Protibesh
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9 (2004) 52-54

Constraints prevailing in the field of Landscape Architecture: A Special Reference to the Indian Subcontinent

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Abstract: The study aims at understanding the discipline of landscape architecture and its professional practice highlighting its different aspects on various scales and locations. An attempt to change the general idea about the discipline / profession has been made. The study defines scope of landscape architecture and also explores opportunities of the same with a special reference to a specific geographic area as in Indian Subcontinent, in relation to several constraints generally prevailing in this field with an objective to explore certain directions at the end in order to overcome those constraints. The scope of the paper is limited to the examples drawn from the prevalent landscape scenario in Bangladesh

Keywords: Sustainability Constraint, 'Natural Capital', Utilitarian Evaluation of Nature, Ethical Constraint, Natural Constraint

Introduction

Landscape is an evolving cross-disciplinary area, which draws contributions from art, literature, ecology, geography and much more. Therefore, the term 'landscape' is used in a broad and inclusive way, as it is the holistic and integrated focus on land, which is the unique and distinctive feature of landscape architects, broadly defined. As various dimensions of landscape are developed in more detail, the issues are complex and challenging. The scale of thinking and action needed is large and this distinguishes landscape architecture from many other professions (Benson & Roe, 2000, p.1-4).

A landscape professional finds himself in a position of a consultant in large-scale projects initiated from a multi-disciplinary approach, along with other professionals such as environmentalists, urban designers, liplanners, geographers, economists, artists and so on. Broadly he deals with "aesthetic, social and environmental issues" (Thompson, 2000) While doing so he experiences several constraints in the profession, which are all very relevant in this era of globalization.

As we proceed further, different constraints and opportunities with regard to the profession of Landscape Architecture have been identified.

Constraints related to the extent of Scope of Work in the Professional Practice

Present status of the profession in the subcontinent:

- The scope of work for a landscape professional is limited to a few number of projects such as farmhouses, five star hotel complexes etc., which are meant to serve only a group of elite clients. That means the scope is limited only to small-scale situations, whereas the mass of the population is completely out of service of the profession. Public landscapes in a large scale would be beneficial for the mass population (Figure 1). Thus a landscape professional is constrained by the extent of the scope of his work itself.

  The practice of the profession is again constrained by the wrong interpretations of its role by the public and even by some of the architects. "The role of landscape architect is still perceived to be the one who adds 'landscape' to the building as a cosmetic or decorative treatment" (Khanna, 1999, p.60) as we can experience it from Figure 2 and Figure 3.

Figure 1

Location: Dhanmondi Lake, Dhaka
The beautified portion of this recreational site plays an insignificant role, as it becomes difficult to relate the landscaping to city scale; an urban landscape would have been effectively come up with introduction of upper story

Figure 2

Figure 3

Location: Airport Road and Prime Minister's Office Complex, Dhaka respectively. A decorative arrangement of Planting layout makes the landscaped environment unfriendly to its users. Rather than intricacy, simplistic pure shapes are preferable so as to make the landscaping user-friendly

- The practice of the profession is again constrained by the wrong interpretations of its role by the public and even by some of the architects. "The role of landscape architect is still perceived to be the one who adds 'landscape' to the building as a cosmetic or decorative treatment" (Khanna, 1999, p.60) as we can experience it from Figure 2 & Figure 3.
- A close association between architects and landscape architects is clearly absent in the profession. The scope of work left for a landscape architect is extremely limited, as he/she is being consulted only after the completion of the architectural design. In this situation he/she has nothing to do "except applying an ornament." (Bhan, 1997, p.25)
- Standardized landscape planting design has led to an international design style, which is mostly without any reflection of local landscape character and ecology, requiring "considerable resource inputs in site preparation, plant establishment and long-term maintenance." (Dunnett & Clayden, 2000, p.184) Thus the practice of the profession is constrained by the prevailing trends of design considerations which are far beyond the character of the local landscape quality of a place / region.
- As landscape is a continuous design process and deals mostly with living beings (trees, shrubs, fauna of a particular region), the professionals in this field are constrained by the time period that is required to reach its maturity. Most of the clients they deal with are not patient enough to foresee the ultimate effect of a designed landscape. As a result landscape architects sometimes may have to compromise some of their design decisions to execute the project faster than what they had expected in order to meet the clients' desires.

