The potential for LTGS technology in India

A brief presentation on Habitat's contribution to affordable housing and how Geopolymer technologies can help us in this journey

Jos Conil , Architect

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Housing shortage in India

The mind boggling numbers

- India has about 78 million homeless urban people which includes 11 million street children.
- The present housing shortage stands at about 18 million units.
- Predicted shortage by 2022 – 25 million units.

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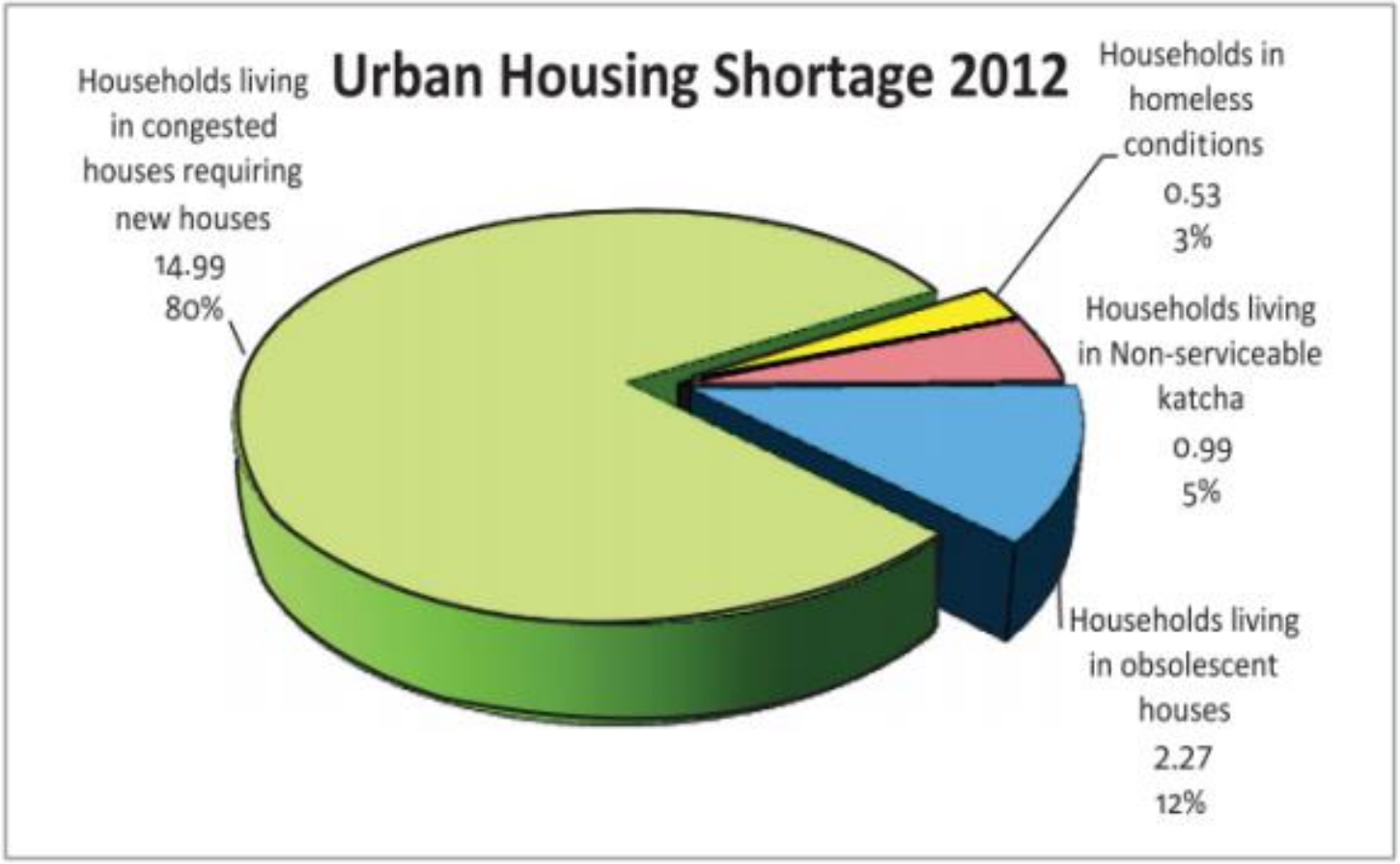

