

## **ANALYSIS OF TOURIST CARRYING CAPACITY AND SUSTAINABLE TOURISM DEVELOPMENT - A STUDY OF SELECT HOTELS IN MUKTESHWAR**

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### **Abstract**

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*A tourist destination has its own limitation in terms of carrying capacity which is affected by seasonality in tourism. Mukteshwar is a small village and a tourist place well-known for its natural beauty amongst tourists in the Nainital district of the Kumaun region in Uttarakhand state. It receives maximum tourist flow in the months of May and June every year which is considered as a peak season in tourism. Peak season, directly and indirectly, affects local people and stakeholders as well as tourists in the area. So, this study is needed to discuss the impact of seasonality in tourism and come up with sustainable tourism development in the area. This was the only reason we identified Mukteshwar for the study. This paper has studied the physical carrying capacity for tourists' stay in the area such as hotels, resorts, lodges etc. and analysed the impact of seasonal variation in tourism. For this, a survey research method was applied and primary data was collected through questionnaires. The study revealed seasonality impact in tourism and has suggested some important points which may help in reducing seasonality effects in tourism and will contribute towards sustainable tourism in the area.*

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**Keywords:** *Carrying Capacity, Peak Season, Impact, Sustainable Tourism Development*



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### **Introduction**

Travel & Tourism is one of the biggest sectors in the world which contributed 10.3 % (\$ 8.9 trillion) contribution to global GDP and accounted for 330 million jobs (10.4% of total employment) in 2019. Study revealed that it has accounted for 1 out of 10 jobs & supported worldwide. In the last 5 years, the Travel & Tourism sector has created 1 in 4 of all net new jobs across the world (WTTC, 2020).

India 2019, the travel and tourism sector contributed 6.8% (US \$ 194.3 BN) to GDP. It has supported 8.0 % of total employment in the country. In India, Inbound Arrivals were seen from Bangladesh (12%), United States (9%), United Kingdom (6%), Canda (2%), Australia (2%) and 69 % from the Rest of World (WTTC, 2020).

## **Sustainable Tourism Development**

The sustainable tourism has defined by the World Tourism Organization (WTO-OMT) as *“Sustainable tourism development meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems (Cernat and Gourdon, 2007).”*

## **Tourist Carrying Capacity**

In tourism, carrying capacity is defined as the limit of tourists that can be easily accommodated in a particular tourist destination (i.e. hotels) and without damaging the environment, harming the local community, and not compromising with the tourist’s satisfaction (UNEP & WTO, 2005; O’Reilly, 1986).

## **Objectives of the Study**

The following objectives are carried out to conduct the present study.

- To find out the existing tourist carrying capacity in Mukteshwar
- The analysis of seasonality impact in tourism of the selected area.
- To recommend alternatives for mitigating seasonality impact in tourism for sustainable tourism development in Mukteshwar.

## **Review of Literature**

Sivesan (2020) has found in tourism literature that sustainable tourism development has been discussed by various scholars and given different views about its importance in tourism. He also found in his study that tourism is recognised as a key source for economic development, community development relief in developing world (Sivesan, 2020; Sharpley and Ussi, 2014; Binns and Nel, 2002).

Through the study it was also found that local people is affected by negative as well as positive impacts due to tourism in the area (Eslami et al., 2019; Gursoy et al., 2010, 2002). As negative effects of tourism, the scholars have shown interest to carry study on sustainable tourism development (Eslami et al., 2019; Lee, 2013; Nicholas et al., 2009) .

Around the world, over many years, the concept of carrying capacity has become an interesting subject for discussion amongst researchers and academicians (UNEP & WTO, 2005). The use of carrying capacity concept in a tourist place, may create a pleasing experience for the tourism.

So, carrying capacity limits the numbers of tourists or users that a place can sustainably tolerate without degradation (Cupul-Magaña & Rodríguez-Troncoso, 2017).

