

CHAPTER 6

RESULTS AND DISCUSSION

6.1 INTRODUCTION

Literature review has indicated the scope of landscape preferences studies that are presently employed in various fields to explore the man-environment interactions. In addition to studies based on various theories, there are several landscape studies, which have focused on interpersonal agreement on landscape components: preferences for vegetation and water, for example, in one form or the other. Ulrich (1983) has explained these preferences in socio-demographics, to cite an example, and found that preferences for managed landscape types, mostly urban, positively correlate with age and negatively correlate with education. In terms of psychological well-being, Ulrich (1979) and Ulrich et al (1991) have found that there is a 'stress recovery' capacity for natural environments. Significance of these studies of perceived landscapes as components or as character types is an academic research and a professional endeavour as well.

Landscape preference studies are predominantly applied in academic fields like environmental sociology, human geography and environmental psychology and also some specialised fields like the EIA, as well, which is also advocated to decision making authorities, as a tool. Data availability has been observed as a limitation, as it has been noted earlier in the study.

Considering the present advancement in information technology, in India, it is practically feasible to assimilate quick land use data from remote sensing techniques and computer aided GIS tools. It has also got high potential to be used as a planning tool, especially in the context of the 73rd and 74th Constitutional Amendments which emphasise on the public participation for preparation of Village plans, District Plans, and Metropolitans Plans. Since these plans are to include quality aspects of the visual environments that include perceived landscape quality. Henceforth, preference studies have scope to be applied in planning and design fields successfully. In another viewpoint, it is observed that in this modern era, there has been a tremendous stress from various quarters of the stallholders' and thrust for public participation and consensus at various levels of decision making like planning and design. So it is important to understand that landscape preference studies are also a potential tool to, authenticate every decision made on visual quality at a landuse policy level to a design execution level, by various development authorities.

6.2 PERCEIVED LANDSCAPE QUALITY INDEX

Planners at all levels of Government are asked to identify priority landscapes and areas, as part of land use planning strategies at local, regional and national levels. The primary objective of planning and design is to fulfil the needs of the end-users or the public. Landscape planners, designers and policy makers have their own prerogatives to satisfy the end-users: that is, the landscape users' and that need to be addressed by their pursuit of an effective plan, design and policy making at various scales. So, they may need a benchmark for an effective decision making.

There is an urgent need for an index or a benchmark on quality visual environments of different sections of the society, which can be

explored by taking the census of the society. This study also checks and rechecks the popular presumptions adopted for land use decisions that are challenged for lack of empirical evidences. For the reason that planning control is at present regarded as a tool for use in primarily urban areas in some cases have additional features to protect the landscape components (like designated reserved forest areas under special forests act, Coastal Regulation Zone to protect coastal areas). As that of any environmental quality indexes that measure the physical composition of the environmental factors like air, water, solid waste land and noise, there is need for numerical indexes for visual landscapes for a given set of time and contexts.

These indexes can be transitory and keep unfolding as and when tested and retested, so may act as a benchmark at a given time and place and are waiting for re-experimentations. Visual quality indexes may also follow the same principle. Further, the argument of direct applications of these studies has also been challenged in the past for its generality. For example, highest preferences for water as a landscape component would mean that necessary decisions may be taken at various levels and scales to introduce new ones, revitalising the existing water features like lakes, ponds, canals and rivers at regional scale. Whereas that can be interpreted at local scale in an urban scenario as design and management of fountains and pools along the traversed landscapes, only very limited prospect to view is due to close views of built forms. Non-urban or rural character types visually reinforce views to an existing water body. For instance, in Vista 1, it would mean introduction of ponds and pools that can be part of a median of the road or a facilitation of the view prospects by regularising hoardings and built forms that hide or visually reinforce existing water bodies by vegetation or protect them from encroachments, especially permanent ones.

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The results and findings show component-level preferences, where civic and water components are highly preferred, and commonly among the traversed landscapes (Vistas).