Utilitarian Evaluation of Nature Impact of Industrialization on Landscape:

Since the industrial revolution in the 18th century, interest in profit making grew at a tremendous rate and utilitarianism, utility of any component being evaluated in material terms, flourished. Results of this ruthless pursuing for material gains, be it agriculture, forestry, industries and related activities like mining etc. or tourism, have changed the scenario of landscape (Palrecha, 1999, p.51).

Constraint regarding preserving the original landscape character

Social / Cultural Impacts on Land due to Utilitarianism

- Standardization of materials and universally applicable design ideas has led to easy design solutions without any reflection of originality and diversity
- With the advanced technological development, even the native agricultural landscape scenario has experienced a change due to introduction of mono cropping, high yielding varieties, hybrid seeds and exotic varieties instead of indigenous seeds, local varieties esp. of food crops and natural herbs.
- The village ponds, wells and water bodies are going to be lost resulting into a threat to the traditional lifestyle of the rural populace.

Figure 4

Location: Vashani Road, Shahbag, Dhaka.
In the name of beautification……a poor effort given to make the design culturally relevant, whereas the sites of our cultural significance adjoining the road, namely Ramna Park and Suhrawardy Udyan remain untouched in the City Beautification Program

Figure 5

Location: Kadam Foara, Dhaka
A very little significance of our cultural relevance, as the design reflects only a two-dimensional effect, causing almost no impact to the city dweller's mind

With this changing scenario due to socio-cultural impacts on land, the landscape professionals witness difficulties regarding preserving the original landscape character of a particular region for its community. It is a landscape architect's responsibility to revitalize these socio-cultural values (Figure 4 & 5), which have weakened the intimate link between land and its people.

But at the same time with this changing landscape scenario the scope of work of a landscape professional is widened from limited aspects to broader aspects of design / planning. Since different conservation issues are addressed by the landscape designer at this stage of design / planning, this can be considered as an opportunity for the landscape professional to play a significant role toward preserving the originality of the local landscape character.

Ecological / Environmental Impacts on Land due to Utilitarianism

- Unrestricted exploitation of natural resources has caused depletion and pollution of these resources
- Intensive energy-consumption has caused reduction in our stock energy resources
- Extensive usage of fertilizers and pesticides on agricultural land resulted in water pollution
- Extensive usage of water led to terrible depletion of ground water
- Surface water tended to be polluted by effluents of industries

The combined effect of the above has given rise to environmental degradation, which further gives rise to landscape degradation. Thus a landscape professional becomes pre-occupied with the constraint of this degraded landscape prior to the beginning of a Landscape Development Project.

A 'utilitarian' view also pervades our management policies for natural resources (Palrecha, 1999). For example, the major roads in the city of Dhaka are landscaped with trees having high timber values (i.e. Mahogany). In this case, the development authority is more concerned about economic value of the trees, rather than their ecological, social and aesthetic values. The urban landscape would have been more beneficial for the city dwellers if the trees were chosen more carefully.

Natural Constraints / Constraints inherent in the Geography of Landscape

Traditional and older settlements have identity, distinctiveness and character; their form evolves from prominent as well as subtle constraints inherent in the geography of the landscape on which they are sited, e.g. river, hill, valley, plateau, ridge etc. Districts within them acquire their sense of place from the geographical identity of the terrain on which they sit (Shaheer, 1999).

- Use of existing distinct landscape features – be it natural or historical, can act as a guiding principle in a new landscape development site.

For example, Nishat Bagh, a Mughal Pleasure Garden is acclaimed for its Site Planning as the surrounding mountainous range has been taken care of very advantageously in order to get a magnificent view from the gardens.

In other words, if the Natural Constraints are advantageously taken care of by the landscape designer, then these can be considered as another opportunity to deal with within the professional practice. There would be another way to preserve the original landscape character of the region.

Strong Sustainability Constraint / Critical 'Natural Capital' Constraint

Sustainability Constraint

The term implies to the constraint related to sustaining the natural resources in the landscapes for future usage, which the landscape architects face in their professional field. A site may be rich in land resources full of biodiversity or other minerals, but the challenge is when it comes to providing sustainable design solutions for future generations within a specific time frame.

A useful notion here is the concept of 'natural capital' which includes not only material resources, but also other capacities and services which are supplied by the biosphere (Pearce et al., 1989).

