CHAPTER – 3

Review of Literature

3.1.1. Environmental Impacts of tourism

The study of the Environment Impacts of Tourism is currently in a growing stage and more research is expected to appear. The first effort towards environmental impacts assessment was directed basically to impacts of leisure activities, especially outdoor recreation. The pioneer studies concerning the environmental impacts of tourism appeared during the mid seventies (Tangi, 1977, Bvd-Bovy and Lawson, 1977) followed by more research activities in the 1980s. Useful Reviews on the subject have been made by Pearce (1985), Farrel and McLellan (1987), Farrel and Runyan (1991).

Majority research works on tourism impacts since late 1970s suggest that negative impacts outweigh positive impacts (Jafari, 1990; Wall, 1997). However, large numbers of residents of destination areas have continued to want tourists to come and often want them very much (Wall, 1997). Jobs, higher incomes, increase in tax revenues and better opportunities for children are frequently stated reasons for wanting more tourists (Wall, 1997). Residents may be prepared to put up for negative impacts in return for what they regard as desirable positive impacts. Thus, trade-offs are often involved in relation to tourism impacts.

The biological and ecological impacts of tourism have been studied in the case of specific environments - Islands, Coastal Zones, Alpine Areas, National Parks etc (Lindsay, 1986; Nijkamp et al, 1991). Nijkamp (1977) and Onyeanusi (1986) developed the impact structure matrix combining environmental elements and the range of possible impacts of these elements from the development of tourism to a certain level (carrying capacity levels). To fill out the structure matrix a set of different tools are used (Social surveys, behavioral inquiries, multiple measurement techniques, ecological indicators etc.).
The study of the environmental impacts of tourism thus, has been started basically after 1970s. The analysis of the environmental impacts of tourism has been predominantly qualitative and mostly descriptive. The type and intensity of the environmental impacts of tourism depends on the interaction between the type of tourism development, the socio-economic and other characteristics of tourists and the natural, socio-economic and institutional characteristics of the host area. The environment is being increasingly recognized as a key factor in tourism. In the last decade of the twentieth century, it was noted that tourism depends ultimately upon the environment, as it is a major tourism attraction itself, or is the content in which tourism activity takes place (Holden, 2000). The relationship between tourism and the environment is taking place on various levels. In addition to direct tourism impacts on the environment like pollution, noise and disturbance, indirect, irreversible and long term consequences between tourism on environmental quality are also characterized by dynamic feedback mechanisms (OECD, 1980 & 1994). It has been suggested that controlling the volume of tourism might alleviate the situation (Wheeler, 1990), especially since the tourism is typically found in locations with fragile environments, such as mountains and coasts which are peripheral to the world economy (May, 1991).

Many studies throughout the world have now documented the ecological impact of indigenous population on the environment (Bhattacharya, 2003a & 2003b; Fitzgibbon et al, 1995). The cumulative impacts of multiple threats are often synergistic rather than additive, and they affect all components of wilderness ecosystems and all levels of biological organization (Cole and Landres, 1996)

Studies on tourism in India are few and far and predominantly impact oriented (Shackley, 1996; Singh, 1989; Singh and Singh, 1999; Madan and Rawat, 2000; Chaturvedi, 2002; Kuniyal, 2002; Gardner et al,
2002). However, research on India’s domestic tourism is almost non-existent (Singh, 2004). One of the reasons for this lies in the fact that ‘tourism’, which is typically a product of ‘western’ modernity (Towner 1995, 339), preferably industrialism, conceptually contrasts the legacy of travel practices of native Indian masses, prior to its arrival, during the colonial and post colonial times, vernacular forms of traveling and touring had a vivid and vigorous presence in the country.

Monitoring the diffused impacts of individual developments is a key tool in environmental management for both public and private sectors (Buckley, 1989, 1995, 1998a; Treweek, 1996; Thompson and others, 1997). The scientific quality of monitoring for diffuse impacts has rarely been quantified (Buckley, 1989, Treweek et al, 1993, Treweek, 1996, Thompson et al, 1997). The tourism sector provides a good test bed because tourism development are (1) often adjacent to or even within conservation reserves and other relatively undisturbed natural environments, and (2) often clustered, so that cumulative impacts are significant (Buckley, 1994 a & b, 1998, Warnken and Buckley, 1996, Buckley and Warnken, 1998). Monitoring data are often statistically inadequate to test whether impacts occurred or not (Warnken and Buckley, 2000). It is clearly mentioned in the researches that much more thorough monitoring is needed to quantify the effects of tourism development in a form useful for tourism planning and management (Warnken and Buckley, 2000). Efficient monitoring protocols need to be developed, and potential strategies need to be identified and evaluated. Recreation impacts on vegetation and soil have well studied and provide a good example of the value of science to management (Leung and Marion, 1999 a & b). More scientific research is needed for a better understanding of the impacts of many different human activities on various ecological components at different spatial and temporal scales (Cole and Landres, 1996). Managers need to define
targets, both for restorative manipulations and for future ecosystems (Bonnicksen and Stone, 1985).