The tourism industry is fragmented in nature which is dominated by small and medium size enterprises; generally, both the private as well as public sector responsibilities are uncertain and problems like social, economic and environmental are increasing. The government's role has seen just decisive in developing sustainable and economically fruitful tourism. There is a need to develop strong partnerships amongst the governments, stakeholder involved in tourism industry, labour industry and local people to create a better strategy, rational planning and development in the area (UNEP, 2002).

### **Methodology**

The current study was carried out in Mukteshwar village, Nainital district of Kumaun region in Uttarakhand. To pursue study the survey research method was applied. The population of the current study were all hotels located in Mukteshwar village. The study has selected those hotels who were situated on main roads or nearby roads. Twenty-nine hotels were selected for present study through a purposive sampling technique.

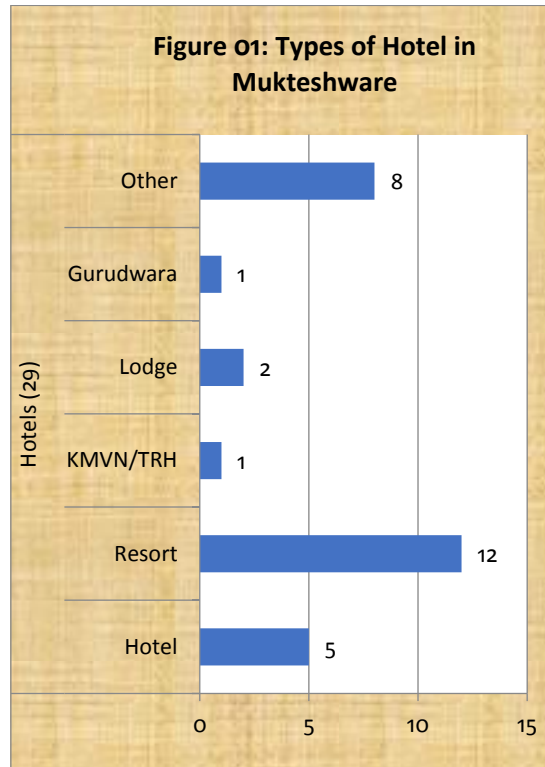
For the collection of data from hotels, a questionnaire was developed in which 17 questions were asked. Questions were open-ended and closed-ended which were divided into six parts such as Part A: Hotel/Resort Basic Information, Part B: Accommodation Related Information, Part C: Transportation Facilities Related Information, Part D: Public Utilities Related Information, Part E: Pattern of Seasonality in Tourism and Part F was related to suggest alternatives for mitigating seasonality impact in tourism for sustainable tourism development in Mukteshwar. All sections were intended to know the perception of the hotels on the impact of seasonality in tourism of the area. This study is delimited to Mukteshwar and its surrounding area. Collected data from the questionnaire was analysed according to the objectives of the study.

**Finding of the Research:** We have studied different types of hotels such as hotel, resort, Tourist Rest House (TRH), Lodge, etc., and their existing numbers in Mukteshwar village. The study was focused on those hotels who were located on main roads or nearby roads. This study tried to cover maximum property in Mukteshwar to know the impacts of seasonality in tourism and the carrying capacity of hotels for tourists.

Findings from twenty-nine hotels in the selected area are given below in tables (tables nos. 01-08) and charts (figures nos. 01-09) with their explanations.

**Table 01: Types of Hotel in Mukteshwar**

Organisation	Types of Hotel	Unit (%)	Total (%)
<b>Hotel</b>	Hotel	5 (17.2)	<b>29 (100)</b>
	Resort	12 (41.4)	
	KMVN/ TRH	1 (3.4)	
	Lodge	2 (6.9)	
	Gurudwara	1 (3.4)	
	Other	8 (27.6)	



In **Table 01**, we have studied different types of hotels and their existing numbers in Mukteshwar village. Through the study various types of hotels were found in Mukteshwar are five Hotels with 17.2%, Twelve Resorts with 41.4 %, one Tourist Rest House, KMVN with 3.4 %, two Lodge with 6.9 %, one Gurudwara with 3.4 % and eight others types of accommodation with 27.6 %. Other type of hotel accommodation includes 6 Home Stays, 1 Cottage, and 1 Camp. The study revealed 29 hotels were existed in the area.