- Material resources are usually divided into renewable and non-renewable categories. Renewable resources are biological resources such as crop plants, forests, fisheries etc. and are not necessarily depleted when used. Non-renewable resources are carbon and stock resources, mostly minerals, like ores or fossil fuels, which are only replenished on the scale of geological time and hence, strictly one-way flow resources (Thompson, 2000).

Strong sustainability constraint on such minerals:

One of the major concerns of a landscape professional is to give directions towards the consumption of natural resources as an integral part of Landscape Planning Policies. But as they proceed further they observe a strong sustainability constraint while formulating a policy to stop using the mineral resources at present so as to keep a stock for the future generations who again would be constrained to preserve it for their descendants.

- The capacity of the atmosphere, oceans and terrestrial ecosystems to assimilate waste products can be thought of as another form of natural capital with much in common with renewable resources. The biosphere also provides us with more general services which are essential for the continuation of life, including the maintenance of breathable air, stable global temperatures and dependable weather pattern (Thompson, 2000).

'Landscape' allows us to conceptualize and embrace all of these resources, and their impacts and the interactions between them, in a holistic way (Benson & Roe, 2000).

Thus landscape professionals become an active participant of the Sustainable Development Campaign Program. In other words, there are opportunities to explore possible design solutions in sustainable land development issues for a landscape designer where Sustainability Constraint can be effectively utilized within his scope of work.

Ethical Constraints

Four varieties of ethics having a bearing upon the landscape practitioner are – personal, business, professional and environmental.[1]

Their analysis derives at the following constraints:

- *Lack of social and aesthetic values* – It does not take account of the aesthetic values which practitioners may seek to promote, nor of any obligations they may feel towards the well-being of individuals, communities and society as a whole (Thompson, 2000).
- *Clashes among the ethics* – Sometimes the landscape professionals have to compromise their environmental or professional ethics while meeting their clients' desires.
- *Constraints upon members of the professional body in relation to the preservation of the 'national landscape' (as in Britain)* – It seeks to define the purposes of the profession, recognizes that landscape architects have a role in the promotion of 'aesthetically pleasing, functional and ecologically and biologically healthy'

[1] Woolley & Whittaker, presented a paper to criticize the Landscape Institute in Britain which placed ethical constraints upon its members, 1995.

landscapes, but also makes special mention of their responsibility for 'the appraisal and harmonious integration of development and the

built environment into landscapes': (Landscape Institute, 1997, Section 5(2) d).[2] These purposes seem rather mixed (Thompson, 2000).

In other words opportunity arises for a landscape professional toward the social obligations within the scope of work in the professional practice.

Planning Constraints

- Mushrooming urbanization and centralized development has resulted in concentration of mass people on urban areas . "Rees (1997) argues that people in cities rarely think of themselves a part of 'ecology' because they are distanced both spatially and psychologically from the landscape that supports them" (Roe, 2000, p.67). So there is a need to bring the city dwellers close to the nature. But Urban Planning Policies do not take account of the society's changing needs. In such situations a landscape professional is constrained by poorly formulated Planning Policies, which lack in opportunities to create a close association between urban populace and natural processes.
- Open space provision in the development of new towns has not been recognized as an integral part of Planning. Consideration of open spaces as a positive feature of Urban Planning Principles has not been realized yet. As a result, open space is being kept bare minimum against a certain population figure. Such unsympathetic planning decisions create a negative impact on a landscape development project since a landscape architect mainly deals with design of open spaces.

Economic Constraints

- Today most of the designed landscapes are concentrated in the urban areas where function and aesthetics dominate the design. Areas under development being restricted in size, the cost of development and maintenance are not the major issues. On the contrary, the issue of sustainable landscape is more significant in the development of areas which are vast in expanse and which need to be developed and maintained with economic constraint, predominantly located on the urban fringe (Hadap & Gavandi, 1999).
- Imitation of a completely exotic landscape style in our native landscape would require high degree of maintenance, which is not cost effective. Revival of our natural landscape type is therefore necessary.
- Sometimes landscape architects have no other choice than importing the products they use in their design, as they have not a range of products available to choose freely. Thus the landscape projects become economically not viable.
- In most cases the urban development authorities do not allocate even a minimum fund for landscape development projects. "Most of the urban spaces, even in New Towns, are suffering due to this situation" (Pradhan, 1999, p.59).

