

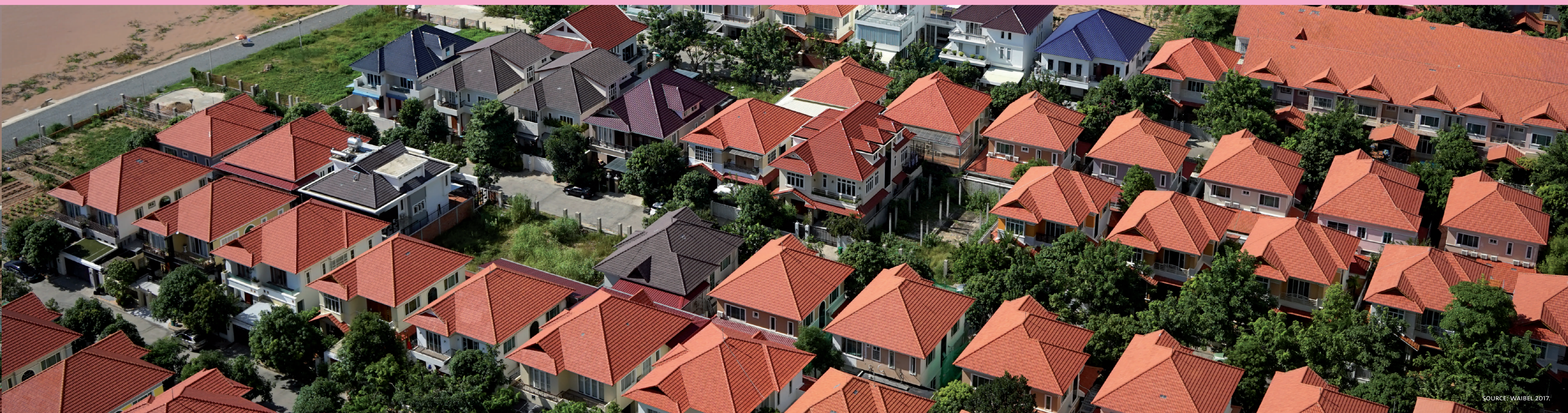
Build4People Project

Work Package #3: Sustainable Neighbourhoods Research Approach

INSPIRED BY



SPONSORED BY THE



SOURCE: WAIBEL 2017

RATIONALE & BACKGROUND

There is a rapid and often unplanned urbanisation over the last twenty years in Cambodia. A doubling of urbanisation level is expected until 2030. This leads to an unbalanced population growth, particularly in Phnom Penh, which tripled in the past ten years reaching around 2.1 million inhabitants.

A significant improvement of living standards is expected for the next years, especially of the urban middle class. As a result there is a strong demand for urban renewal and new neighbourhoods with a large socio-cultural, economic and environmental impact. Thus, there is a need to better understand and analyse its causes, patterns and trends.

Based on this, sustainable neighbourhoods are considered as key elements for enhancing the quality of urban life in Phnom Penh and are crucial for climate protection, climate adaptation and resilience.

THEORETICAL FRAMEWORK

The following framework projects will be used as background and a starting point:

- The EU funded project „Ecocity“ as a European framework for sustainable urban planning (30 partners, 8 European countries) (Messerschmidt et al., 2002-2005)
- The EU funded project „SNOWBALL – Energy Smart Urban Design“, including a city coaching and process design methodology (Messerschmidt et al., 2006-2008)
- The assessment and rating system for sustainable urban districts by the German Sustainable Building Council DGNB, including a comprehensive set of criteria and indicators (DGNB, Messerschmidt et al., from 2009 on)
- Multi-layered neighbourhood development strategies and experts workshop methodology as applied for „UMore Park“ in Minneapolis (Eble Messerschmidt Partner in cooperation the University of Minneapolis 2011)

RESEARCH QUESTIONS

Our WP investigates how sustainable neighbourhoods (design, construction, operation and management) can contribute to the quality of urban life with special regards to:

- Addressing the cultural heritage of Cambodia, changing socio-cultural conditions and the need for an increased public space area with a high quality of sojourn and liveability, applied both for new and existing developments
- Climate protection by energy-efficient buildings, employing smart energy supply systems and using renewable energy sources on the neighbourhood level
- Climate adaptation by climate responsive urban design for buildings and open spaces supporting comfort and health
- Circular economy including sustainable resource management, material flows and water cycles in a blue-green infrastructure

OBJECTIVES

- To understand the environmental, socio-cultural and institutional context in Cambodia.
- To establish and to consolidate the cooperation with Phnom Penh Capital Hall (PPCH).
- To achieve a first conceptualisations of strategies and an assessment system for “Sustainable Neighbourhoods”.
- To prepare a feasibility study for an eco-town development for the application of the strategies.
- To develop the 1st edition of the exhibition on “Green Buildings and Sustainable Neighbourhoods” as a road show in Cambodia in order to increase awareness about the topic of sustainable buildings and urbanisation.
- To contribute to trans-disciplinary products such as the “Green School Demonstration Project”, a joint survey and the subsequent “Urban Quality of Life City Index”.

ASSESSMENT CRITERIA FOR URBAN DISTRICTS

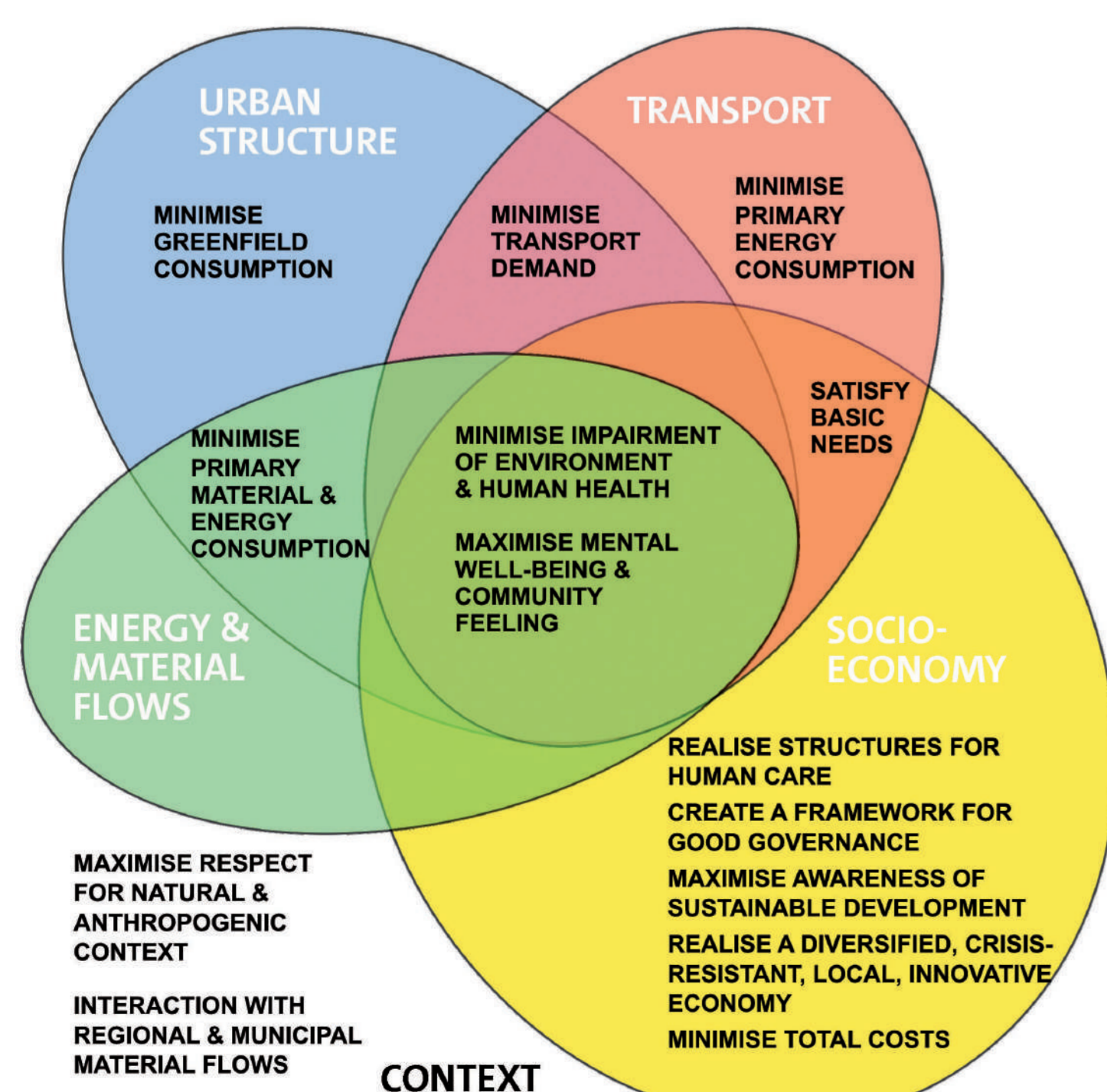
Environmental Quality	Economic Quality	Sociocultural and Functional Quality	Technical Quality	Process Quality
<ul style="list-style-type: none"> • (LCA) Life Cycle Assessment • Urban Climate • Environmental Risks • Water Cycle • Land Use • Biodiversity 	<ul style="list-style-type: none"> • (LCC) Life Cycle Costs • Resilience and Adaptability • Land Use Efficiency • Value Stability 	<ul style="list-style-type: none"> • Micro Climate-Thermal Comfort in Open Spaces • Open Space • Emissions/ Immissions • Accessibility • Urban Design • Social and Functional Mix • Social and Commercial Infrastructure 	<ul style="list-style-type: none"> • Energy Infrastructure • Resource Management • Smart Infrastructure • Mobility Infrastructure - Motorised Transportation • Mobility Infrastructure - Pedestrians and Cyclists 	<ul style="list-style-type: none"> • Integral Planning • Participation • Project Management • Governance • Construction Process • Monitoring