There is increase in potential disturbance and degradation of wild land recreation areas and an ongoing system is needed to monitor and address potential direct and indirect user impacts. Improper disposal and concentration of human faeces is a recognized problem (Cilimburg, Monz & Kehoe, 2000). Inadequate disposal of human waste and the accumulation of solid waste are the common problems of the unmanaged tourism sites anywhere. Managers understand most of the primary impacts on trails and campsite, where recreation use concentrates, and have an enlightened perspective on the significance of these impacts. They have considerable information about factors that influence the magnitude and extent of impacts, which allows them to evaluate the pros and cons of alternative management strategies. The effective of various management techniques have been evaluated, and efficient monitoring protocols have been developed (Cole, 1989).

Various types of recreational traffic hiking trails and levels of trail degradation studies have been carried out by the various researchers (Delluca et al, 1998; Bohemen et al, 2003). The purpose of such studies is to assess the relative physical impacts of hikers, Llamas and horses on the recreational trails. The magnitude of trail deterioration is determined by characteristics of the trail, its environment and the recreation use that the trail receives (Cole, 1987). In the most rigorously controlled study of impacts to existing trails, Wilson and Seney (1984) measured the effect of hiker, horse. Motorcycle and bicycle traffic on sediment yield following simulated rainfall. Similar studies on soil and vegetation in relation to trampling carried out in various temperate and alpine habitats show that trampling can cause changes in soil condition and in vegetation growth (Bates, 1935; Perring, 1967; Chappell et al, 1971; Streeter, 1971; Natio, 1969;
Grabherr, 1982; Goldsmith et al, 1970; Liddle, 1973; Bratton, 1985; Marion and Merriam, 1985; Cole, 1987). Recreation impacts on animals and water have also been widely studied, but these studies have not provided as firm a support for management (Hammitt and Cole, 1998; Knight and Gutzwiller, 1995; Liddle 1997). Impacts have often been identified, but results are often contradictory, and perspectives on the significance of impacts are poorly developed. Efficient monitoring protocols are lacking, and few potential management strategies have been advanced or evaluated (Cole & Hammitt, 1998). Recent researches have evaluated visitors’ tolerance for optimum contact levels, essentially a measure of maximum preferred contacts. Visitors are asked to give their highest tolerable contact level (Shelby and Heberlein, 1986; Roggenbuck and Williams, 1994; Patterson & Hammitt 1990). The paper by Deng et al (2003) examines the trampling impacts on vegetation and soil as well as the visitor’s perceptions of these impacts in Zhangjijie National Forest Park, China. The study indicates the impacts of visitor’s and their activities on physical and biological environments are complex, multidimensional and dynamic.

Pigram (1990) addresses the problem to identify what level of tourism is acceptable in a given environment, suggesting that the critical issue is the ability of the natural resources to regenerate. The environmental consequences of tourist activities are often difficult to isolate from other developments resulting from demographic, technological or agricultural changes (Kamra, 2001). Many studies have been done to isolate or to categorize the various impacts and the tourism related environments respectively. Before studying the environmental impacts, it is important to explore the relationship between the tourism and the components of the natural environment and to define the boundaries of the environment. However, relationship between tourism and environment is complex. There is a mutual dependence between the
two, which has been described as symbiotic (Mason, 2003). Many
descriptions are available viz., as given by the Wall and Wright (1997),
and environmental impact assessment processes as given by Cooper et al (1993). Above all, the term environment is often assumed to mean
no more than the physical or natural feature of a landscape. However,
Swarbrooke (1999), described five aspects of the environment: the
natural environment, the farmed environment, wildlife, the built
environment and the natural resources. The five entities are not
separate, but are linked.

Any form of tourism can have negative impacts on the resources on
which tourism activities depend. Inevitably, the scale of such nature
tourism and ecotourism will lead to the disturbance of, or damage to
park resources (Deng et al., 2002; Leung & Marrion, 2000), which in
turn can affect the visitors’ experience (Marrion & Leung, 2001). In
fact, the destruction of these environments could have a greater
influence on the quality of visitors’ perceptions of resource destruction
has become one of the major areas of research in our field (Deng et al,
2003). However, it should be born in the mind that the type of the
impact as perceived by the observer depends upon the value position
and the judgments of the observer of the impacts. This can be
illustrated by a simple example (Mason, 2003); one of the observers
may suggest that the creation of a footpath through the National Park
to cater for tourists can be viewed as a way for routing tourists and
therefore limiting damage – a positive impact. Another observer may
claim that this footpath routing will promote an increase in tourists’
number and hence the likelihood of more damages to the environment-
a negative impact (Mason, 2003).

There is a small but growing body of literature discussing the influence
of the service sector on environmental quality (Allenby, 1997; Graedel,
1997; Guile & Cohon, 1997; Rejeski, 1997). The degree of
environmental impact varies, depending on the type of tourists and the intensity of site use (Gartner, 1996). There are day tourists, who visit a destination for a day and then leave; summer residents who are in effect tourists for a season; and tourists on bus tours and other trips that may visit a location for a few minutes or a number of days. Day tourists have an impact on the environment through their transportation to their destination as well as their activities once there (Davies and Cahill, 2000). There are environmental impacts from the travel to a destination, the tourism activities in and of themselves at that destination, such as hiking or boating, and from the creation, operation, and maintenance of facilities that cater to the tourists’ centres, such as hotels (May, 1991). Development associated with tourism includes accommodations, roads, retail stores and restaurants, tourist attractions, tourists’ seasonal waterfront homes, water supplies, and waste disposal facilities. Cumulative effects over time are particularly problematic because the developer in question is often out of the picture before impacts become obvious (Gartner, 1996). Tourism-related development has an impact on wildlife also. Development in the lower elevations of mountain resorts, where it usually is located, restricts the migratory winter range of certain wildlife (Gartner, 1996). Impacts on wildlife associated with tourism development can be indirect as well as direct. The two primary ways in which tourism activities disturb wildlife are by altering their eating habits and feeding patterns, and by altering their habitats. Feeding patterns are altered directly by tourists feeding animals, and indirectly by littering, which encourages wildlife to scrounge for food (Mathieson & Wall, 1982).

