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Green Infrastructure

... appears in the form of very diverse topic areas. These include, for example, flood protection measures, the integration of traffic and energy systems, the development of urban greening, and the design of health and leisure landscapes. The overall objective here is to improve the diversity and resilience of our environment, to limit the effects of climate change and to capacitate the daily living environment for its inhabitants. Particularly in densely populated areas, the range of requirements can only be managed with concepts for the multifunctional utilization of spaces, a key element of green infrastructure.

(BDLA Bund Deutscher Landschaftsarchitekten; German Association of Landscape Architects)

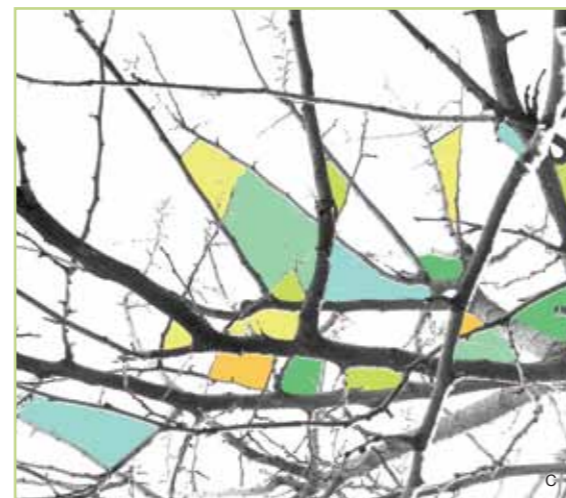
Green Infrastructure and the Sustainable Development Goals

The Sustainable Development Goals (SDGs) consist of 17 goals that want to “end poverty, protect the planet and ensure prosperity for all”. Those goals demand action from everyone and cooperation between actors, from the private to the government levels. Implementing Green Infrastructure can support to reach those goals in a way that it deals with creating better environments in the public realm that support interaction not only on a civic level, but also on the level of policies and planning.

The SDGs the concept of Green Infrastructure feeds directly into are:

- Goal # 3: Good Health and Well-Being
- Goal # 11: Sustainable Cities and Communities
- Goal # 13: Climate Action
- Goal # 15: Life on Land

When implementing a system of Green Infrastructure, every citizen can contribute and benefit while natural systems are respected and rehabilitated.



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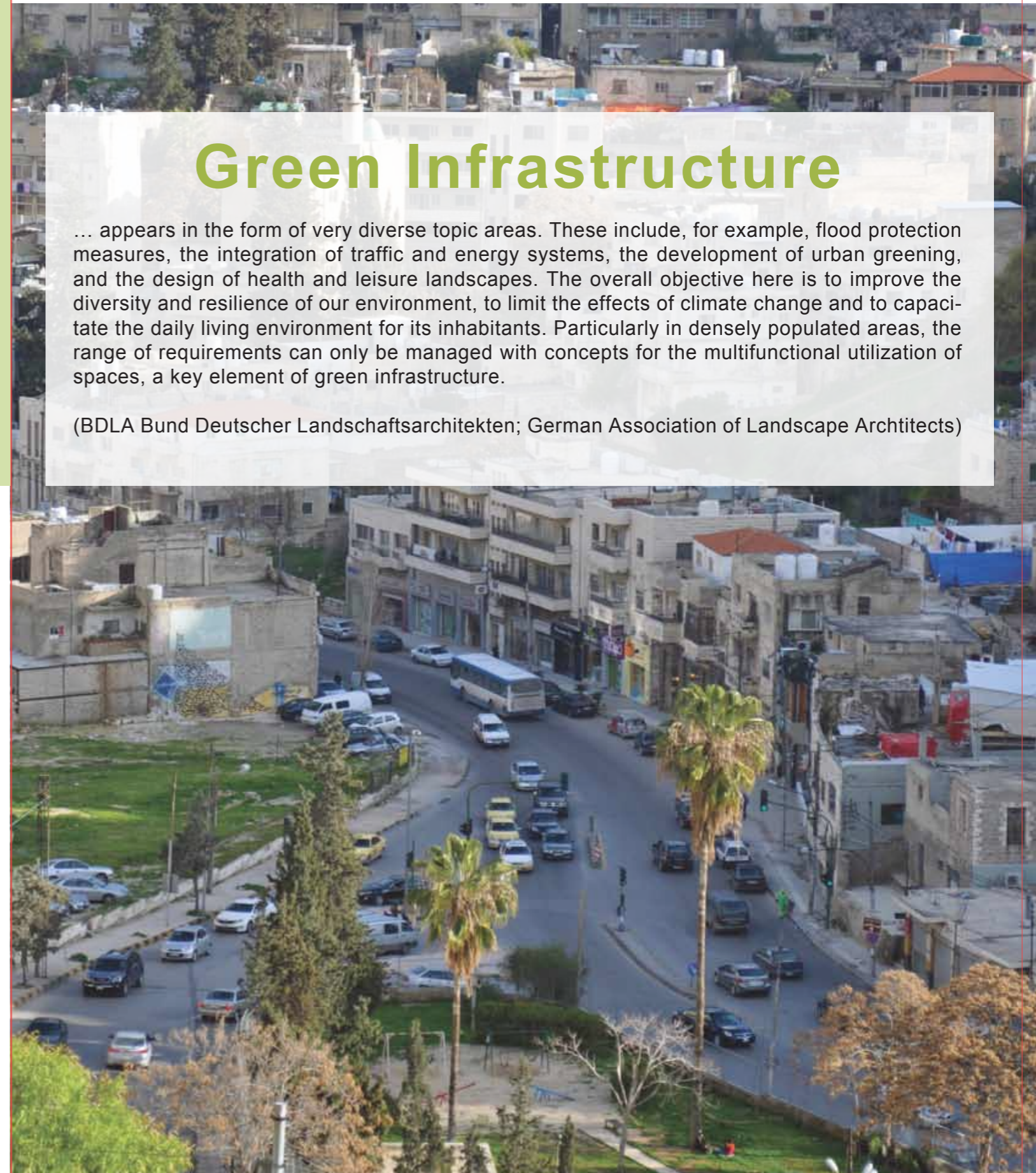


