



◊ Phnom Penh, Cambodia

Build4People

Enhancing quality of life through sustainable urban transformation

The project encourages research into sustainable building and urban development as well as the development of sustainable practices in Phnom Penh, the capital of Cambodia. Integrated sustainable urban transformation approaches are designed to offer city dwellers a higher quality of life. For instance, stakeholders from science and practice, develop and test new approaches and innovative concepts in living labs for a more sustainable Phnom Penh of tomorrow.

Project Objectives

The project aims to establish and meaningfully coordinate new relationships between behavioral and environmental dimensions and relationships between technologies and policies. The aim is a gradual transition from a rather technocratic and top-down oriented planning culture to a people-oriented process and dialogue culture. In this way, the foundations are laid for an integrated urban development. As overall aim, the urban quality of life is to be improved through sustainable buildings, sustainable neighbourhood development and expanded green infrastructures. There is also a focus on strengthening resilience to the consequences of climate change. Thereby, the constant transfer of knowledge between international stakeholders from science, politics, urban citizens and the corporate sector is being regarded as essential for sustainable urban transformation.

Challenges

Dynamic economic growth and an accompanying massive construction boom are currently reshaping urban space in Cambodia. These processes are strongly dominated by short-term profit interests, however. Despite high electricity prices and a long tradition of climate-adapted architecture, newly constructed buildings are often neither energy-efficient nor adapted to the tropical climate. In addition, the development of a modern consumer society in Cambodia leads to resource-intensive lifestyles with rapidly increasing ecological footprints. Sustainability issues are insufficiently discussed by relevant ministries, city administrations, educational institutions, building users and actors in the construction sector. Against this background, Cambodia faces complex challenges in implementing a sustainable urban transformation. Viable concepts are to be developed for achieving the overarching goal of an improved quality of life in the project context. Not only technological, but also social, cultural, economic and political aspects will be considered.

Addressed Sustainable Development Goals of the United Nations

11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION





Image provided by Build4People

Research Approach and Methods

Based on a transdisciplinary research design, the Build4People project establishes participatory formats such as living labs or social innovation platforms. In this way, local actors from politics, business and civil society generate know-how together with researchers, which can promote a sustainable urban transformation. Experts from environmental psychology, civil engineering, urban planning, architecture, urban climatology, remote sensing and human geography are involved. Collaborative research methods such as living labs (»Ecocity Transition Lab«) and strategic niche management approaches (»Incubator for Sustainable Building«) are applied. In the »Arena for Sustainable Construction«, local sustainability pioneers will develop joint visions and strategies and prepare projects for subsequent implementation. In a final step, the application of the empirical results in action research processes should also lead to an integration of the knowledge created and a subsequent expansion of the theory.

Focus Topics

- Sustainable urban transformation
- Energy and resource-efficient building
- Integrated urban neighbourhood development
- Promotion of urban quality of life
- Urban greening and urban climate
- Environmentally friendly behaviour and sustainable lifestyles



»I am very excited to work with Build4People as it is really important for Phnom Penh. The main course of our urban planning work in the City Hall is how to improve the urban quality of life for the population in Phnom Penh. Against the background of a steadily growing population, finding comprehensive solutions to the problems that arise represents a major challenge.«

Vannak Seng. Director of Administration of Phnom Penh Capital Administration



Group Picture at Presentation Conference of Build4People Ecocity Transition Lab at Phnom Penh City Hall, March 2020. Image provided by Build4People

Expected Solutions and Innovations

Build4People made a point of designing solutions for a people-oriented inclusive urban development. For example, a catalogue of strategies, guidelines and criteria for urban sustainability will be developed in way of co-design. These transdisciplinary processes will result in various target group-oriented products. These include, among others a toolbox for sustainable urban neighbourhood planning, a handbook for healthy housing and sustainable living, and a framework for a campaign to promote more sustainable lifestyles. A key result will be the development of a human-centred model for urban quality of life. Based on this model, concrete theory- and data-based strategies and planning proposals for improving the urban quality of life in Phnom Penh will be derived.