**Figure 01** indicates the total number of hotels and their types existing in Mukteshwar village.

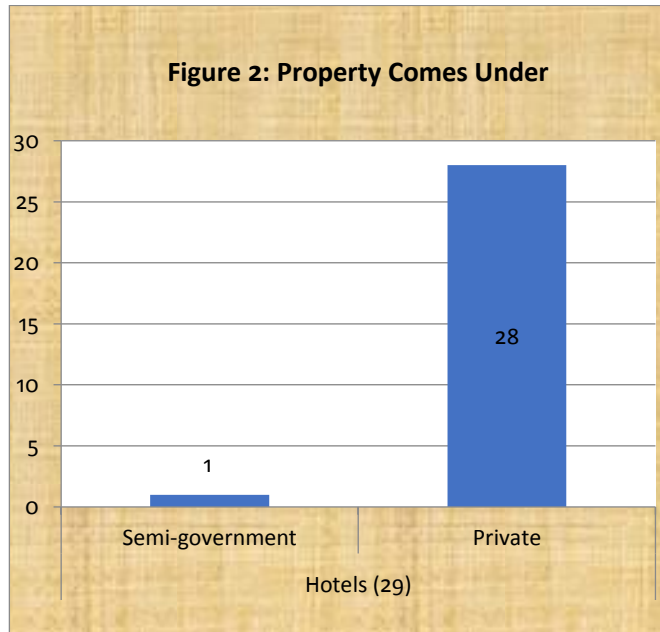
**Table 02: Registration Status of Hotel**

Registration Status	Hotel (%)
Registered	26 (89.7)
Planning to Registered	3(10.3)
<b>Total</b>	<b>29 (100)</b>

In Table 02, we have studied the registration status of selected 29 hotels in Mukteshwar. Through the study we found twenty-six hotels were registered with 89.7 % and three hotels were in the progress to register themselves with 10.3 %.

**Table 03: Property Comes Under**

Comes Under	Hotel (%)
Semi-government	1(3.4)
Private	28(96.6)
<b>Total</b>	<b>29 (100)</b>

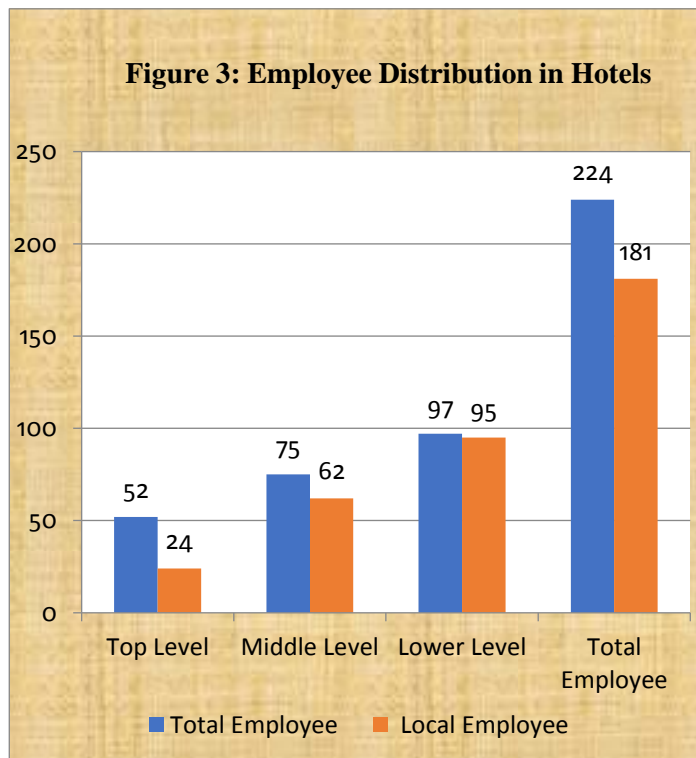


In **Table 03**, we have studied about existing 29 hotels whether they come under semi-government organisation or private organisation. We found that only one hotel comes under Semi-government organisation with 3.4 % and twenty-eight hotels were comes under Private organisation with 96.6 % in Mukteshwar.

