



Natural Calamities



Concrete Problem



Rising Pollution

# A Report on REBUILDING GREEN AND AFFORDABLE KARNATAKA

**BENGALURU | MYSURU**  
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# REBUILDING GREEN AND AFFORDABLE KARNATAKA

Around 50 per cent of residential complexes (with more than 500 dwelling units/flats) in the tech capital, Bengaluru, have achieved a high level of efficiency in using energy, water and other resources on their premises and cut down pollution by incorporating green architecture practices, revealed a study by Karnataka State Pollution Control Board (KSPCB) and Environmental Management and Policy Research Institute (EMPRI). But the city, and largely the state, a large issue with the use of concrete. While the concrete can resist nature for decades, events like the annual floods have become all the more severe because concrete streets cannot soak up the rain like a floodplain, and stormwater drains, etc. With the issue of stringent compliance for small and affordable developers, Bengaluru faces challenges of bad urban planning, i.e. nasty traffic, crater-abundant roads, toxic 3 lakes, rising pollution levels, disproportionate land to population ratio, and cities like Mysuru face Sand shortages.

IIFL HFL, along with ADB, present to you Kutumb 'Rebuilding Green and Affordable Karnataka' in Bengaluru, and Mysuru. The objective of this session is to promotion of Green Affordable Housing in India, engaging with developers, architects, rating agencies and local influencers and establish better understanding of green design, rating and financing options available.



114

Participants



77

Developers



5

Experts

## GREEN MASTERS

### SESSION I:

#### Designing Climate Resilient Affordable Housing

**Ar. Chitra Vishwanath**

Principal Architect and Managing Director of  
BIOME Environmental Solutions

### SESSION II:

#### Green affordable housing expectation from the buyer's perspective

**Mr. Ar. Ashok B. Lall**

principal architect of A B Lall architects

### SESSION III:

#### Financing Green Affordable Housing

**Mr. Saumadip Dey**

Senior Investment Officer, Asian Development Bank

**Mr. Bobby Thomas**

National Business Manager, Construction Finance,  
IIFL Home Finance Ltd.

### SESSION IV:

#### GVP session in coordination with developer

**Mr. Somashekar Shetty**

Chairman & MD of PG Shetty Group



# SESSION I: Designing Climate Resilient Affordable Housing

The first session featured the expert insights of Ar. Chitra Vishwanath, Principal Architect and Managing Director of BIOME Environmental Solutions with over 2 decades of experience in ecology and sustainable built practices.

In India, water conservation and recycling can reduce water demand; There are some systems which require a minimum consumption for efficient functioning. For example, underground sewage systems need at least 150 liters for self-cleansing velocity. The maximum water consumption per capita is 135 liters, but a lot of the people are going above the maximum thresholds.



The actions causing the over consumptions of water such as increasing dependency on washing machines, gardening with fresh water instead using the treated wastewater. The building plumbing fixtures should be designed in such a way to reduce the consumption of fresh water in the building that in turn will reduce the water bills. As Bangalore receives good amount of rainfall, if strategies like rainwater harvesting and reusing treated wastewater are implemented efficiently, the city can proceed to achieve water positivity in terms of demand. One of the examples of waste treatment system is a wetlands-based decentralized treatment systems for clustered development. It has reduced cost of installation and maintenance compared to the conventional methods and can be also installed in the terrace garden.

## Ar. Chitra Vishwanath

**Principal Architect and Managing Director of BIOME Environmental Solutions**

Vishwanath is an alumnus of CEPT University, Ahmedabad and started architectural practice in 1990 working with a diverse set of project portfolio in India and Africa. Having over 2 decades of experience in ecology and sustainable built practices, she has been actively involved in more than 500 projects in construction of buildings of all sizes, water harvesting, sanitation measures, and eco-friendly materials with relevance to the site ecology.



***“Affordability is not only meant buying a house in affordable price but also being able to live in or maintain the house with minimal expenses.”***



## SESSION II: Green affordable housing expectation from the buyer's perspective

### “Swastha Jivan – Swastha Paryavaran”

The second session featured the expert insights of Mr. Ar. Ashok B. Lall, who is a principal architect of A B Lall architects, and he has over 30 years of experience in architecture.