The physical impacts of tourism may be subsumed under the category of environmental impacts. Studies on physical impacts of tourism have followed two main lines of enquiry: studies on physical impacts which are reviewed as they relate to different environmental types, coastal areas, mountain regions, oceanic islands and studies which are based
on identification of certain resource requirements and environmental impacts common to all ecosystems, e.g., water and energy resources, atmosphere etc (Ahmad, 1993; Allan, 1998; Sawkar et al, 1998; Anders & Leatherman, 1989). It is also recognized, however, that visitors overuse and the supplementary development of facilities and services in Protected Areas are the main treats to the ecological integrity of these environments (Rollins & Robinson, 2002; Swinnerton, 1999 in Deng et al, 2003).

In the wake of tourism activities, distinctive ecosystems, like mountains, coastlines and oceanic islands, develop environmental problems specific to their characteristics. Mountains, for example, exhibit low resilience to mass tourism, problems of landslides, rockfalls, destruction of vegetation and wildlife with alternations in the physical structure. Coastlines develop a peculiar morphology based on linear development parallel to mass tourism, problems of sewage, pollution of beaches, disfigurement of coastlines, erosion of dunes and unaesthetic construction of buildings on soft landscapes (Mathieson and Wall 1982). However others argue that management can lead not only to conservation of natural beauty and wildlife but also enhance environmental quality (Manning, 1979; Wilson, 1979).

Researches have shown the problems of noise, litter and increased erosion from overuse of paths and trails, which are open to tourism. Increased competitions for land and labour, damages of vegetation, harassment to livestock have been reported by a number of researchers (Pizam, 1977; Butler, 1978). Although few researchers have hinted at beneficial changes in terms of provision in the countryside of infrastructural facilities, additional income to farmer through leasing of land, rent or scale of building, food and handicrafts (Ironside, 1971). Strain on infrastructural facilities has been reported for urban centres (Chopra, 1991). Besides over past two decades, Protected Areas have
become popular destinations for nature tourism and ecotourism, which are rapidly becoming important components of the international tourism industry (Deng et al., 2003).

3.1.2. Socio- Cultural Impacts of Tourism

It is notable that while leisure includes the activity of ‘going on holiday’ tourism, the general leisure literature rarely refers to this activity specifically. A further oddity in the leisure / tourism research tradition is that a great deal of North American Research on leisure, or outdoor recreation is in fact based on studies of people who are camping, or at least staying away from home to visit major attractions such as National Parks. So a great deal of what is recognized as ‘recreation research’ in North America could in fact equally be seen as ‘tourism research’, but this is rarely acknowledged. So research on the ‘sociology of tourism’ is conventionally seen as separate from research on the ‘sociology of leisure’.

Dann and Cohen (1991) points out that there is ‘no single sociology of tourism’, instead ‘there have been several attempts to understand sociologically different aspects of tourism, departing from a number of theoretical perspectives’. They indicate that leisure is only one of the contexts in which tourism is studied; it is also viewed in the context of sociology of migration and in the context of research on travel. Cohen (1984) divides sociological research on tourism into four ‘issues areas’: the tourist, including work on the socio- psychology of tourist motivation and MacCannell’s (1976) seminal work on tourism as ‘quest of authenticity’; relations between tourists and locals; the structure and functioning of the tourist system, particularly the various actors in the ‘industry’; and the social and environmental consequences of tourism. Reflecting the situation in leisure research, he concludes:

While a variety of often intriguing conceptual and theoretical approaches for studying the complex and manifold touristic phenomena have emerged, none has yet withstood rigorous
empirical testing; while field-studies have proliferated, many lack an explicit, theoretical orientation and hence contribute little to theory building.

The research about the impact of tourism on development and economy of states and region during the last 20 years (Steinecke, 1981) indicates that this is not only for the industrialized world, but also for developing countries (Gruber, 1979). This is well known result of the permanent growth rate of people who actually take part in outdoor recreation activities and make tourism more and more an economic factor (Lavery, 1971). The growing number of visitors has a large impact on the transformation of regions (Krippendoff, 1975). Tourism can diminish the aesthetic appeal of a destination through the construction of buildings that clash with the surrounding environment, creating “architectural” or “visual” pollution (Andereck, 1993; Mathieson & Wall, 1982). The high-rise hotels along the coastal zone of Atlantic City and Miami are examples, as are several high-rise hotels in Jerusalem, whose construction arguably damaged the city’s architectural beauty (Bosselman, 1978).

