

RESEARCH METHODOLOGY

This chapter deals with the research design, sampling technique and tools used in the scientific investigation, in the light of objectives laid down for the present study. The information presented in this chapter has been classified and presented under the following heads:

- Selection of Study Area and Sampling Technique
- Data Collection and
- Analytical Procedure

3.1 SELECTION OF THE STUDY AREA & SAMPLING TECHNIQUE

For the proposed study multi stage sampling technique has been used to select the states, districts, the tourist spots in the districts and the various beneficiaries of the tourists in the area. The procedure adopted in the selection process has been detailed below:

3.1.1 Selection of states

As is clear from the review of literature in the previous chapter, very little work has been conducted in the Shivalik Hills Range Area. As such, it was decided to conduct the study in the Shivalik hills region and thus the selection of this region was a purposive selection. The Shivalik hills are the southern-most and geologically youngest east-west mountain chain of the Himalayas having many sub-ranges. They extend from Sikkim westward through Nepal and Uttarakhand, continuing into Indian Jammu and Kashmir and Pakistani Occupied Kashmir and are cut through at wide intervals by large rivers flowing south from the Himalayas. Smaller rivers without sources in the high Himalayas are more likely to detour around sub-ranges. Southern slopes have networks of small rills and channels, giving rise to ephemeral streams during the monsoon and into the post-monsoon season until groundwater supplies are depleted. The width of the Shivalik hills varies from 10 to 50 km (6.2 to 31 mi), their average elevation is 600 to 1,200 m. Due to the limitations of time, money and other constraints, it was very difficult to cover the Shivalik hills area along the length and breadth of Sikkim, Bhutan, Nepal, Uttar Pradesh, Uttarakhand, Haryana, Himachal

Pradesh, Jammu and Kashmir and Pakistan Occupied Kashmir. The states of Haryana and newly found state of Uttarakhand were purposely selected for the study.

Haryana state (Fig. 3.1) has been selected due to its multi favourable resource endowments like fertile land, assured irrigation, high productivity and production with good marketing facilities, electricity and roads and above all a receptive farming community with proven record of co-operation and hospitality. History reveals that the Vedic land of Haryana was a cradle of Indian culture and civilization. Indian traditions regarded this region as the matrix of creation of northern altar where Brahma performed the pristine sacrifice and created the universe. The culture, history, diversity and bounty of nature of Haryana has traversed the state into a prominent place of tourism, where the tourists not only from all the nook and corners of India, but from various developed, developing and under developed countries of the world pay visit. Its visitor-friendly traditions, varied life styles, cultural heritage, colourful fairs and festivals held during the year work as a source of attraction and inspiration for the tourists.

The State of Uttarakhand (Fig. 3.2) too has been selected purposely because of contiguity with Haryana. Due to its popularity all over the world for the scenic beauty and climate the British rulers made it their capital for the summer months. The various regions of Uttarakhand are so attractive and beautiful that these sarcastically accolade as the “Switzerland of India” to the region of Almora; “Lake district to Nainital”, “Queens of Hill District” to Mussoorie” and “Place of Paradise” to the entire regions of Uttarakhand. The present state of Uttarakhand was known as Uttaranchal since the time of its inception as an independent state of Indian Union. It was only in 2006 that it was re-christianed as Uttarakhand. Uttarakhand state is blessed with natural gifts seen in its magnificent glaciers, dense forests, sparkling and joyful milky rivers, skiing slopes, gigantic Himalayan peaks, valleys full of flowers and natural biosphere. The state with its scenic beauty and vastness offers variety of tours: pilgrimage to holy places, temples, nature and leisure tourism, which leave an everlasting appeal on the minds of those who venture in the regions of the state. More over boundaries of both the state touch each other and it was very convenient for the researcher to visit both the states for the data collection. It is needless to say that the researcher belonged to the Haryana state and was well versed with its culture, language and dialect, which were an asset for the conduct of the study.

