

Launching Urban Innovation to achieve just and sustainable cities:  
A Global Peer-Learning Series across 2024

# Fostering Sustainable Construction in Informal Urban Areas

21 March 2024

**giz** Deutsche Gesellschaft  
für Internationale  
Zusammenarbeit (GIZ) GmbH

On behalf of



Federal Ministry  
for Economic Cooperation  
and Development

In cooperation with

**Cities Alliance**  
Cities Without Slums

Supported by  
**UNOPS**

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# Our Partners



# Housekeeping Notes

- Please turn off your microphone and camera unless you speak!
- Professional Closed Captioning (CC) in French and Spanish is available through the [links](#) in the chat
- We use slido for polls, Q&A, and event evaluation. You can join through the [link](#) in the chat or at [Slido.com #Peer\\_Learning\\_1](#) or via the QR code



- In case of any technical issues please reach out to: [urban-innovation.giz@mediacompany.com](mailto:urban-innovation.giz@mediacompany.com)
- The meeting is being recorded.



# Agenda

1. Short Welcome
2. Opening
3. Icebreaker
4. Panel Discussion: Fostering sustainable construction in informal areas
5. Q+A
6. Closing



# Opening



Carmen Vogt  
Head of Global Section Cities,  
GIZ

# Ice Breaker

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- the **link** in the chat
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- via the QR code



## Panel Discussion



**Sheela Patel**  
Founder and Director, SPARC



**Alexandre Apsan Frediani**  
Principal Researcher, Human  
Settlements Group, IIED



**Arne Georg Janssen**  
Urban Environment Lead,  
Cities Alliance (UNOPS)

# Panel Discussion



Sheela Patel  
Founder and Director,  
SPARC

# Roof Over Over Heads

Building resilient homes for people living in informality within cities

12 06, 2023



# ROOH Timeline



**European  
Region  
Roundtable**

**24<sup>th</sup> Aug  
2022**



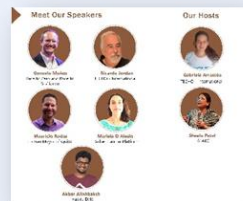
**MENA  
Region  
Roundtable**

**02<sup>nd</sup> Nov  
2022**



**ROOH  
Launch at  
COP 27**

**14<sup>th</sup> Nov  
2022**



**LAC  
Region  
Roundtable**

**31<sup>st</sup> May  
2023**

**20<sup>th</sup> Sep  
2022**

**USA Region  
Roundtable**



**Nov' 2022 to April' 2023**

**Conducted Nine Learning Labs across 5states in India**

1. **Mumbai, Maharashtra**
2. **Ahmednagar, Maharashtra**
3. **Pune, Maharashtra**
4. **Surat, Gujarat**
5. **Gangtok, Sikkim**
6. **Bhubaneshwar, Orissa**
7. **Cuttack, Orissa**
8. **Paradeep, Orissa**
9. **Bengaluru, Karnataka**



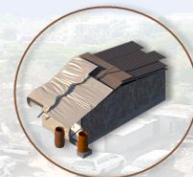
Total Cities Selected for  
conducting Labs:

**09**



Informal Settlements  
Intervened in 9 Cities:

**17**

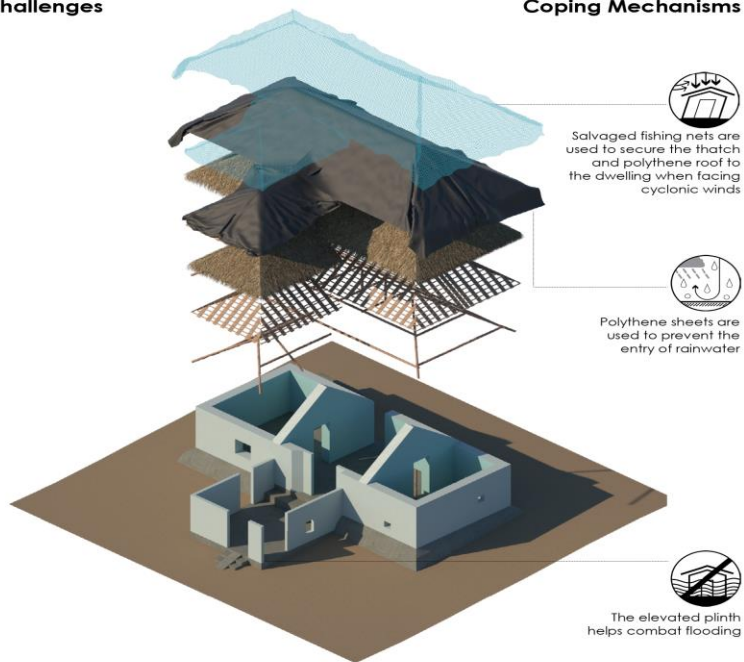


Households Intervened in  
selected 17 Informal  
Settlements: **68**

# Household & Materials

**Documentation of Paradeep, Orissa**

## Issues & Challenges



## Coping Mechanisms

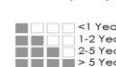
## Attributes of materials

	S	S	S	U	U	U	S	U
	Material	Thermal Conductivity	Shelf-life	Durability	Maintenance	Procurement	Cost	Execution
ROOF	Timber beam	■■■■■	■■■■■	■■■	Infrequent	New	-	Skilled Labour
	Timber Plank	■■■■■	■■■■■	■■■	Infrequent	New	-	Skilled Labour
	Bamboo	■■■■■	■■■■■	■■■	Frequent	New	Rs. 200-300/Pole	Skilled Labour
	Thatch	■■■■■	■■■■■	■■■	Frequent	New	Rs. 6-7/Bundle	Skilled Labour
	Polythene	■■■■■	■■■■■	■■■	Frequent	New	-	Self-Built
	Tarpauline	■■■■■	■■■■■	■■■	Frequent	New	-	Self-Built
WALL	Plaster	■■■■■	■■■■■	■■■	Infrequent	New	Rs. 300-360/Bag	Skilled Labour
	Mud	■■■■■	■■■■■	■■■	Frequent	New	Rs. 800/m <sup>3</sup>	Self-Built
	PCC	■■■■■	■■■■■	■■■	Infrequent	New	Rs. 300-360/Bag	Skilled Labour
STRUCTURE	Brick	■■■■■	■■■■■	■■■	-	New	Rs. 6-7/Piece	Skilled Labour
	Timber section	■■■■■	■■■■■	■■■	Infrequent	Salvaged	-	Skilled Labour
	Bamboo	■■■■■	■■■■■	■■■	Frequent	Second-Hand	Rs. 200-300/Pole	Self-built
FLOOR	Mud	■■■■■	■■■■■	■■■	Frequent	New	Rs. 800/m <sup>3</sup>	Self-Built
	PCC flooring (Thin)	■■■■■	■■■■■	■■■	Frequent	New	Rs. 300-360/Bag	Skilled Labour

Thermal Conductivity:



Shelf Life (Years):



