CHAPTER-1
INTRODUCTION AND LITERATURE REVIEW

1.1: PROLOGUE:

Societies have always had destinations of the particular spiritual value, where certain parts of the population visited during certain times of the year or during certain times of their lives. There are many reasons why people travel, and these motivations have been researched extensively by geographers, sociologists and others, including the business community (Griffin, 2007, McNeely, 1988). Since the dawn time, human beings have defined some elements of the natural and built environment as spiritual sites, regarding them as sacred and, in many cases, endowing them with supernatural qualities. Today we see that, all over the world, more and more people are travelling to sacred sites (Blackwell 2007).

Jackowski (2000) estimates that approximately 240 million people a year go on pilgrimages, the majority being Christians, Muslims and Hindus. The institution of pilgrimage to holy places (tirth-yatra) is an ancient and continuing religious tradition of the Hindus. Numerous sacred places distributed in various parts of India attract millions of pilgrims; some places draw pilgrims from all over the country, others from the neighbouring villages (Bhardwaj, 1983). The principle issues involved in the study of pilgrims, impacts of pilgrims and management of pilgrim centers includes the study of a) the tourist-his motivations, attitudes, reactions and roles, b) the relations and perceptions of tourists and locals, c) the structure of the tourist system and d) the socio-economic and sociocultural impact of tourism (Cohen, 1984).

Large scale movement of visitors during pilgrimages has a high potential to influence the environment at sacred sites. In traditional pilgrimage, environmental effects were governed by seasonality and were limited over time and space. However significant changes in scale, frequency and character of such visits over the past few decades reflect new pressures on the environment of sacred sites (Shinde, 2007). Environmental management in pilgrim towns primarily includes decision making on managing resources and minimizing impacts of the visitors. Typical stakeholders in pilgrim towns are Government Agencies; Religious institutions, and Non-governmental organizations (Shinde, 2004).
The future of sustainable tourism lies in its planning and management. Planning involves protecting and understanding the natural environment and carried out in an inclusive manner with interest and inputs of the key stakeholders. This planning should be iterative and flexible so as to allow objectives and strategies to be achieved while still providing means for consistent management. Management is the strategies and actions taken to protect or enhance natural areas in the face of impacts from tourism activities (Newsome et.al., 2002). Strategies are defined as general approaches to management, usually guided by an objective. Actions are what must be done.

1.2: CONCEPTUAL TERMS:

1.2.1: Pilgrimage:

The term pilgrim now commonly denotes a religious journey, but its Latin derivation peregrinus suggests broader implications, including foreigner, wanderer, exile and traveller. The contemporary use of the terms pilgrim and tourist, identifying the former as a religious traveller and the latter as a vacationer, is a culturally constructed polarity that veils the motives of the travellers' quest. It is concluded that because of the increased secularization of religion in the West, distinctions between pilgrim and tourist are quite diffuse (Smith, 1992).

1.2.2: Tourism:

A “tourist” is a voluntary, temporary traveller, travelling in the expectation of pleasure from the novelty and change experienced on a relatively long and non-recurrent round trip. In this context pilgrims are another group of part-time tourists, which has now a day, expanded considerably in absolute numbers; a form of “religious tourism” combining elements of pilgrimage with those of ordinary tourism, should perhaps be considered as tourists rather than pilgrims per se (Cohen, 2004).

The discrepancy between old-fashioned pilgrimage and tourism is narrowing and that numerous points of similarity are emerging. It is becoming more difficult to differentiate between pilgrims and tourists. The pilgrims’ motives are to undergo an experience which will add meaning to their life. They leave their periphery in order to find a centre which will offer them a stronger belief and a new world. It was found that behavioral factors are related to the pilgrims’ perception of holy sites. However it is
claimed that pilgrimage and tourism differ in terms of the direction of the journey undertaken.

The scale can be described as secularism versus sacredness and tourism versus pilgrimage. The pilgrim and the ‘pilgrim-tourist’ peregrinate toward their socio-cultural centre, while the traveler and the ‘traveler-tourist’ move in the opposite direction. The pilgrims’ motives are to undergo an experience which will add meaning to their life. Modern mass tourism however is, predicated upon a different development: the gradual abandonment of the traditional, sacred image of the cosmos, and the awakening of the interest in the culture, social life and natural environment of others. Hence it leads to a movement away from the spiritual, cultural, or even religious centre of one’s ‘world’ into its periphery, toward the centre of other cultures and societies (Collins-Kreiner and Kliot, 2000, Cohen, 1979).

