Sustainable Social Housing Initiative (SUSHI)

Promoting Sustainability in Affordable Housing

What is SUSHI?

The Sustainable Social Housing Initiative (SUSHI) is developed by the United Nations Environment Programme (UNEP) to increase the use of sustainable building solutions in social housing programs in developing countries. This project provides guidelines and case studies for developers to integrate sustainable solutions in the design, construction and operation of social housing units. From 2009 to 2011, the SUSHI approach and guidelines were tested in Brazil and Thailand. From 2012 to 2013, a new pilot project will be developed in India and Bangladesh.

Mission

The Sustainable Social Housing Initiative (SUSHI) promotes sustainable building practices in social housing programs. SUSHI develops and verifies an approach to ensure that social housing programs include design criteria and construction practices that support sustainable building principles.

Why social housing?

Globally buildings are responsible for 40% of the annual energy consumption and up to 30% of all energy-related greenhouse gas (GHG) emissions. The building sector has however been shown to provide the greatest potential for delivering significant cuts in emissions at low or no-cost or net savings to economies.

The largest and fastest growing building markets are today found in the developing world. The combination of increased demand and limited supply results in increasing housing prices which harm the most vulnerable population groups. As a response to the housing shortage, authorities in developing countries have launched large affordable housing programs, namely in rapidly growing mega-cities such as Bangkok, Beijing, Ho Chi Minh City, Johannesburg, Manila and São Paulo.

Time, budget and land-use constraints faced by social housing developers can lead to buildings being assembled with little consideration for durability, sustainability or environmental health. This also results in sub-standard low-cost housing with a high rate of defects, high maintenance costs, and short life spans.

Moreover, social housing units may be constructed in areas where the occupants will have little access to basic services, infrastructure, and the social and economic opportunities of the city.

SUSHI aims at identifying and promoting solutions that respond to these constraints, verifying that sustainability can be achieved in affordable units as effectively as in high standard buildings. Sustainable social housing units can deliver significant environmental, social and economic benefits to low-income population and to the society as a whole.

Lessons learned

To facilitate the uptake of sustainable solutions in affordable housing, it is necessary to:

- Conduct awareness-raising, technical training and capacity building, to make the case for sustainability in social housing and provide information on the benefits of this approach;
- Build policy support by clearly demonstrating the costs and benefits of sustainable housing;
- Identify financing opportunities and mechanisms (at local, national or regional level) to facilitate investment in innovative sustainable solutions, as well as redistribute the costs and savings across the life-cycle of the building; and
- Understand the different perceptions, needs and priorities of stakeholders, including social housing inhabitants, to promote an effective cooperation between actors and a true commitment to sustainability.

The SUSHI guidelines will highlight strategies and tools to remove these barriers and unlock the potential of social housing units to contribute to environmental, social and economic well-being.

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Action

The project identifies building components or functions where business-as-usual solutions in social housing projects can be improved by using alternative solutions (technologies/materials), which are commercially available on the local market. By using these functions as examples, the approach to including sustainable building criteria in social housing projects is tested and demonstrated.

From 2009 to 2011, pilot projects were implemented in Bangkok (Thailand) and São Paulo (Brazil). In each location, the teams conducted an assessment of the conditions affecting the selection of solutions for social housing projects (local climate, cultural habits and needs, availability of alternative solutions, awareness of benefits from these solutions and capacity for implementation…)

The teams then developed targeted actions to remove the barriers to the uptake of sustainable solutions, seeking impact on market supply and demand as well as public support. Awareness-raising, training and capacity-building activities were conducted with local stakeholders.

Pilot projects in Brazil and Thailand

Project teams in São Paulo and Bangkok worked in collaboration with housing developers, construction companies, financial institutions and final users to identify sustainable solutions available on the market and applicable to the local context. The solutions were selected to improve the energy efficiency (including provision of thermal comfort) and water efficiency (water supply and consumption) of social housing units.

In São Paulo, the project team, in close cooperation with the State of São Paulo's Housing and Urban Development Agency (CDHU), developed an analysis of lessons learned from previous experiences in integrating sustainable features (e.g. alternative design solutions, solar water heater, or individual water meters). The conclusions led to the elaboration of recommendations for the uptake of sustainable solutions. The team also worked with the Caixa Economica Federal bank to develop criteria for a sustainable housing label to be applied to social housing projects.

In Bangkok, the project team worked with the National Housing Authority to develop site-specific guidelines for two project sites in Bangkok, including a cost-benefit analysis for selected sustainable technologies. The team also conducted several training programs on design and construction of sustainable buildings with local stakeholders, and prepared a database of available sustainable alternatives for web-publication. Finally, to increase awareness of the role of sustainable buildings, the team developed an educational video that will be distributed in universities across the country.

SUSHI Phase II

A second pilot phase, aimed at verifying the relevance and applicability of the SUSHI tools and approach, will be implemented from 2012 to 2013 in India and Bangladesh.

In addition to finding solutions for improving sustainability in social housing at local level, the project will include a stronger focus on financing opportunities and on monitoring methodologies for sustainable social housing. Activities will start mid-2012. Interested parties are invited to contact the project coordinator.

For more information, visit the SUSHI website: www.unep.org/sustainablesocialhousing

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