**Figure 02** indicates the existing selected 29 hotels belonging status to semi-government organisation or private organisation in Mukteshwar village.

**Table 04: Distribution of Employee in Hotels**

Management Level	Hotel	
	Total No.	Local Employee
Top	52	24
Middle	75	62
Lower	97	95
<b>Total Employee</b>	<b>224</b>	<b>181</b>



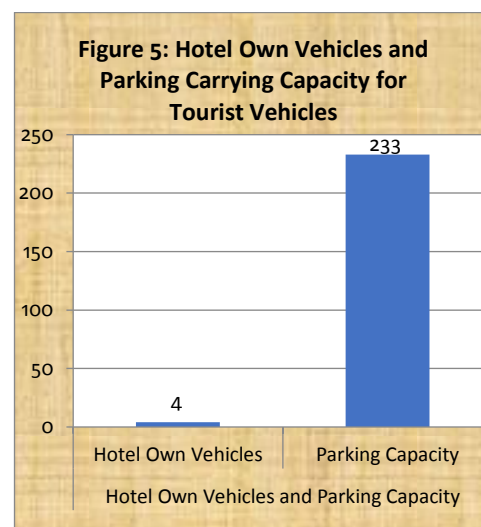
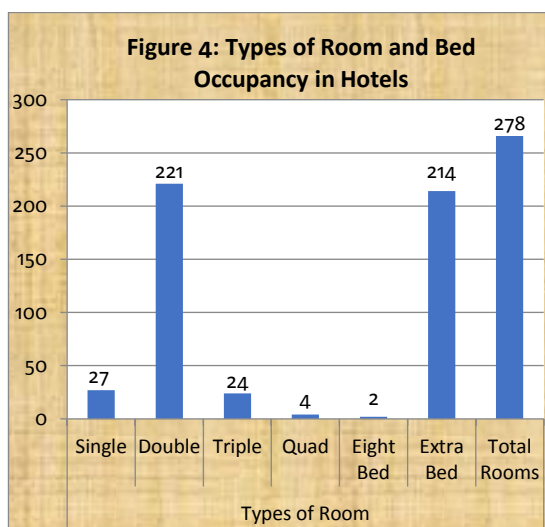
The **Table 04** indicates the detail of local employees and total employees engaged at various management levels such as top, middle and lower levels in selected 29 hotels of Mukteshwar. Through the study, we found 24 local employees out of 52 total employees at the top level, in the middle level 62 local employees were found out of 75 total employees and in the lower level 95 local employees were found out of 97 total employees. The study reveals 181 local employees were found out of 224 total employees in the selected hotels of the study area.

**Figure 3** represents the details of engaged local employees and total employees at different management levels such as top, middle and lower levels in all hotels of Mukteshwar.

**Table 05: Hotel Rooms and Vehicle's Parking Carrying Capacity**

<b>Hotel Room, Bed Carrying Capacity and Own Vehicles</b>	<b>Types of Room</b>	Single	27
		Double	221
		Triple	24
		Quad	4
		Eight Bed	2
		Extra Bed	214
	Total Room	278	
	Hotel Own Vehicles	4	
Hotel Vehicles Parking Capacity	233		

In **Table 05**, it indicates the available hotel rooms with their types, hotel own vehicles and tourist vehicles parking capacity at selected 29 hotels in Mukteshwar. Through the study, we found 278 total rooms in Mukteshwar which includes 27 single rooms, 221 double rooms, 24 triple rooms, 4 quad rooms, 2 eight bedrooms, and 214 extra beds may be provided in the room on increasing demand by the guest in a hotel. The selected hotels have 4 own vehicles for in-house guests and can easily park 233 vehicles on the premises.



