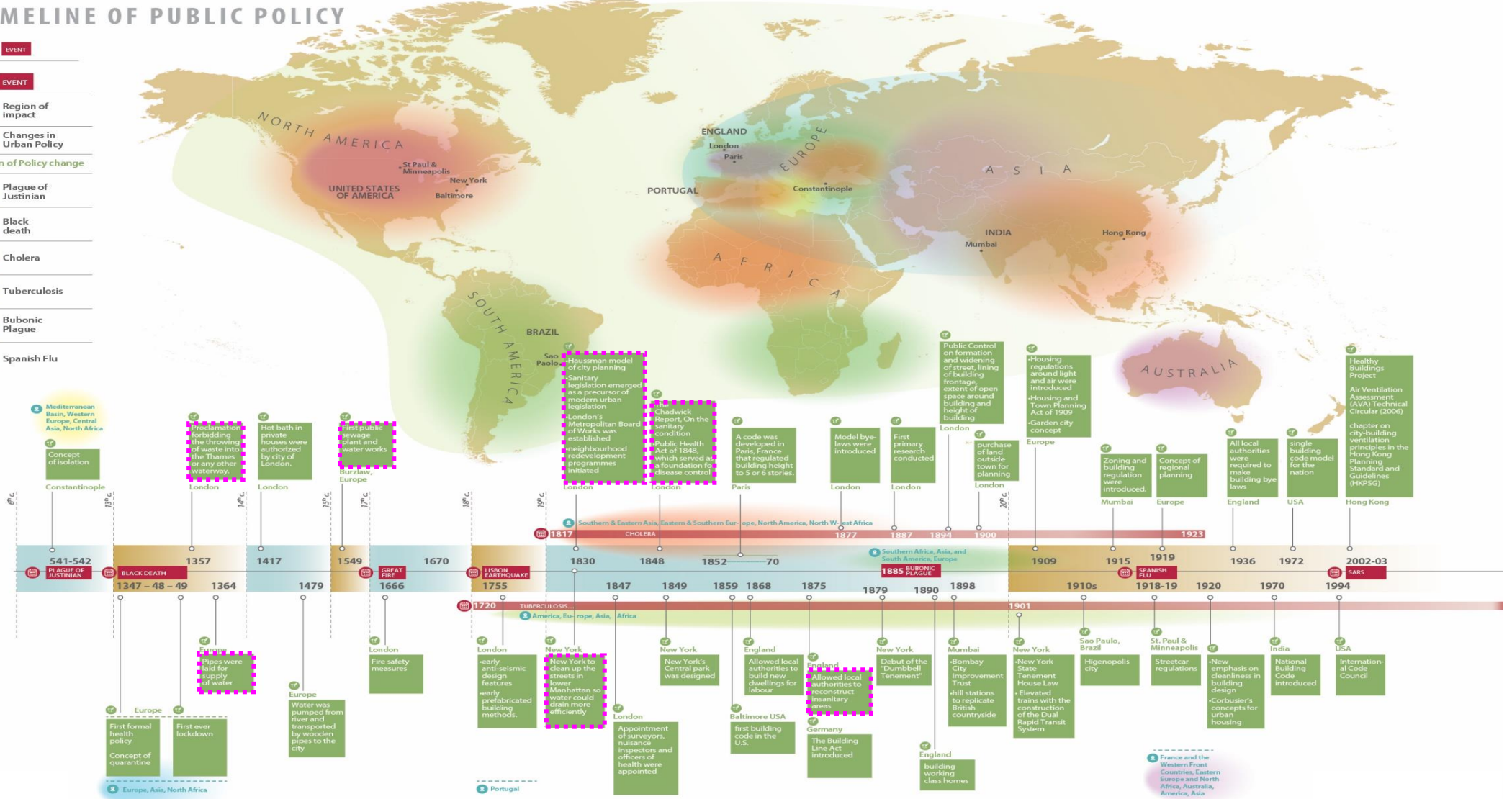



Source: *Re FORM: Lessons for Urban Governance futures from the Pandemic'*. CPR Research Report

WASH interventions have evolved across the globe in response to major health hazards

TIMELINE OF PUBLIC POLICY

-  EVENT
-  EVENT
-  Region of impact
-  Changes in Urban Policy
- Region of Policy change
-  Plague of Justinian
-  Black death
-  Cholera
-  Tuberculosis
-  Bubonic Plague
-  Spanish Flu