Rcommendations

Generating Opportunities to overcome the Constraints

Opportunities to extend the Scope of Work within the Professional Practice

- Large scale Landscape Development Projects need to be initiated by the government development authorities in public sector so that Public Landscape can play its role for the betterment of the society. That means the scope of work in this profession needs to be broadened and clearly defined.
- A close association between the architect and landscape architect right from the beginning of the project would definitely ensure a better design quality. And this "forms today an essential pre-requisite to the design process"(Ganju, 1999, p.56).
- Local materials and vernacular architectural styles should replace the conventional standardized materials and design ideas. This would definitely reflect the local landscape character of a place.
- Also "sustainable vegetation plans should therefore incorporate urban vegetation types which are native to the city region and will yield a planting character based on the city's ecological legacy" (Spirn, 1984, p.188).
- Time constraint can be overcome by using native plant species which are suitable and easily adaptable to the existing site conditions and require a shorter period to reach its maturity. Thus by proper selection of landscape materials a project can come to a successful end without conflicting with the clients' desires.

Changing Viewpoint of Utilitarian Evaluation of Nature

[2] The Institute of Landscape Architects was formed in 1929 as a professional body for landscape designers, managers and scientists in Britain

- All natural resources need to be stopped to be looked at as commodity. Apart from their economic value, other aspects like ecological, visual, environmental, biological values are also need to be considered.
- The 'utilitarian' view pervading our management policies for natural resources has to be overlooked. Policy formulation for these resources should be based on the evaluation of the resources (i.e. firstly it is of what importance – economic/ecological etc.). The nature of the proposed development could be determined after formulation of the policies.
  For example, in the heart of the city of Dhaka, a piece of land may be most valuable from economic point of view. Building developers may prefer to build a multistoried apartment, which is a profitable business and a common scenario in the present day context. But in the long run this will create a negative impact on the urban landscape. This unplanned growth of development without any foresight in its planning policies is only taking account of the immediate shelter demands of the city dwellers and should be checked immediately. And this is only possible when the policy makers would incorporate a long term view in their planning decisions, not only considering the 'utilitarian' view towards the resources.

Overcoming Natural Constraints through Site Responsive Planning –

- Constraints inherent in the geography of landscape can be treated as a positive feature in itself. Site responsive planning is necessary to overcome these constraints. Planning should be done with respect to the existing site features. It should be such that the designed landscape forms an integral part of the natural landscape.

Overcoming Sustainability Constraint through attributing values to Natural Resources

- A landscape professional can suggest the ways to overcome the sustainability constraint by attributing different values to different resources according to the type of the proposed development as well as that of the resources. For example, if a landscape development is proposed on a land rich in biodiversity, then a landscape professional would firstly prioritize its biological resources by labeling them as ecologically valued ones so as to avoid any negative impact on the environment and ecology of that region. It is desirable that the landscape professional would also suggest the proposed degree of development (i.e. intense or limited), which should take place on that land and define clearly to what extent these resources should be consumed or exploited.

Overcoming Ethical Constraints by recognizing /defining the Professional Ethics

- These can be overcome by recognizing the ethics of a landscape practitioner very carefully. A broad and clear understanding and awareness about the profession among the public would help to make it possible. A public campaign regarding landscape and the role of its practitioner can be helpful.
- Also the concerned professional body has a major role to play while defining the ethics for its professionals.

Community based Landscape Projects to overcome Planning Constraints

- These constraints can be overcome by using the urban landscape as a tool to promote environmental awareness and raising social values among the urban communities by involving them in community based landscape development projects. Social forestry can be an example to bring them close to nature.
- Open-space planning can be integrated with other policies so that a Landscape Development Program becomes self sufficient in itself.
- Provision of open spaces in Landscape Planning or Design cannot be thought of in isolation. The built spaces and the open spaces are complementary to each other. "There is a need to understand culture-specific patterns of open space usage and to consciously evolve away from the standard hierarchies to more user-responsive models" (Shaheer, 1999, p.48).

Overcoming Economic Constraints through Sustainable Design Solutions

- A Sustainable Landscape Development Project can also be called as an economically viable one. Apart from its functions and aesthetics, a designed landscape can help generating income to support the local population's livelihood by accommodating productive organic gardens, social forestry, nurseries etc. within itself.
- Recognition and regeneration of our native landscape type can help overcoming the economic constraints.

- Economic Constraints can also be overcome by inclusion of a considerable amount of fund in the main urban development budget-proposals so that the urban landscapes do not lack in positive features within themselves.

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