»More recently, it has become increasingly apparent that sustainable urban transformation is by no means only a technological challenge, but above all a social, cultural, economic and political one. At the same time, it is becoming increasingly clear that science can only work out solutions for sustainable urban development together with the urban society.«

Dr. Michael Waibel

Cooperation Partner

German Partners

- Magdeburg University
- Stuttgart University
- Eble Messerschmidt Partner
- Eberswalde University for Sustainable Development
- Institute for Climate and Energy Concepts

Cambodian Partners

- Royal University of Phnom Penh
- Institute of Technology of Cambodia
- Paññāsāstra University of Cambodia
- Royal University of Agriculture
- Cambodian Institute of Urban Studies
- Phnom Penh Capital Administration



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◊ Chiang Mai, Thailand

CHARMS

Carrying heritage buildings as part of urban regions into a modern and energy-efficient society

CHARMS aims to improve the indoor comfort of historic wooden houses in Thailand. Against the background of the planning ideal »preservation through use«, concepts for the use of these buildings are developed together with local residents and city administrations. In this way, CHARMS contributes both to increasing the quality of life of the residents and to reducing construction-related CO₂ emissions.

Project Objectives

CHARMS develops an integrated strategy to increase the indoor comfort of historic homes in the city of Chiang Mai. Various stakeholders from the Fraunhofer-Gesellschaft and Chiang Mai University initiated this project in view of the prevailing insufficient air quality in the city and the COVID-19 related increasing importance of the domestic environment as a living and working space.

The project's aim is to improve domestic well-being and public health as well as to preserve architectural heritage and cultural identity by integrating technical and social innovations. For this reason, locally adapted sustainable utilisation concepts for historic wooden houses and neighbourhoods are designed and their implementation is being prepared. The close involvement of local stakeholders in the R&D process ensures local acceptance of the developed solutions and thus a successful project implementation in the long term.

Challenges

Surveys by the project team show that especially young residents of historic wooden houses feel adversely affected either because of high energy costs, poor air quality or insufficient thermal comfort. On the one hand, the problem is due to the fact that the younger generation's demands for indoor comfort differ from those of their parents' generation. On the other hand, the functionality of traditional, indirect cooling systems of historic wooden houses is severely limited due to the changed local microclimate and high air pollution. Residents are therefore increasingly investing in technical cooling systems, which however lead to a higher energy consumption and urban heat islands. Lastly, the impact of municipal initiatives to improve the situation has been limited in the past, partly due to insufficient involvement of local actors and low synergy effects between initiatives.

Addressed Sustainable Development Goals of the United Nations

7 AFFORDABLE AND
CLEAN ENERGY11 SUSTAINABLE CITIES
AND COMMUNITIES17 PARTNERSHIPS
FOR THE GOALS



Image provided by Fraunhofer IMW

Research Approach and Methods

CHARMS meets the complex, socio-ecological challenges with its high degree of transdisciplinary. Research methods are integrated across academic disciplines so that researchers and practitioners can work together successfully in the Chiang Mai region of Thailand. The assessment of the suitability of the proposed solutions is carried out by local committees consisting of the local population as well as municipal and civil society decision-makers. Furthermore, a local office permanently strengthens the cooperation. The CHARMS team uses mixed-methods approaches and modern geo-information systems to understand and visualise the challenges and preferences of the local population regarding the future use of historic wooden houses and to translate them into locally acceptable and effective solution concepts.



»Lanna-wooden house is a cultural heritage that reflects the local wisdom of designing and building residents based on nature and reflecting the way of life of Chiang Mai people. Today we have witnessed them being faded away along with the rise of modern development and expansion of the city. CHARMS determines to conserve this local cultural heritage by introducing modern energy efficiency and construction technology to be adapted to maintain a Lanna-wooden house. Passing on the house to young generations, CHARMS offers a solution to carry on this wooden house to modern time as a place for thermal comfortable living and a reminder of the beauty and wisdom of Lanna culture.«

Warathida Chaiyapa

Focus Topics

- Energy efficient society
- Sustainable utilisation concepts for historic wooden houses
- Increase of indoor comfort
- Improvement of air quality
- Urban quality of life



Image provided by Chiang Mai University – SPP

Expected Solutions and Innovations

CHARMS is implemented in three phases. First, urban planning, construction and IT-based solutions will be developed, for example to improve the building envelope and the local microclimate, to adapt traditional cooling systems and to improve communication between the local population and the city administration. At the same time, a catalogue of social innovations for the sustainable use of historic buildings will be developed and transferred into case studies. The integration and evaluation of these technical and social solution approaches will take place in the second phase of the project in close coordination with the local bodies. Finally, in the third phase the implementation of the resulting integrated solution is systematically prepared. This process is accompanied by modelling the local microclimate, conducting social structure analyses and implementing further training activities in the field of sustainable cultural heritage management.



