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RESEARCH ARTICLE

Visitor impact assessment and management of Gulmarg tourist area

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ABSTRACT : The present study was conducted in Gulmarg meadow with an aim to assess visitor impacts and management of this famous tourist resort. During the study a monitoring programme was conducted in the area and questionnaires were distributed among tourists. It was observed that the meadow is receiving negative impacts from over tourism and tourists are not satisfied with the management.

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The Visitor Impact Management (VIM) process is designed to identify unacceptable changes occurring as a result of visitor use and to develop management strategies to keep visitor impacts within acceptable levels. The VIM framework includes an eight-step sequential process for assessing and managing visitor impacts. The first five steps in the process are devoted to the important, yet often slighted, task of problem identification. While this may appear to be a simple matter, it has often proved to be a stumbling block to effective resource management and related investigations, in state-wide planning efforts, characterized by a diversity of environments and experience opportunities, the importance of these considerations becomes even more crucial. Consequently, the problem identification issue is separated into several steps to isolate the various decisions that must be made in assessing existing conditions. The steps in the VIM process are listed below:

- Pre-assessment data base review.
- Review of management objectives.
- Selection of key impact indicators.
- Selection of standards for key impact indicators.
- Comparison of standards and existing conditions.
- Identification of probable causes of impacts.
- Identification of management strategies.
- Implementation.

Gulmarg has a rich and diverse touristic product that holds the potential to be one of the most attractive tourist destinations for both leisure and sports tourism across the whole Kashmir Himalayan region.Considering the nature tourism value of Gulmarg, present study has been aimed to study the Visitor impact assessment and management of Gulmarg.

EXPERIMENTAL METHODOLOGY

This study was based on a literature review and questionnaire. The questionnaire

had several parts. The first part included questions about when, how often, who with and for how long people visited Gulmarg. It also asked about activities while visiting Gulmarg, information on the origin of visitors, their age and education level. The second part sought visitor's reasons for visiting Gulmarg providing a list of items and an importance ranking from not at all important to extremely important. The third part was the heart of questionnaire. It included questions about visitor's preferences regarding current conditions and the quality of their experience. Again a list of items was provided and the respondents were asked to assign importance to each item. The next questions asked respondents to assign a maximum acceptable level, in numbers for potential impacts including tree damage and Litter. These potential impacts or indicators were drawn from the literature and assessment of physical social and economic impacts conducted in the area. A monitoring programme was conducted for studying the visitor impact assessment and management process in Gulmarg during June 2013.

EXPERIMENTAL FINDINGS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

Visitor and visit characteristics :

The two largest age groups of visitors to the area were those 20 – 30 years of age (40% of respondents), 31 – 40 years of age (34% respondents), 41 to 50 years of age (19.33% respondents) and only 6.66 per cent of respondents who are above 50 years of age. Among the respondents some were domestic (41%), some national (56%) and only 3 per cent were foreigners. A high number of respondents indicated they had completed post graduate studies (43%) while another 39 had completed college degrees and 18 per cent of respondents have secondary education. The numbers of visits ranged from 1 to 20, with most respondent's particularly domestic respondents are visiting Gulmarg at least once a year. All the foreign respondents were visiting Gulmarg for the very first time. The largest proportion of visitors visited the site from May to July although this place is visited by tourists throughout the year. The length of stay varied, however the largest proportion stayed for one day or less (69% of respondents), with 17 per cent stayed for one night and only 14 per cent stayed for more than one night. Respondents visited with families (38%), with friends (42) and with institutions (20%).

The survey also investigated respondent's reasons for visiting Gulmarg meadow. Reasons were listed from previous studies by (Roggenbuck *et al.,* 1993) and the (B.C. forest service, 1995).When the results for extremely important and very important were combined, the most popular reasons given were to be in and enjoy wilderness, to view scenery, to enjoy an area free of vehicles, to enjoy outdoor activities, and solitude.

Pre-assessment data base review :

The objective of Pre-assessment data base review is to identify and summarize what is already known about Gulmarg in question so that existing information can be put to its best use as the process continues. During the pre-assessment data base review for Gulmarg, it was necessary to delineate the physical area to be included throughout the visitor impact management process. While determining the boundaries, 3 aspects have been considered. The first is that study area includes not only the destination but also the surrounding community that is influenced by tourism activities. The second is that ecosystem integrity has been considered as a whole since the influence of tourism extend to the total ecosystem and not be limited to the Gulmarg meadow only. Third the availability of data has also been considered. Around Gulmarg protected area there are 8 villages that are influenced by tourism, highly impacted among them are Ferozpora, Waripora and Qazipora, so the study area includes these villages and the Meadow.