6.3 INTERPRETATION OF LANDSCAPE PREFERENCES IN PLANNING DESIGN

In the past, various professionals in the field of land use planning and design argued on landscape preferences studies and their results, for a lack of direct implementation of land use decisions, and further noted that a majority of the results is obvious as common sense. On the contrary, it is also argued that expert, pre-notional decisions do not represent the average common public or the end-users. It is further argued that experts, especially land use experts, are biased and often pre speculate developmental proposals, while evaluating landscapes, though in the Indian context, visual landscape pre-evaluation happens very rarely or never. Further, most decisions are made to address quantifiable utilitarian needs such as residences, commercial centres, educational institutions and amenities and infrastructures of the locals, whereas aesthetical and emotional needs are compromised for the reason of inherent subjectivity of the latter. Schools, that is, the basis of unauthenticated presumptions, are a particular development that serves the need of the end-users. The end-product of Indian planning and design creations is not evaluated by users' consensus at the post construction scenario, putting design stage on one end, especially in case of the road as a mean to access, the cities, region or village as an opportunity to visually consume traversed landscape character types and components during travels. It is also observed that a measure of experience and satisfaction level of the road

travellers, who visually consume traversed landscapes have broader significance in planning and design strategies.

Though significance of landscape preference studies in EIAs is highlighted by many scholars in the past and present, land use decisions are made mostly on short range economic benefits rather than on long range benefits. On the contrary, debates among social scientists, social activists, civil societies and many others have focused on the need for long range end-users' participatory approaches. Studies on landscape preferences focus therefore on end-users' agreements, facilitating the objective of public participation, socially inclusion by consensus with the end-users and last but not the least, in the process, facilitating awareness and knowledge of the respondents. The landscape preference studies hold equal value amidst scholars like any other experimental studies.

Every policy related to land and people has relevance to studies on landscapes. To cite an example, the recent announcement by the present Chief Minister of Tamil Nadu to increase wages of the daily workers under MNREGA re-launch scheme assures 100 days of employment for the rural poor. In the first phase, locals of the concerned gram panchayat could be used for up-keeping rural traversed landscapes that may generate youth employment for economic up-liftment and for developing travel and tourism as parallels.

Roadside landscapes are a challenging task for every planner, designer and engineer for the reason that they involve various operators, stakeholders all along their lengths. It is also multitudinous due to its diverse perspectives, irrespective of the proposals to build a new one or to improve and modernize the existing ones. Landscape architects, planners and architects have a lot to contribute despite the highway engineers who work on technicalities of the road design and material quality.

And where the highways engineers focus on the technicalities of the roads, the planners could work on the whole background of land uses, avoid ribbon developments, right-of-way and also impact of new highways and their implications on mobility. Landscape architects create road landscapes to relate the existing landscape character, design roadside structures and fixtures and evolve visual relationships of roadway and urban characters. In all of the above, the first service that the traversed landscape need is to give an assessment of its character, quality and vulnerability of the landscapes traversed (Crowe 1960) or that are traversed. The assessment needs authentication from the end users, where the landscape preferences studies are helpful.

The present Indian National Policy encourages modernization of the existing roads and proposes several highway stretches besides the golden triangle that connects the major Indian cities (discussed in Chapter 2: 2.7.3; Expanding Indian Roadways).

Considering this, the scope of traversed landscape research and implications have far reaching consequences in planning and tourism as well. In view of the fact that linear ribbon developments and density along the Indian roads are a major cause of concern, the opportunities for land use planning are immense such as to regulate the traversed landscapes from the menace of linear ribbon developments at immediate proximity and to facilitate the significance of traversed landscapes within demarcated buffers. Developments do not however affect the visual splendour of diverse landscape characters and components from the travellers' points of view. Those travellers who travel both for tourism and day-to-day local and regional travels need to be consulted as to what may be done in land use planning with a particular focus on traversed landscapes.

Interdisciplinary cooperation is stressed upon in the International Conference on “Cities, Accessibility and Mobility” of June 2009 that discussed problems of urban traffic management. Facilitating non-automobile transport through bicycles and bullock carts, especially looking at them as an alternative to rustic, rural modes of travel along the State and National Highways has been suggested as a sustainable initiative (Parida et al 2009) but whether it has been perceived in the modern, automobile-savvy culture?. Now most rural youths may prefer to travel on motorbikes rather than on bicycles, considering the improving road networks.

6.4 INHERENT PROBLEMS IN LANDSCAPE PREFERENCES

There is always an inherent problem in carrying out a landscape preference study as observed by several scholars in the field. This study in particular is:

Collected land use data are limited to political and administrative (structural) (Figure 6.2) boundaries as in the village plans, block level plans, and taluk land use maps. This is so, especially, in the selected Vistas, and the five taluk land use maps which are merged to get the overall view of the selected Vistas.