»Sustainable development and the preservation of tangible and intangible cultural heritage cannot be separated. Dynamic changes in lifestyles, the COVID-related increasing importance of the domestic environment as a living and working space, and the CO2 consumption of urban structures require new utilisation concepts for historic, built structures in the Asian city of tomorrow. This is precisely where CHARMS comes in.«

Henrik Beermann

Cooperation Partner

German Partners

- Fraunhofer Institute for Energy Economics and Energy System Technology IEE
- Fraunhofer Institute for Building Physics IBP
- Fraunhofer Institute for Open Communication Systems FOKUS
- Fraunhofer Innovation Network Morgenstadt
- Bable.de

Thai Partners

- School of Public Policy at Chiang Mai University
- Stakeholders of the pilot districts Wat Ket and Wat Lam Chang
- City of Chiang Mai
- Digital Economy Promotion Agency
- German-Thai Chamber of Commerce AHK Bangkok
- Chamber of Commerce Chiang Mai
- UNESCO Bangkok
- The Siam Society
- DAAD Thailand

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◊ Manila, Philippines; Bangkok, Thailand; Hanoi, Vietnam

LIRLAP

Linking disaster risk governance and land-use planning: The case of informal settlements in hazard prone areas in the Philippines

LIRLAP focuses on informal settlements in the Philippines and lowers the risk for residents to bear the consequences of environmental disasters. LIRLAP produces climate adaptive enhancement and resettlement programmes together with the local residents in order to improve their livelihoods. Locally viable strategies for upgrading and resettlement are integrated into resilience planning.

Project Objectives

The LIRLAP project focuses on three objectives. (1) Urban development approaches for resettlement and upgrading will be developed based on pilot projects in selected areas of Metro Manila. (2) Climate adaptive evaluation and resettlement approaches will be co-produced with local residents to improve their livelihoods. (3) LIRLAP plans to mainstream locally sustainable upgrading and resettlement strategies and to integrate resilient planning through training programmes and dual doctorates between Dortmund and the School of Urban and Regional Planning – University of the Philippines.

Challenges

Worldwide, rapid urbanization of urban regions is contributing to an increase in disaster risks. The phenomenon of informal settlements in hazardous areas poses a particular challenge. While focusing on global city competition and urban economy efficiency, extremely marginalised urban poor have often been excluded from national planning agendas, including those in the Philippines and other Southeast Asian countries. »Urban risk governance«, risk-based land use planning to reduce the inhabitants' socio-economic vulnerability and improving their adaptability – those are the main goals of LIRLAP. As poorly managed urbanisation is a major driver of disaster risk and poor people are often the ones most severely affected by disasters, it is imperative to introduce risk-informed spatial planning mechanisms in areas where the urban poor mainly live.

Addressed Sustainable Development Goals of the United Nations

**4** QUALITY
EDUCATION**10** REDUCED
INEQUALITIES**11** SUSTAINABLE CITIES
AND COMMUNITIES**13** CLIMATE
ACTION**17** PARTNERSHIPS
FOR THE GOALS



Informal Settlement Colo-ong, Valenzuela City. Image provided by Wolfgang Scholz

Research Approach and Methods

LIRLAP takes a dynamic perspective and assesses the impact of future urban growth and densification scenarios in Metro Manila, especially for informal settlements. It takes into account the urban morphology, the socio-economic factor and the future availability of land suitable for resettlement. This is deepened in field work on upgrading and resettlement of informal settlements, complemented by knowledge transfer to and from Thailand and Vietnam. This leads to two pilot studies for resilient upgrading and resettlement designs in the field and application guidelines. The aim is to embed upgrading and resettlement strategies into urban risk management. The same applies to tailor-made training courses and a joint PhD programme in which knowledge and solutions are generated, transferred and disseminated.