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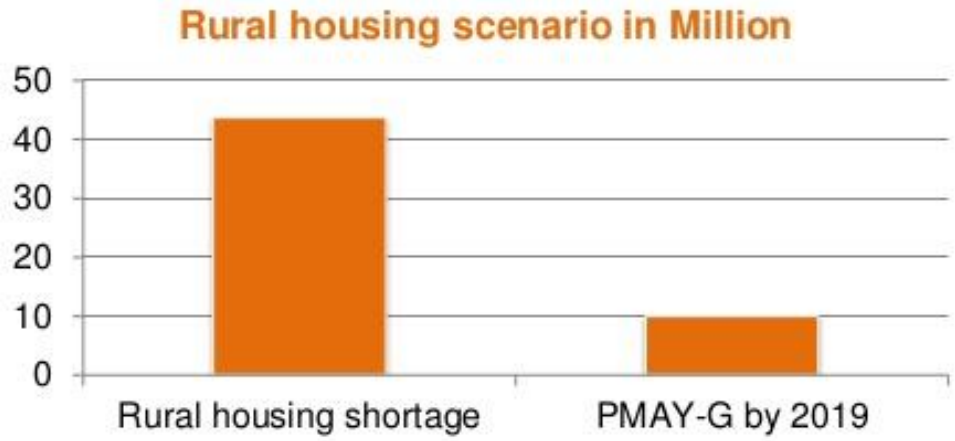
CURRENT RURAL HOUSING SCENARIO IN INDIA

133.5 Crore India's population

90.8 Crore Rural Population

4.37 Crores Rural Housing shortage



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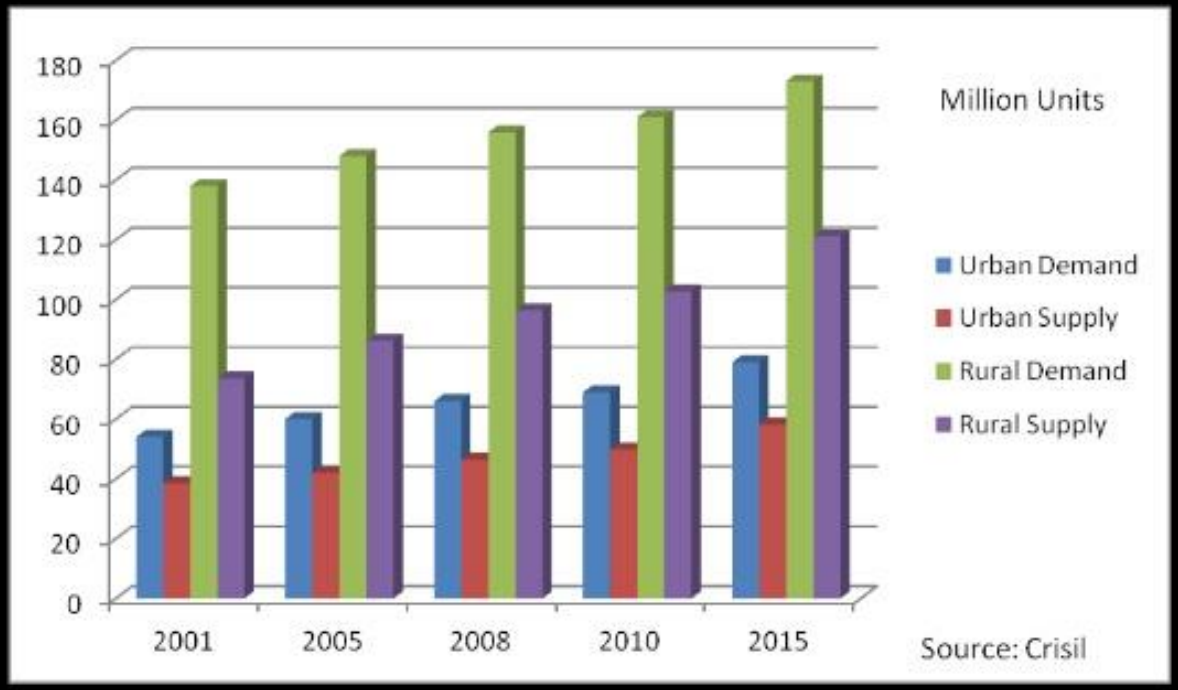
Urban and Rural Housing Demand Supply Gap