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Green Infrastructure

what is it?

Green Infrastructure as a planning tool is a viable way to improve urban and rural environments at large and to provide and maintain systems flexible enough to mitigate and to adapt to sudden or incremental changes in our life systems. Planning for Green Infrastructure supports the maintenance and rehabilitation of healthy ecosystems that are necessary to sustain well-being and functioning relationships to the natural context. Implementing Green Infrastructure also means to maintain a level of flexibility and to leave space for unforeseen changes and necessities.

Green Infrastructure describes a network of natural spaces and corridors in a specific region. Those include open spaces, such as forests, fields, waterways, parks, corridors and public squares on a large scale, playgrounds, walk- and stairways, gardens on a neighborhood scale. Together they form flexible systems that provide areas for recreation, wildlife and biodiversity and other environmental services such as flood protection, dust reduction and the absorption of air pollution.

where does it come from?

Green Infrastructure as term is rather recent, stemming from the ecological movements in the 1990s in the United States to state that natural systems are equally important if not more important than the so-called grey infrastructure (Firehock 2010). It has from thereon been developed and widely discussed to become a planning tool for urban planners, architects and landscape architects.

As a concept however planning with nature and respecting its powers and limits is at the bottom of the first foundation of settlements or of the Neolithic Revolution - taking place in the Fertile Crescent, and simultaneously in other regions of the world. The building of first settlements and urban nuclei had to be based on natural assets, like availability and distribution of water, of food systems, existence or creation of favorable climatic conditions and productive green systems. In many parts these systems were developed to create a maximum efficiency of the scarcest resources. One outstanding example of this is the ancient city of Petra in Jordan.

what does it do?

With **Green Infrastructure** we create and rehabilitate a range of green open spaces that are interconnected by using non-invasive and mostly native plant species.

- o Daily living environments are improved, people can live a healthier lifestyle
- o Connection to nature and environment is strengthened
- o Neighborhoods are more beautiful
- o Through the creation of walkability, traffic is reduced and public transportation can be reached on foot
- o Social life is more active
- o Air quality is improved and dust is reduced
- o Urban biodiversity is higher and natural species are protected
- o Rainwater is harvested, flooding is prevented
- o Food can be produced on a neighborhood level
- o Building insulation is improved, so energy is saved

Green Infrastructure can only be fully functional as an interconnected system, where open spaces complement each other.

challenges

Climate change, migration, demographic shifts, natural disasters, wars – the challenges we are facing to maintain livable environments are becoming more challenging by the day and are frequently hard to predict.

Technological inventions and development of new construction material (in particular cement) made us overcome previous limitations of urban growth, transportation systems have exploded and made local food production for example seemingly less important; the lack of coherent planning schemes lead to urban sprawl, frequently on agricultural land, ignoring the fact that soil is a non-renewable resource.

Those recent developments demonstrate the limits of the current systems, resources are becoming scarcer, changes faster and adaptation processes harder. The need to create and rehabilitate resilient environments is very obvious.