3.1.2 Selection of the Districts

To finalise the sampling plan for the conduct of study, the districts falling in the Shivalik range of both the states were ascertained. The Shivalik region in Haryana is spread over 3,514 square kilometres of districts Panchkula, parts of Ambala and Yamuna Nagar districts. Haryana has administratively defined the extent of the Shivalik region to cover 430, 162 and 282 Gram Panchayats from Ambala, Panchkula and Yamunanagar districts respectively. In district Panchkula, 45 percent of total area falls under hilly tracts, whereas Yamuna Nagar has 9 percent and Ambala only 0.2% area. In Uttarakhand, the Shivalik range hills covered the districts of Dehradun district except Masourie, Haridwar only area covered by Raja Ji National Park (Raja Ji Park is covered by all the three districts viz. Haridwar, Dehradun and Pauri Garhwal and comprised of three sanctuaries merged in one viz. Raja Ji Park, Chilla and Motichur sanctuaries), a small strip of Kotdwar area of Pauri Garhwal district (60 km long and 2 to 5 km wide) and district of Udham Singh Nagar. Recently Gold mines have been detected in the Kotdwar area. In other words, the height of Shivalik range area varied from 300 to 600 mts above sea level and has been depicted in the physical map of Uttarakhand in Chapter-III. To have a deep understanding and proper evaluation of the impact on overall development of the area, all the districts from Haryana and two districts from Uttarakhand were finally selected. The Selected districts were:

Haryana: Panchkula, Ambala and Yamuna Nagar

Uttarakhand: Dehradun and Haridwar (Raja ji National Park)

