GO GREEN AGENDA: INDIAN URBAN SPACE PLANNING

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Abstract

Due to increasing urbanization and the effects of climate change, Indian towns are presently facing heavy difficulties. And the use of urban green spaces for climate adaptation and mitigation is incomprehensible. This paper discusses regarding the urban green spaces as a cost-effective measure for climate adaptation and that guidelines on green space planning should be developed for urban planners and foresters, using integrated methods that meet the cities ' social as well as ecological needs.

Key words: Urbanization, climate adaptation, cost-effective, space planning.

Introduction

The emphasis on urban green space planning[1] in the 21st century needs more insight into social, ecological and economic elements that provide a sustainable urban form. As a tropical region, India is more vulnerable to extreme occurrences such as cyclones and floods. As expected by the fifth evaluation report of the IPCC[2], such risks are likely to improve in the future. It has been observed that Green spaces have declined considerably across many towns in India and are declining further with increasing urbanization and population growth. In Bangalore City's[3] case it has been assumed that the city lost much of its open areas and urban habitats owing to urban sprawl, affecting its drainage network, local hydrology, and groundwater table levels.

Table 1
Major Indian cities with per capita green space.

City	Geographical area (sq km)	Population in million (Census, 2011)	Forest and tree cover (sq km)	Per capita green space (sq m/inhabitant)
Delhi	435	16.31	90.74	5.5
Bangalore	226	8.43	150	17.79
Mumbai	735	18.48	122	2.01
Hyderabad	172	7.74	3.87	0.5
Ahmedabad	469	6.35	21.8	3.9
Chennai	174	8.69	9	1.03
Kolkata	186.23	14.11	0	0
Surat	395	4.58	11.84	2.7
Jaipur	484.64	3.07	61.4	20
Gandhinagar	75	0.20	30.75	147.6
Chandigarh	114	1.05	16.78	54.45

Source: Population of cities from Census of India (2011), geographical area taken from urbanindia.nic.in, and green cover of cities taken from Forest Survey of India report (2011). The per capita green space for cities of Ahmedabad, Surat and Gandhinagar were available in a report by Gujara Forest Department (2011). The per capita green space for Jaipur is provided by Singh et al. (2010).

Methodology

How to plan for green space?

The key elements of urban green space are:

- Quantity

  -Which proportion of urban space is filled with green space?
- Quality

  -Can green space enhance urban biodiversity and improve ecosystem services?
- Connectivity

  -How much of it is linked to the green space?
- Accessibility

  -How many people have access to the green space?

Planning urban green spaces in India requires an integrated strategy that balances green spaces with urban development demands[4] in ecological and social dimensions. It is essential to maintain current biodiversity-rich green spaces from unplanned urban development, while at the same time creating green spaces with greater connectivity to guarantee ecological sustainability. The system enables priorities to be added, substituted or weighted in accordance with local needs by making it applicable to both development and development of towns. Such models must be used for green space planning in India.

Conclusion

A timely strategy input to establish compulsory urban green space standards and guidelines for environmentally and socially sustainable urban green spaces through the incorporation of criteria such as availability and accessibility per capita and science values such as landscape ecology could go a long way in creating urban green spaces and provide services that are highly valuable to the ecosystem.

References

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