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Trying to Persuade Rather than to Force People: The Approach of the Handbook for Green Housing

Keywords

Climate-adapted Housing
Energy-efficient Buildings
Green Housing
Holistic Approach
Bottom-up Approach
Multi-stakeholder Coalition
New Consumers
Ho Chi Minh City
Vietnam

Basic Information

Location: Ho Chi Minh City, Vietnam, north of the Mekong Delta. ~~The urban area of Ho Chi Minh City includes a rural settlement structure outside the core city.~~
Climate: The city is located in the tropical climate zone.
Population: Throughout the metropolitan area live ~~about 7.4~~ million people.
Economy / Governance: Vietnam is an emerging economy, which is following a development path comparable to that of China. Since the mid-1980s, the country has gradually been introducing market-led reforms. The entry into the World Trade Organisation in 2007 can be considered as milestone of the economic transition. Overall, the reform process has been very successful. First and foremost poverty levels could be significantly reduced. Vietnam's big cities have been the engine of the reform process with Ho Chi Minh City, the country's first megacity, as economic spearhead. However, climate change seems to endanger the tremendous progress Vietnam has achieved.

Initial Situation

During the course of transition, energy consumption has increased at almost double the speed of the astonishing economic growth. Buildings offer enormous potential for the reduction of greenhouse gas emissions and increasing energy consumption. This is particularly true in Vietnam, where the amount of construction activity is unprecedented. The final energy consumption within the residential sector is 54% of Vietnam's total. This proportion is very high and more than double than world average. Within the Megacity Research Project, TP. Ho

Fig. 1 Emerging skyline of Ho Chi Minh City, Vietnam [Author]

Fig. 2 Central Business District of Ho Chi Minh City, Vietnam [Author]

Chi Minh–Integrative Urban and Environmental Planning Framework Adaptation to Climate Change, a transdisciplinary team consisting of an architect from Darmstadt University, a construction engineer from Stuttgart University, the company, EnergyDesign Asia, as well as a social scientist from Hamburg University aim to promote climate-adapted housing and energy-efficient buildings in Vietnam.

Special Background

In Vietnam, modern, glass and steel architecture is preferred to traditional "tropical" architecture. Despite the enormous architectural heritage in terms of bioclimatic design until the nineteen-seventies, Vietnam seems to have lost a part of its know-how in terms of design and construction concerning energy-efficient buildings. New buildings are equipped with energy-intensive A/C technology. The rapidly emerging urban middle-class population, the so-called new consumers, have increasingly resource-intensive lifestyles. New values are formed along with new life concepts, where new aspirations and possibilities are established. The danger is that issues of sustainability and long-term benefit that are crucial for society and humankind are neglected when making decisions about how to define the new status sought after.

Our analysis showed that most energy within a residential building is spent on cooling, followed by energy needed for heating water. The most important reasons for losing cooling energy are insufficient insulation of the walls and low-quality windows. Our surveys verified that the amount of living space (36 m^2/capita) and the amount of electricity consumption (340 kWh/month/capita) among the urban middle-class population in HCMC as being almost the same as in Germany. Only a few households (16%) provide (thermal) solar water heaters.

Fig. 3 Neighbourhood of the "New Consumers" in Vietnam [Ceyhan Cüce 2011]

Fig. 5 Front cover of the *Handbook for Green Housing*, Vietnamese Edition

Achieving more energy-efficient structures remains a tremendous challenge. Official regulations like the Vietnamese energy efficiency building code are largely ignored. Furthermore, state representatives are not currently leading by example. Sectorial approaches dominate, whereas more horizontal cooperation is needed. Civil society organisations act in a rather isolated fashion. A balanced set of economic incentives to promote energy efficiency does not yet exist. Briefly, successful policies towards more sustainability need to be less top-down, more holistic, and more inclusive. Against this complex background, our transdisciplinary team decided to develop a handbook by a broad, multistakeholder coalition to increase ownership and dissemination.

Objectives and Targets

The main objective of the publication and dissemination of the *Handbook for Green Housing* is to maximise the enormous potential that the housing sector has for the reduction of greenhouse gas emissions in Vietnam. Thus, a bottom-up approach is being followed, by trying to convince people rather than to coerce them—for example, by top-down regulations. In general, the *Handbook for Green Housing* pursues a holistic approach: the range of principles and measures introduced covers all construction and design aspects of buildings, as well the behavioural dimension. This includes information on how to rediscover the basic principles of bioclimatic architecture.