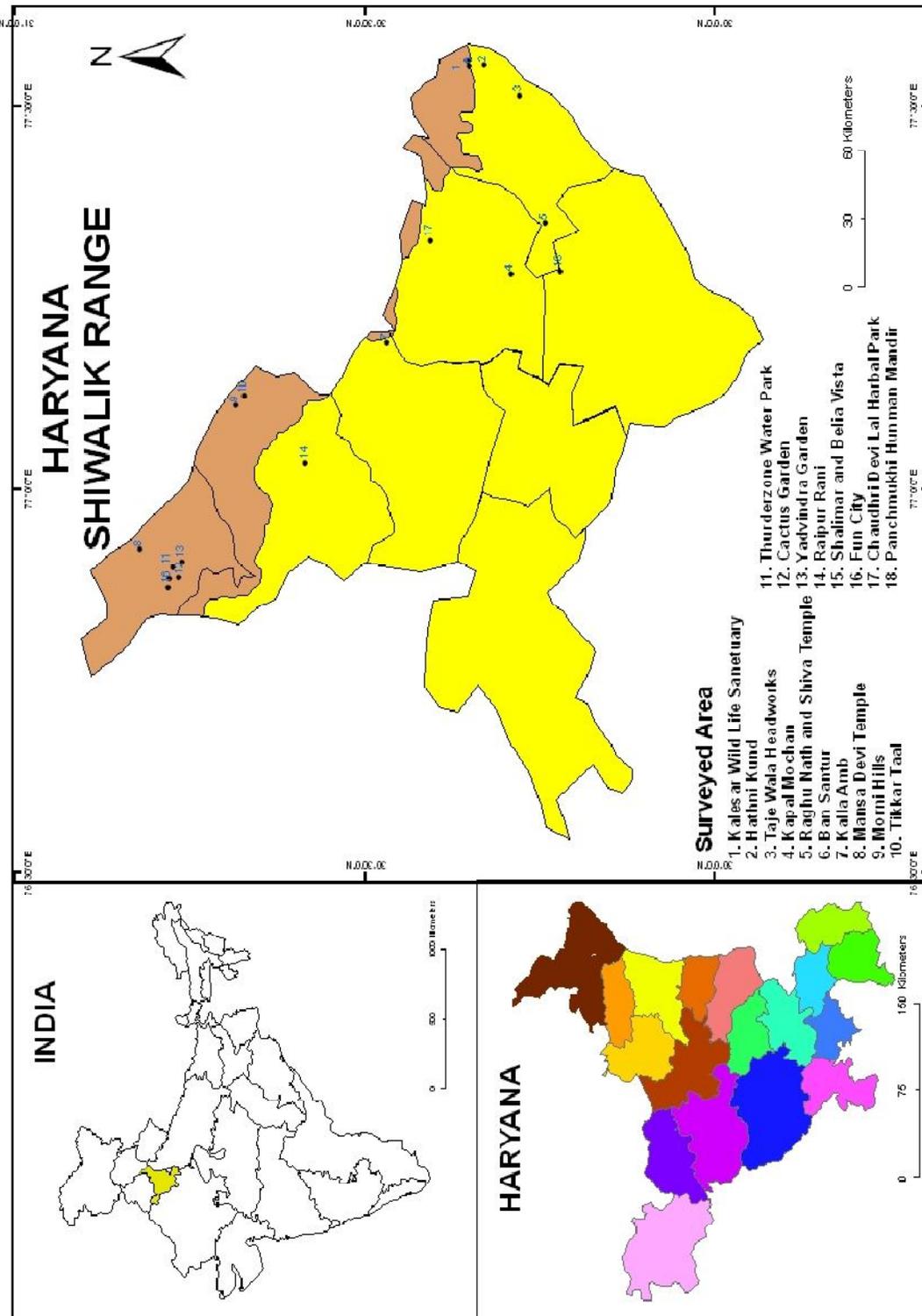


Fig. 3.1 : Map of Haryana

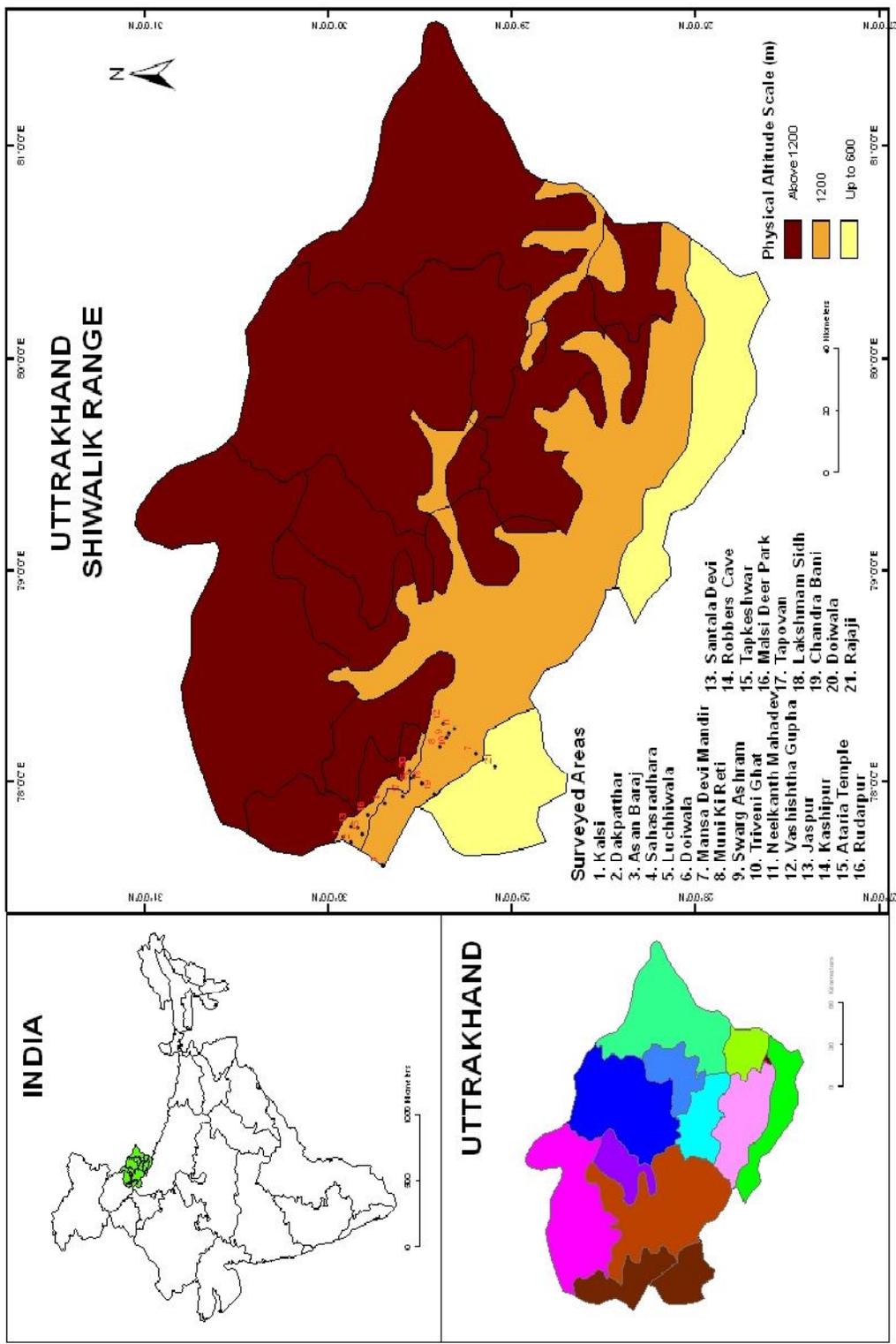


Fig. 3.1 : Map of Uttarakhand

3.1.3 Selection of Tourist Spots

All the important tourist places in the selected districts were ascertained from the secondary sources. District wise important tourist places and the places selected from each district for data collection have been presented below:

IMPORTANT TOURIST PLACES IN HARYANA

YAMUNA-NAGAR

- Hatrhi Kund
- Taje-wala Headworks
- Chaudhri Devi Lal Herbal Park Village Chuaharpur
- Kalesar Wild Life Sanctuary
- Adi-badri famous for Adi-Badri Narayan, Kedar Nath and Mantra Devi Temples.
- Ban Santur Near Kalesar
- Chachhrauli famous for Raghu Nath and Shiva Temple
- Bilaspur-Kapal Mochan related with Pandavas of Mahabharat
- Pancmukhi Hanuman Mandir
- Dadupur- Calm and Beautiful park on Western Jamuna Cannal
- Harnol and Topra

Number Selected- Six (Underlined)

AMBALA

- Barwala Naraingarh Road – TikkarTaal
- Kalla Amb

Number selected -One

PANCKULLA

- Hills- Morni Hills
- Place of Worships- Mansa Devi Temple/ Kalli Matta Mandir, Kalka Nada sahib Gurwdwara
- Parks and Gardens Thunderzone Water Park
Cactus Garden
Fun City
- Theme Park Yadvindra Garden
- Historic Raipur Rani

- Shalimar and Bella Vista

Number Selected: Five

GRAND TOTAL – 12 (Twelve)

IMPORTANT TOURIST PLACES IN UTTARKHAND

DEHRADOON

- Malsi Deer Park- 10 kms from DehradoonenrouteMasourie
- Mind Rolling Monestry- Located in Clement Town / Shakya Centre.
- TapkeshwarMahadevTemple- 5.5 kms from the city in a cave along the river Sahastradhara-14 kms from the city- A sulphur Spring
- Robbers Cave – GuchuPani- 8 kms from the city and 1 km from village Anarwala
- Lachiwala Forest – 22 km from Dehradoon and 3 km from village Doiwala
- Tapovan
- Chandrabadni – 7 km from Dehradoon on Delhi route. HoliKund 2 km away from the road located in the midst of Shivalik hills
- SaiDarbar and TibetanTemple
- SantaulaTemple
- DakPathar – Yamuna Hydel Scheme Scheme – 45 km from Dehradoon
- Kalsian- 5 km from DakPathar
- LakshmanSidh
- Ram RaiDarbar
- LakshmanJhulla and Ram Jhulla in Rishikesh
- TriveniGhat in Rishikesh
- Swarg Ashram in Rishikesh
- VashishtGoofa in Rishikesh

Tourist Places Selected -6 (Six)

HARIDWAR

Raja Ji National Park – 9 km from Haridwar and 6 km from Rishikesh

Tourist places selected : 1 (one)

UDHAM SINGH NAGAR

Atariya Temple- Located at a distance of 2 km from the Bus Stand

Nanak Matta- 45 km from fromRudrapur

MoteshwarMahadevTemple in Rudrapur

Jaspur famous for hill view and mango orchards

Gularbhoj

Chakarpur surrounded by senapani..Banbasa, Gosukuan and Khatima heritage sites.

Kanshipur -GiriSarover – 2.5 km on Ram Nagar Route

Kanshipur – Chaiti Devi Mandir-2.5 km from bus stand on Bajpur Route

Kanshipur – Tumariya Dam

Gadarpur – Haripura Dam

Khatima – ShardaSagar Dam

Kicha – Dhaura Dam

Bajpur – Baur Dam

Kotdwar-SidhbaliTemple – 2 km from Kotdwar

DurgaDeviTemple- 15 km from Kotdwar

Tourist places Selected – 5 (Five)

In brief, a total number of 24 Tourist Places, 12 each from Haryana and Uttarakhand were selected for survey.

3.1.4 Selection of Respondents/Stake holders

All the beneficiaries of the tourist trade were classified into six categories viz. (i) The Residents in the area, (ii) Hotels, (iii) Dhabas/Motels/ Restuarants and Tea shops (iv) Traders, (v) Travel Agents/transporters and the (vi) Tourists (Repeat) visiting the area 2nd or more times. A total sample of 600 beneficiaries -300 each were drawn from both the states of Haryana and Uttarakhand. The details of the sample drawn from each category across the states and total have been presented in table 3.1 below:

Table 3.1 Sample drawn from various categories of functionaries in Shivalik Hills area of Haryana and Uttarakhand

PARTICULARS	Numbers		
	Haryana	Uttarakhand	Total
Tourist Spots	12	12	24
Respondents @ 16 Res. per spot	192	192	384

Hotels	12	12	24
Dhabas/Motels/Restaurants/Tea Shops	12	12	24
Traders	12	12	24
Travel Agents/ Transporters	12	12	24
Tourists @ 5 Res. Per spot	60	60	120
TOTAL	300	300	600

3.2 COLLECTION OF DATA

Both the primary and secondary data as detailed below was collected to arrive at the results as per the objectives laid down for the study.

