

📍 City of Huế, Vietnam; Thừa Thiên-Huế Province, Vietnam

## GreenCityLabHuế

### Strengthening climate resilience of urban regions in Central Vietnam through nature-based solutions for heat adaptation and air quality improvement

The GreenCityLabHuế project aims to create a more sustainable, resilient and greener future for the city of Huế. The focus is on adapting to impacts of climate change through nature-based solutions and green infrastructure. In a participatory co-learning and co-creation process, the project will generate knowledge, ideas and concrete proposals for the development of green and blue infrastructures in Huế.

#### Project Objectives

The project has the overall objective to contribute to increasing and strengthening social and environmental resilience in Huế and the surrounding province by promoting nature-based solutions and green-blue infrastructure. Likewise, existing urban ecosystems and provided ecosystem services are to be improved and protected. The project places special emphasis on the active participation of local stakeholders, experts and other knowledge carriers such as citizens. The project explicitly aims to model the implementation of nature-based solutions at city level and in more detail at specific locations within the city, and to analyse their potential impacts on the basis of scenarios. With the participation of different stakeholders, best practice measures for policy recommendations will be derived. As a result, a scientifically validated city-wide development concept for blue-green infrastructure will be developed together with local decision-makers.

#### Challenges

Vietnam is one of the ten countries most affected by the impacts of climate change. Central Vietnam in particular regularly suffers from extreme heat waves, storms, heavy rainfall events and flooding. The city of Huế is undergoing an accelerating trend of urbanisation with increasing sprawl and densification of urban space. As a result, the already visible impacts of climate change are being exacerbated by an unfavourable urban structure with additional heat stress, deterioration of air quality and an increase in localised flooding. However, unlike other Vietnamese metropolises, Huế has the opportunity and potential to trigger growth that focuses on sustainability and nature-based solutions. Huế can thus be a positive example for other cities in the region. The GreenCityLabHuế supports the city in doing so by generating knowledge and ideas on nature-based solutions for upcoming environmental challenges.

#### Addressed Sustainable Development Goals of the United Nations





**Green Infrastructure in Huế.** Image provided by GreenCityLabHuế

## Research Approach and Methods

In the GreenCityLabHuế project, actors from science, administration, politics and civil society work together in a transdisciplinary way. Thus, the project generates joint knowledge, ideas and specific proposals for the future use of nature-based solutions and the development of green and blue infrastructure and develops measures to increase urban resilience. In doing so, the GreenCityLabHuế uses the »Urban Learning Lab« approach by initiating co-learning and co-creation processes. In this way, a shared vision for a greener, smarter and more liveable urban development in the city of Huế and the surrounding province is developed. For this purpose, scenarios are modelled that help to visualise future developments and to understand and evaluate their possible impacts. An important component in the creation of scenarios of future urban developments is the involvement of local stakeholders, such as decision-makers, experts and representatives of civil society.

## Focus Topics

- Strengthening climate resilience
- Modelling of nature-based solutions and blue-green infrastructure
- Participation, co-learning and co-creation
- Sustainable urban transformation
- Heat adaptation and air quality improvement
- Improving the urban quality of life



»The GreenCityLabHuế Project brings knowledge on green and blue infrastructure and nature-based solutions to Huế and Vietnam. It contributes to the preservation and enhancement of the city's specific characteristics as the ancient imperial capital of Vietnam with its unique heritage, culture, and ecology, embedded in a beautiful landscape. In particular, the project provides new approaches and international techniques to innovate and diversify the methods of urban planning in Huế to realize the people's dream of living in a green and sustainable city that is resilient against the impacts of climate change.«

**Hoang Thi Binh Minh.** Project manager MienTrung Institute for Scientific Research





**Kick off meeting of the GreenCityLabHue Project.** Image provided by GreenCityLabHuế

## Expected Solutions and Innovations

Nature-based solutions are nature-inspired measures that use the ecosystem services provided by plants, soils and other natural elements to increase the sustainability and resilience of cities. In urban areas, a key contribution to climate change mitigation is therefore to preserve existing green-blue infrastructure as much as possible and to improve the storage of carbon in soils and vegetation. Furthermore, soils and plants contribute to cooling the ambient air and improving the air quality. In urban neighbourhoods where it is not possible to restore or enhance green spaces, green roofs and facades can be used as green-blue infrastructure elements, as they replace ecological functions of green and open spaces on sealed and built-up areas. The project supports Huế in improving the protection and qualification of the existing green-blue infrastructure and in including a sufficient supply of green-blue infrastructure when planning for renewing city districts or creating new ones.



»In times of climate change, green-blue solutions are key for healthy cities, healthy for humans and other organisms counteracting heat waves or extreme floods. Developing land use alternatives actively including green-blue nature-based solutions such as in the Green City Lab Huế are corner stones for a participatory sustainable development, in the absolut last moment.«

**Prof. Dr. Dagmar Haase.** Project Manager Humboldt Universität zu Berlin

## Cooperation Partner

### German Partners

- Humboldt University of Berlin

### Vietnamese Partners

- MienTrung Institute for Scientific Research
- Thua Thien Hue Institute for Development Studies
- Fakultät für Architektur der University of Sciences, Huế University
- Huế University of Sciences
- International School, Huế University

- Thua Thien Provincial Commanding Committee of Natural Disaster Prevention and Control, Search and Rescue
- Department of Natural Resources and Environment, Thua Thien Huế Province
- Ministry of Natural Resources and Environment, Viet Nam Institute of Meteorology, Hydrology and Climate Change, Sub-Institute of Hydrometeorology and Climate Change



### Project Coordination

**Dr. Michael Zschiesch**  
Independent Institute for Environmental Issues  
- UfU - e.V.

☎ +49 30 4284 993-32  
✉ [michael.zschiesche@ufu.de](mailto:michael.zschiesche@ufu.de)

[greencitylabhue.com](http://greencitylabhue.com)