1.2.3: Religious Tourism:

The concept of religious tourism has arisen alongside changes that have occurred in modern society regarding patterns of behaviour and attitudes towards religion. The idea of religious tourism as different from the pilgrimage arose in Europe in the post-war years, as a result of the decline in religious practice, the growing popularity of trips by car or bus, the secularization of societies, and in some countries, the reduction in flows of traditional pilgrimages. The term Religious Tourism include all kinds of travel (voluntary, temporary and unpaid) that is motivated by religion in combination with other kinds of motivation, and which has as its destination a religious site but for which the journey itself is not a religious practice (Santos, 2003).

Pilgrimage is moving towards newer forms of entrepreneurship and management which are precursors of mass tourism. Change in activity and business of pilgrimage is showing its impacts on the socio-economic, religious and physical environment in India. An attention has to be paid to such issues at sacred sites in the national tourism policy of India that will allow its promotion as ‘tourist attractions’. Such an attempt of examining change in pilgrimage towards religious tourism has significance for development of meaningful policy interventions to ensure adequate management of religious tourism and mitigation of negative impacts on sacred sites due to religious tourism (Shinde, 2006).
1.3: MOTIVATIONS FOR PILGRIMAGE:

The purposes and motives that impel individuals to undertake pilgrimage are diverse. Motivations range between the desire for mere pleasure, and the quest for meaning and authenticity. Tourism is a recreational activity and a form of temporary gateway from one’s centre. This means that tourism is essentially a temporary reversal of everyday activities, it is no-work, no-care, no thrift situation, but it is in itself devoid of deeper meaning; it is a vacation i.e. vacant time. Today one of the main reasons for the tremendous boost of tourism in modern and particularly in urban society is for getting relief from the pressure generated within society, which has few means to resolve (Cohen, 1979).

Social and psychological functions of religion are very important. A religion provides moral sanctions for individual conduct and furnishes the substratum of common purpose and values upon which the equilibrium of the community depends. Participating in religious ceremonies may bring a sense of security and even a feeling of closeness to fellow participants (William, 1996). Religion as a study seems to be absolutely necessary. It is the greatest motive power that moves the human mind. No other ideas can put into us the same mass of energy as the spiritual. In building up character, in making for every thing that is good and great, in bringing peace to other and peace to one’s own self, religion is the highest motive power and therefore ought to be studied from that standpoint. The religious ideals of the future must embrace all that exists in the world and is good and great and at the same time have infinite scope for future development (Vivekananda, 1921).

1.4: PURPOSE OF PILGRIMAGE:

Religion provides the basis for pilgrimage by offering the reward of purification of the soul and the attainment of the objectives related to the problems of mundane existence. Thus tirtha-yatra not only means the physical act of visiting the holy places but implies mental and moral discipline. In fact, without the latter, pilgrimage in the physical sense has little significance in the Hindu tradition. In this context two strands of the concept pilgrimage can be considered namely, the merit of travel, and admiration for rivers in India. The practice of pilgrimage, with its ancient and diverse origins, continues to be
popular among the Hindus (Bhardwaj, 1973). Purposes of pilgrimage are divided into three categories *viz.*

1. Ideal and future development which include
   a) Desire for identification with the sacred order,
   b) Accumulation of merit and removal of sin,
   c) Psychological satisfaction
   d) Control of senses

2. Kindness to others

3. Life cycle purposes, which include
   a) Problem generated (tension generated) purposes,
   b) Purposes related to social motives and desires

Science has liberated man from much of the tyranny of the environment but has not freed him from the tyranny of his own nature. The sources of human happiness and social co-operation are not exactly the same as those of scientific inquiry. For the proper adjustment of man to the new world, an education of the human spirit is essential. To remake society, we have to remake ourselves. Humanities which cover art and literature, philosophy and religion are as important for human welfare as science and technology (Radhakrishnan, N.D.).

Man himself is polluting air, water and even the mental horizon to his own disadvantage. Man should therefore, be the basic target of attack and need be adequately educated and motivated to help themselves by restrain of his behavior that spoil the sanctity of the environment around (Melkania & Melkania, 1991). Pilgrimage to sacred places may be of some social value to certain castes. Within a village or any other given locality the status of some castes is low with other castes. Several sacred places provide a religiously and socially recognizes environment within which the distinction of castes melts away (Bhardwaj, 1973).