Nomenclatures related to landscape types or components are however not available; that is, they are deduced by the author and a few landscape experts for the study, in particular.

Respondents-travellers need several clarifications that are resolved to an extent with the guiding panels with images and land uses of each Vista. This needs a lot of groundwork with digital image processing software like the Adobe Photoshop and Premier Pro for video editing and for collecting scenic samples.

Extensive and diverse data collection is necessary and the data must be handled by various authorities. So this study has been carried out with several limitations, nevertheless keeping the aims and objectives explained in Chapter 1

6.4 COMPONENT PREFERENCES

As discussed in the conceptual framework, preferences for particular primary landscape components that are derived from the literature examines the universally established preferences for factors (primary landscape components) such as vegetation, landform, water, built form, civic and spatial aspects with respondents. For instance, the results of the landscape preferences surveys, preferences for landscape components at the primary level with mean rank preference scores are in the order of civic facilities / condition (3.06), vegetation (3.27) and water (3.08) valued the most with the highest mean preference rank scores. These indicate preferences for natural landscape components present, in addition to good civic facilities/conditions. Further, at the secondary component level of civic components, seven components in total, such as safety (3.13) and cleanliness (3.17) scored high, indicative of sensitivity to 'cue for care' or cared for landscapes as noted by Nassauer (1995) and with the presence of more natural landscapes that were observed by many studies. Like Nassauer (1995) points out that ecological integrity does not match preference ratings for wetlands and the results indicate the same as the preference mean rank value is the least (5.13) for marshy type wetland components (secondary level). Further, the component preferences are primarily determined by the respondents who are mostly urban dwellers (73 percent of the total 330 travellers).

On the contrary, components like built forms and spatial aspect have scored the least: mean preference rank scores of 3.89 and 3.96,

respectively. In case of dislike for built form in comparison with other components that was earlier reiterated by Morgan and Williams (1999) noting that the built form was preferred the least among the landscape types. Similar findings to earlier reports of preferences for 'naturalness' as a predictor of preferences conform to the synonym with preferences for lesser built forms. It is also noticed as a lower for the built form in a landscape with a larger sense of naturalness. Similarly, preference is reported for 'no development that correlate with wilderness' by Brown, G (2006). However, some studies observed that preference for wild or more managed landscape types might differ significantly between social groups (Kaplan and Kaplan 1989). On the same lines, Sullivan and Lovell (2005) found that nature played an important role in the aesthetics of developed settings, suggesting that trees could be used to improve visual quality. Therefore, it is suggested that, in principle, as deduced from the results of the present study and from earlier findings that natural landscape components such as vegetation, water and landform were preferred and more built forms referred to as development or developed in a landscape type were the least preferred as a component among the landscapes.

The least mean preference rank score for spatial components partly points out to lack of awareness of it in the Indian contexts, but the same at the secondary level, where 'openness' is valued the highest (after giving details as illustrated form) and denotes that the spatial could have been equally important of the components that need to be explored with more illustration, as that was experimented in the digital media by Stamps (2009) exploring shape and spaciousness. Further analysis by applying multidimensional scaling technique for the ranked data of the primary components of all the respondents also indicate one cluster of civics, water and vegetation forming a proximity to built form and spatial components forming another cluster that is preferred low. Now it is the

question of how much of the said landscape components that are highly preferred do occur or composed (frequency, area and perimeter length) in the six landscape character type Vistas, which was explained in Chapter 5 (5.3). It is inferred that the landscapes are also preferred on the basis of the components and on what degree they are present.

6.5 LANDSCAPE CHARACTER TYPES OR VISTA PREFERENCES

Taking a few results from the analysis of the landscape vistas that are categories on the basis of landscape character types Vistas V and VI are mostly preferred for the reason that they have the necessary visual elements display, visual variety, landform (hills and hilly terrain), water bodies (lakes and ponds, the Palar river front, Buckingham Canal, backwaters) and vegetation (agricultural fields and reserve forests) components within the traversed landscapes and due to their grand scale and size they are there and have enough visual prospects to give the feel of satisfaction. For example, in Vista 5, there are hills and hilly terrain adding to the visual quality and are valued by the travellers, though there are some noted security and safety concerns, addressed with open-ended questions such as the 'likes and dislikes' of the Vistas.