Focus Topics

- Integrated urban development and sustainable neighbourhoods
- Urban quality of life
- Environmentally friendly behaviour and sustainable living
- Strategic risk reduction of informal settlements
- Improving socio-economic vulnerability
- Participatory urban development
- Transferability of resilient urban planning



»The Philippines advocates the building of safe, resilient, and sustainable communities. Human settlements are planned to be responsive to the public health system, adherent to hazard and safety standards, and adaptable to the shelter needs of the low-income and vulnerable market. For empowering stakeholders of informal and hazard-exposed human settlements urban risk governance and risk-based land use planning become particularly relevant.«

Dina Cartagena Magnaye

Expected Solutions and Innovations

All results of the R&D phase are transferable to partner countries and countries with similar development contexts. The R&D phase aims to develop urban growth models under different resettlement or in-situ upgrade options for Metro Manila and transfer the risk trend model to partner cities in Thailand and Vietnam. A cross-country analysis will be developed on these topics. Pilot studies with upgrade design guidelines will be politically approved at the end of the R&D phase. They will be replicated at other upgrade sites of informal high-risk settlements in Metro Manila. Concrete upgrade measures will be tested in the implementation phase and are expected to lead to commercial follow-up activities for »KaiserIngenieure«. A resettlement policy will address a strategy of selective resettlement. Mainstreaming activities will influence policy and decision-making at different planning levels in the Philippines. In particular, it will promote risk-based spatial planning involving multiple stakeholders and institutions. Building on the themes of LIR LAP, training and a PhD programme will be conducted.



»In many countries of the Global South, residents of informal settlements tend to be more vulnerable to climate events due to very limited risk-reducing infrastructure, poor housing quality and limited capacity to cope. Therefore, mainstreaming urban risk governance and risk-based land use planning is necessary to reduce the socio-economic vulnerability of residents and improve the resilience capacity of communities.«

Prof. Dr. Stefan Greiving



Site visit in one of the resettlement schemes in Manila. LIR LAP team with local stakeholders and partners from Vietnam and Thailand 2020

Image provided Juan Du

Cooperation Partners

German Partners

- University of Stuttgart, Institute for Spatial Planning and Development Planning
- Ludwig-Maximilians-University Munich, Department of Geography
- KaiserIngenieure Dortmund

Asian Partners

- University of the Philippines, School of Urban and Regional Planning
- Thammasat University (Thailand), Urban Futures & Policy Research Unit
- Vietnam National University of Agriculture, Faculty of Natural Resources and Environment



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Q Taizhou, China; Huangyan-Taizhou, China

URA

Strategic tools for integrated territorial planning enhancing urban-rural integration and circular economies in the Huangyan-Taizhou region

The focus of the URA project's R&D activities lies on strengthening integrated and socio-ecologically sustainable urban-rural development in the Chinese region of Huangyan-Taizhou. Based on interdisciplinary research on urban-rural linkages, a regional guiding strategy is developed in a transdisciplinary process using participatory and actor-oriented planning and governance tools. The establishment of a global network will ensure the transfer of knowledge between international urban-rural regions and partners from research and practice.

Project Objectives

URA develops strategic planning and governance tools with the aim of strengthening an integrated and socio-ecologically sustainable transformation of urban regions. Therefore, a change of perspective is undertaken: urban and rural areas are no longer seen as isolated socio-spatial entities but as an integrated whole. To this end, the project pursues an interdisciplinary research approach to develop quantitative and qualitative methods. Moreover, URA aims at the trans-disciplinary development of a participatory and actor-oriented guiding strategy that identifies specific transformation scenarios for the study region and makes statements on socio-ecologically sustainable action paths for selected sub-regions. Following this, the developed instruments and guiding principles are tested for their transferability and recorded in the form of policy recommendations for integrated urban-rural planning. The project examines the urban region of Huangyan-Taizhou in the province of Zhejiang in China and includes multi-scalar approaches to integrated urban-rural development using the comparative example of the International Building Exhibition IBA Thüringen in Germany.

Challenges

China is experiencing rapid urbanisation processes that entail profound social, economic and environmental impacts. These are particularly evident in the context of urban growth processes, land use changes and infrastructure projects. Social and economic polarisation processes between urban centres and rural hinterland regions are concrete consequences. In addition, cities face ecosystem degradation, biodiversity loss, air and water pollution and other negative consequences of rapid urbanisation and land use change. Increasing urbanisation processes promote the material and immaterial urban-rural metabolisms and change everyday coexistence and economies. This again results in new forms of trans-local relations and lifeworld experiences between urban and rural places. In order to investigate these interrelationships, including challenges and potentials, URA builds on the real lab approach and particularly focuses on exemplary transformation areas (Urban-Rural Living Labs) that are allocated between the urban centre Taizhou City and its Western hinterland Huangyan.