Two types of data were relevant for Pre-assessment data base review. The first involved an inventory of the physical features associated with Gulmarg, while the second catalogued the recreational activities and amenities. The physical feature inventory included information regarding the area surrounding Gulmarg, as well as data on the characteristics of the Gulmarg itself. The former provided an indication of the types of indirect impacts that may be occurring, while the latter described the existing conditions and suggested variables which may increase or decrease the direct impacts associated with human activity. Examples of variables measured in the physical feature inventory are listed below:

- Assessment of infrastructure
- Roads
- Type of vegetation

- Wild life
- Quality of soil, water and air
- Noise levels
- Land use
- Total area / area for tourist activities
- Temperature, rainfall, humidity and wind

The data base review also identified the need for an inventory of the current recreational activities at Gulmarg:

- Horse riding
- Gandola ride
- Skiing
- Boating
- Playing Golf

Review of management objectives:

The second step in the process is to review management objectives pertinent to the situation. In recent years, authors have emphasized the importance of clear and specific management objectives (Hendee *et al.*,1978 and Shelby and Heberlein, 1986). To be effective, management objectives need to define the type of experience to be provided in terms of appropriate ecological and social conditions (Stankey, 1980 and Graefe *et al.*, 1990).

Based on the interviews with the officials of Gulmarg Development Authority (GDA) and tourism department, it has been observed that GDA, Tourism department as well as the State Government is very keen to safeguard this fragile ecosystem. To combat the accommodation problems during peak season, tourism department has recently started construction of eco-friendly modern tented accommodation at this famous tourist resort. One of the main objectives is tourist satisfaction and in this regard, it has been proposed that ponny-wallas will be trained and educated. Lavenders are also being constructed in Gulmarg. But one of the main problems for the management is that state govt has failed till date to propose a tourism policy which has become a big drawback in the sustainable management of tourist spots including Gulmarg, which is a very fragile tourist destination.

Selection of key impact indicators :

A monitoring programme was earlier conducted during the study in Gulmarg in the year 2013 to identify the key impact indicators and the following indicators have been found of utmost importance:

- Damage to trees
- Loss of vegetation cover
- Soil erosion
- Disturbance in wild life
- Inadequate disposal of solid waste
- Inadequate infrastructure facilities
- Availability of pure and adequate water supply
- Road conditions
- Noise pollution
- Lack of Medical facilities
- Behaviour of pony wallas and tour guides
- Crowding.

Standards :

To determine standards for impact indicators, respondents were asked to suggest maximum acceptable levels before their experience would be changed for a list of impacts including vegetation loss etc. In their responses some people were unwilling to accept that use of an area results in some level of an impact and so they provided the value of zero for indicators, a standard which in many of the cases is impossible to achieve. Respondents were also asked to indicate the maximum acceptable levels as a percentage of the undisturbed area for tree damage and vegetation loss. Two different forms of this question were asked to determine possible differences in responses evoked by different styles of questions. More people responded to the percentage questions than the questions requesting a number.

Results for two indicators, vegetation loss and litter were further interpreted to provide two standards, one more stringent than the other, for each indicator. Researchers such as (Roggen buck *et al.*,1993) and the (B.C. forest service, 1995) use two standards, one based on the impact acceptable to 50 per cent of the visitors and the other on the impact acceptable to 75 per cent of visitors. The 75 per cent standard is more stringent than the 50 per cent one as it implies acceptability to three quarters rather than half of all visitors.

These percentages, especially 50 per cent, are used because it is impossible to have total agreement between visitors. Therefore, managing to meet the expectations of at least half of them should ensure some level of satisfaction (Watson *et al.*, 1992; Roggenbuck *et al.*,1993; B.C. forest service, 1995). Standards for vegetation loss and Litter were then derived. The

standards calculated and included in table use numbers and not percentages.

Regarding damage to trees, many respondents when asked about acceptable levels of damaged trees were only willing to accept very low levels of damage: the 50 per cent standard was 2 trees and the 75 per cent standard was only 1 tree.

Standard for a suite of social indicator, amount of litter was also sought. The majority of respondents were intolerant regarding litter, with a 50 per cent standard of up to one piece of litter and a 75 per cent standard of 0. This was in accordance with (Watson *et al.*,1992) who found that 75 per cent of respondents were unwilling to see any litter at any sites. Many studies have found that visitors react particularly negatively to littering and even small amounts of litter evoke strong responses. Littering is often viewed as a violation of strongly held norms and thus, as evidence of abuse rather than normal use (Lucas, 1990). The standards for other indicators were omitted due to lack of time and in some cases (inadequate disposal of solid waste and human waste) because of human health issue, although respondents have shown intolerance to all the indicators.