Tourism impacts are likely to change over time as a destination area develops (Butler, 1980). According to Wall (1997), key factors contributing to the nature of the impacts are the type of tourism activities engaged in, the characteristics of the host community in the destination region and the nature of the interaction between the visitors and residents. Davison (1996) suggested a range of similar influences and also included the importance of time and location in relation to tourism impacts. In stressing the importance of the ‘where’ and ‘when’, Davison (1996) claimed these influences set tourism’s impacts apart from those of other industrial sectors. In relation to tourism being concentrated in space, Davison indicated that tourism production and consumption, unlike many other industrial activities, had taken place in the same location. This means that the tourist consumes the product in the tourist destination. Therefore, tourism impacts are largely spatially
concentrated in the tourism destination. In relation to tourism impacts being concentrated in time, Davison (1996) suggested that it was because of a seasonal activity that had made this important. The seasonality of tourism is largely due to two major factors: climate and holiday periods (Burton, 1992; Davison, 1996). Mc Kercher (1993) argued that although the impacts of tourism were well documented, little research had been conducted into why impacts appeared to be inevitable. He claimed that there was a number of as structural realities, what he referred to as ‘fundamental truth’, which explains why the various effects, particularly adverse effects of tourism, are felt, regardless of the type of tourism activity. According to McKercher (1993), ‘fundamental truths’ can be considered as major influences on tourism impacts.

A significant problem in assessing socio-cultural impacts is that it is difficult to differentiate these from other impacts and hence particularly difficult to measure them. This partly explains why these impacts have been regarded in the past as less significant than economic impacts. Much of what is written about socio-cultural impacts of tourism has been based on research that has required those actually affected by these types of impacts, to assess the impacts on themselves or on others. This form of research tends to be more qualitative and subjective in comparison with the more quantitative approaches used to assess and measure economic impacts of tourism, such as the multiplier (Mason, 2003). A number of researches have been conducted to apply theoretical perspectives on socio-cultural impacts of tourism. An important study was conducted by Getz (1978, 1994) suggested that the attitudes of the residents did not appear to change greatly over time. However, Getz noted some increase in negative attitudes to tourism in that time period. Getz, in fact, discovered that attitudes to tourism by the host population were closely linked to economic fluctuation, nationally and locally, as well as to
awareness of the small range of other options to tourism in the local region. In mid 1990s, research was conducted into resident’s attitudes to tourism growth on the Greek island of Samos (Haralmbopolous and Pizam, 1996).

Besides all that discussed, the utmost step for the sustainability of the destination area is the education. Education for all concerned is still the best key (Butler, 1991) for the sustainability. Visitors’ education is often recommended to counteract negative environmental impacts (Bramwell and Lane, 1993; Cole, 1993; Orams, 1996; Hammitt & Cole, 1998). While it is hard to fault this solution, and there is little doubt that in the long term it is probably the only solution, which is likely to be broadly successful (Butler, 1991). Hence, solutions to the recreation management problems may be linked in understanding of how visitors use resources, how they think the resources should be used in near future, and how they view the severity of environmental problems (Burger, 1998; Pigram, 1993). Education can help reduce “avoidable impacts” such as littering, ad hoc campfires, inappropriate disposal of waste and damage to the vegetation (Priskin, 2003).

3.1.3. Economic Impacts
Researchers have identified a few important factors as the level of socio-economic development of the destination area, including the level of skills among the natives; the presence of an organizational body to deal with tourism, and the nature and origin of financial involvement, particularly the role of foreign investors (Chopra, 1991). At the local level, tourism is encouraged due to its ability to generate employment, increase standards of living and provide linkage effects with other sectors of the economy (Chopra, 1991). Ambiguity also surrounds the quality of employment generated by tourism. While a large number of researchers have made mention of tourism’s ability to provide jobs for semi-skilled and unskilled labourers, a few have pointed to a higher proportion of skilled labour employed in tourism.
sector (Green, 1979). There are positive economic impacts associated with tourism in gateway communities and host communities (Tooman, 1997). More visitors can mean increased employment opportunities and an improved standard of living. Other economic benefits of tourism reported in the literature include improvement of public utilities and transport infrastructure, and an increase in tax revenues (Ap & Crompton, 1998).

Tourism receipts can be classified into five categories: accommodation and food, shopping, internal travel, entertainment and miscellaneous items (Sawkar et al, 1998). These expenditures form the direct output of the industry. However, the industry buys goods and services from other sectors of the economy. This additional output produced through inter-industry spending is the indirect output of the industry and is normally estimated using multipliers (Sawkar et al, 1998). Food and beverages comprise the largest component of the expenditure of domestic tourists (40 percent) and second largest component of the expenditures (accommodations being the largest), of the international tourists (20.5 percent). Increasing the amount of local food used in the tourism industry is a way of increasing backward linkages from tourism, involving the local community and therefore, moving toward more diversified and sustainable development. Yet, policymakers have not focused on strengthening the economic linkages between tourism and the food sector (Sawkar et al, 1998).