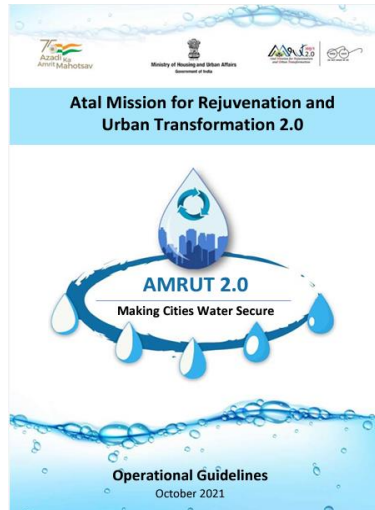
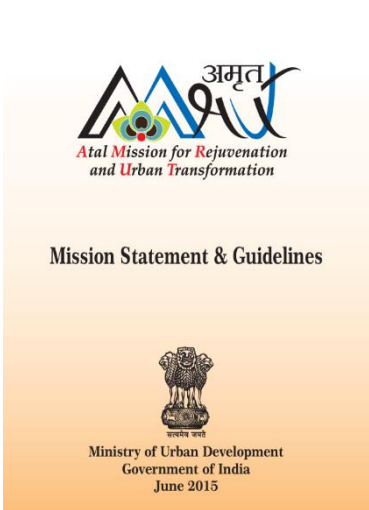


 Major WASH related changes

Source: *Re FORM: Lessons for Urban Governance futures from the Pandemic*. CPR Research Report

Government of India recognized these challenges and implemented several schemes to ensure access to affordable housing and necessary services

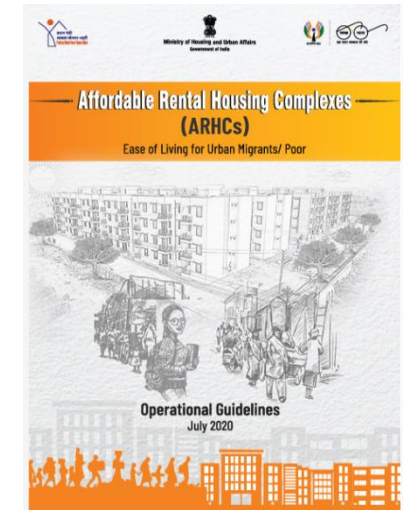
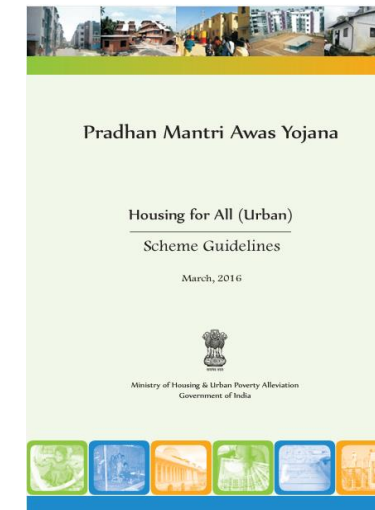
Develop trunk infrastructure



Promote Access to the toilet



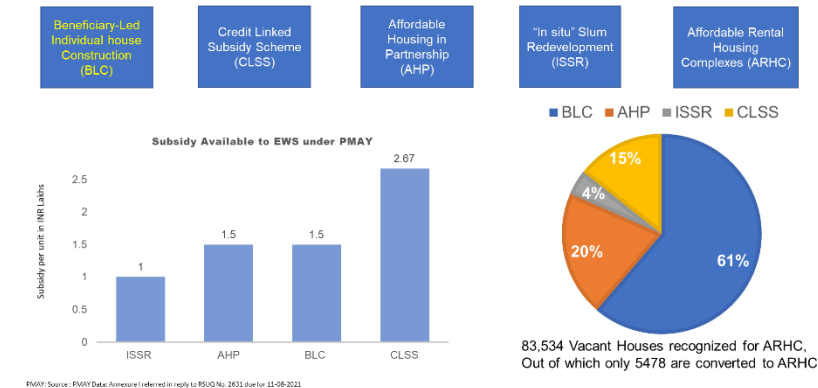
Making Affordable Housing Accessible



13.7 million water tap connections and 10.5 million sewer connections (including households covered through Faecal Sludge and Septage Management- FSSM) have been provided through AMRUT (March 2023)

Individual Household Latrine	Community and Public Toilet	Open Defecation Free
Constructed 63.04 Lacs	Constructed 6,36,826	4,355 cities ODF
Mission Target 58.99 Lacs	Mission Target 5,07,587	3,547 cities ODF+
		1,191 cities ODF++
		14 cities Water+

PMAY has 5 models, but BLC is the winner, by a large margin!