3.2.1 Primary Data

The present study is mainly based on primary data. Primary data was collected through structured questionnaire from residents, tourists and travel trade professionals, hotels, restaurants/ dhabas and the tourists who have visited the area more than once.

A total of 600 respondents from the various districts of Haryana and Uttarakhand comprising of 192 residents, 12 hotels, 12 Dhabas, 12 traders, 12 Travel agents/Transporters and 60 tourists were interviewed through structured questionnaire during 2011-12 to test the above hypothesis. Six separate interview questionnaires were designed for residents, hotels, Travel agencies/Transporters, Dhabas, Motels, Restuarants, Traders, Travel Agents and the tourists who have visited the area more than once. The detail of the questionnaire is as under:

- The residents' questionnaire comprised of 2 sections. The first section dealt with socio-economic demographic data and the second section was attitudinal with 40 questions divided in six domains viz. Economic development (ED-10), Cost of Living (CL-4), Infrastructure Development (IS-6), Scio-cultural Effect (SC-15) and Environment Quality (EQ-5) designed to measure a multitude of opinions on the 5-point likert scale like very true, true, no idea/not certain, very wrong and wrong.

- The questionnaires of travel agents/transporters also comprised of two sections, Ist section consisted of a set of questions related to business type, facilities available and performance etc. while second section was attitudinal identical to that of residents' questionnaire ranked on the 5-point likert scale.
- Like the other questionnaires, the questionnaire of hoteliers also consisted of two sections, the first section was devoted to their demographic profile, type of establishment, infrastructure and man power available and other details about the enterprise related to the tourists etc. The second section consisted of attitudinal identical to that of residents questionnaire and ranking was on five point likert scale.
- The questionnaire of traders/entrepreneurs also consisted of two sections, the first section was related to their demographic profile, functions of the enterprise, man power employment, availability of supplies and leakage/pilferage etc.. The second section was no different and was the same as in the case of other functionaries.
- The questionnaire of restaurants/dhabas/tea shops etc. also consisted of two section, the first section was related to their demographic profile, type of business, facilities available, man power employment, strategy of running the business and the questions related to the environment/disposal of garbage and the leakage etc. The second section was the same as in other cases.
- The questionnaire of visitors touring the area in the 2nd or more than 2 times also consisted of two sections, the first section was related to their demographic profile and their views on the local improvement after their first visit. The second section for repeat visitors was also attitudinal identical to that of residents questionnaire and ranking was on five point likert scale.

3.2.2 Secondary Data

The secondary data was collected from various Departments of Haryana and Uttarakhand Government, Tourism Development Corporations of both the states,,

Tourism Information Centers, District Statistical offices, Statistical Abstract of various districts/ State as a whole and other published and unpublished data related to both the states.

3.3. ANALYTICAL PROCEDURE

The data collected and tabulated has been subjected to analysis as per the objectives of the study. Tabular analysis and quantitative techniques have been used for the analysis of data, which are detailed below:

3.3.1 Tabular Analysis

Tabular Analysis technique has been used to study first two objectives of the study viz. (i) To study the existing and potential tourism resources in Shiwalik range of Uttarakhand and Haryana and (ii) To evaluate the infrastructure facilities available for tourism development at destinations of study area. For the purpose the collected data of all the six questionnaires was tabulated. Simple tables were drawn from the first section of the questionnaires. Mean averages and percentages were the statistical tools used to analyse the data.

3.3.2 Quantitative Analysis

Since the main focus on the analysis of respondents' perception towards the tourism impacts in study area. Thus due to the nature of study, the researcher employed different statistical tools to draw the conclusion. The study was divided into three sections. In first section, the responses of respondents were analysis with the help of single percentage method. The higher percentage indicates closer to the responses.

Second section was devoted to assess the responses with the help of mean, standard deviation and mean ranking. These were employed with the intension to find out the intensity of responses given by the respondents. Higher mean indicate the higher intensity of responses where as low ranking indicates low intensity.