As home buyers put all their life savings into buying a house, their health and comfort should be utmost prioritized by designers and developers along with affordability. The following are the parameters that the homebuyers check:

1. Health & Sanitation: Thermal comfort, Environment conditions, Potable water
2. Safety: Structural, Fire, Earthquake
3. Sustainability: Water conservation, Energy efficiency, Composting, Biodiversity
4. Esteem: Respectable living
5. Self-Fulfillment: Communal Benefits, Self-identity

It was highlighted that building height and affordability are inversely related. The low-rise and high-density housing projects up to three to four floors are more economical. One reason is, with the increasing permissible FSI, the land prices will increase. The cost of construction and further maintenance costs are also very high for high rise buildings which in turn increase the overall life cycle costs of the building. In this case, affordability reduces. If the building is four story high compared to a ten-floor building, the open space per person will be higher in the former scenario. The roof tops, garden spaces, open spaces fall close by and are easy to access unlike that in high rise buildings. Thus, neighborliness is one major factor that has a huge impact on quality of life of occupants.

The session further focused on the increasing use of air conditioners in Bangalore city, due to which there is rise in the electricity demand in the households. 90W of electricity per square meter is the average consumption of AC units in affordable projects.

#### Mr. Ar. Ashok B. Lall

principal architect of A B Lall architects

Being committed to an architectural practice based on the principles of environmental sustainability and social responsibility, Ashok B Lall has been engaged in architectural education since 1990 and has developed curricula and teaching methods to address environmental issues. His current interest is in developing strategies for sustainable urban development in the context of rapid urbanization.



*“Low rise is more green than high rise housing; high rise is more costly than low rise housing”*



## SESSION III: Financing Green Affordable Housing

The third session featured the expert insights of Mr. Saumadip Dey, Senior Investment Officer, Asian Development Bank and Mr. Bobby Thomas, National Business Manager, Construction Finance, IIFL Home Finance Ltd. on the different options available for project finance.

The funding focuses on two major Sustainability Development Goals (SDGs) defined by UN: Industry, innovation and infrastructure and sustainable cities and communities. Due to rapid urbanization, India is focusing towards providing affordable housing for all. ADB has worked towards enabling financing options for the affordable housing sector which targets EWS and LIG whose annual income falls below 6 lacs. The fund provided by the ADB is for both the supply as well as the demand end. The global financial institutions and the governments worldwide have recognized the issue of climate change. They have committed to work towards climate mitigation as a part of Paris Agreement. In India, RBI has released a discussion paper which specifies that the banks should have a portfolio of climate friendly and sustainable investments. Building green will give the project developers access to construction finance at a reduced ROI.

IIFL HFL offers construction finance to developers and retail loans for homeowners. As IIFL has received funding from ADB to encourage the green projects, such projects are funded at a lower interest rate.

### Mr. Saumadip Dey Senior Investment Officer, Asian Development Bank

With over 12+ years of experience in Investment Management and Investment Banking with a focus on Financial Institutions and large corporates, facilitating in deployment of over \$ 8.0 bn in capital; managing mergers & acquisitions, leverage buy outs, and corporate advisories. Saumadip is currently working as Senior Investment Officer at Asian Development Bank responsible for debt and equity investments in South Asia for Financial Institutions.



### Mr. Bobby Thomas National Business Manager, Construction Finance, IIFL Home Finance Ltd.

Experienced professional with a demonstrated history of working in the financial services industry, Bobby manages the Construction Finance Business and Co-lending for IIFL Home Finance Ltd.



## SESSION IV: GVP session in coordination with developer

This was an interactive session by Ms. Anushma Malpani, Central Green Value Partner at IIFL Home Finance Ltd. to understand the importance of implementing green building features and green building certification for affordable housing projects from a developers perspective.



The fourth session featured the expert insights of Mr. Somashekar Shetty, Chairman & MD of PG Shetty Group on his experience of 4 decades from being a contractor to a builder in terms of cost-effective construction technologies, strategies for affordable green housing.

### Mr. Somashekar Shetty Chairman & MD of PG Shetty Group

A civil engineer with nearly four decades of experience in the field of construction technology, he is also the Chairman of Indian Green Building Council (IGBC) Mysore chapter and is passionate on implementing sustainable measures in his housing projects to improve the living standards of the economically weaker sections. His company PG Setty is recognised as one of India's leading technology-based construction companies among the eight companies identified in team. He is also an awardee of the Prime Ministers award for implementation of the best cost-effective housing technology in India for the project at Mysore for slum dwellers





**Anushma:** How did the transition from being a contractor to developer has happened and what is the role of the sustainability during this whole transition?