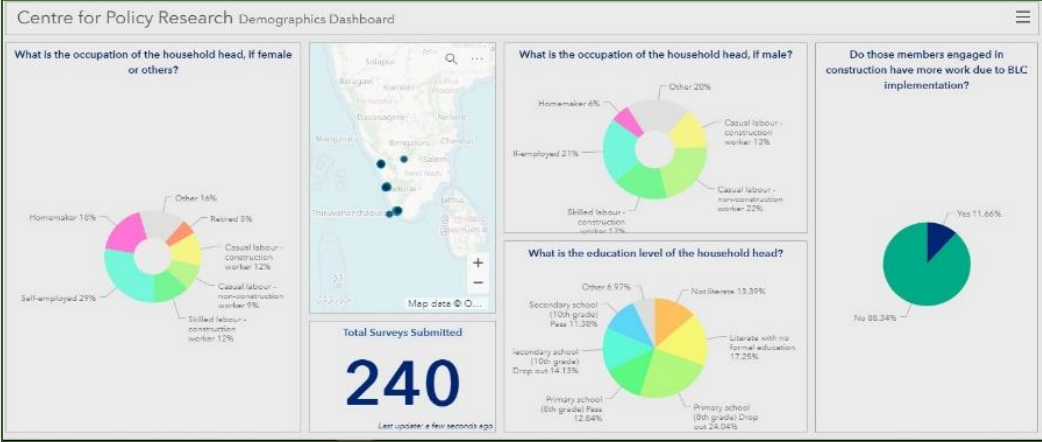
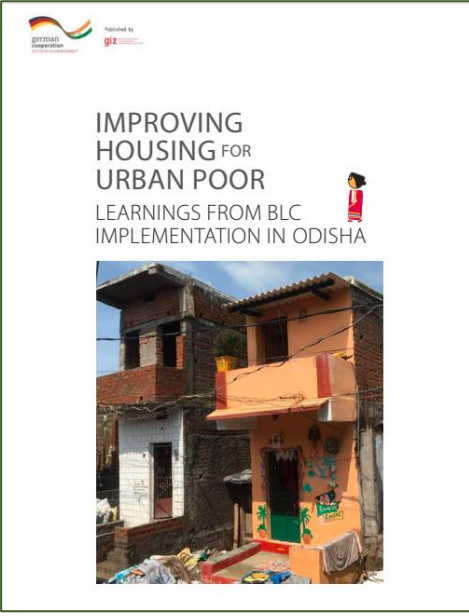
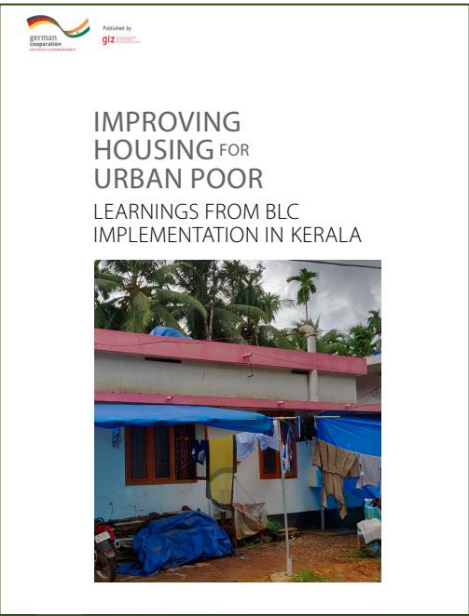
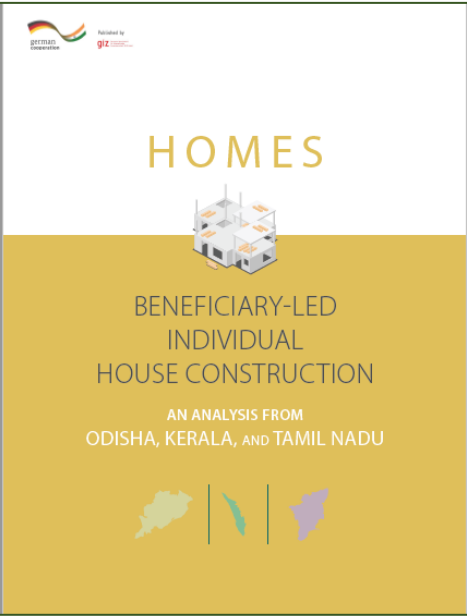
Despite policy and programmatic efforts, achieving last mile connectivity remained a challenge

OBJECTIVE

Based on the quantitative HH surveys and KIIs, the study sought to understand the processes of the BLC implementation and the experiences of the beneficiaries in leveraging the subsidy

APPROACH & METHODOLOGY

- 9 cities across **Odisha, Kerala, TN**
- 250 HHs surveyed in each state
- Stratified purposive sampling
- 90 % confidence interval & 5 % margin of error
- 10 Key informant interviews (KIIs),
- 10 Case Studies in each state
- Data collected through digital platform



