

# GOING GREEN

A HANDBOOK OF SUSTAINABLE HOUSING PRACTICES  
IN DEVELOPING COUNTRIES



**UN HABITAT**  
FOR A BETTER URBAN FUTURE

## **GOING GREEN: A HANDBOOK OF SUSTAINABLE HOUSING PRACTICES**

First published in Nairobi in 2012 by UN-HABITAT.

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**HS/074/12E**

**ISBN: 978-92-1-132487-7**

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Cover picture: People's process in Myanmar © UN-HABITAT

Printing: UNON, Publishing Services Section, Nairobi, ISO 14001:2004-certified

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## ACRONYMS

|        |   |
|--------|---|
| CEB    | Compressed Earth Block  |
| C&D    | Construction and Demolition waste                               |
| GDHS   | Geothermal district heating systems                             |
| GHG    | Green House Gas   |
| IPCC   | Intergovernmental Panel on Climate Change                       |
| ISSB   | Interlocking Stabilized Soil Blocks                             |
| LEED   | Leadership in Energy and Environmental Design                   |
| MDG    | Millennium development goal                                     |
| BREEAM | Building Research Establishment Environmental Assessment Method |
| SBAM   | Sustainable Building Assessment Methodology                     |

# EXECUTIVE SUMMARY

This handbook introduces the linkages between current urbanization in the developing world, the housing sector and global warming. The housing sector is in a key position to mitigate climate change making environmentally friendly affordable housing strategies opportune and crucial. The housing sector is the single most efficient sector that can, without extra costs, address the issue of climate change. Scaling up efforts of making the housing stock of developing countries more environmentally friendly can make a great difference in terms of climate change mitigation and adaptation as well as improve quality of life and human wellbeing.

In order to achieve sustainable housing a comprehensive approach is needed that includes not only environmental but also social, economic, cultural, and institutional sustainability dimensions. In order to make housing sustainable it needs to be connected to sustainable settlement planning strategies including specific urban forms such as compact city and mixed land use, infrastructure networks, services, employment possibilities, connectivity, environmental matters, disaster risk reduction strategies and tenure security. Building according to the prevailing climatic conditions is crucial in terms of saving energy and improved environmental conditions. Traditional and recycled construction materials are in general more environmentally friendly than contemporary materials such as concrete and burnt bricks but sometimes combining both can increase the lifespan of the building. Energy efficiency of new buildings and environmental retrofitting of old buildings are both of great importance and should be connected to strategies of using renewable energy and saving water in housing.

Governmental incentives are crucial in order to support the sustainable housing sector. Low-income communities should be supported to access the initial investment needed to pay for sustainable housing. Communities should be helped to be involved in housing planning, design and management and the construction processes used to build up the skills of people. The specific needs of different groups such as different gender, ages and indigenous/cultural groups need to be taken into account. Pilot projects addressing sustainable housing are important but it is crucial to scale up sustainable housing practices beyond pilot level. In these efforts the institutional and regulatory environment, monitoring and evaluation, capacity development/building, communication and governmental incentives are important.

# 01 HOUSING AND SUSTAINABILITY

## KEY MESSAGES

In this chapter the purpose and structure of the handbook is outlined and the underpinnings of sustainable housing presented. The importance of an integrated comprehensive approach to sustainable housing is highlighted alongside the need to scale up sustainable housing supply in developing countries.

### Sustainable housing: why is it important?

- The housing sector plays a noteworthy role in the current global environmental crisis but it also offers one of the largest possibilities of any sector to mitigate global climate change.
- Global urbanization is fastest in the developing countries and slums and informal settlements are rapidly growing making affordable sustainable housing strategies crucial in this context.
- Sustainable housing practices are still weak in developing countries and need support to bring sustainable housing solutions to scale.

### Taking a comprehensive approach to sustainable housing

- Sustainable housing should be seen as a comprehensive process taking into account environmental, social, cultural, economic and institutional matters.
- The whole life-span of a house needs to be considered from the very beginning.
- Demonstration projects concerning affordable sustainable housing are important to test, influence and inspire, but scaling up sustainable housing practices is fundamental and should be the main goal.

### Social sustainability

- In practice, social sustainability has many dimensions with various strategies, for example

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