Addressed Sustainable Development Goals of the United Nations



2 ZERO HUNGER



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



Image provided by Jörg Gläscher / TU Berlin

Research Approach and Methods

URA sets up mutually beneficial learning partnership linking German and Chinese consortium partners. The project team demonstrates its interdisciplinary competence by integrating urban planning and landscape architecture, ecology and environmental protection as well as sociology and circular economy. The URA team works together with local stakeholders from business and politics to investigate the multiple sustainability risks and transformation potentials inherent to urban-rural linkages. Inter- and transdisciplinary research methods are used for this purpose building the ground for a participatory and actor-oriented planning process that aims at the development of a guiding strategy for the Huangyan-Taizhou region. Approaches of quantitative material flow analysis, qualitative methods regarding social space as well as political and network analysis are applied to three selected transformation areas. The interdisciplinary approaches pursue a multi-scalar research approach that examines the trans-local interrelations at the urban-rural interface across local, regional and supra-regional levels. The developed strategic planning and governance tools will be tested for their transferability and recorded in the form of policy recommendations for integrated urban-rural planning.

Focus Topics

- Strategic planning and governance tools
- Integrated territorial development
- Strengthening urban-rural relations
- Strengthening circular development
- Urban-rural material flows, socio-spatial practices and migration
- Urban-rural landscape typologies and ecosystem services



»URA explores new inter- and trans-disciplinary planning tools to achieve integrated and sustainable development at the urban-rural transition zones, using the Huangyan-Taizhou region as an example.«

Prof. Dr. Guiqing Yang.



Image provided by Jörg Gläscher/TU Berlin

Expected Solutions and Innovations

The socio-economic polarisation processes between urban centres and rural areas in China as well as the ecological challenges in the context of advancing urbanisation could so far only be counteracted to a limited extent, despite several existent territorial planning approaches, development programmes and investments. This is where URA comes in and aims to use strategic planning and governance instruments to promote the development of an actor-oriented vision and guiding framework for the study region, including socio-ecologically sustainable paths of action. These should particularly strengthen approaches and networks of an active circular economy within the urban region. Special attention is paid to the long-term safeguarding of urban-rural ecosystem services, the efficient use of urban-rural material flows in agricultural production and waste disposal, and the sustainable strengthening of social and economic inclusion processes at the urban-rural interface. The current results will be compared with German planning approaches for integrated territorial development and tested for their transferability to other Chinese and international regions.



»Urban-rural systems are the basic elements of a regenerative economic and social model: new planning tools are needed to replace the extractive, outdated and linear juxtaposition of urban versus rural with circular thinking and action in resource regions.«

Philipp Misselwitz

URBAN -
RURAL
ASSEMBLY

Cooperation Partners

German Partners

- TU Berlin, FG Kreislaufwirtschaft und Recyclingtechnologie
- TU Berlin, Center for Cultural Studies on Science and Technology in China
- Bauhaus-Universität Weimar, Department for Landscape Architecture and Planning
- Leibniz Institute of Ecological Urban and Regional Development, Research Area Landscape Change and Management
- Urban Catalyst GmbH
- International Building Exhibition IBA Thüringen GmbH
- AEDES Architecture Forum GmbH

- ANCB AEDES Network Campus Berlin gGmbH

Chinese Partners

- Tongji University Shanghai
- Zhejiang University Hangzhou
- Shanghai University
- The People's Government of Taizhou Municipality
- The People's Government of Hanguan District, Taizhou
- Taizhou University
- Chinese Association of Circular Economy
- Chinese Academy of Urban Planning and Design

Other Partners

- UN Habitat, Nairobi
- ICLEI EA Secretariat, Seoul/Beijing

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◊ Da Nang, Vietnam; Quang Nam Province, Vietnam

emplement!

Empowering urban regions for cooperative, synergistic and practical implementation of sustainability and resilience strategies considering the urban-rural nexus

Rapid growth poses major challenges to cities and surrounding regions in Vietnam. To address these, the emplement! project aims to enable stakeholders in the city of Da Nang and the neighbouring province of Quang Nam to transfer relevant strategies and plans into practical, sustainable or resilient measures. Suitable methods, instruments and the necessary capacities are being developed for this purpose.