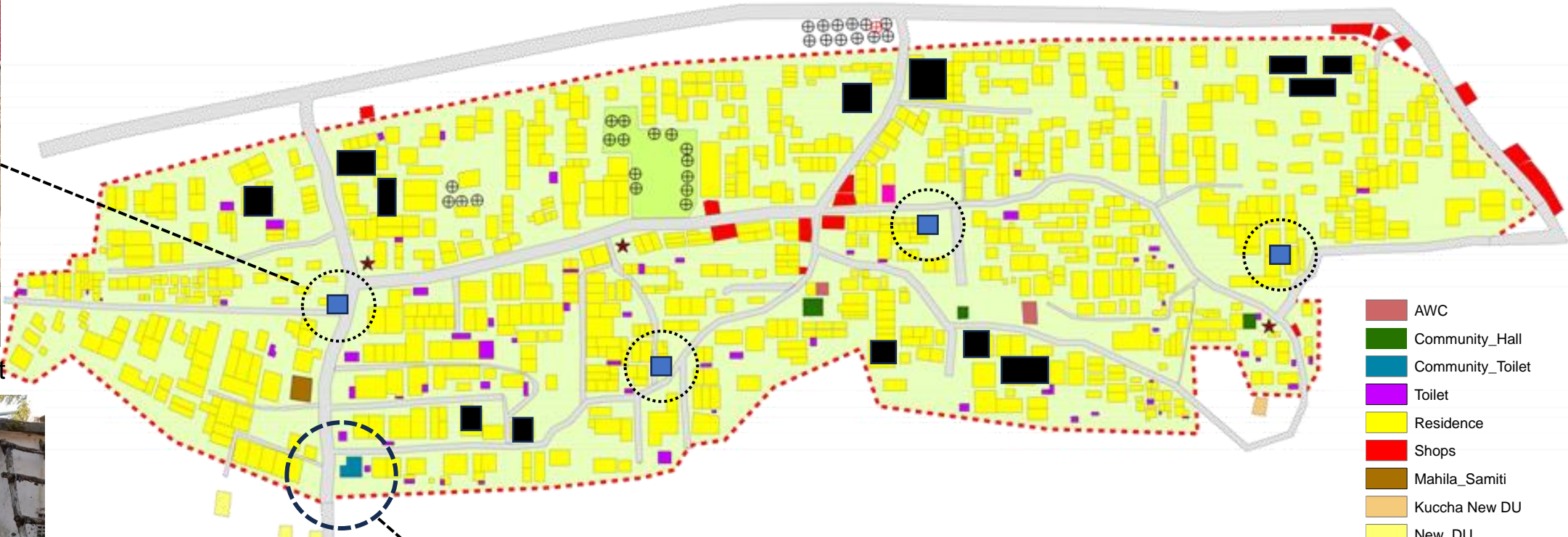
Economically infeasible to provide public infrastructure without holistic planning approach



Community stand post



Community Toilet



- AWC
- Community_Hall
- Community_Toilet
- Toilet
- Residence
- Shops
- Mahila_Samiti
- Kuccha New DU
- New_DU
- Road
- Open_Space
- Slum_Boundary

Amenities in PT CTs improved after COVID:

- 75% HHs reported PTCTs to be cleaner after the outbreak of COVID-19
- 58% reported Zero cost for PTCT.

Amenities	Dhubaneswar		Berhampur		Cuttack	
	Before	After	Before	After	Before	After
Regular Water supply	90%	100%	55%	56%	99%	96%
Dustbin	30%	30%	45%	46%	78%	85%
Soap	30%	40%	17%	17%	53%	67%
Sanitizer	0%	10%	2%	2%	10%	35%

Increased
Same

Decline in number of CT users post the onset of COVID-19, reported by CT caretakers.

- HHs increasingly resorted to OD due to fear of contracting COVID-19:**
- 35% HHs reported that people are not maintaining social distancing in PTCTs
 - 15% HHs reported that people under quarantine were being allowed in PTCT
 - However, nearly 63% reported no change in rush in PTCTs after the onset of COVID-19