Pigram (1980) recognized that there might be negative, neutral or positive relationships between the development of tourism and the environment. After the appearance of the Pigram’s article (1980), attention was paid to the relationship between tourism and environment and the problems associated with tourism expansion (Pearce, 1985; Romeril, 1989; Butler, 1991; Tisdell, 1996). In most cases infrastructural inadequacy and lack of growth management has
led to irredeemable environmental damages besides losses of jobs opportunities that are often grabbed by outsiders (Singh, 1989; Pirazizy, 1993; Batta, 2000). It was also recognized that tourism could benefit the developing countries by providing a return from their environmental resources (Boo, 1990). One methodology, which appeared to be appropriate for taking account of the complete set of costs and benefits associated with tourism, is the cost- benefit analysis (Bryden, 1973; Mitra & Chattopadhyay 2003). However, applications of the technique has generally failed to take account of environmental resources, owing to the difficulties of valuing them and of qualifying the inter- and intra- generational effects of alternative rates and types of utilization (Sinclair, 1998). Many natural resources are public goods and free access to them often results in the over-use (Mitra & Chattopadhyay, 2003). Since one of the main obstacles to achieving the sustainable use of environmental resources is that they are freely available or under priced, it is necessary to attribute a value to them (Mitra & Chattopadhyay, 2003). There are basically two approaches for the valuation of the environmental goods, namely Revealed Preferences and the Stated Preferences. Stated Preferences approach, basically involves asking people how much an environmental goods are worth (Mitra & Chattopadhyay, 2003). In Revealed Preferences approach there are basically two methods, namely hedonic Price theory (HPT) and travel cost method (TCM). The HPT starts with the assumption that environmental quality changes, property rights would also change, indicating the scope for estimating an implicit demand function for the environmental goods by observing the price variation. The TCM is an indirect valuation method where the visitors’ travel costs to a recreational area are used as a proxy for the price of the recreational activity and the visitation rate expresses the amount of recreational experiences brought. In the stated preference approach the dominant method is the Contingent Valuation Method (CVM). The CVM consists of asking the people for either their maximum
willingness to pay for an increase in environmental quality or their minimum willingness to accept compensation to forgo such an increase (Chopra, 1998; Navrud & Mungatana 1994; Randall, 1991; Dave & Mandelsohn, 1991; Freeman, 1993). A review of environmental valuation studies in different developed countries reveal that studies were taken spasmodically, with varying degrees of influence on decisions and with marked variations between countries (Navrud, 1992). In the late eighties and nineties, an emerging interest was particularly the CVM (Mitra & Chattopadhyay, 2003). It is also ironical that relatively few economic valuation studies have been done in India (Mitra & Chattopadhyay 2003). In the early nineties, Murty & Menkhaus (1994) estimated costs and benefits for preserving Keoldeo National Park at Bharatpur in Rajasthan accruing to all the concerned groups namely tourists, local population, the government and non-users. The methodology used combines contingent valuation techniques with survey based techniques to arrive at estimates of value. Hadarkar et a. (1995) conducted the survey among the residents of Mumbai and elicited their willingness to pay for the maintenance and preservation of Borivli National Park by using CVM. Chopra et al (1997) conducted the study for economic evaluation of biodiversity at Bharatpur National Park. Murty (1998) has applied CVM to estimate the non-user benefits of the Ganga Action Plan.

Among the limitations of the CV methods, there has been the subject of severe criticism by some analysts. Critics argue that responses are likely fail to reflect respondents’ true valuation because respondents do not take the exercise seriously, owing to various sources of bias (in the questionnaire, by the interviewer, by the respondents), or because of misunderstanding over what is being asked. The pattern of responses has often seemed to be in conflict with the tenets of rational choice. Moreover, when CV is used to estimate existence value, the results cannot be validated by cross-checking with other evidence. Despite
these criticism, CV has been widely used and it is generally accepted that it can provide useful and reliable information as long as certain procedures are followed: the questionnaire should fully inform respondents of the particular good being valued (included possible substitutes), of the proposed change, and of the way in which payment would hypothetically be collected. Respondents must also be reminded of their budget constraints. Where possible, the CV instrument should lean towards conservatism. This is especially important since CV methods are often thought to over-estimate benefits.

3.2. Perceptions (Attitude Surveys)

According to Nilson & Kuller (2000), ‘An attitude is defined as a psychological construct, composed of affective, cognitive and behavioural components, which might be used to describe human evaluative responses’. In the field of tourism, impacts literature suggests that, tourism-related social changes can evoke a variety of both positive and negative perceptions in the host community members (Besclides et al, 2002). The diversity of the residents’ perceptions towards tourism and tourists has lead to the construction of perception-support-development models that attempt to incorporate both the positive and negative community reactions (Plog, 1973; Doxey, 1975; Butler, 1980; Cooper and Jackson, 1982, 1985, 1989; Mitchell, 1998; Mitchell & Coghill, 2000; Mitchell et al, 2001). Research suggests that economic and socio-cultural factors such as community attachment, length of residence, economic dependency on tourism and stage of development, can influence resident perceptions of and / or attitudes toward tourism (Lankford & Howard, 1994; Ap and Crompton, 1998). McCool & Martin (1994) suggested that residents who had stronger attachment to their community viewed tourism impacts with more concerns than did those who were less attached. Moreover, residents’ perceptions of tourism are also connected with the stage of development in their respective communities (Xiao & Li, 2004). In the
perception and impact literature, a number of studies have illustrated strong correlations between residents’ acceptance of tourism, spatial proximity to tourism centres, and economic dependency on and/or benefits derived from tourism development (Liu & Var, 1986; Liu et al, 1987; Milman and Pizam, 1988; Perduce et al, 1990; Allen et al., 1993; Johnson et al, 1994; Jurowski et al, 1995; Haralambopolous & Pizam, 1996; Gursory et al, 2002). The study of residents’ perceptions of tourism impacts in Nadi, Fiji (King et al. 1993), indicates that residents dependent on tourism can clearly differentiate between benefits and social costs. Furthermore, another research on tourism impacts on Balinese villages (Wall, 1996) has shown that, while residents’ overall attitudes towards tourism are positive in the initial stage of development, those living in closer proximity to tourism attractions can have greater concerns about tourism impacts. The results of these studies serve as ‘sensitizing concepts’, providing ‘a general sense of reference’ or ‘directions along which to look’ (Patton, 2002) while analyzing the impacts of tourism on the environment and on the local communities itself.

