

BOOK REVIEW

T. Elmqvist, M. Fragkias, J. Goodness, B. Güneralp, P. J. Marcotullio, R. I. McDonald, S. Parnell, M. Schewenius, M. Sendstad, K. C. Seto, C. Wilkinson (Eds.): URBANIZATION, BIODIVERSITY AND ECOSYSTEM SERVICES: CHALLENGES AND OPPORTUNITIES. A GLOBAL ASSESSMENT. - Springer, Hardcover, 2013, 755 p., ISBN 978-94-007-7087-4, ISBN 978-94-007-7088-1 (eBook).

This image of Earth's city lights from the source of the Defense Meteorological Satellite Program (DMSP) is notoriously known by the public today. The brightest areas of the Earth are the most urbanized. Cities are spreading out to the detriment of nature and agricultural or afforested land. Many authors declare that it is no longer allowable to ruin biodiversity as something "without value/price". Moreover, the others promote relatively new approach: to use the ecosystemic powers in the sense of services in favour of the life qualities. We have brought several bookreviews about particular concepts or specific directions of research on the phenomenon of urbanization (Kovář, 2014), biodiversity in various ecological contexts (Kovář, 2011 a, b) and ecosystem services (Kovář, 2012 a, b). Now, we can see inspiring attempt to interconnect all the three notions in the book "Urbanization, Biodiversity and Ecosystem Services: Challenges and Opportunities".

Cities should be start to keep responsibility for the ecosystems they absorb. Many cities lie in areas which are quite well equipped with naturally rich background. This fact consists in historical explanation in that many people have settled down in areas where nature offered a suitable supply of resources. Prague, the Czech capital, is a good example of this – one of the highly urbanized areas in Middle Europe localized in the undulated terrain of heterogenous geology, high portion of green areas a respectable biodiversity. The challenge in this context is socio-ecological urban planning potentially affecting the cities of the future.

Most of urban expansion is expected in the form of rather small or medium-sized cities (If present trends will continue, by 2050 the global urban population is estimated to double and be around 6.5 billion.). This enables to develop considerations about practical role of regulating biodiversity loss and application of the natural mechanisms of environmental purification or resource cycling. Certainly there are opportunities potentially found in nature based solutions, using ecosystems in original ways how to mitigate stressing factors, such as food and water shortage or climate change.

The book is tightly associated with the UN's Convention on Biological Diversity and synthetically interprets the key findings:

- Urban areas are expanding faster than urban populations (The total urban area is expected to triple between 2000 and 2030). Expansion is occurring fast in areas adjacent to biodiversity hotspot areas and faster in low-elevation, biodiversity-rich coastal zones than in other areas. Urbanization rates are highest in those regions of the world where the capacity to inform policy is absent.
- This urban extension will often consume prime agricultural land, with knock-on effects on biodiversity and ecosystem services, and water resources on a global scale.
- Cities should facilitate for a rich biodiversity and take stewardship of crucial ecosystem services rather than being sources of large ecological footprints.

- This presents a major opportunity to improve quality of life, global sustainability by promoting low-carbon and resource-efficient urban development that can reduce adverse effects on biodiversity.
- Production and consumption activities heavily concentrated in cities have contributed to some 80 percent of all greenhouse gas emissions. Preservation of larger outlying green areas, green corridors that connect larger green patches, green roofs and "brownfields", or land previously used for industrial purposes or certain commercial uses, can also be used as carbon sinks rather than emission sources. What is important, according to the assessment, is to develop and incorporate already existing green spaces into the functional infrastructure of a city.

The book represents a global assessment in complex field of research. It provides a new basis for future understanding of the relationship between urbanization patterns, land-use change processes, governance mechanisms, and urban policy, planning, and management with the goal of achieving livable cities with healthy ecosystems and residents. We can recommend it for students of the environmental issues and landscape science of the all graduate levels.

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