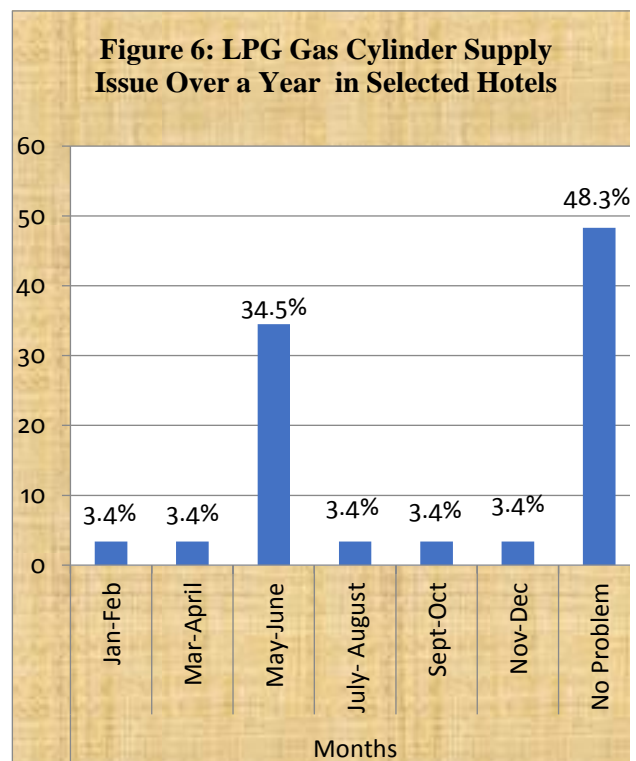
**Figure 4** indicates the available different types of rooms and their total numbers for tourist stay in Mukteshwar.

**Figure 5** represents the available hotel’s own vehicles for in-house guests and tourist’s vehicles parking capacity in all selected hotels of Mukteshwar.

**Impacts and Issues of Seasonality in Tourism on Hotels in Mukteshwar:** The study has identified some important impacts and issues which were related to public utilities and others are discussed here.

**Table 06: LPG Gas Cylinder Supply Issue in Hotel**

Organisation	Months	Unit (%)	Total (%)
Hotel	Jan -Feb	1 (3.4)	29 (100)
	Mar - April	1 (3.4)	
	May - June	10 (34.5)	
	July - August	1 (3.4)	
	Sept - Oct	1 (3.4)	
	Nov - Dec	1 (3.4)	
	No Problem	14 (48.3)	

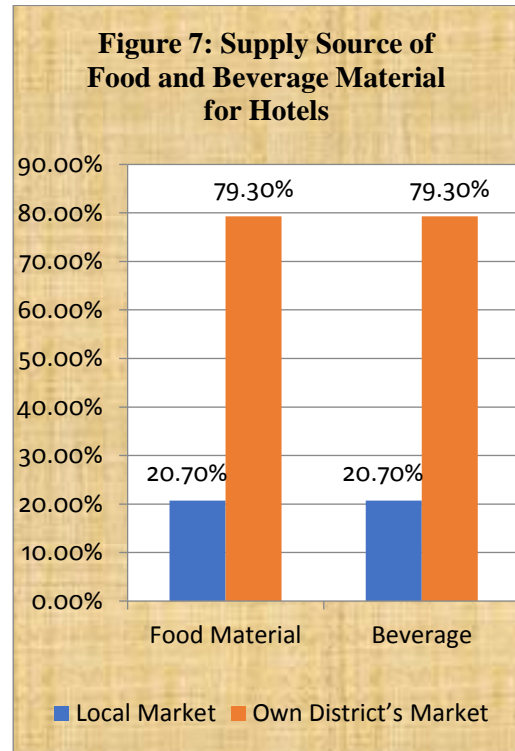


In **Table 06**, we have studied LPG gas cylinder supply issues in all selected 29 hotels. Through the study, we found LPG gas cylinder supply issues in the months of January- February, March-April, July-August, September-October, and November-December in only each one hotel with 3.4 % out of selected hotels in Mukteshwar. We also found that 10 hotels with 34.5 % faced LPG gas cylinder supply issues in the months of May-June. It also revealed that 14 hotels with 48.3% do not face any issue regarding LPG gas cylinder supply in the selected hotels.