Attitudes have been examined in an Ecotourism context, almost exclusively through the New Environmental Paradigm Scale (NEP). Designed by Dunlap and Van Liere (1978), the NEP was developed to measure the more general attitudes about society and the natural environment among Americans (Roberts and Bacon, 1997). The scale consists of 12 statements concerning the natural environment ranked on a 5-point Likert Scale, from ‘Strongly Agree’ to ‘Strongly Disagree’. The scale is based on the notion that multi-item questions generate more reliable attitudinal measures than single item questions (Kotchen & Reiling, 2000). Mass tourism may influence local people’s daily routines. These influences may be seen mostly in the peak tourism seasons. Such influences are formed as congestion, density, overcrowding and energy shortages (Cavus & Tanrisevdi, 2003). The
study by Tanrisevdi & Cavus (2003), a case study in Kusadasi, Turkey examines the residents’ attitudes toward tourism development that highly influence mass tourism. The Likert scale was also used to assess the perceptions of visitors of degradation caused by Coastal Nature-Based recreation (Priskin, 2003). Even nature-based tourism and recreation associated with some biophysical impacts in natural areas even at low levels of use (Liddle, 1997; Hammitt & Cole, 1998; Cole, 1998; Buckley, 2001). Reliable data on resource characteristics, impacts, use patterns and user characteristics are required to manage biophysical impacts as well as visitors (Hammitt & Cole, 1998, Buckley & Pannell, 1990; Cole, 1993). Hence, understanding visitors’ attitudes is of value to resource managers (Vaske et al., 1995; White et al., 2001; Priskin, 2003). Perception may be an indication of whether visitors would accept management based on their understanding of impacts associated with recreation activities (Priskin, 2003). Tourists’ perception information has been used elsewhere to help formulate plans and policies for coastal areas heavily used for tourism and recreation (Morgan et al., 1993, Priskin, 2003). In particular, information obtained from the perception surveys could be useful for formulating specific visitors education strategies for certain activities that are highly impacting (Priskin, 2003). Continued research on perceptions is needed as attitudes vary across cultures through time and space (Lothian, 1994, 2002).

Tourism’s actual and potential impacts on tourist’s destinations and their residents are well documented in the literature (Allen et al., 1994; Ap & Crompton, 1993, 1998). Often socio-economic indications of these impacts have been measured by asking informed stakeholders for their perceptions of the changes that have been induced (Allen et al., 1994; Lindberg & Johnson, 1997; Mc Cool and Martin 1994; Williams & Lawson 2001; Brunt & Courtney, 1999). The study by Williams and Hunter (2002) assesses the nature of the existing relationship based on
the perceptions of those stakeholders concerned with the socio-economic and environmental changes induced by the Heli and Snowcat skiing industry in British Colombia’s Rocky Mountains in the region of Canada. Identifying overriding, social, economic and environmental impacts as expressed via the perceptions of stakeholders groups is a well-recognized approach to assessing the type and extent of change associated with tourism (Gilbert & Clark, 1997; Williams & Lawson, 2001; Brunt & Courtney, 1999). As mentioned earlier, environmental degradation can influence the quality of visitor experiences. However, it is not well understood how visitors perceive their impacts on the environment (Deng et al., 2003). In addition, findings from the past studies are not consistent in terms of acceptability or unacceptability as well as levels of satisfaction relating to the impacts from the visitors perspective. Generally, visitors appear to be more sensitive to impacts such as litter, tree damage and badly exposed tree roots (Leung & Marion, 2000). According to Hammitt & Cole (1998), visitors’ judgments about whether an impact is good or bad are largely dependent upon the type(s) of recreation an area is managed to offer, the objectives of various user groups, and the objectives of resource management. Also regarding the perception on the degradation of natural environments depends upon the visitors’ recognition of the impact and the impact’s form (Deng et al., 2003).