Target Groups

The main target group of the *Handbook for Green Housing* are homebuilders among the rapidly emerging urban middle-class population, the so-called new consumers. They will be persuaded by informing them about short payback times regarding the implementation of measures in the field of climate-adapted housing and energy-efficient buildings. In this context, the slogan "Save Energy, Save Money" was printed on the front cover of the handbook. However, the *Handbook for Green Housing* also offers valuable advice and inspiration for small and medium-sized construction companies from the construction and building sector, developer companies, higher education institutions, and local administration.

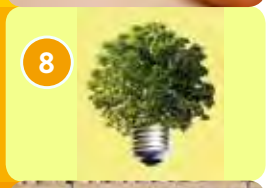
Parties Involved

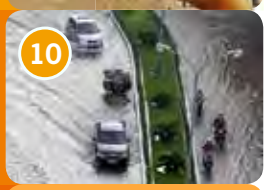
During the development and production process of the *Handbook for Green Housing*, the aim was to create multistakeholder coalitions with representatives from government, the corporate sector, and from civil society. This was undertaken to increase local ownership, to reflect the comprehensive nature of this product, and to overcome institutional fragmentation prevalent in Vietnam. For example, contributions to the book were submitted by representatives from the Department of Construction of Ho Chi Minh City, from the Ministry of Science and Technology of Vietnam, the University of Architecture of Ho Chi Minh City, and from a local NGO, Live & Learn.

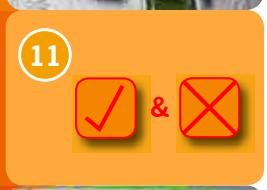
Fig. 6 Contents of the *Handbook for Green Housing*

Subjects, Issues, and Contents

The *Handbook for Green Housing* is a tangible output introducing a comprehensive set of principles and measures by means of an easy-to-understand layout to make the best of natural phenomena, like the sun and wind, as well as to limit natural disadvantages. The range of principles and measures introduced covers all construction and design aspects of buildings, as well the behavioural dimension. As a reference example, the most popular housing typology in urban Vietnam has been selected: the townhouse (nhà phố). In general, the principles and measures introduced should be understood like a menu from which homeowners choose







according to the individual capacities, needs, and personal preferences. Many of the ideas proposed do not cost anything, but offer multiple–individual and common–benefits.

Methods, Scenarios, and Organisation

The development and dissemination has been undertaken by a multistakeholder coalition. *The Handbook for Green Housing* has been officially endorsed by the national Ministry of Construction in Hanoi, the Department of Construction of Ho Chi Minh City, and the Vietnam National Energy Efficiency Programme (VNEEP) managed by the national Ministry of Trade and Industry.

Instruments, Products, and Learning

The final outcome is a tangible product: *Handbook for Green Housing*.

Costs, Efforts, Resources, and Preparation

The entire development process of the *Handbook for Green Housing* extended over a period of about two years. The inclusion of many stakeholders in Vietnam was time-consuming, but also rewarding. To secure high content quality, a lot of communication between the involved parties and numerous review meetings were needed. The European Chamber of Commerce in Vietnam (EuroCham), the Department of Construction of Ho Chi Minh City municipal government, and the Vietnam National Energy Efficiency Programme (VNEEP) generously contributed to the printing costs of the publication. The total circulation number of the printed Vietnamese edition was 5,000. Soft copies of the *Handbook for Green Housing* have been made available to read on numerous websites in Vietnam and internationally. This impressively illustrates the considerable commitment of the local stakeholders.

Essential Requirements

To establish a multistakeholder coalition regarding the development and dissemination process requires a lot of communication and the building of trust. Particularly for the scientists involved, it is very important to realise that the work is not completed after the publication of the handbook, but that impact can only be reached by means of an intensive dissemination campaign driven my multiple stakeholders. In a best-case scenario, the local stakeholders continue the dissemination efforts even after the termination of the project funding from Germany.