1.5: PILGRIMS AND LOCALS:

The tourist-local relationship is, to varying degrees, embedded in and regulated by two socio-cultural systems: a native system which is invaded by tourist and the emergent tourist systems itself. It is assumed that at the minimum number of tourists, the relations will be guest-host, but if there number increases they become less and less welcome.
(Cohen, 1982). Then Pressure builds up which transform the guest-host relationship into a commercial one \textit{i.e.} based on remuneration. This transformation involves incorporating hospitality- an area that many societies view as founded on values that are the very opposite of economic ones-into the economic domain. Once tourism moves out of realm of native hospitality it passes through a predatory orientation. Locals and others strive to gain as much as possible from each encounter resulting in petty crime, irrespective of the long term consequences that such conduct have on tourist flow (Cohen, 1984).

\textbf{1.6: THE STRUCTURE OF THE TOURIST SYSTEM:}

Modern tourism is an ecological, economic, and political system \textit{i.e.} complex and global. Socioeconomically the system pivots on a group of national and increasingly transnational corporate actors and governmental and intergovernmental agencies, such as airlines; travel companies, travel agencies, and tour operators; hotel chains, international travel organizations, and various governmental and intergovernmental organizations.

\textbf{1.7: SOCIO-ECONOMIC AND SOCIO-CULTURAL IMPACT:}

The impact of tourism may be socioeconomic and sociocultural. The socioeconomic studies cover primarily eight major topics: foreign exchange, income, employment, prices, the distribution of benefits, ownership and control, development and government revenue. Tourism generates pressure upon resources whose supply is inelastic- particularly some types of food and land. Thus tourism benefits to only those locals who are involved in it but it may cause hardships for the rest of population.

The socio-cultural impacts of tourism are numerous and varied, but most of them can be classified under one of ten major topics: community involvement in wider frameworks, the nature of interpersonal relations, the bases of social organization, the rhythm of social life, migration, the division of labor, stratification, the distribution of power, deviance, and customs and the arts. There is a broad agreement among scholars on the findings about most of these topics.

Tourism creates new employment opportunities in the host area and hence influences migration patterns in two principal directions: it helps the community retain members who would otherwise migrate away, particularly unemployed or underemployed youths in economically marginal areas; but it also attracts outsiders who are searching for
work or economic opportunity and who often come from other branches of the economy particularly agriculture. Thus, in mature tourist areas, tourism spurs urbanization.

1.8: PILGRIMAGE, ENVIRONMENT AND HEALTH:

1.8.1: Global Scenario:

Visitor's impact on destination may be positive or negative. Adverse environmental impacts include overcrowding, overdevelopment; pollution etc. Positive impacts include cooperation between locals and visitors for environmental conservation and flow of economic resources and political and economic support for conservation and management (Newsome et.al, 2002). With increasing numbers of people visiting a spatially diminishing and continually degraded natural world there is much scope for negative impact. However, nature and degree of impact can be complex and variably significant depending on the situation. Impact significance can depend on the type and source of impact, environmental sensitivity, other cumulative pressures, and the effectiveness of any management that is in place (Newsome et.al., 2002). Environmental impacts can be divided into transport and travel, accommodation and shelter, and recreation and tourism activity. The degree of biophysical impact, however, will depend on the location, diversity, intensity, and the duration of the activities themselves. Trampling and wear, access roads, permanent overnight dwellings, walking trails, focal point of activities such as rivers, lakes is to be studied (Newsome et.al., 2002).

Historically, population movement has contributed to the spread of disease (Prothero, 1977). People move for a number of reasons, including environmental deterioration, economic necessity, conflicts, and natural disasters. These factors are most likely to affect the poor, many of whom live in or near malicious areas (Martens and Hall, 2000). Pilgrims from 111 different countries cause the character of spatial phenomena in Lourdes (France). The influence of the pilgrimage is first reflected in demographic developments and then in the economic structure, which has been transformed from the agricultural to the service sector. The pilgrims' activities are also responsible for the distribution of different buildings such as various places of worship, hotels, restaurants and shops selling devotional articles (Rinschede, 1986).