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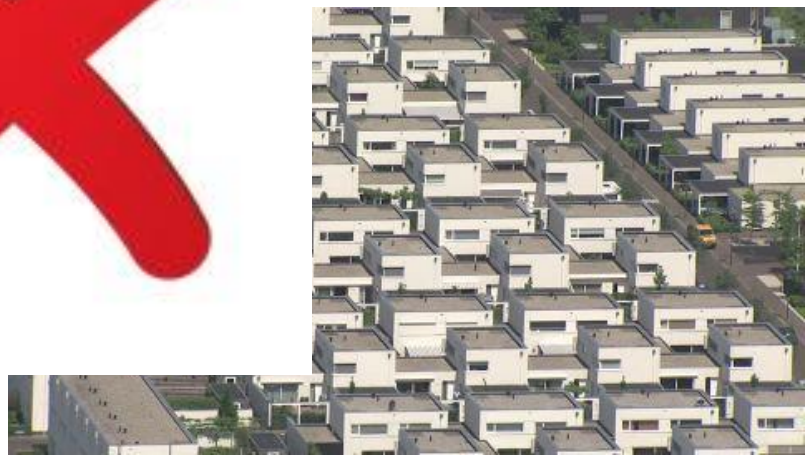
The way forward

Mass production of houses for the masses ?

The way forward



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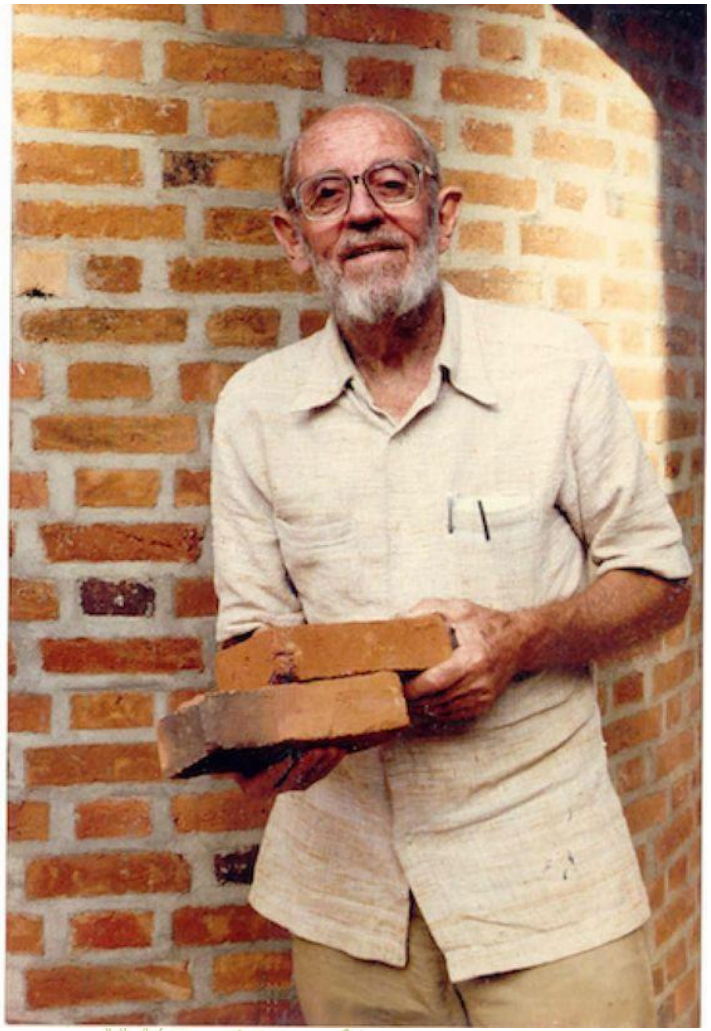
The visionary



" I never build for classes of people – HIG, MIG, LIG, Tribals, Fishermen and so on. I will only build for a Mathew, a Bhaskaran, a Muneer or a Sankaran"

-Laurie Baker

Baker, the common man's Architect revolutionized the very concept of affordable housing by bringing the focus on the person rather than the income group

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Habitat Technology Group - The Genesis

- Established in the late 1980s as a non profit organization, dedicated to promote and propagate the vision of cost effective, eco friendly and humane architecture, inspired by the works and philosophy of Laurie Baker.

- Over a period of 30 years, Habitat has evolved and grown into the largest NGO working in the housing sector in India.

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Habitat Technology Group – The Vision

- Promotion of appropriate architecture based on sustainable development goals (SDGs)

- Conservation of traditional idioms and integration of craftsmanship in contemporary architecture.

- Promotion of housing literacy and community based housing projects with active involvement of the beneficiaries.

- Mainstreaming of sustainable building materials and technologies.