Access to public infrastructure remained deficient

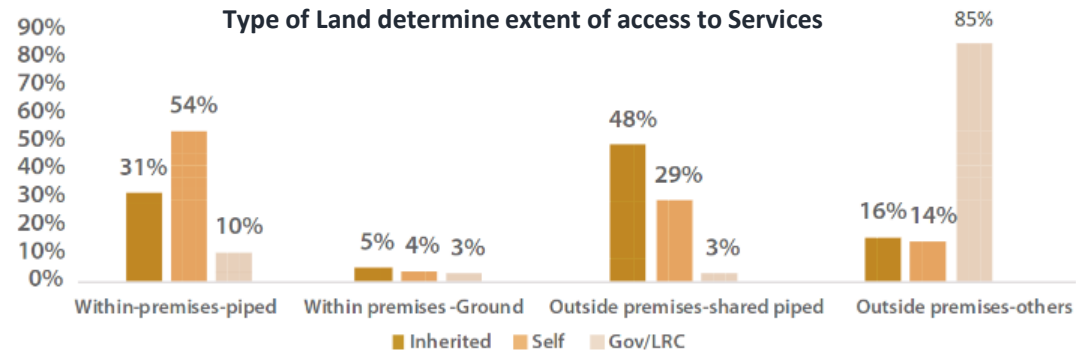
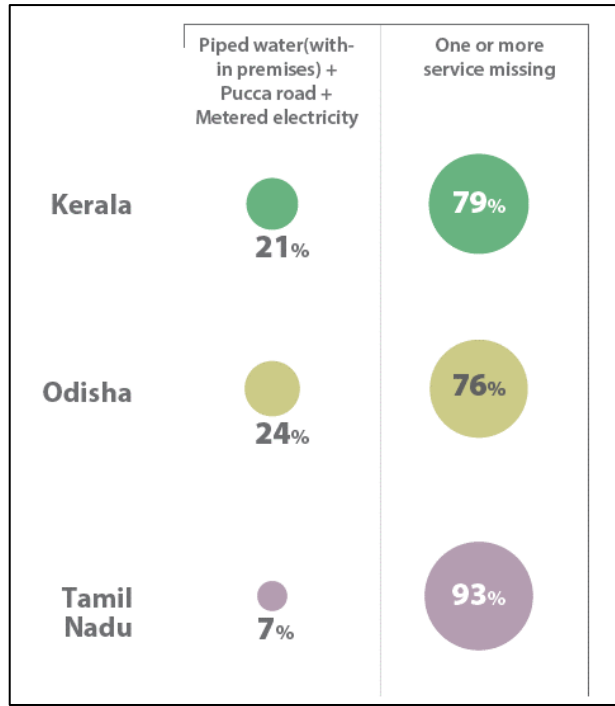
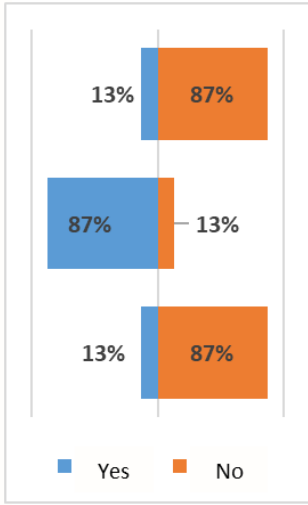
While HH level amenities were relatively accessible access to public infrastructure remained deficient.

On an average only **24%**

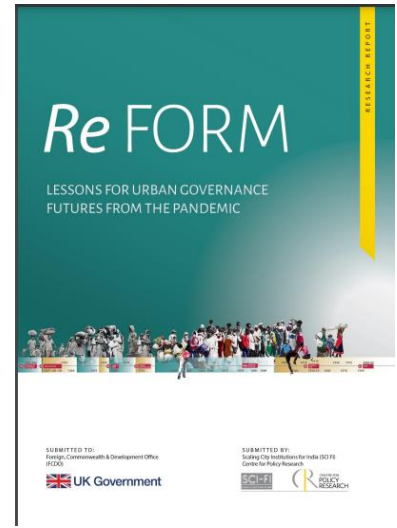
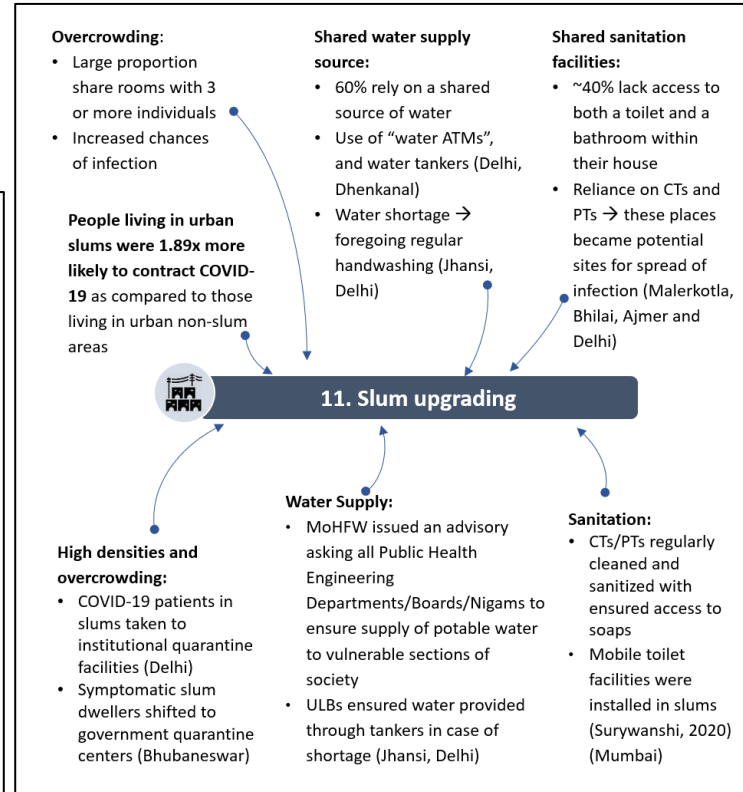
HHs had HH piped water supply