The annual Islamic pilgrimage to Mecca, the Hajj, attracts more than a million pilgrims from many countries worldwide and has been associated with outbreaks of meningococcal disease. The 2000 Hajj (March 15–18) was followed by an outbreak of
Neisseria meningitidis W135 2a: P1.2, 5 in Europe. From March 18 to July 31, 2000; some 90 cases of meningococcal infection were reported from nine countries, mostly the United Kingdom (UK) and France; 14 cases were fatal. Although most early cases were in pilgrims, the outbreak spread to their contacts and then to those with no known pilgrim contact (Aguilera et al., 2002).

The findings from the studies of Influenza viral infection among Hajj pilgrims (Balkhy et al., 2006) suggest a high incidence of influenza as a cause of upper respiratory tract infection among pilgrims, estimated to be 24,000 cases per Hajj season, excluding those becoming ill from contact with Hajj pilgrims returning home. They also indicate a very low vaccination rate for the influenza vaccine; as well as poor knowledge of its existence. Continued surveillance during the Hajj pilgrimage is necessary. The influenza vaccine should be a priority for those attending the Hajj pilgrimage, and should also be considered for antiviral prophylaxis.

Tourism in Antarctica over the past decade has been characterised by steep annual increases and geographical expansion resulting in erosion of intrinsic values of Antarctica. Given the complexity of tourism there is not a single specific action should take to address the problem raised by tourism. Rather, there is range of measures needed (ATCM, 2008).

1.8.2: Indian Scenario:

The practice of pilgrimage, with its ancient and diverse origins, continues to be popular among the Hindus. In fact, one can now maintain, without fear of contradiction, that more people now visit more sacred places than ever before in the history of India. It is not that the Hindus have become more religious; rather it is because modern means of mass transportation have made it possible for larger number of individuals to undertake pilgrimages. The number of pilgrims each year visiting the well known sacred places (tirthas) is to be considered in several millions (Bhardwaj, 1973).

The rivers in India, for example, cover a geographical area of 329 million hectares, and carry a wide importance in cultural, economical, geographical and religious terms. Some of the most prominent rivers in India include Indus, Ganga, Bramhputra, Yamuna, Krishna, Godavari, Tapi and Kaveri. Hindu pilgrimage has retained many common features through time and space, including the practice of travelling to bathe and pray at sacred places, and it has some features that link it to folk traditions other than those that
can be attributed to the Indus Valley/Harappa Civilization or of the so-called 'Aryans', who are supposed to have landed in India later (Singh, 2004).

Religious pilgrimages have taken place for many hundreds of years without causing the negative environmental, cultural and social impacts associated with tourism. Common features of pilgrimages are: not an excessive burden on the environment; beneficial to local communities; occur at certain times of year only; people carry their own baggage and purchase food, etc. locally; pilgrims are quiet and law-abiding; killing animals or taking from nature is prohibited. Some lessons can be learned from these for modern tourism (Gupta, 1999).

Among the destinations visited by both pilgrims and tourists are sacred places and zones in the Himalaya’s, such as Badris (shrines dedicated to the Hindu god Vishnu), the five kedars (temples dedicated to the Hindu god Shiva) and the five Himalayan prayagas (confluences of sacred rivers). However, the heavy influx of pilgrims and tourists, especially in the peak season has led to problems of accommodation, catering, sanitation, sewage, water supply, traffic and ecological degradation (Singh, 2002).

Religious gatherings have been notorious especially for spreading epidemics of Cholera in India. Besides pilgrims, a large number of people such as hawkers, vendors, beggars, leapers and sadhus’, move from one centre to another, and are almost permanently in motion. Most of the people who congregate in the holy places from far and wide are ignorant, poor and undernourished villagers. Further inadequate sanitary arrangements, and absence of hygienic food and water supplies caused generation and diffusion of Cholera in India in past (Swaroop and Raman, 1951).

It was observed that in India the cholera, in epidemic form, is confined to certain areas such as Puri and Mahesh (Rath Yatra fairs), Nashik (Sinhast fair), Rajmundry (Pushkaram fair), Vijaywada (Krishna Pushkaram), and Kumbakonam (Mahamakan fair). The majority of these important pilgrim centres are situated on the banks of rivers like the Ganga, Yamuna, Godavari and Kaveri. Taking bath in the holy waters of these rivers, forms the most important ritual of the pilgrimage; and as cholera is a water-borne disease, its dissemination in India is associated with the river system also. Secondly, the way people pollute water bodies, and use of its water, exercise an influence upon the outbreak of cholera. The continuous contamination of a river or a pond is caused by bathing and washing of infected clothes, and materials in it. Regular entry of trash from town or village into the river and washing of dirt and rubbish from the town surface into the river by heavy rain are responsible for gross pollution of river water (Dutta, 1986).
1.9: RIVER TOURISM:

The earth includes both terrestrial (land) and marine (water) environments. Rivers are fascinating places, exhibiting both natural charm and usefulness for a vast array of human activities. Rivers are also major spatial elements of landscape and constitute a significant tourism resource. Rivers act as an important resource for tourist destinations by providing drinking and domestic water, and to grow many agricultural products to sustain tourism. However, river systems are complex and are influenced by many human activities, including tourism and recreation. The continued tourism use of the world’s rivers must be monitored and well managed to be able to conserve the natural and cultural wealth of these unique ecosystems for present and future generations (Prideaux et al., 2009).

Earlier authors such as Timothy (2009), Laws and Semone (2009), Cooper (2009a), Cooper (2009), Arlt and Feng (2009), Carson and Schmallegger (2009), explored various issues in relation to river based tourism viz tourists use of riverine system, aspects of fluvial hydrology, and river management. This work is carried out for important rivers of the world such The Missisippi and Colorado Rivers of USA, The Mekong river of Tibet, Nile river of Egypt, many European rivers such as Rhine, Danube, the Loire, the Themes, the Volga, the Yangzi River of China and Daly River and other major rivers of Australia.

The South Asian subcontinent is home to around 1.5 billion people with 1.1 billion in India alone. This enormous population exerts extreme pressures upon the environment and will continue to do with the projected high population growth. In the headwaters area’s of the regions major rivers, encroachment upon forests, has led to Himalayan climate change, desertification in low lands, decrease in wildlife population and soil erosion. Coupled with the widespread pollution, from developing industries, and mushrooming population densities in urban centres, as well as from river and other forms of tourism, environmental pressures has become of critical importance, to the major river systems in the subcontinent (Cooper, 2009b).

1.10: SUSTAINING PILGRIMAGE:

As tourism moves further into the twenty-first century, the enterprise will have to make the environment a priority. Because tourism is now the world’s largest industry, the environment is taking center stage in tourism development. If tourism is not properly
planned and implemented, it can destroy vegetation, create overcrowding, litter destination area’s, pollute water bodies, result in overbuilding, eliminate open space, create sewage problems, cause housing problems, and ignore the need and structure of the host communities. It is being recognized that tourism must preserve and protect the environmental and natural attractions so that people will continue to travel, and must set use limits so that sites will be truly sustainable (Goldner and Ritchie, 2006).

The concept of sustainable development is not new. What is perhaps new is the insertion into the equation of recognition that the human race seeks economic, social and cultural development. Any attempt to prevent such development on a strictly ideological basis is unlikely to gain widespread acceptance. In parallel, there is also the recognition that demographic, economic, social, and cultural growth i.e. consumptive and/or destructive cannot continue unabated without serious impacts on the natural environment on which we depend for life itself (Goldner and Ritchie, 2006). The concept of sustainable development is an approach by which efforts are made to balance the benefits of the industry with the investments and restrictions without depleting or destroying the resource base on which it depends. In the tourism sector, this implies caring for the natural and built environments in a way that will ensure their continuing viability and well-being. The industry need to identify an action agenda and allocate responsibility for its implementation so that we can move toward the goal of a truly sustainable tourism system (Goldner and Ritchie, 2006).

1.11: SUSTAINABLE PILGRIMAGE STRATEGIES:

Scientific knowledge of visitor impacts on destination areas in most countries is rather poor or nonexistent (Goldner and Ritchie, 2006). Thus, pilgrimage and its management decisions are made in the absence of good science. There is great pressure on the resources, facilities, management of pilgrimage centers and the event managers; once the pilgrimage starts, the visitors number may go beyond carrying capacity. Consequently, the destinations face the danger of becoming over crowded. Carrying capacities need to be determined and enforced. To translate the concept of sustainable tourism in reality, experts in the field and practicing managers have identified a number of indicators. These indicators focus on what managers need to know most to reduce their risk of inadvertently making decisions that may damage the natural
and cultural environments on which the pilgrimage events depends (Goldner and Ritchie, 2006). These include measures of:

- The general relationship between tourism and local resources available
- The effects of environment on tourism
- The impacts of the pilgrimage on the environment, water quality and health

It is necessary to identify specific cause-effect relationship between tourism and the environment. Through indicator measurement and use, managers can more effectively do the following (Goldner and Ritchie, 2006):