Comparisons of standards and existing conditions:

Upon comparing standards with the present conditions the tree damage and littering is very high in Gulmarg particularly at the sites which are mostly preferred by the tourists like Near Gondola, Children's park and at apharwat.

Identification of probable causes of impacts:

Based on the literature and on the basis of this study in Gulmarg, there are three key issues restricting tourism development, one is the vegetation destruction, litter and disturbance of wild life and sometimes shortage of water supply during winters. Hotels and cottages built in the forest area has reduced the forest cover and trampling of vegetation due to horse riding has resulted in loss of vegetation cover, waste disposal is also a big drawback, as there is no incinerator for its disposal and garbage heaps are of common sight in the backwards of hotels and restaurants, therefore, rendered tourism development unsustainable.

Identification of management strategies :

In case of Gulmarg, the following management strategies are suggested:

- Establish a regular system for completing report forms of the indicators to record the tourism environmental state, the pressure caused by tourism and the effectiveness of the management measurement.
- Establish a regular system for monitoring water quality, air quality and ecological environment.
- Establish a review procedure for annual ecotourism indicators. The members of the review staff should hold objective and equitable attitude to evaluate the environment and assess these indicators, and then develop further responsive measures.
- The suggested indicators should be continually monitored, so at least one staff member from the study area should be appointed to perfect these indicators.
- Regulating the visitor flow as per the carrying

Table 1 : Reasons for visiting Gulmarg meadow

Sr. No.	Reasons	Extremely important	Very important	Somewhat important	Not very important	Not at all important
	Percentage of respondents					
1.	To be in and enjoy wilderness	75	21	4	0	0
2.	To enjoy area free of vehicles	66	20	11	1	2
3.	For solitude	45	26	22	3	4
4.	To get away from city	35	29	16	6	14
5.	To view scenery	49	41	10	0	0
6.	To spend time with companions	19	32	24	12	13
7.	To enjoy outdoor activities	44	27	25	2	2
8.	Physical exercise/ challenge	17	42	33	5	3
9.	To observe wild life	18	33	32	17	0
10.	To learn about nature	12	23	36	27	3

Table 2 : Environmental conditions influencing the quality of visitors experience in Gulmarg

Sr. No.	Conditions	Extremely important	Very important	Somewhat important	Not very important	Not at all important
	Percentage of respondents					
1.	Loss of vegetation cover	70	16	2	4	8
2.	Soil erosion	66	14	3	7	10
3.	Inadequate disposal of solid waste	46	35	14	5	0
4.	Inadequate infrastructure facilities	45	27	10	14	4
5.	Increase in the activities of drug abuse and gambling	40	26	10	16	8
6.	Availability of pure and adequate water supply	40	28	10	14	8
7.	Road condition	34	27	18	13	8
8.	Noise pollution	30	32	18	11	9
9.	Lack of medical facilities	25	15	12	22	26
10.	Behaviour of ponny walas and tour guides	27	31	19	10	12
11.	Drainage facilities	27	27	16	18	12
12.	Crowding	45	31	12	11	1

Table 3 : 50 and 75 per cent standards for potential indicators

Sr. No.	Potential indicator	Standards	
		50%	75%
1.	Damaged trees (No.)	2	1
2.	Litter (No.)	1	0

capacity of meadow.

- Limit length of stay during peak times.
- Educate users more about minimal impact.
- Educate pony walas and tour guides.
- Use renewable as well as eco-friendly products.

Implementation:

Because both biotic and abiotic components of the environment are the most susceptible to the impacts, priority should be given to them when implementing the identified management strategies. Given the highly variable nature and causes of visitor impacts, management programmes designed to deal with these impacts need to be flexible and quick to respond to changing conditions.

At the present time, for example overcrowding is big issue in the Gulmarg, a combined effort of developing alternate tourist destinations by govt and NGO's may need to be implemented quickly to curb the tourist flow.

Conclusion :

During the study it was observed people are not satisfied with the management process which is the responsibility of Gulmarg Development Autority and the state Govt and Govt has not yet framed a policy for tourism in state. Once a management programme is implemented, it is important to continue monitoring the key impact indicators and use patterns to determine whether the management actions are producing the desired outcomes without altering other characteristics of the experience. Regardless of the outcome of any particular step in the VIM process, continuous monitoring is essential for understanding the current status of the environment of the site and predicting when unacceptable impacts may occur.

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