**Figure 6** indicates LPG gas cylinder supply issue round the year in the selected hotels of Mukteshwar in percentage.

**Table 07: Supply Source of Food and Beverage Material for Hotel**

Organisation	Market Sources	Food Material	Beverage
Hotel	Local Market	6 (20.7)	6 (20.7)
	Own District's Market	23 (79.3)	23 (79.3)
	<b>Total</b>	<b>29(100)</b>	<b>29(100)</b>



In **Table 07**, we have studied the supply source of raw food and beverage material for selected hotels in Mukteshwar. Through the study, we found the supply source of raw food and beverage material in 6 hotels with 20.7 % was from the local market and in 23 hotels with 79.3 % was from their own district market.

**Figure 07** indicates the supply source of raw food and beverage material for selected hotels in Mukteshwar with percentage.

#### **Identified problems faced during peak season in Mukteshwar**

The major issues were observed and identified during the peak season of tourism in Mukteshwar, which was based on qualitative data. The first issue was related to the shortage of local public transportation during peak season. Local people and tourists hardly get local transport during peak season in tourism. The government local transport facility is negligible in the area.

The second issue was related to the public utility which includes shortage of drinkable water, shortage of electricity supply, shortage of Petrol and Diesel at fuel station, improper waste disposal system, a heap of waste materials laid on the road side with smell, few public toilets usually unhygienic and unclean and unavailability of fresh vegetable during the peak season of tourism in the area.



The third issue was related to the shortage of skilled employee in the area. It's hard to find out worker who have sufficient professional diploma and degree or experience of industry in the area.

The fourth issue was related to the submission of the C-forms of tourists who stays in hotels that has to be submit within 24 hours to the local police station Bhimtal which is far away from Mukteshwar.

The fifth issue was related to some other problems which includes waste material thrown by local people as well as tourists in an open area due to improper waste disposal system which results into a heap of plastic waste material especially nearby road side with the smell.

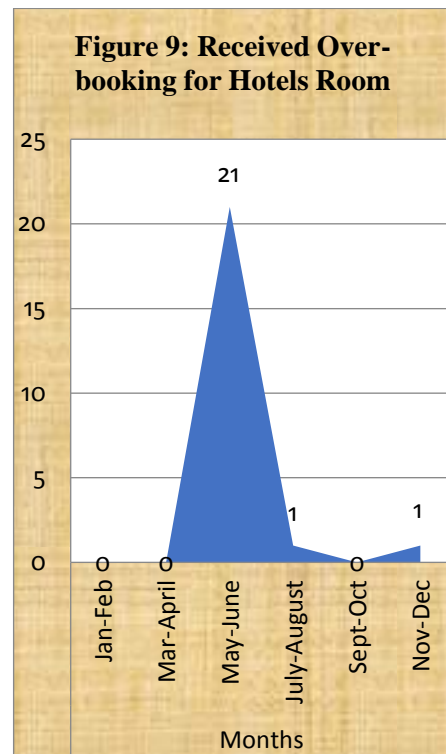
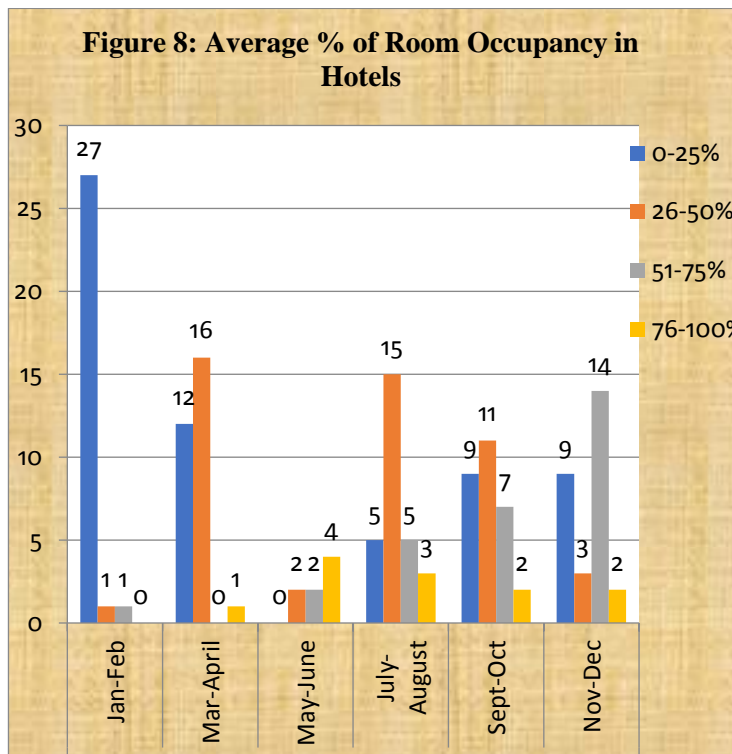
**Table 08: Average Percentage of Room Occupancy during 2017-18**

