

Integrated Development in Ecologically Sensitive Site

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Abstract— Urban ecosystems square measure the cities, towns, and settlements created by humans. We all influence our urban ecosystem and at the same time, we are influenced by ecological conditions. An urban system includes individuals among the living things, and therefore the structures they build among the non-living things. In associate in nursing urban system, humans influence ecological factors (plants, air, soil, animals), and human decisions (where and how to build houses, parks, highways, schools) are influenced by ecological factors. The term “urban ecology” has been used multifariously to explain the study of humans in cities, of nature in cities, and of the coupled relationships between humans and nature. Urban ecology is that the study of the co-evolution of human-ecological systems.

Keywords— Ecology, ecosystem, environment, sustainability, Eco-cities

I. INTRODUCTION

This paper incorporates multilevel interventions in a settlement based on ecological modes. A model will be proposed that identifies potential ecological and environmental policies. Continued research is needed to provide detailed findings that can improve design regarding ecology. Collaborations with policy research may

improve environment, policies and practices in the city. Seeing the growth of the city and its new developments.

This paper will target to frame policies and integrated ecological design strategies. This will make us take the right decision for the future by creating ecological belt for the city.

II. CONCEPT

The idea of “eco-city” originates from the elemental objective of property and also the application of ecological principles to urban designing, style and management. The definition of property has already been wide mentioned in numerous publications

across numerous connected professions and this paper doesn't will repeat it here.

In short, “sustainability” in urban designing is to manage the urbanization and development method to balance the social, economic and environmental needs of our society as a whole, and ensure that the choices of our further generations will not be compromised.



Figure 1 Artist's Rendition of Safavid-era Isfahan, which is typically described as the pinnacle of garden cities interspersed with harmoniously-designed pavilions and spacious thoroughfares.

Eco-cities are a concept to achieve this sustainability by taking the ecological principles as the central driving principles for the planning of our cities.

The fundamental of the planning concept is hence reflected in the following aspects:

A. Town itself is basically a system of social, economic and environmental processes, with resources input and output characteristics.

B. Cities area unit a part of the worldwide ecological system and that they area unit mutually beneficial with the natural ecological processes.

Changes to this relationship may or may not be reversible.

c. One needs to incorporate the goals of reducing energy input (to avoid unnecessary use of resources), recycling the resources within the city systems, and minimizing the output of waste.

(To shield the environment) into urban designing higher cognitive process

D. As a result of cities area unit a part of the ecological systems, the principles of carrying capacities, ecological worth, diversity, ecological chain, resource management, ecological footprints area unit directly relevant to the urban designing decision making processes.

III. URBAN DESIGN DIRECTIONS-

- review the eco initiative and adapt the eco principles to the local context, especially current issues of concern and the local political constraints.

- identify champion(s) and the specific groups or individuals who are vital to success.

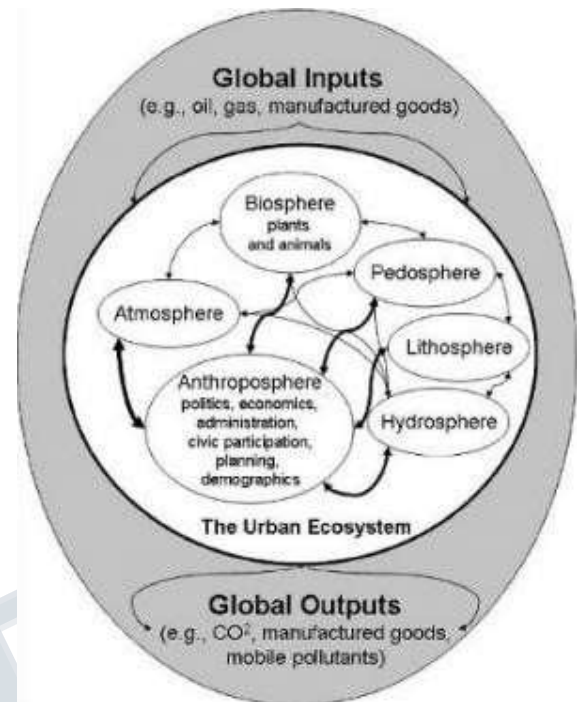
- explore design solutions and prepare a concept plan for review; an integrated design process should be used to generate alternative proposals on ways to design, construct, and manage the

project; associate in nursing intensive, multiday urban systems style charrette will facilitate the integrated style method; the integrated style process ought to culminate in an exceedingly counselled construct set up for implementation, as well as any policy reforms.

- obtain commitments from city councils and influential groups and people.

- work closely with national governments and, where possible, dovetail the eco elements so they clearly fit within national priorities.

- seek a partnership with the international development community (including the World Bank), best practice cities, and eco initiative partners.



A set of strongly interacting systems or spheres

Figure 2 <http://www.forestrynepal.org/notes/biodiversity/introduction/conservation-biology/urban-ecology>

- outline a process for building capacity and enhance the skills and knowledge of local professional staff.
- develop fluency of concepts among local decision makers using case studies and other supporting materials.
- initiate a process for collaborative decision making and integrated design to develop the eco approach as a corporation, as a provider of services, and as a leader within the larger urban area.
- prepare a mandate and budget for a secretariat that can support collaborative committees through background research on crosscutting issues and the facilitation of regular meetings, communications products, and event planning.
- prepare a long-term planning framework, in collaboration with others, and seek consensus on common goals and indicators of performance, an overarching growth management strategy, and an adaptive management approach.
- select a catalyst project suitable for demonstrating the eco principles, aligned with the goals and strategies identified in the long-term planning framework.