Durability



Supply side perspective: S

Users perspective: U

## Timeline

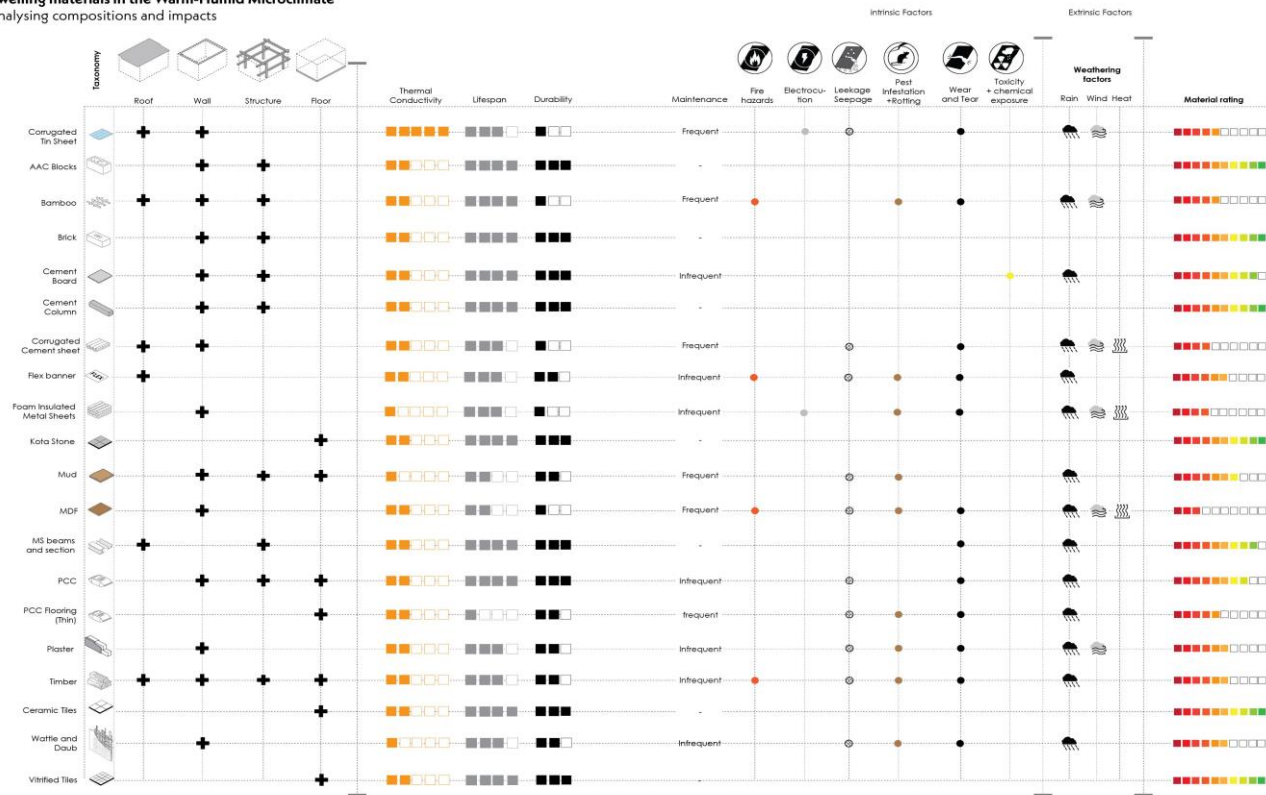
Increments over time

Year	2000	2005	2020	2023
Tenure Arrangement	Self-Owned	Self-Owned	Self-Owned	Self-Owned
Construction	-	Self-Built+Skilled labour	Self-Built+Skilled labour	Self-Built+Skilled labour
Need	Family migrated to Keutapada	Additional space required	Damage to the cement plinth	Present status of the dwelling
Response	Single room dwelling purchased	Semi-open verandah constructed using locally procured bamboo and mud	Repairs to the cement plinth and dwelling walls	
Cost	Rs. 3500	Rs. 30,000	NA	
Financing Mechanism	Self-Financed	Self-Financed	Self-Financed	

# **Analysis of the impact of Climate Change on Materials**

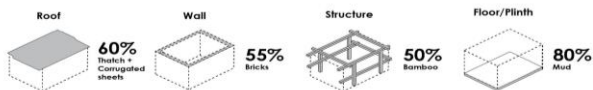
## Dwelling materials in the Warm-Humid Microclimate

### Analysing compositions and impacts



### At a glance

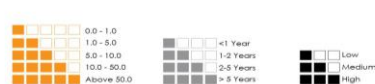
The table above lists all the materials that are being used to construct the 24 dwellings documented across Mumbai, Bhulaneswar, Cuttack and Paradeep in the warm-humid microclimatic zone and are mapped according to the taxonomy in which their use is prevalent.



### Contextual challenges: Warm-humid



### Legend



- More than 20+ types of materials are used in 1 house.
- Comparison over more than 10 parameters

# Way Forward

- Preparing a Dashboard as one stop solution for connecting market with communities.
- Develop 100 Labs staggered over 2-3 years in 30+ Countries across Asia, Africa, and Latin America.
- Conduct Training for Trainers (ToTs)
- We are planning to conduct Roundtables in different cities. (Asia and Africa are in pipeline)
- Fund raising for next phases.
- Globally, we are looking to collaborate with partners and develop the methodology of the campaign further.