While planning should be given priority, residents’ perceptions should be viewed as an essential and integral part in the process of planning community-based tourism for the sustainable development (Xiao & Li, 2004). Impact literature suggests that people who enjoy or suffer most from the tourism are those who live in the community where tourism is developed. Therefore, residents’ perceptions, community reactions, involvement and participation are needed for maximizing the socio-economic benefits of tourism for the community (Inskeep, 1991). The community involvement and participation in tourism development is
regarded as a prerequisite to sustainability (Murphy, 1985; Stone, 1989; Keogh, 1990; Inskeep, 1991; Ryan & Montgomery, 1994; Simmons, 1994; Gunn, 1994, 1997; Gartner, 1996). Murphy (1985) stressed residents’ involvement in the early stages of tourism development and planning before key (and often irreversible) decisions are made. He further argued that destination community was an important component of the tourism product and that the industry should use the community as a resource, sell it as a product, and in the process, affects the lives of everyone. The study by Perez-Verdin et al, 2004 evaluated perceptions of local residents from three communities in Southern Durango, Mexico, towards planning outdoor recreation in the Michilia Biosphere Reserve (MBR). They used the personal interviews to gather information about the barriers that keep people from participating in recreation activities and concerns about potential impacts of increasing recreation in the MBR. Perez-Verdin et al (2004) focused on the local residents because they represent potential users of MBR resources, they will receive the benefits and / or negative impacts of developing recreation, and they are the groups most closely interested in the management of federally owned, natural protected areas such as the MBR. The results found shown the significant differences in the perceptions of some of the potential impacts of outdoor recreation including higher risk of wildfires, loss of traditional values, overcrowding and an increase in labour supply (Perez-Verdin, 2004). Additionally, Potts and Harrill (1998) proposed discovery, mutuality, locality, historicity, potentiality and enhancement as principles of community tourism planning. Another benefit associated with the recreational use of forest resources is the economic impact to local communities in the form of employment and economic growth (Manning, 1999). Only if initial recreation programs are successful and economic benefits are brought to local communities, residents are likely to support additional recreational development (Perduce, 1990). Planning and managing for economic and other personal benefits must
consider the behavior, attitudes and perceptions of local residents toward developing outdoor recreation around local communities (Perez-Verdin et al, 2004). Researches indicate that when residents’ perceptions are not considered in recreation policies and programs, these programs are likely to fail or be ineffective in implementation (Horochowski & Moisey, 2001; Walker, 1996; Pearce, 1980).

Tourism has become a major source of foreign exchange for India, and the historic places in central part of India are the major tourists’ centres of attractions. In the recent years scholars have attached much importance to residents’ attitudes and perceptions on tourists and tourism, and have emphasized the need of including their well-found views in planning and development of resorts (Liu et al, 1987). The perceptions of the local people is also important as they are the real witness of the tourism scene, both as a spectator and as an actor, and eventually they are the one who are directly (or indirectly) affected by tourism (Singh, 1989). So, their views should be more realistic than the observers subjective observations collected from a few visits of the area. Tourism can diminish the aesthetic appeal of a destination through the construction of buildings that clash with the surrounding environment, creating “architectural” or “visual” pollution (Andereck, 1993; Mathieson & Wall, 1982). Regarding the socio-cultural impacts, it is well identified that tourism effects marked changes in the socio-cultural environment of the destination communities, particularly when the guests and the hosts have contrasting socio-economic background (Singh, 1989).

As reported from the literature survey, sex and age did not significantly affect visitors’ perception, with visitors who had higher education levels being more likely to view recreational impacts as being unacceptable (Deng et al, 2003). Although it may be tempting to try to link this finding with studies that suggest that people who have lower education levels (Dietz et al, 1998; Fransson & Garling, 1999), it
should be noted that other studies have found that levels of environmental impacts concerned are evenly distributed across education levels (Gooch, 1995; Jones & Cater, 1994).

3.3. Literature on the methodology

The general approach for the visual impact assessment is similar to the one, which we have followed so far in assessing other types of the environmental impacts. Much of the information for describing the baseline visual resources is collected through the field surveys of the project area and from the maps and other documentary records of the local authorities or government (Barathwal, 2002). Monbailliu (1984) has related the visual impacts of projects to potential changes in landscapes characteristics and landscapes beauty. Martin (1984) has described several visual impact assessment techniques for analyzing proposed developmental project sites. Heape (1991) has suggested incorporating factors like choice of view or location, timings of views, accuracy of photomontage (in terms of color, size, etc.,) and validity, i.e., the integrity of all the above factors for predictions of visual impact. Similarly, visual resources management models are also available for visual impact analysis (Canter, 1996). Visual perception is a subjective phenomenon. It depends on the several factors like age, gender, activity preferences, and traditions etc (Barathwal, 2002).

The United Nations Conference on Environmental and Development (UNCED) held at Rio-de-Janeiro in June 1992, and the World Summit on Sustainable Development (WSSD, 2002), was a milestone event, effectively focusing the world’s attention on environmental and developmental problems. Environmental Impact Assessments are the important management tool for ensuring the optimal use of the natural resources for sustainable development. The purpose of the Environmental Impact Assessment is to identify and evaluate the potential impacts (beneficial and adverse) of development projects/
activities on the environmental system. It is a useful aid for decision-making based on undertaking of the environmental implications including social, cultural and aesthetic concerns, which could be integrated with the analysis of the project costs and benefits. A tourism development project at a historical site may benefit visitors to the area and people associated with tourism related business, but may also generate considerable pressures on the services used by the local population (Barathwal, 2002).