Establishment	Months						Average % of Room Occupancy
	Jan	Mar	May	July	Sept	Nov	
	-	-	-	-	-	-	
	Feb	April	June	August	Oct	Dec	
	27	12	0	5	9	9	<b>0-25%</b>
	1	16	2	15	11	3	<b>26-50%</b>
<b>Hotel</b>	1	0	2	5	7	14	<b>51-75%</b>
<b>(29)</b>	0	1	4	3	2	2	<b>76-100%</b>
	0	0	21	1	0	1	<b>Received Overbooking</b>

(Source: Data compiled through field survey)

In **Table 08**, we have studied the average percentage of tourists stayed in rooms over a year of the selected hotels in Mukteshwar. In the selected 29 hotels in Mukteshwar, over a year the average percentage of room occupancy in the months of January to February, in 27 hotels were 0 – 25 %, in 1 hotel was 26 – 50 %, and also in 1 hotel was 51 – 75 %. In the months of March to April, in 12 hotels were 0 – 25%, in 16 hotels were 26 – 50 % and in 1 hotel was 76 – 100 %. In the months of May to June, in 2 hotels were 26 – 50%, also in 2 hotels were 51 – 75 % and in 4 hotels were 76 – 100 %. In the months of July to August, in 5 hotels were 0 – 25%, in 15 hotels were 26 – 50 %, in 5 hotels were 51 – 75 % and in 3 hotels were 76 – 100 %. In the months of September to October, in 9 hotels were 0 – 25%, in 11 hotels were 26 – 50 %, in 7 hotels were 51 – 75 % and in 2 hotels were 76 – 100 %.

In the months of November to December, in 9 hotels were 0 – 25%, in 3 hotels were 26 – 50 %, in 14 hotels were 51 – 75 % and in 2 hotels were 76 – 100 % room occupancy found. Continuously, in the months of May to June, 21 hotels received overbooking for rooms; in the months of July to August and November to December each one hotel out of selected hotels also received overbooking for rooms in Mukteshwar.



**Figure 8** indicates the average percentage of room occupancy in selected hotels over a year in Mukteshwar.

**Figure 9** indicates the overbooking received over a year for hotel rooms by tourists in all selected hotels of Mukteshwar.

### Conclusion and Suggestions

The present study was focused on hotels in Mukteshwar village situated in the Nainital district of the Kumaun region in Uttarakhand state.