SOURCE: DGNB.

MILESTONES OF THE DEFINITION PHASE

- 3 baseline reports, including preconditions for sustainable neighbourhood development, planning framework, processes and stakeholders
- Pre-feasibility study on Phnom Penh „Eco Town Development“ and capacity building with PPCH
- First conceptualisation of planning strategies and assessment system for “Sustainable Neighbourhoods”
- First conceptualisation of strategies and assessment system for “Sustainable Neighbourhoods”
- 1st edition of the exhibition on “Green Buildings and Sustainable Neighbourhoods” as a road show in Cambodia
- Contributions to the “School Demonstration Project”, the joint “BuildPeople Survey” and the “Urban Quality of Life City Index”

SUSTAINABLE URBAN PLANNING



SOURCE: EU PROJECT ECOCITY.

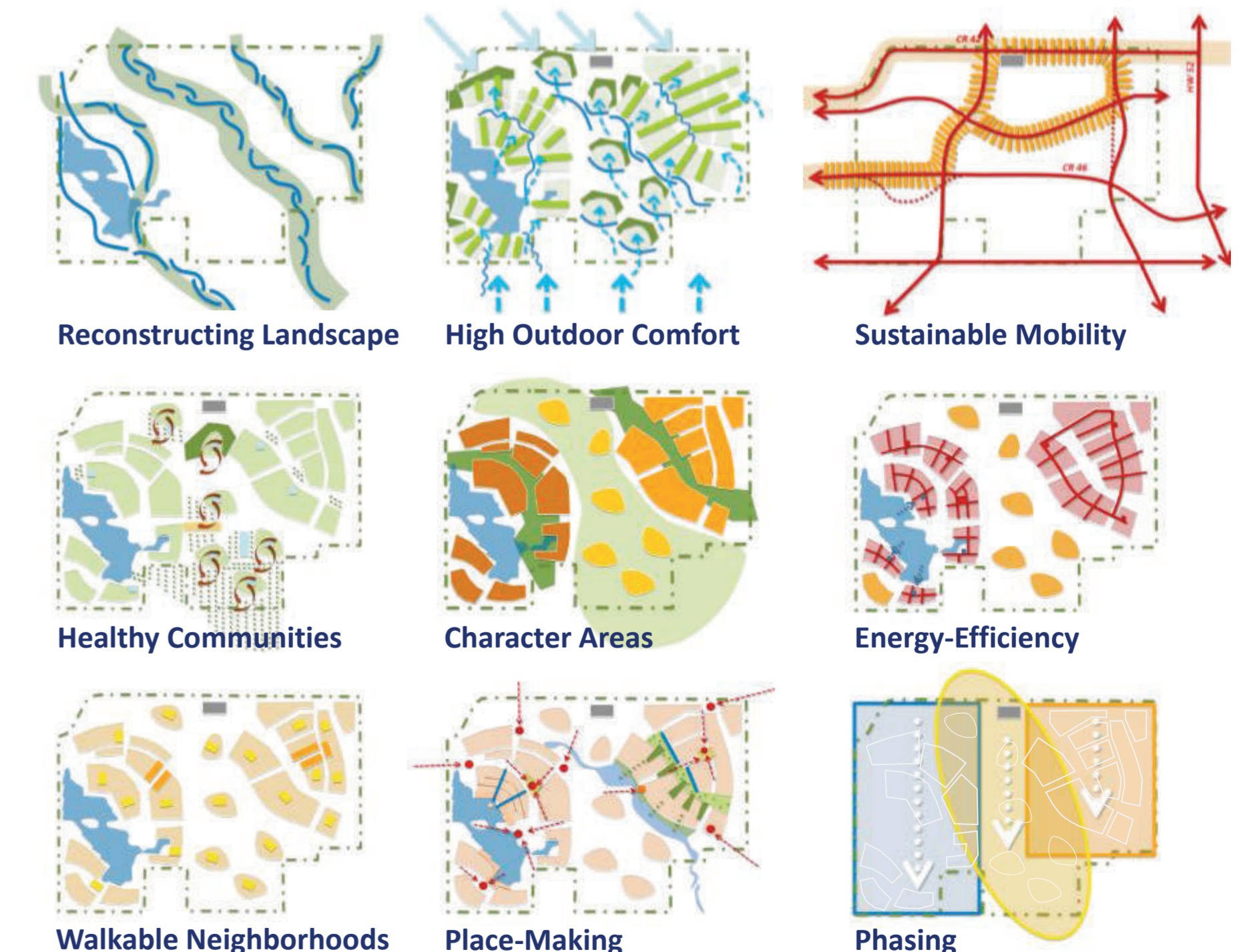
OUTLOOK

The knowledge transfer of European and international strategies will lead to innovative ways of neighbourhood development in Cambodia and South-East Asia.

It is expected that the research results contribute to:

- Raising considerably value to design and to foster the sustainability performance
- Assessment and audits for certification of sustainable neighbourhoods by DGNB or a Cambodian institution
- New multi-layered and collaborative planning strategies for implementing sustainable neighbourhood development („Ecocity Transition Lab“)
- Dissemination of results through presentations at conferences, scientific publications as well as contribution to the work of the international Green Building Council (GBC).

MULTILAYERED NEIGHBOURHOOD DEVELOPMENT



SOURCE: INTEGRATION PLAN - UMORE PARK, MINNEAPOLIS, EMP.

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QR-code:
List of references cited within this poster /
Further reading

WP#3 LEADER

BUILD4PEOPLE PROJECT LEADER

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