Observed during the site reconnaissance surveys, landscape character types or landscape vistas were classified, which in general were beyond administrative boundaries or a formal scientific classification nevertheless was attempted in order to 'capture people's sense of place' that had some "authority," "meaning" or 'visionary statement' that needed to be adopted as a 'socially constructed vision of landscape' (Young 2005). Though a wide variety of groups were represented, all road travellers / respondents shared a common and active interest in the natural environment or vistas composed of more natural landscape components such as water, vegetation

and landforms. As explained in the earlier chapters, landscape vista preferences were generally driven by the variety of landscape components present, considering when lesser built forms were observed. In the case of the six landscape character type vistas, the compositions of the components played an important role in the experience of the travellers and as a result of which they were valued, more or less. There were three primary objectives of landscape policy for protection, enhancement and preservation in various degrees.

6.6 SIGNIFICANCE OF LANDSCAPE DESIGN

The six landscape components were the fundamental elements in landscape design and site planning processes. They were dealt with in regard to the organisation of the components on a new setting. They were also introduced, manipulated and reorganized in respect of the components into the existing ones, to satisfy the landscape experiences of the users. On one level, they were addressed traditionally within an expert designer's viewpoint following some principles of harmony, scale, rhythm, unity, texture, hierarchy, variety and colour compositions and at a micro level on landscapes such as parks, gardens, residential and commercial complexes. On the other level, the idea of preservation and conservation of the existing ecological features, adaptation to the geological structure and natural landforms, responding to hydrological conditions (drainage: on-site and off-site) were also addressed at a regional scale. This later expanded to energy saving and natural habitat protection. But, conspicuously, the human interaction was not acknowledged in the processes and was widely under popular notions of land use professionals or experts.

The perceptions and preferences of the public and landscape users were negated or no forum to exert the collective consensus on the landscape that were shaped by the land use authorities and were used predominantly by

the users. Furthermore, the public participation through consensus on compulsions was directed primarily at addressing the basic physical needs of water, shelter, infrastructure, safety and security that were a fundamental need. On the other hand, the emotional and aesthetical needs often took the backseat on most land use decisions. So this investigation had shown some light and demanded further research on the same lines.

6.7 TRAVEL, TRAVELLER AND TRAVERSED LANDSCAPES

Insofar as planning field in India since post liberalization lacked any social ideals and passivity left to accommodating the market forces, the practices had plundered the beauty and diversity of the landscape types and their distinctions in a quick, phased manner. In this case, if beauty was considered as that in the eyes of the beholder, the beholder was the expert on all occasions, and also in deciding and shaping our cities and the countryside landscapes around. And so, the landscape users who had all the rights to proclaim what was the scenic or the non-scenic in a landscape, had their rights breached in all stages, from planning and design to an execution in India. This had led to speculation, irregularities and malpractices. To cite an example, the very recent news that highlighted street-scaping, irregular signages and street lighting were decided upon by the authorities but were executed by the private players of the market forces (spruce up: street-scaping was expensive, signages a waste: ‘all road signage should cost the same’; street-lighting: all agencies rigged the tendering processes (Times of India, Times City, New Delhi, January 14, 2012). As it is evident in the recent years, the public activists (NGOs, RWSs and Civil Societies) and media did the checks and balances in an ardent way; were observed and appreciated by every section of the society in India.

It is argued that all humans’ travel ‘exposure time’ as a biological need since historical times and argued about further by Marchetti (1994) as a

one hour constant ‘mean travelling time per day,’ irrespective of distances travelled and modes of travel. Travel was a significant part of every human life, even in the case of developed western nations travel expenditure was between 11percent and 15 percent of the disposable incomes (Ausubel et al 1998). It was also observed that the car and buses were a huge travel mode in comparison with air or railways, and so the roadways, and the traversed landscapes and road travellers’ perceptions and preferences would play a major role in the times to come, especially in a fast developing country like India, with the rising middle classes and rising expectations.

The aspects of traversed landscapes were driven by travellers’ types and volumes and users’ behaviours where each one leading to accelerate or decelerate each other in a wheel of rotation as pulleys as seen in the diagram below (Figure 6.1).