On an average **85%**

Of the beneficiaries have access to IHHL



24% in Odisha, 21% in Kerala & 7% in TN had access to all three services (piped water within premises, metered electricity, and pucca road)



Inadequate focus on holistic planning could put habitat improvement at risk



Dilapidated housing without toilet



Housing in slum with no space to construct toilet



Houses on untenable land – NOC required



Housing with toilet (privately built) but no piped water



Community toilet

- No water
- Cost per use high
- cleanliness and maintenance
- Accessibility
- Hotspot for communicable diseases



Common water point

- Long queues
- Accessibility
- Duration
- Frequency
- Hotspot for communicable diseases

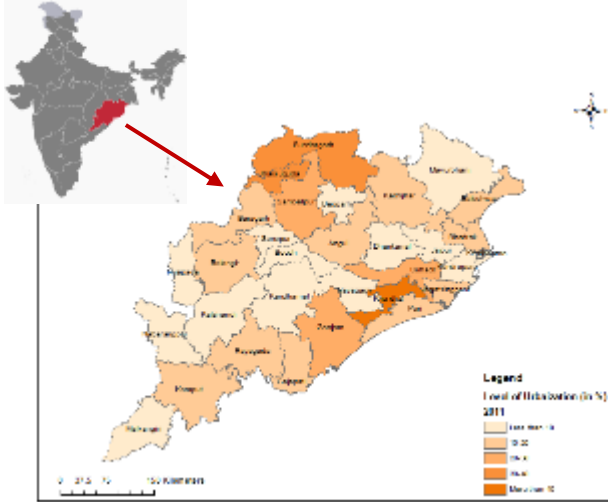
Chances of Slippage in toilet usage high – often potentially leading to OD

Reduced quality of life

Disproportionate burden of diseases exacerbating poverty

Increased risk in case of disasters

Odisha presents an example of habitat improvement



5 Municipal Corporations
(More than 3,00,000 population)

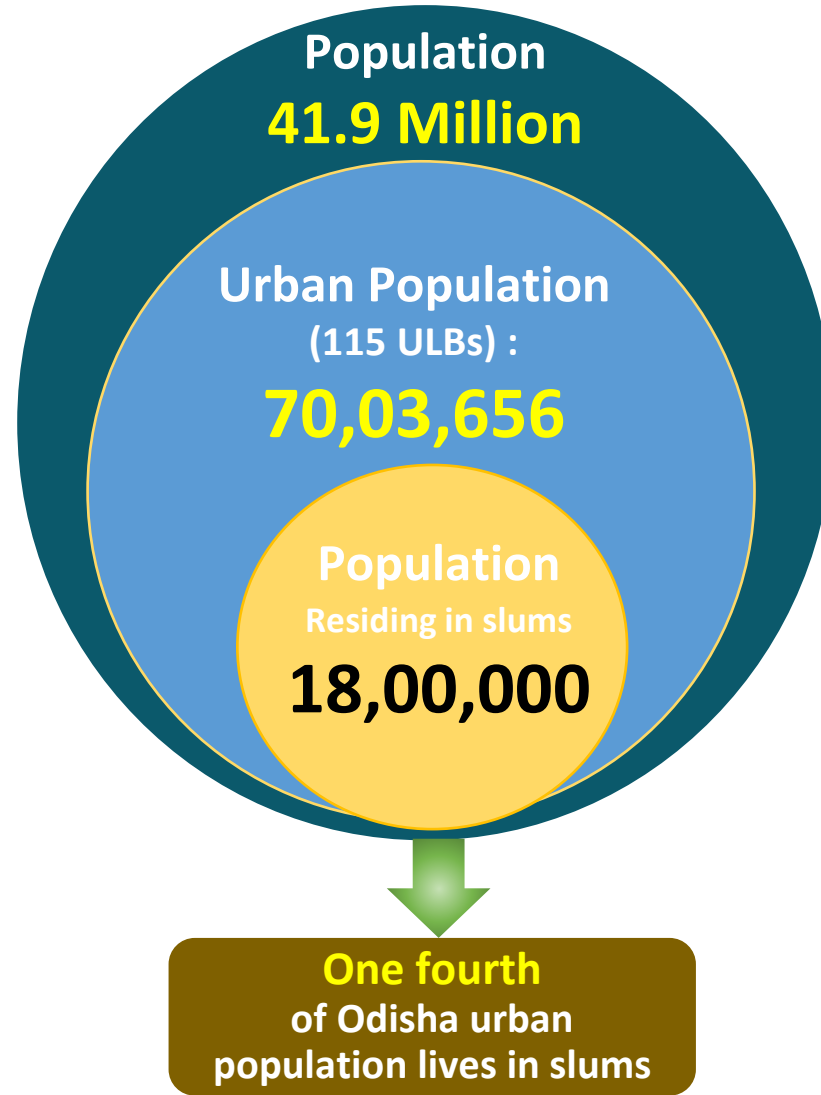
- 1,110 Slums
- 2,43,000 HHs

48
(More than 25,000 population)