TEST OF SIGNIFICANCE (T/Z Test)

To test the significance of the results T/Z test was conducted. The mathematical formula used to ascertain the T/Z test is as under:

$$T/Z \text{ test} = \frac{\text{Mean value} - 3.0}{\text{Standard Deviation} \times \sqrt{n}}$$

If figures are more than 20 then substitute \sqrt{n} with $\sqrt{n-1}$

To mark the stars i.e. significance at 1% or 5 % levels, the observed value was compared with the table value.

STANDARD DEVIATION

Standard deviation shows how much variation or dispersion from the average exists. A low standard deviation indicates that the data points tend to be very close to the mean (also called expected value); a high standard deviation indicates that the data points are spread out over a large range of values. The standard deviation of a random variable, statistical population, data set, or probability distribution is the square root of its variance. It is algebraically simpler though in practice less robust than the average absolute deviation. A useful property of the standard deviation is that, unlike the variance, it is expressed in the same units as the data.

Standard Deviation has been calculated using the formula:

$$s_N = \sqrt{\frac{1}{N} \sum_{i=1}^N (x_i - \bar{x})^2}$$

where, $\{x_1, x_2, \dots, x_N\}$ are the observed values of the sample items and \bar{x} is the mean value of these observations, while the denominator N stands for the size of the sample and N are the number of observations.

In the third section, factor analysis was used to examine the respondents' responses. There were 40 items identified which were further grouped into five factors as per their relevance to the core factor i.e. tourism impacts. The descriptions of each factor follow as:

Factors	Items	
Economic Development	Creation of more jobs for locals	ED 1
	Created more seasonal Jobs	ED 2

	Made people dependent on tourism	ED 3
	Increased the income of residents	ED 4
	Increased the business of local traders	ED 5
	Encouraged the optimal use of resources	ED 6
	Increased ancillary enterprises	ED 7
	Withdrawal of labour from other occupations	ED 8
	Created Scarcity of labour in other enterprises	ED 9
	Improved the marketing facilities	ED 10
2	Cost of living	
	Increased the price of goods & services	CL 1
	Increased of the Cost of land & housing	CL 2
	Increased rent of accommodation & shops	CL 3
	Improved the living standard of masses	CL 4
3	Infrastructure Development	
	Improved the road conditions	IS 1
	Improved Small scale & handloom industry	IS 2
	Increased the Transport facilities	IS 3
	Increased the mode of communication	IS 4
	Lead to infrastructure development	IS 5
	Improved electricity, water supply and sanitation	IS 6
4.	Socio-Cultural Effect	
	Increased the recreational facilities	SC 1
	Changed local values, norms and customs	SC 2
	Raised the opportunity of shopping	SC 3
	Affected the religious activities	SC 4
	Helped renovation & maintenance of monuments	SC 5
	Disturbed peace in the area	SC 6
	Increased the literacy rate	SC 7
	Increased the faith in local deities	SC 8
	Improved knowledge about religion	SC 9
	Increased the awareness about the outer world	SC 10
	Increased the crowd	SC 11
	Increased the social evils	SC 12
	Loss to cultural Identity	SC 13

	Increased Law and order problem	SC 14
	Affected the local culture and Values	SC 15
5. Environment Quality	Affected the natural beauty & scenery adversely	EQ 1
	Decreased area under forests	EQ 2
	Increased air pollution	EQ 3
	Increased noise pollution	EQ 4
	Increased water pollution	EQ 5

Thus the factor analysis generated five dimensions of perceived tourism impacts used in the sample area, which make good conceptual sense and explained total of 75 % of observed variance. Factor loading value is significant if it is more than 0.33. Further factor analysis has been used to identify the degree of relevance of each factor toward the core factor.

RANK CORRELATION METHOD

Rank correlation is the relationship between rankings of different ordinal variables or different rankings of the same variable, where a "ranking" is the assignment of the labels "first", "second", "third", etc. to different observations of a particular variable. A rank correlation coefficient measures the degree of similarity between two rankings, and can be used to assess the significance of the relation between them. To ascertain the relationship between the ranks obtained in respect of various development parameters for the Shivalik Hill Areas of Haryana and Uttarakhand on the basis of mean values obtained rank correlation was fitted. The mathematical formula used for calculation of rank correlation is as under;

$$\text{Rank Correlation (r)} = 1 - \frac{6 \sum d^2}{n(n^2 - 1)}$$

Where d = Sum of differences in the ranks of two states and
n = No. of characteristics.