# Our Partners

ARUP



**Thank you**



# Panel Discussion

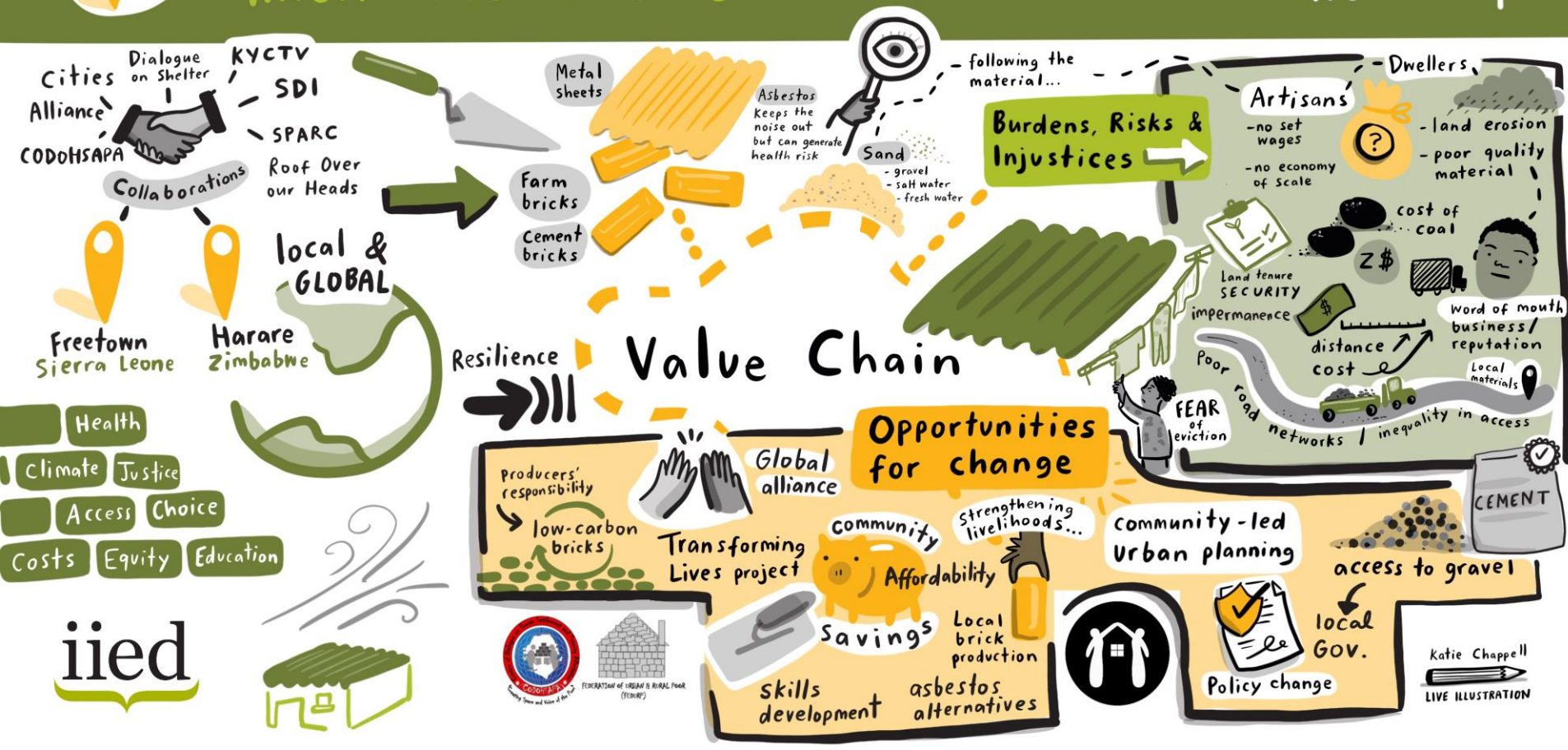


Alexandre Apsan Frediani  
Principal Researcher,  
Human Settlements Group,  
IIED



# Building materials for housing in informal settlements

tue 30<sup>th</sup> Jan  
workshop



# The Governance of Building Materials' Value Chain: Lessons from Informal Settlements in Freetown and Harare



**1) Recognize and  
secure livelihoods**

# **The Governance of Building Materials' Value Chain: Lessons from Informal Settlements in Freetown and Harare**



**2) Access to tenure security and infrastructure networks**

# The Governance of Building Materials' Value Chain: Lessons from Informal Settlements in Freetown and Harare



## 4) Governance solutions over technology receipts

# The Governance of Building Materials' Value Chain: Lessons from Informal Settlements in Freetown and Harare



**3) Fairer  
distribution of  
climate  
burdens and  
responsibilities**

# Panel Discussion



Arne Georg Janssen  
Urban Environment Lead,  
Cities Alliance (UNOPS)

POSITION PAPER

## CAN THE URBAN POOR AFFORD SUSTAINABLE CONSTRUCTION?

A JUST TRANSITION IN THE BUILT ENVIRONMENT  
OF INFORMAL SETTLEMENTS



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Cities Without Slums

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Arne Georg Janssen  
Urban Environment Lead



An aerial photograph of a densely packed informal settlement. The majority of the structures have roofs made of corrugated metal sheets, some of which are stacked or discarded on the ground. The ground itself is cluttered with various items, including plastic waste, wooden planks, and other debris. A few small, colorful objects like a yellow bag and a blue barrel are visible. The overall scene depicts a lack of formal infrastructure and waste management.

Q+A

Please type your questions into slido!



# Thank you for your participation

Looking forward to see you for our next session in June on: **Pro-Poor Nature Based Solutions**  
Stay tuned for updates on our series in your inbox.

For any questions or ideas regarding our Peer Learning, please contact:  
Clemens Heukrodt ([clemens.heukrodt@giz.de](mailto:clemens.heukrodt@giz.de)) and Johanna Pohl ([johanna.pohl@giz.de](mailto:johanna.pohl@giz.de))