**Somashekar Shetty:** There was a large of gap in affordable housing which comes to the public sector and is offered by developers. I started thinking why we shouldn't have our own development project where the complete experience I have gathered in delivering these houses will be put in place. I also helped other developers for more than 8 – 10 thousand houses in Karnataka to develop their projects in affordable cost and deliver them for an affordable pricing. Earlier the affordable housing segment used to be called as low-cost house. However, it is no more termed as low cost houses instead we have to call it as cost-effectives technological houses. It is important to not have low capex but also ensure that the operating cost of the project will be low in future. The reason few developers come forward for it is that it requires a lot of thought process and innovative thinking from different stake holders. Right from acquiring the land, to constructing the project and delivering to buyers, there is a lot of miscellaneous thinking. It is a collective responsibility of different stakeholders.

**Anushma:** The concept or the design of the AVANI project is to promote sustainability through lifestyle. What was your inspiration behind the concept?

**Somashekar Shetty:** We wanted to bring down the cost of the structure and deliver a quality product to the customers. As Ar. Ashok B Lall conveyed, we had opted for low rise building less than 15 meters in height to bring down the cost. Also, the project is not provided with the basement but only the silt parking which was our initial approach for the cost cutting. The low rise building will also help a developer to mitigate the cost of heavy fire rating installations, lift installations and the operational cost. Second approach was to have the least footprint of the entire building on a given area, we have left 60% as an open area as our intention was to deliver not just the indoor space but the outdoor space also to our customers. It is the most important for the community activities, with the habitat area around our house. Intentionally we have avoided two major things that is the swimming pool and the gym to avoid the capital cost of the building which will also reduce the demand for water and energy. For a given super built-up area, carpet area which offered is more than 10-15% is because of technology. We tried to address energy and water demands of the projects along with maintaining the indoor environment quality. Good ventilation was the primary aspect. Architects play a major role in the sustainable design of a project. Solar on roof top to shade the terrace and provide renewable energy to cater to common area energy demand. Piped gas facility has been provided in the bathrooms also to provide for geyser. Cost savings was thus done on power infrastructure.

**Anushma:** What are the construction technologies that you have incorporated in your project from your learnings as a contractor?

**Somashekar Shetty:** We have incorporated Pre-cast installations in our project and with that we have achieved a speed of constructing four dwelling units in 48 hours. Other technologies include adding fly ash to concrete, low VOC paints, using local materials etc.

The following parameters should be kept in mind while selecting for technologies:

1. Ensuring quality control
2. Control process to reduce the manpower requirement
3. Management of waste



**Anushma:** What are the benefits that you have received because of green certification of your project?

**AYUSHMAN JAIN:** It contributes towards your sales, recognitions etc.

**Anushma:** IIFL benefits the developers by providing reduced ROI on construction finance and 0.2% discounted ROI on Home Loan for retail buyers. IIFL also reimburses consultancy and certification fee upto pre certification.

Till now IIFL has pre-certified 25 projects and 1 project is final certified. Green building also has huge impact on the environment by reducing water and energy consumptions.

Ashok B. Lall: Learning from the national Kutumb Delhi was that the young developers are quite passionate to go with the concepts of sustainability. They are not going to give up green construction. They had good thought process to find innovative solutions on the way, which was very inspiring. Some key highlights that I would take away is resource efficiency by good design construction practice is the key practice to keep the construction cost down yet provide good quality product. In term of environment impact, consumption of steel is on very critical factor. Steel performance index should be a parameter optimize steel usage per square meter.

“As per experience, the affordable housing segment is becoming a greed-based development than a need-based development.”  
Somewhere we need to do justice for the EWS and LIG segments.”

**Know More About the  
Green Value Program**

Climate resilient housing with sustainable design measures reduce the negative environmental impacts and enhances homeowners experience, contributing to a better social growth. Buildings should be designed keeping in mind features like water conservation, energy efficiency and waste management and resource efficiency. All these features are in line with the green building certification requirements which help in providing incentives, boosting up the sales, and improving the project reach. In financial aspects developers are given benefits like reduced rate of interest and reimbursement options. The doubts related to the green certification process can be easily resolved by IIFL with the help of their technical expert GVP team.