- 1,299 Slums
- 1,33,000 HHs

62 Notified Area Council
(More than 10,000 population)


- 510 Slums
- 35,000 HHs



- Odisha is one of the least urbanised states in the country (~17% urban)
- By 2036, urban Odisha is expected to comprise 22% of the state's total population, a significant increase in comparison to urbanisation levels in the 1950s (4%)
- In the present pattern of Odisha's urbanisation, smaller cities have towns have mushroomed across the state over the last decades, demonstrating a pattern of subaltern urbanisation
- With increasing urban growth, the state is also witnessing an increase in the prevalence of slums

JAGA Mission was launched to provide LRC to slum dwellers

Launched by the Hon'ble Chief Minister of Odisha on 7th May 2018.

The Odisha  Gazette
 EXTRAORDINARY
 PUBLISHED BY AUTHORITY
 No. 1652, CUTTACK, MONDAY, OCTOBER 16, 2017 / ASWINA 24, 1939

LAW DEPARTMENT
 NOTIFICATION
 The 16th October, 2017

No.11055-I-Legis-20/2017/L.—The following Act of the Odisha Legislative Assembly having been assented to by the Governor on the 16th October, 2017 is hereby published for general information.

ODISHA ACT 10 OF 2017

THE ODISHA LAND RIGHTS TO SLUM DWELLERS ACT, 2017

AN ACT TO PROVIDE FOR ASSIGNING LAND RIGHTS TO IDENTIFIED SLUM DWELLERS, FOR REDEVELOPMENT, REHABILITATION AND UPGRADEMENT OF SLUMS, AND FOR MATTERS CONNECTED THEREWITH OR INCIDENTAL THERETO.

Be it enacted by the Legislature of the State of Odisha in the Sixty- eighth Year of the Republic of India, as follows:—

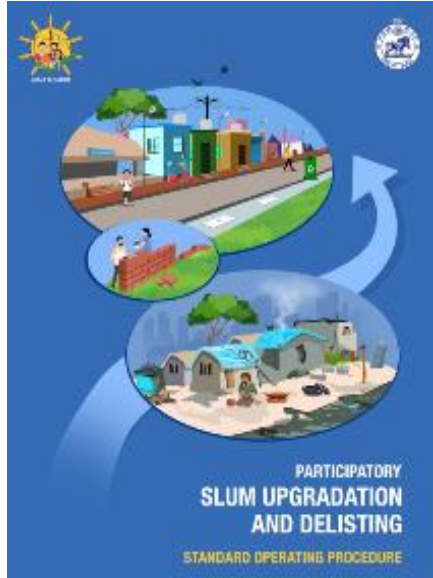
CHAPTER I PRELIMINARY

- Short title, extent and commencement.
- (1) This Act may be called the Odisha Land Rights to Slum Dwellers Act, 2017.
 - (2) It extends to urban areas in the whole of the State of Odisha.
 - (3) It shall be deemed to have come into force on the 30th day of August, 2017.
- Definitions.
- In this Act, unless the context otherwise requires, —
 - “Authorized Officer” means the head of the Slum Redevelopment and Rehabilitation Committee or any officer authorized by the State Government, by order, to exercise powers as may be prescribed;
 - “basic urban services” means services of drinking water supply, sanitation, drainage, sewerage, solid waste disposal and street lighting;



“JAGA aims at transforming the slums into **liveable habitat** with all **necessary civic infrastructure and services** at par with the better off areas within the same ULB and to **continuously improve** the standard of the infrastructure and services and access to livelihood opportunities. This Mission also aims at **leveraging and converging** various schemes/ programs/ funding opportunities by **strengthening collaboration** among various Departments. It will also provide **advisory support** to Government of Odisha to examine options for policy reforms required for the **sustainable transformation** of lives of urban poor.”