- Identifying emerging issues, allowing prevention or mitigation
- Identify impacts, allowing action before they cause problems
- Support sustainable tourism development, identifying limits and opportunities
- Promote management accountability, developing responsible decision making

Two types of indicators are of value to tourism managers (Goldner and Ritchie, 2006):

1. Core indicators of sustainable tourism that have been developed for general application to all destinations.

2. Destination- specific indicators applicable to particular ecosystems or types of tourism. These indicators fall into two categories:
   - Supplementary ecosystem-specific indicators for application to particular ecosystems (for example coastal, mountain water body etc).
   - Site- specific indicators that are developed uniquely for the particular site.

By identifying desirable levels of each indicator for a particular destination or site and then working toward meeting these ideals, managers can put in place a process that will ensure sustainability to the greatest extent possible. It should be noted in reviewing these sets of indicators that they do not address environments or ecological goals alone. There are also indicators that seek to ensure desirable levels of visitor satisfaction and local resident satisfaction as well as satisfactory levels of contributions to the local economy (Goldner and Ritchie, 2006).

### 1.12: NEED OF THE PRESENT STUDY:

A detailed knowledge of the impacts of pilgrimage on the environment in India, and on specific ecosystems and species in particular including human beings, does not
exist. Our understanding of the relationship of environment and pilgrims is limited from an ecological and health perspective. Furthermore, understanding of the complex series of institutional arrangements which surround pilgrimage in the region is limited, and attention to the difficulties of implementing such arrangements even more so. It, therefore, becomes important that, for ensuring the sustainable use of resources during the pilgrimage, governments in the region should begin to undertake environmental impact assessments and develop appropriate planning strategies (Hall, 1992).

The significant growth in visitors and related developments over the last three decades has led to increasing concern regarding the impacts of visitors upon the environments of pilgrimage areas. The increasing visitor number now represents a major threat to the environmental integrity of host regions, and hence contributes a major management problem to be faced by those who are responsible for the protection and control of host areas and their associated facilities (Butler, 1991).

The relationship of ecology to the distribution of infective and communicable diseases has been studied and well documented at both global and regional levels. However, small individual regions and localities have several distinctive ecological factors; give rise to a disease pattern that merits a closer study.

The pilgrimage places surrounding Pune city (India) such as Dehu village and Alandi town along the River Indrayani, attracts on an average of 10,000-50,000 people daily and the number of pilgrims shoots up to 4 to 4.5 lacks during local festive season called as Ashadhi, which happens during the month of June and Kartiki, which happens during the month of November. During the normal time the river water is polluted due to lack of civic sense amongst the local population. Discharge of the residential wastewater has resulted in high Faecal Coliform (FC) load in the rivers of India (Jamwal et.al., 2008).

Inadequate sewerage, open defecation, lack of wastewater treatment facilities, effective control measures and their strict enforcement are the major causes of rampant discharge of pollutants in aquatic systems (Karan and Harda, 2001). Earlier workers such as Semwal and Akolkar (2006), Sinha et.al, (1991), Kulshreshhta, (2006); Shrivastava et.al (1998) etc. concluded that mass bathing causes significant changes in the rivers water quality. Pathogenic organisms such as Escherichia coli (E.coli) and total coliform count are indicator organisms of faecal contamination (Kumarswami et.al., 2009; Baghel et.al, 2004).
1.13: STATEMENT OF THE PROBLEM:

As the study area is an important pilgrimage for Maharashtra, there are large fluctuations in the population, essentially influx of pilgrims. This floating population during the periodic time of intervals exerts pressure on local natural resources and becomes problematic from management point of view. To overcome this problem it is aimed to study and assess critically the pilgrimage impact on environment and health issues and for developing sustainable management strategies. The water quality along River Indrayani is observed to be polluted. In view of which it becomes necessary to study the combined effect of water quality parameters affecting the health of local population.

1.14: OBJECTIVES:

Following objectives were determined for the present study.

1. To assess the water quality of River Indrayani periodically around the pilgrimage centers.
2. To assess the role of pilgrimage population and its impact on river water quality.
3. To assess the extent of solid waste problem associated with pilgrimage activities.
4. To assess the extent of impact caused by pilgrimage on human health.
5. To differentiate the impact of residential and floating population on the environment and health aspects.
6. To suggest measures, this will help in formulating a Management Action Plan for mitigating impact of pilgrimage.