# OTHER INITIATIVES, IN COLLABORATION WITH ASIAN DEVELOPMENT BANK

## KUTUMB; GREEN BUILDING ECOSYSTEM

### PATHWAY TO CLIMATE ADAPTIVE DESIGN

Understanding the four C's of green affordable housing

Of the 6 KUTUMBs (950+ participants) organised, as a part of IIFL HFL and ADB collaboration, 'PATHWAY TO CLIMATE ADAPTIVE DESIGN'; was a two-day workshop which brought together IIFL HFLs two select affordable housing projects, from two different climatic zones and varying scales of project development. The event was conceptualised as 'National Kutumb' to validate the practical viability of the green solutions by bringing together live affordable housing projects and other stakeholders of the ecosystem. The workshops were mentored by the renowned architect Ashok B Lall.

### White Paper



## DISHA; SUSTAINABLE LIVING WORKSHOPS AT RWAs



DISHA	PARTICIPANTS	WOMEN	SAPLINGS
18	4100	300+	960

## CAPACITY BUILDING PROGRAMS



### 4 trainings on:

- Design for Sustainable Affordable Housing
- Policy Landscape for Green Affordable Housing for Women
- Project Formulation and Appraisal for Green Affordable Housing
- Locations: Pune, Hyderabad, Ahmedabad,, Delhi





An ESG Initiative Towards Green Affordable Housing



Sustainability Report 2021 – 2022



IIFL HFL's Guide to Sustainable Affordable Housing

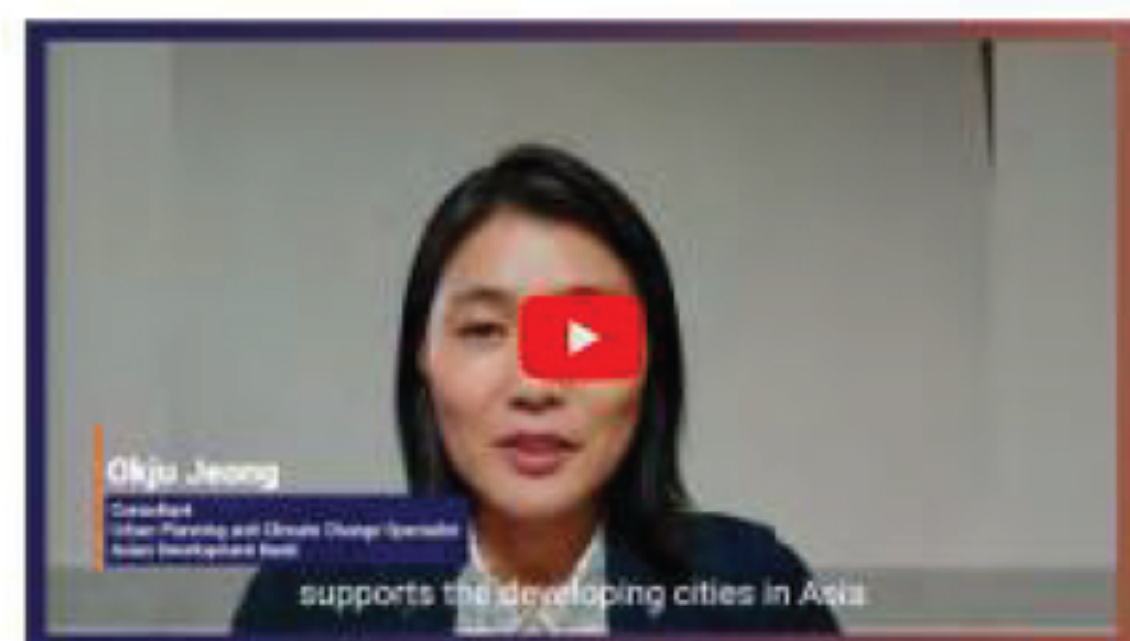
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Register Now



Watch Susan Olsen, Unit Head, Private Sector Financial Institutions, Mekong Region, Asian Development Bank

*"We chose IIFL Home Finance to work with in the sector as they have been a pioneer of green affordable housing in the country"*



Watch: Okju Jeong, Urban Planning & Climate Change Specialist, Asian Development Bank

*"Asian Development Bank is delighted to have supported IIFL HFL through the joint initiative for green affordable housing for women in India"*

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