Land rights are essential but not sufficient to meet needs of the slum neighbourhoods



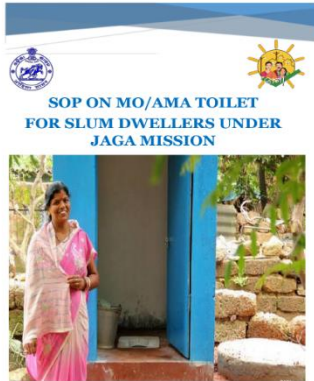
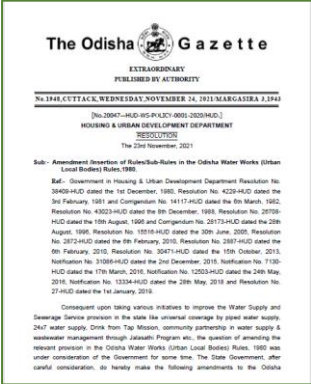
- Piped Water Supply
- Community Centre
- Street Lighting
- Pucca Storm Water Drainage
- Open Space Development
- In-House Electricity
- Access to Toilet (IHHT)
- Pucca Road
- Children Play Area



1384 Slums
in more than
34 cities
 transformed to
 livable habitats
 impacting 1 Mn
 families & 4 Mn
 people



Complimented the slum upgradation with other policy interventions



Odisha Land Rights to Slum Dwellers Rules notified.
Odisha Land Rights to Slum Dwellers Act notified

Odisha Liveable Habitat Mission- Jaga Mission launched

Land rights provided to slum dwellers on government land in small and medium town

BASUDHA Launched

SOP for slum upgradation launched for Municipalities/NACs and MCs

SUJAL launched

amendment in Odisha Municipal Act, 1950 & Odisha Municipal Corporation Act 2003, for earmarking 25 % of annual budget for basic service to slums.

amendment in Water Work Rule, to provide in house water connection

Odisha Municipal Corporation (Amendment) Act, 2022. for development of existing slum areas by providing basic services in-situ

Mo/Ama Toilet launched

Multi-directional interventions by Odisha make the case unique



How slum upgradation can ensure resilience to climate change

- ✓ Use of Paver Block for Road
- ✓ Use of LED bulb for Street Light
- ✓ Use of Solar street light
- ✓ Construction of toilet with Septic Tank
- ✓ Introduction of FSSM
- ✓ Introduction of battery operated Solid Waste collection vehicle

Impact

- *Subsoil Percolation & ground water recharge*
- *Energy conservation*
- *Reduction in Carbon footprint*
- *Fuel conservation*
- *Reduction in ground water contamination*
- *Reduction in water body contamination*
- *Reduction in health hazards*
- *Positive Environmental Impact*

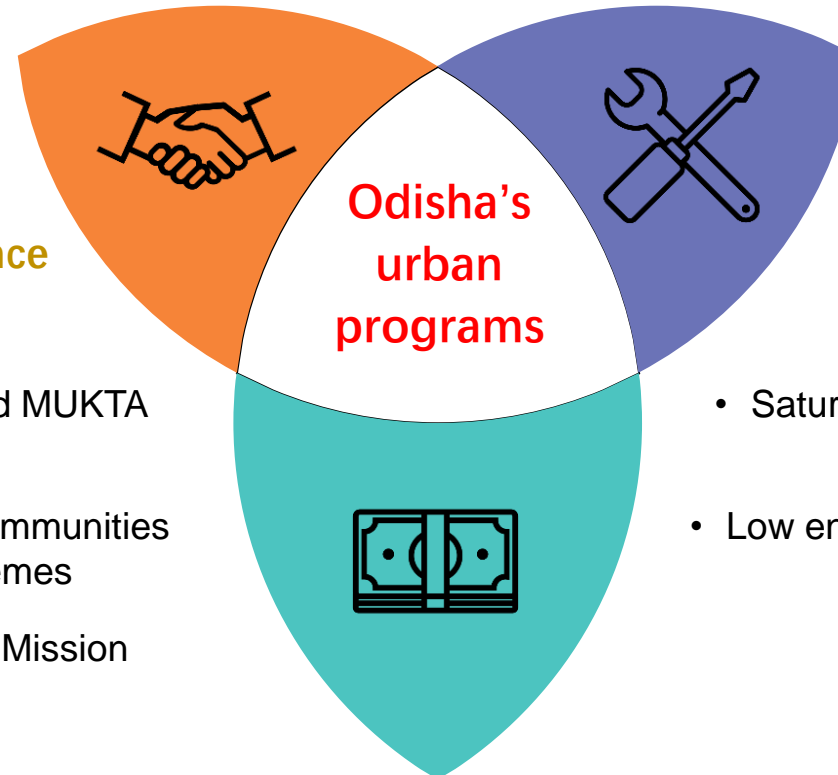
Furthering resilience to climate change

Enhancing Urban Social Resilience

- Building 4th tier of governance
- Community involvement in all urban programs
- Integrating urban poor communities in ULB programs

Strengthening Economic Resilience

- Urban Wage Employment Initiative and MUKTA scheme
- Increasing productivity in low income communities through water and sanitation schemes
- Implementation Partners (IP) in Jaga Mission



Physical Infrastructure Resilience

- Saturation of basic services of Drinking water and Sanitation
- Low energy infrastructure – paver block streets; LED street-lighting etc.
- Drains to reduce urban flooding

Thank You



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