The study of plant communities and their relationships with environmental factors is important in devising successful management strategies. Vegetation science is almost 300 years old since it started with description of vegetation on unusual landscapes (Mueller-Dombois & Ellenberg, 1974). In 20th century the efforts were directed towards simplifying vegetation description in order to increase its accuracy and to find out a standard basis for quantitative evaluation. But this does not mean that extensive, qualitative descriptions are not as good as intensive, quantitative description. For the methods of vegetation analysis it is important to consider the views on the nature of plant communities. This is important because these views influence the objectives in vegetation science and these in turn have a strong bearing on the methods applied in field research. Tansley (1920) believed that plant communities could be described as quasi-organisms (keeps changing). Clements (1916) emphasized on the dynamic relationship of plant communities in time, while Gleason (1926) included dynamic nature of plant communities in time and also in space by emphasizing the continuity in space. Gleason pointed the absence of absolute boundaries between adjacent communities. This founded the basis for the continuum approach (Curtis & Mackintosh, 1951) and methods of gradient analysis and ordination were formulated (Whittaker, 1967). Regardless of the sampling method
used for the field analysis, a sample plot should fulfill the following requirements:

1. It should be large enough to contain all species belonging to the plant community.
2. The habitat should be uniform within the stand area as far as one can determine this.
3. The plant cover should be as homogeneous as possible.

Adequate literatures are available on the trail assessment methods in the growing field of the tourism. Basically, the trails are where recreational activities are performed (Marion & Leung, 2001). Consequently, recreational impacts on vegetation, soil or wildlife are most likely to occur in or along trails, especially those that are unsurfaced (Leung & Marion, 1999; Marion & Leung, 2001). Assessing and monitoring the conditions and situations of these visitor-concentrated sites is essential for both the protection of recreational resources and the provision of quality recreational experiences (Deng et al, 2003). With the sampling based approach, point sampling evaluates trail conditions from measurements performed on a series of points along a trail, whereas point quadrat sampling assesses trail conditions based on a series of quadrates along the trail (Leung & Marion, 2000). Both points and quadrates can be determined either at a fixed interval along a trail or in accordance with the various strata such as level of use or vegetation type (Marion & Leung, 2001). In contrast to the sampling scheme discussed above, an impacted area could also be evaluated purposively (Hammitt & Cole, 1998 in Deng et al, 2003) if pronounced erosion or damage has already occurred. In order to measure visitors’ impacts on the vegetation, three sets of impact parameters have been proposed, each of which measures the amount of vegetation, vegetation consumption, and tree conditions (Hammitt & Cole, 1998). The most commonly used parameter for measuring the amount of vegetation is vegetation cover (Cole, 1981 in Deng et al,
2003). The other two parameters are density and biomass (Sun, 1990; Sun & Liddle, 1993), although the latter is seldom used because it is destructive and time-consuming (Hammitt & Cole, 1998). Plant height and forms, growth forms (Cole, 1987; Sun & Liddle, 1993 in Deng et al, 2003), floristic dissimilarity index (Cole, 1978; Cole & Fichtler, 1983; Liu, 1992; 1996 in Deng et al, 2003) and Index of Vegetational Impact (Liu, 1996 in Deng et al, 2003) are commonly used. Finally, the impacts of trampling or other related activities on vegetation are multifaceted (Deng et al, 2003). Generally, vegetation can be affected in terms of germination and establishment of new plants, physiology and morphology, growth, viability, reproduction and regeneration and invasion of new species (Deng et al, 2003).

India has more to offer the tourists than perhaps any other country in the world. The most important motivation of 70% visitors to India has been to see a country with an ancient civilization, rich in monuments, temples, arts and culture (Chibb, 1981). Most of the studies as found in the literature review are concentrated over the Khajuraho temples, and it is only examining the socio-cultural domain of the tourism (Jain 1990).

3.4. Resume of the Literature Review

In nutshell, this section has provided a brief review of literature on the impacts of tourism on the environment. The sociological and the economic aspects of the impacts due to tourism have also been discussed. The main objective of socio-cultural impact analysis is to provide developers; local authorities and all other parties concerned with information on the host communities' perceptions of and attitudes to tourism development in their destination, so that perceived positive impacts could be reinforced and perceived negative impacts could be minimized. The methodological part of the study and the importance of
perception surveys as a tool for measuring the impacts on the local communities have been deliberated in this part of the study. Although the literature on such studies are totally lacking from the states like Madhya Pradesh, so the review has been carried out without any prior hypothesis formulation.

This review of the literature, therefore, identified a number of variables that has to be considered in the research design. These included: *The perceived level of tourism development, Economic Dependency on Tourism, Respondent Demographics, Visitors perception, experience from the trip, Willingness to pay.*

The available literature pointed to a number of areas about which respondents could be questioned. They include, visiting hours, experts suggestions, the local economy/employment, attractions/activities, tourist characteristics, tourist/resident facilities e.g. parking, quality of life, positive/negative aspects of tourism and the distribution of benefits etc.

The impacts identified for this study reflects the purpose of the research and the past research findings that are summarized above, although the literature for such issues are lacking for the states like Madhya Pradesh. In spite of the fact that the Madhya Pradesh is the hot spot in the biodiversity and much of the good forest area is located in this region, however, no study has been carried out to date to determine the environmental impacts of tourism in the Madhya Pradesh.