Experience

Remaining challenges:

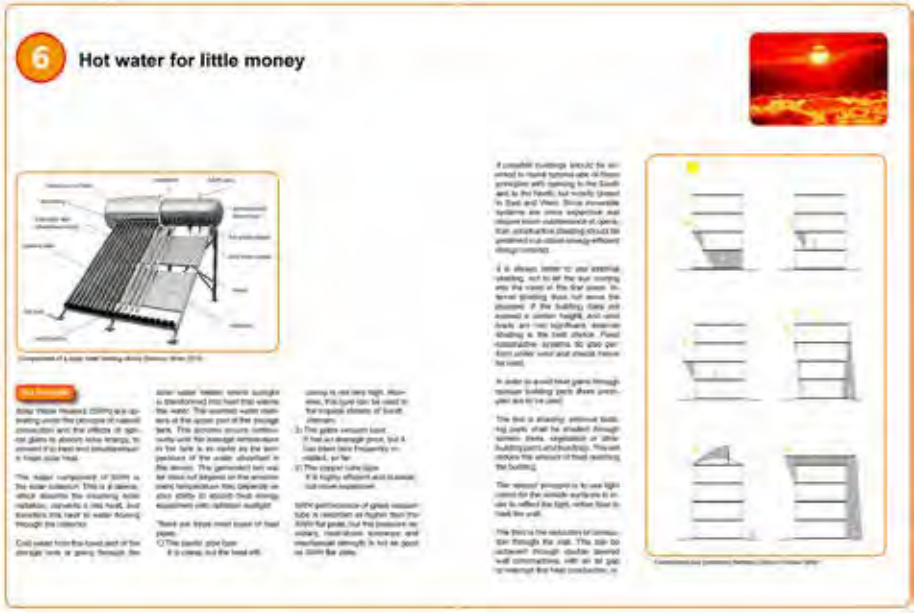
- To get more local stakeholders on-board and to make the *Handbook for Green Housing* a local tool for sustainable building practice by overcoming the (false) expectations that foreign input might not fit the local demand and context.
- The identification of immediate connections between the increased erection of climate-adapted and energy-efficient buildings in Vietnam and the successful dissemination process of the *Handbook for Green Housing*.
- The acquisition of external financial resources regarding the further dissemination of the *Handbook for Green Housing*—for example, mailing activities, capacity building training, promotional tours around Vietnam, the organisation of media response, and advertisement (TV-spots), etc.

Implementation

The Megacity Research Project TP. Ho Chi Minh aims to develop a toolkit of measures for climate change adaptation and mitigation labelled the "Green Agenda". It contains different spatial levels of implementation, the urban scale, the neighbourhood scale, and the building

Fig. 7 Typical housing in Ho Chi Minh City [Author]

Fig. 8 Examples for the design layout



level. Within the framework of the Green Agenda, the main objective of the *Handbook for Green Housing* is to maximise the enormous potential the housing sector has for the reduction of greenhouse gas emissions in Vietnam. In this way, the development and dissemination of the Handbook for Green Housing, as well as of the second edition, the *Handbook for Green Products* are key elements of the work package, "Climate-Adapted Housing and Energy-Efficient Buildings in Vietnam" of the Megacity Research Project TP. Ho Chi Minh City.

Transfer and Dissemination Activities

- Presentations and Distribution at Conferences
- Representation at Fairs (Hanover Fair 2012, GreenBiz Vietnam 2013)
- Distribution to all Energy Efficiency Conservation Centres (EEC) in Vietnam and to all relevant libraries and to key decision-makers managed by VNEEP (Ministry of Trade and Industry)
- Selling of the *Handbook for Green Housing* at bookshops and online in Vietnam managed by the Publishing House (Transport Publishing House, Hanoi)
- Distribution to all district and sub-district government authorities in Ho Chi Minh City managed by the Department of Construction of HCMC municipal government (DoC, Ho Chi Minh City)
- Incorporation of the contents of the *Handbook for Green Housing* into the curriculum of Ho Chi Minh City University Department of Architecture and in other institutions of higher education
- Development of a second edition of the handbook the Handbook for Green Products, based on the same successful approach
- The *Handbook for Green Products* follows a dual strategy: 1) to give Vietnamese SME a platform to disseminate information about their innovative products and services 2) to inform home builders, construction companies, developer enterprises, and higher education institutions about general principles of how to make buildings more climate-adapted and energy-efficient by green housing products and services. The second edition was published in June 2013.

For more Information and Products

Web-Site of Megacity Research Project TP. Ho Chi Minh City: www.megacity-hcmc.org/

Download URL of the soft-copy of the English Edition of the Handbook for Green Housing: http://www-docs.tu-cottbus.de/megacity-hcmc/public/04_Publications/2011_edition_Handbook_for_Green_Housing_ENG.pdf

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