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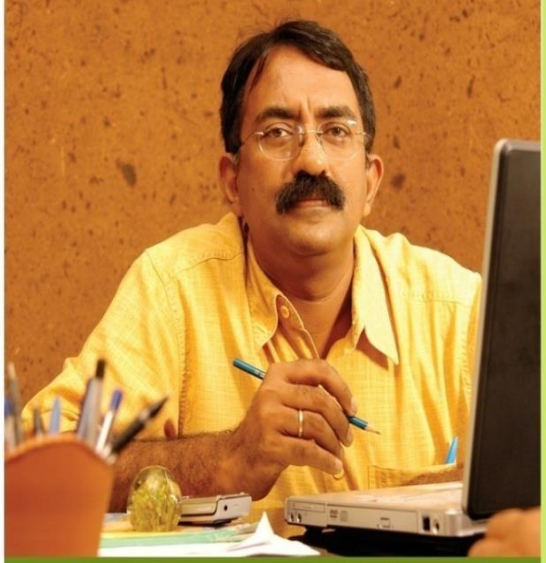
Habitat Technology Group - The Founder & Chairman.



Padmashree Ar. G Shankar

ACHIEVEMENTS

- Padmasree recipient (2010)
- 1st Laurie Baker Award
- Designer Magazine - the best Architect in Kerala.
- National award for slum rehabilitation
- Best cost effective design By Indian institute of architects (kerala chapter).

- B.Arch (Kerala University)
- M.S from Birmingham School Of Architecture
- P G Diploma in Journalism

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Chairman's residence – an organic structure built of stabilized earth block vaults and bamboo.

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The success of community participation in mass housing

Hindalco mass housing project , Singrauli, Madhya Pradesh, India.

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The success of community participation in mass housing

- Project envisaged as a CSR initaitive of Hindalco Industries ltd, one of the world's largest Aluminium and Copper manufacturer.

- A whole village had to be relocated and their standard of living improved as part of the scheme. Many national and international agencies failed in the efforts to convince the villagers, consisting of sensitive tribes.

- Habitat was hired as a consultant. We developed prototypes based on interaction with the beneficiary communities, especially their need for a close kinship with domesticated animals.

- Habitat provided technical guidance and trained local workforce, thereby imparting skills and creating employment.

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The success of community participation in mass housing

Christian Commission for Development in Bangladesh (CCDB) housing project, Boraipara, Bangladesh.

Project includes an international training centre and library as well as housing, with a total built up area of about 6,00,000 sq.ft.

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The success of community participation in mass housing

Christian Commission for Development in Bangladesh (CCDB) housing project, Boraipara, Bangladesh.

With all the buildings constructed with compressed stabilized earth blocks, this project is one of the largest of its kind in the world.

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The success of community participation in mass housing

Christian Commission for Development in Bangladesh (CCDB) housing project, Boraipara, Bangladesh.

- All the earth was sourced from the site itself and the excavation formed a water body which helps in rainwater harvesting.
- Habitat provided training for local youth and imparted skills necessary for manufacturing the building blocks at site.
- Supporting technical staff were appointed from Bangladesh itself.
- This project is a demonstration of our strategy of providing sustainable housing through personal and community empowerment.

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Disaster rehabilitation through community empowerment

Tsunami rehabilitation project, Alleppey, Kerala, India and Srilanka.

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Other project highlights

Pagoda Resorts, Kerala

Tourist Amenity center, Kerala.

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Other project highlights

K.R. Narayanan media Institute, Kerala

Women's College Library, Kerala.

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Appropriate technology basket

Cob Earth construction, National Institute of Rural development (NIRD) Hyderabad.

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Appropriate technology basket

Cob Earth construction, National Institute of Rural development (NIRD) Hyderabad.

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Appropriate technology basket

Brick Dome construction, National Institute of Rural development (NIRD) Hyderabad.

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Appropriate technology basket

Reinforced Concrete filler slab construction,
National Institute of Rural development (NIRD)
Hyderabad.

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Why Habitat is interested in Geopolymer technologies ?

- Being an environmentally responsible and committed organization, we strive to promote and mainstream sustainable technologies and products.
- Adopting Geopolymer for cement and concrete can drastically reduce the ecological footprint of the construction industry in India.
- Given our proven track record in community based housing projects, we can empower local communities by training them in LTGS technologies.
- LTGS bricks can drastically reduce the CO2 emissions produced by traditional brick industry in India.Being cost effective, these bricks can help local communities to produce more sustainable dwelling units with minimal infrastructure.

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The way forward

- Habitat can help provide trained manpower necessary to propogate and pioneer LTGS technologies in India.
- We are lookingforward for a mutually beneficial collaboration with Geopolymer institute for spearheading a revolution in sustainable mass housing in India.

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