Through the study, different types of hotels were found which were twenty-nine in number. Different types of hotels include hotels, Resorts, Tourist Rest House, Lodges, and others types of accommodation (i.e., home stays, collage etc.) identified in the area. Therefore, this study revealed 29 hotels existed in the area. Twenty-six (89.7 %) hotels were registered and three hotels (10.3 %) were in the process of registering themselves. The maximum hotels were private and only one was identified as semi-government property.

In selected hotels, we have identified three management levels which include top, middle and lower. The study revealed that the maximum number of local people are employed and engaged in the middle, lower-level management, and very few were in top-level at different hotels.

In Mukteshwar, the study points out the carrying capacity of hotel's rooms were 278 along with their different types such as single rooms, double room, triple rooms, quad rooms and eight bedded rooms identified in selected hotels. These hotels have their 4 own's vehicles for guests and can easily park 233 tourist vehicles at a time at their own premises.

In maximum hotels, LPG gas cylinder supply issue is hardly found but slight supply issues were identified in 10 (34.5 %) hotels especially in the months of May to June which is the peak season of tourism in the area. The maximum number of hotels in the area purchase food and beverage materials from their own district's market.

The present study identified the impact of peak season in tourism of Mukteshwar which includes shortage of local public transportation, public utility issues (shortage of drinkable water; electricity; petrol & diesel at fuel stations; unhygienic and unclean public toilets; unavailability of fresh vegetables), shortage of skilled employee with sufficient industry experience & qualification, and improper waste disposal system.

The average percentage of room occupancy in selected hotels indicates the pattern of seasonality in tourism of the area. It was revealed that May and June months received a higher occupancy rate and overbooking in comparison to other months in a year which is considered as the peak season of tourism in Mukteshwar.

The present study has drawn suggestions that may help in mitigating seasonality factors for sustainable development in tourism of the area. The first suggestions are related to local public transportation during peak season. The sufficient local public transportation may be increased in the area to cope up with the heavy inflow of tourists. A better road and railway connectivity with metropolitan cities like Mumbai, Delhi, etc. may help in increasing tourism activity in the area but needed proper parking facility and sufficient stopper on the road.

The second suggestions are related to Public Utilities especially in the peak season of tourism in the area. Every year due to the peak season of tourism in the area which increases the demand for drinkable water and electricity in Mukteshwar, the government may take initiatives to supply sufficient drinkable water and electricity to cope up with seasonal variances. The area needed proper LPG gas cylinder supply, to develop public toilets (preferably movable toilets), and to develop a proper waste disposal management system especially in the peak season of tourism that may be helpful in developing sustainable tourism in Mukteshwar.

The third suggestions are related to tourism development in Mukteshwar. In the peak season of tourism sufficient vehicles for tourists and local people may be increased. Roadside regular

cleaning and street lights may be installed which will enhance the beauty of Mukteshwar. The development of an Amusement Park, Natural Garden, promote local cuisine, Museum that may reflect local culture and proper promotion and marketing of Mukteshwar will enhance the growth of tourism in the area.

The fourth suggestions are related with the environment development in the area. Mukteshwar needs a proper waste management system and guidelines about the proper disposal of all waste materials in the area. In Mukteshwar, plantation of trees, conservation of forest area, vehicles collecting waste materials from hotel/resorts and dumping at fixed point for proper disposal, recycling of waste material, development of proper sewage system, and installation of litter boxes may be helpful in saving the environment. It is better to avoid the development of huge infrastructure in the area such as big buildings etc. which will degrade the environment and beauty of Mukteshwar.

The fifth suggestion is related to law and order in the area. Increase tourist police, increase patrolling in the market, an inspection of hygienic and sanitation conditions in hotels and restaurants by regular visits of the concerned department during the peak season of tourism in Mukteshwar will ensure the safety and security of tourists, local people and also help in controlling tourist vehicles traffic in the area.

The other suggestions include the development of basic medical facilities, installation of proper signboards seeking information related to tourist destinations, public toilets, etc. will help in controlling tourist vehicles traffic in the area.

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