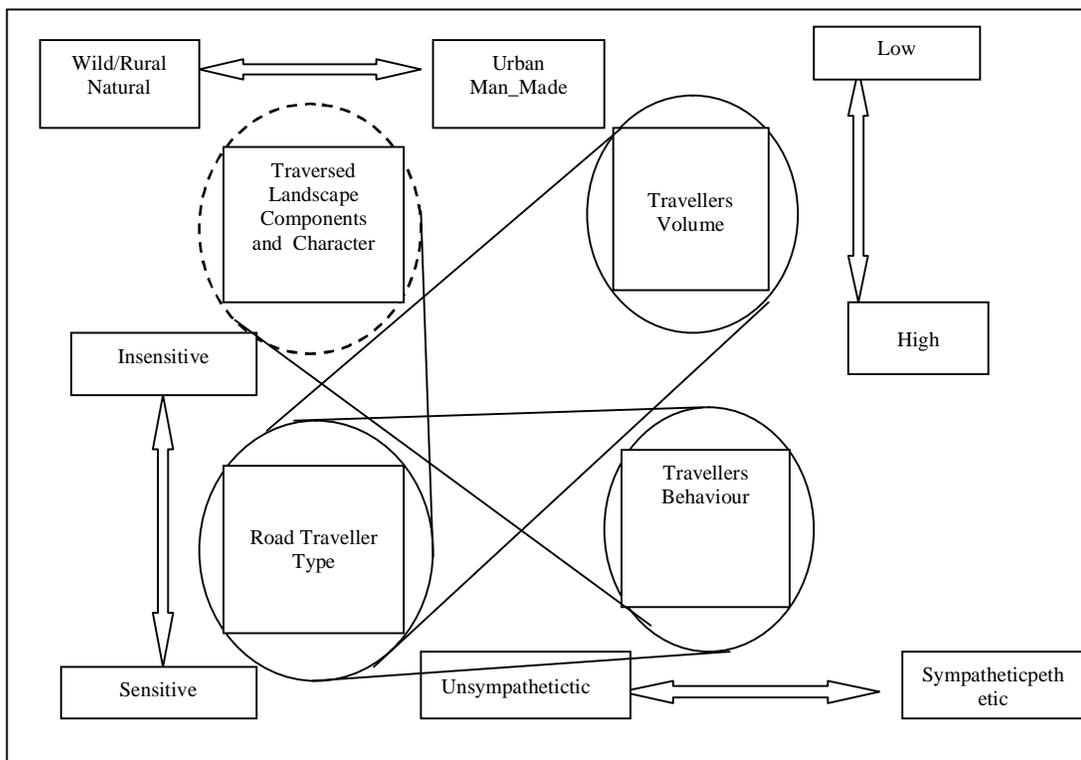


Figure 6.1 Traversed Landscapes and Travellers’ Relationships

The diagram works in the direction of arrows and where the wheels respond to the direction towards how it rotates, leading to effects. It has to be made to work in the other direction, wherein the travellers' type and behaviour are independent to control but the traversed landscape components and types can be controlled by sufficient legal, design, and planning strategies. So, in many cases, the existing understanding of the traversed landscapes and the travellers' typologies are the initial steps towards improving the traversed landscapes.

Therefore, this study strongly advocates, to public and landscape users and their perceptions and preferences as the fundamental rights to register their views on these matters. The so-called experts have an obligation to fulfil their aesthetic and emotional needs (Lang's theory) of the public at large and landscape users, in particular. As it was conceptualised in the earlier chapters, that matters which hold subjective leniency, like landscape and its components, though has some diverse individual tastes and howsoever subjective can be resolved as a collective consensus as a step towards upholding the democracy. It is the prerogative of the experts and policy makers to strive for means and methods to obtain the collective consensus on all matters in general and the common landscapes, in particular. For the reason that land is a land till the people perceive and acknowledge the embedded human dimension in the landscapes, and that satisfies all human needs that include the aesthetical and emotional needs of the travellers on a traversed landscape as well.

The concept of motorised roads and its effect on the travellers: both the drivers and passengers, design strategies congruent to the existing landscapes can be learnt from 'Autobahn' of Germany where from most of the inspirations are drawn for the American Highways and the English Countryside Roads. In the past, Crowe's (1960) book on 'Landscape of roads'

and later by others (Aitken and Jane Hayes 2006; Akbar et al 2003; Sezen and Yilmaz 2010) the idea and significance of the roadside landscapes are well argued and documented.

In view of the above discussions, highlighting the three paradigms of traversed landscapes such as Landscape, Perception and Travel and Tourism discussed in Chapter II, and in the context of the six landscape vistas as the cases taken for study and the observations made by analysing the responses of the travellers on their landscape preferences, the next Chapter VII limits itself to only broad recommendations for improving the Vistas.