IV. CONCLUSION

In contrast to sprawl, urban and regional development must involve some central planning to be sustainable. Particularly important planning elements are the selection of the appropriate site for new development and the appropriate facilities for a balanced mixed use. As argued above (see: implementation and maintenance) the dependence on a special site in sufficient size (for the requirements of mixed use and public transport) is a

difficulty for such projects - large plots in appropriate locations are not easily available. Instruments of land-use planning to regulate the market would be helpful (public funds for the acquisition of plots in advance, regulations limiting the price of land used for sustainable urban development projects) to find an appropriate site for an acceptable price.

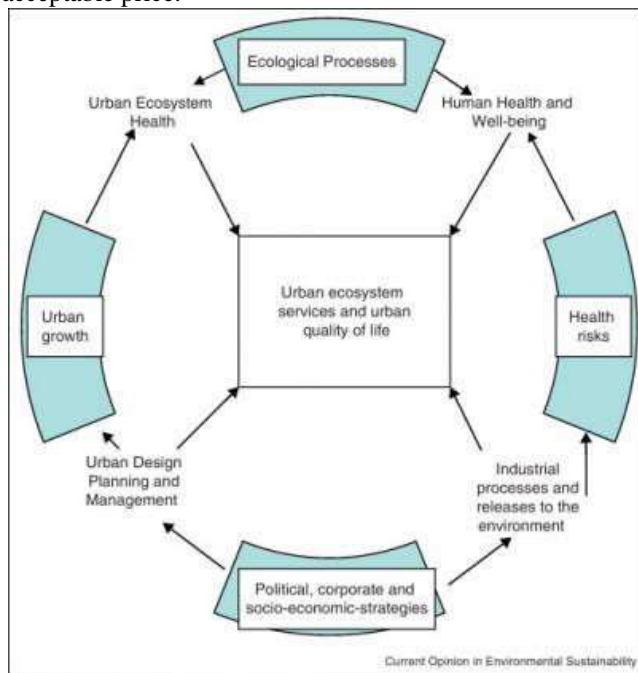


Figure 3 Simple diagram of key factors in the relationship between urban ecology and human health and well-being. Credit:

<http://www.sciencedirect.com/science/article/pii/S1877343512000966>

Even for the model settlements it is difficult to meet the ambitious standards set in the vision and the objectives for an Eco city. Compromises are necessary for instance in the provision of transport systems: car-free housing is desirable from the ecological point of view, but often local conditions are thought to be not appropriate to reach this goal. Thus the achievable solution may be to plan a reduced provision of

parking spaces and to concentrate these at the edge of a settlement to allow a high quality of car-free public spaces within the settlement. To evaluate a project already in the planning phase is a challenge, because of the lack of important data. The evaluation of the plans and concepts for the eco city model settlements showed, that the criteria were appropriate to check the quality of the urban patterns designed (e.g. Density, share of

green areas). But problems occurred in evaluating the impact of these patterns on the natural and social environment (e.g. resulting co2 emissions). Thus a combination of checklists (e.g. the eco city-objectives) and selected indicators seems to be an appropriate tool for the planning phase.

By developing urban structures appropriate for sustainable transport for the large variety of the above cases, the project Eco city attempted to pave the road towards a broad acceptance of these solutions. The results of the project can be summarised in the formulation of quality-standards for urban settlement patterns:

- For the environmental quality - minimising the impacts on nature, as a necessary condition for an Eco city
- For quality of life - maximising human wellbeing as an additional condition for ecocities as a better place to live.

REFERENCES

1. Journal Article

[1] Pearson, I., Newton, P., & Roberts, P. (2014). Resilient sustainable cities: a future. New York: Routledge. World Bank, ecological cities as economic cities

2. Article by DOI

[2] Sukopp, H. (1998). Urban ecology — scientific and practical aspects. *Urban ecology*, 3-16. Doi: 10.1007/978-3-642-88583-9_1

[4] The World Bank Annual Report 2005. (2005). World Bank Annual Report. Doi: 10.1596/978-0-8213-6133-7

[5] Suzuki, H., Dastur, A., Moffatt, S., Yabuki, N., & Maruyama, H. (2010). Eco2 Cities. Doi: 10.1596/978-0-8213-8046-8

[6] Beck, T. (2013). Principles of Ecological Landscape Design. Doi: 10.5822/978-1-61091-199-3

3. Book

[7] Plessis, D., C. (2008). Understanding cities as social-ecological systems (World sustainable building).

4. Book Chapter

- [8] N.e, M., K, K., & D, H. (2000). Urban ecology as an interdisciplinary field: Differences in The use of “urban” between the
- [9] social and natural sciences. (Pp. 5-24 ed., Vol. 4, Urban ecosystems).
- [10] Rees, w.e. 1997. ‘Urban ecosystems: the human dimension.’ urban ecosystem 1, pp. 63-75

5. Online Document

- [11] Architecture and urban ecosystems: from segregation to integration – the nature of cities. (2013, may 26). Retrieved from <https://www.thenatureofcities.com/2013/05/26/architecture-and-urban-ecosystems-from-segregation-to-integration/>
- [12] Planning for eco-cities in china: visions, approaches and ... (n.d.). Retrieved from
- [13] http://www.isocarp.net/data/case_studies/1162.pdf
- [14] Glassman, E., & Radoff, J. (2014, February 01). Powerful Tools for Better, Faster Design Decisions. Retrieved from
- [15] <https://www.buildinggreen.com/leed>