Project Objectives

The overall goal of emplement! is to support urban regions in their implementation processes of sustainability and resilience strategies. The emplement! approach develops and provides applicable and transferable methods and instruments for this purpose. Spatial, actor-, policy-, technology- and process-related components are integrated. Through the intensive cooperation in the context of urban-rural regions, the aspects of sustainability and climate protection are anchored in the project. Moreover, the resilience against drought, flooding, saltwater intrusion, among others, is taken into account and strengthened. The project activities focus on the four fields tourism, agriculture/forestry, industry, and the built environment – with an emphasis on implementation processes associated with supply and disposal infrastructure. This includes environmentally friendly technologies and methods for water supply, sewage, energy, waste and »safe food«.

Challenges

As early as 2050, a clear majority of the world's population – about 70% – will live in cities. Most of this growth will take place in Asia. The institutions, infrastructures and information networks in Vietnam can hardly keep up with this rapidly advancing urbanisation and the rapidly changing demands that come with it. Resource scarcity, emissions, environmental degradation and declining biodiversity are just as much a consequence as increased vulnerability to natural disasters. Due to the strong interdependence between the city and the surrounding area, these vulnerabilities have an impact not only locally, but throughout the entire region. This results in a need for action that must be addressed at the urban-regional level. In order to avoid conflicts, the scarcity of energy and water resources and the increasing use of the natural environment also require sustainable and socially compatible infrastructure and land use concepts.

Addressed Sustainable Development Goals of the United Nations





Da Nang City Vietnam. Image provided by emplment! AT-Verband

Research Approach and Methods

The development, adaptation and application of methods and instruments to support implementation processes take place on three research levels: At the system level, strategies and plans are analysed with regard to their feasibility and corresponding methods are developed for this purpose. At the technology level, suitable technology set-ups are developed and decision-making aids are provided, and at the implementation level, implementation processes – including those of our own emplment! pilot projects – are scientifically accompanied. Synergy and conflict potentials between the four fields of action as well as between the city of Da Nang and the neighbouring province of Quang Nam are examined. Specific expertise and technical know-how are fundamental prerequisites for the successful implementation of measures. »Capacity development« and the »empowerment« of the actors involved are central elements at the planning level as well as at the practical level of emplment!.

Focus Topics

- Sustainable supply and waste infrastructure
- Social and environmentally sustainable technologies
- Conceptual and technical synergies
- Resource-efficiency
- Urban-regional cooperation
- Sustainable urban-rural development
- Implementation processes

»IMPLEMENTATION, IMPLEMENTATION, IMPLEMENTATION!«

Dr. Quang. UN-Habitat VN



emplement! Summer School 2019. Image provided by emplement! (AT-Verband)

Expected Solutions and Innovations

In order to strengthen resilience and to counteract sustainability problems resulting from the rapid urbanisation, transferable methods to support implementation processes will be developed. The structured implementation research and the scientific results of emplement! will enable stakeholders to sharpen their view on the urban-regional level and thus to use technological and procedural synergy potentials in the implementation of measures in the future. With the systemic-synergetic approach on both technology and cooperation level in the urban-regional nexus, resource-efficient and low-emission technology setups are developed that are at the same time functional and financially sustainable in the long term. The approach helps to avoid isolated measures and produces conceptual and technical synergies between the four fields of action and in the urban-regional context Da Nang – Quang Nam Province.

»Most strategies, including those for promoting sustainability or strengthening resilience, in general, describe ›what is to be done, but they contain few concrete approaches to answering the question of ›how it is to be done. That means that they usually do not describe the technical-practical implementation and the necessary prerequisites in detail, e.g. with regard to suitable technologies, financial requirements, know-how or organisational structures.«

AT-association

Cooperation Partners

German Partners

- AT-Verband – Association for the promotion of adapted, socially and environmentally sound technologies
- IZES gGmbH – Institut für ZukunftsEnergie- und Stoffstromsysteme
- Ostfalia University of Applied Sciences
- University of Hohenheim
- Frankfurt University of Applied Sciences
- University of Tübingen

Vietnamese Partners

- UN Habitat
- Da Nang City
- Da Nang University of Architecture
- Da Nang University of Science and Technology
- Quang Nam Province
- Da Nang Institute for Socio-Economic Development



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