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Around the Commissions

W101 - Spatial Planning and Infrastructure Development

Report on Meeting on Assessment Tools for Urban Sustainability

by

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CIB Working Commission W101 on Spatial Planning and Infrastructure Development, held its annual meeting on October 20th, 2011 in Helsinki in conjunction with the SB11 Conference.

The main subject of the meeting was to start a comparison of "Assessment Tools on Urban Sustainability", which is considered one of the most competitively progressing technological fields with diversity among research groups internationally, in relation to the subject of urban planning and sustainability. In the meeting, three specific tools were taken up for comparative study and discussion, which are: HEKO, CASBEE-City and the NILIM tool. Hereafter a very brief summary description of these tools is given.

A full meeting report with a more detailed description of these city sustainability assessment tools can be downloaded here.

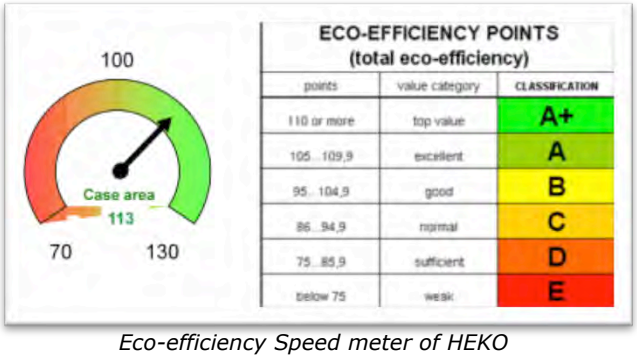
HEKO

HEKO (Helsinki Eco-efficiency Tool for Urban Development) was developed by VTT (Technical Research Center of Finland) as a fast, comprehensive and user-friendly eco-efficiency estimation method for urban development. Its prominent characteristics are clear focusing on to be practical in planning process of urban development, as well as to fit to locality of Finnish harsh climate and low density urban design culture.

Concerning Sustainability, HEKO approaches eco-efficiency from six viewpoints or criteria: flows of materials and energy, share of renewable energy sources, flows of emissions and waste and impact on the ecosystem. Eco-efficiency in the built environment is calculated with 21 "indicators" that are divided into 5 groups: land use, water usage, energy use, traffic and services, and carbon and material cycles. The tool produces one single aggregated average value of 21 independently calculated indicators.

Eco-Efficiency of the HEKO tool is defined as:

Eco efficiency
- Total floor area or sum of inhabitants and jobs
- Use of natural resources harm to the environment



Eco-efficiency Speed meter of HEKO

HEKO Contact: Pekka Lahti, VTT Technical Research Centre of Finland pekka.lahti@vtt.fi.

CASBEE-City

CASBEE-City is developed by JSBC (Japan Sustainable Building Consortium) with the cooperation of the PCLCC (Promotion Council of Low Carbon Cities) as a comprehensive assessment tool on built environmental efficiency for city-wide scale that allows users to identify the performance of their city. As with other tools in the CASBEE family, CASBEE-City is also measured by BEE (Built Environment Efficiency) value, which defined as Q/L (score for Quality/score for Load).
CASBEE-City consists of more than 40 assessment items, which makes this tool as comprehensive assessment tool.

The performance of a city is calculated as BEE value.

CASBEE-City Contact: Prof. Yasushi Asami, the University of Tokyo asami@csis.u-tokyo.ac.jp.

NILIM tool

The NILIM tool focuses on performance measurement of urban structure, which mainly consists of land use, facility allocation and infrastructure network including public transportation services. It particularly emphasize on future public expenditure in terms of operational cost of public services and maintenance cost of infrastructures in relation to spatial allocations in the city area

In the evaluation part at this NILIM tool, performance of future urban structure the measured indices that are categorized in five large items: Quality of Life, Safety, Environment, Vitality and Public Expenditure.

NILIM tool intends to approach the decision making process on spatial planning and infrastructure development including public participation process. Thus, potential users are assumed to be local planning authorities. The tool is not yet finalized, but it has already been applied in two local city regions as case studies until 2011.

NILIM tools Contact: Dr. Nozomu Kiuchi, National Institute for Land and Infrastructure Management of Japan kiuchi-n92ta@nilim.go.jp.

Discussions

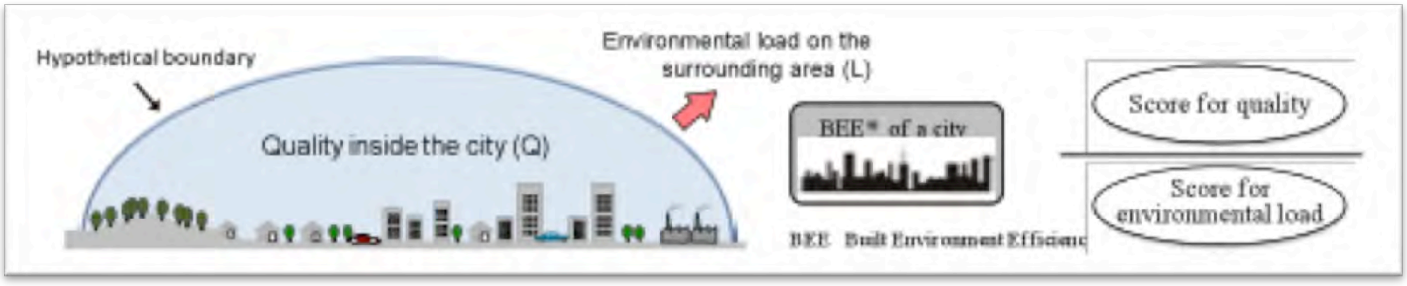
In general as concerns assessment tools for city sustainability the following was conducted.

- The three Assessment Tools to measure the sustainability of cities and urban development are already in the stage of practical use rather than theoretical studies.
- User friendliness will be the most important goal in developing practical tools.
- Characteristics of built environment in terms of urban context are quite diverse according to difference of climate, design culture and so forth from country to country. We should pay more attention to the fact that parameters, indicators as well as the tools methodology itself will not necessarily being the same for various regions in the world.

Additional Information

For additional information about CIB W101 contact the Coordinator Tatsuo Akashi akashi-t2fw@nilim.go.jp

You can find more information on the activities of CIB W101 in the CIB online Database "Commissions": see here. In the shown search engine type "W101" in the field "Commission number" and press "Find records".



Hypothetical Boundary Implemented in CASEBEE-City & Definition of BEE