An Evaluation Of The Contribution Of Bhunter Airport To The Economy Of Kullu Town

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Abstract:

Background: Air transport plays a pivotal role in facilitating tourism that exerts its spillover effects on the other sectors of the economy. If air transport services are provided in remote regions which are distant from economic centres and has small market size due to limited supply of local services both for business and population then it has great importance to generate employment and income because without airports and air services, to do business or to run a society according to modern standards is difficult in these regions so there is need to analyse the contribution of airport in generating employment and income. Air transport affects the productivity of the business traveler and increases the welfare of the leisure traveler by reducing travel time. High-yield adventure tourism is greatly dependent on air travel so remote regions need fast access for tourists in order to attract them. Hence, considering the importance of air transport in remote regions, there is need to examine the contribution of Bhunter airport in different segments of the economy i.e. tourism and business sectors.

Objectives: To analyse the contribution of Bhunter Airport in boosting tourism & business and generating employment & income.

Research Methodology: The present study relies on both primary as well as secondary data/information. The Chi Square and Compound & simple growth rate have been calculated.

Findings: The result of the study on Bhunter Airport proved its significant contribution to the economy of Kullu Town. This airport serves to:

- Attract tourism potential of the area, leading to more income-generating opportunities.
- Business location adjacent to the airport for regional development. In present study, the geographical location of business related to airport has been classified into four categories: (1) at airport, (2) adjacent to the airport (3) vicinity of the airport (4) elsewhere in the area or region.
- Employment opportunities to the locals. In the present study, employment as a consequence of airport expansion was categorized as direct employment directly related to airport services and which must be located on airport, indirect employment derived from the provision of goods and services procured by employees involved in airport.

Keywords: Tourism, business, employment, income, chi square.

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I. INTRODUCTION

Airports promote economic growth by attracting tourism and business which further generate employment and income. Tourism generates better employment opportunities, and provides better infrastructure services to cater to local residents as well as the visitors. Airports afford opportunities for businesses and guides planning for new development in the vicinity of the airport as revealed through the review of literature. Kullu is the hub of various business opportunities such as tourism, hotels, handloom and horticultural products. For the economic development of the entire Kullu valley, these businesses play a very important role. During the festive season and "peak season", hotels and restaurants do good business because of the huge influx of tourists. Kullu is famous for its handloom products and several varieties of handicrafts items are available. Kullu being surrounded by dense forests consisting of different types of vegetation including herbs, shrubs, and trees is well known for its variety of horticultural and herbal products. Horticultural and herbal products help the locals, especially the villagers who earn good income from the sale of these products. Diversified businesses in Kullu have helped the economy of the region and have created employment for the locals. As revealed through the Review of Literature airports contribute to the tourism and business sectors by enhancing the movement of people both internationally and domestically which generate employment. To examine the contribution of Bhunter Airport to the economy of Kullu town the following were examined:

- 1.1 Tourism
- 1.2 Business
- 1.3 Employment
- 1.4 Income

II. OBJECTIVES

The objectives of the study were to:

- 1) Examine the contribution of Bhunter Airport to the economy of Kullu Town.
- 2) Analyse the contribution of Bhunter airport in generating employment and income.
- 3) Identify the problems of different segments in harnessing benefits from Bhunter Airport and suggest ways and means to resolve the same.

III. RESEARCH METHODOLOGY

Nature of Data

The present study relies on both primary as well as secondary data/information. Primary information has been collected through questionnaire from proprietors. Secondary information was collected from various government departments like Bhunter Airport, and Tourism Department.

Tools of Analysis

- The chi square was used for analysis. The Chi Square has been calculated as: Σ(0-E)²/E. Degree of freedom calculated as (r-1) (c-1).
- Compound and simple growth rate have been calculated to examine contribution of Bhunter Airport to the economy of Kullu town.

IV. RESULTS AND DISCUSSION

Tourism Sector

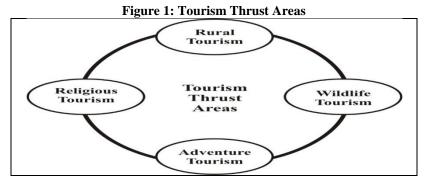
Tourism is considered a 'growth engine' to foster economies and free them from vicious circle of poverty and unemployment and bring sustainability. Tourism is an economic activity having tremendous impact on job creation, and reduces unemployment, fosters entrepreneurship, stimulates production of food and local handicrafts, and contributes to a better understanding of an area (Edgall and Swanson, 2013).

Tourism a coveted industry world over has found a niche in developing countries where economies are growing and there is dire need to have foreign receipts to keep them growing but this industry becomes necessity in mountainous areas where scarcity of resources makes them vulnerable to economic hardships. Since nature is bountiful tourism becomes way of life for the locals (Singh, 2015).

Tourism Development in Kullu-Manali

Kullu district in Himachal Pradesh the state of India has grown in prominence due to its breathtaking beauty and serenity on tourism map of world attracting lakhs of tourists every year. Kullu valley had always been on the map of trekkers and mountaineers who travelled from far and wide and was an important halting place for traditional Silk Route in 17th and 18th century, according to Shabab, "Manali was often called Dana Bazaar as travelers going to Tibet, Ladakh and Central Asia used to procure supplies and fodder for mules on their way" (Shabab, 1996). Though, tourism had a history in this valley but gained recognition in 1958 after the visit of first Prime Minister of India, Pandit Jawaharlal Nehru, who was an avid mountain lover and traveler. Tourism gained further momentum when Western Himalayan Mountaineering Institute (WHMI) was established at Manali in 1961, to train local youth in adventure sports to earn a livelihood and to produce world class mountaineers and trekkers. With the town gaining prominence in tourist arrival, Government of India sanctioned a budget for the Integrated Development of Kullu-Manali in 5th Five Year Plan in (1974-1979) to build infrastructure (repair/construction of rest/circuit houses) to accommodate growing number of tourists but scenario changed during 1990s when tourism surged in the valley due to shift of tourist from Jammu and Kashmir after state was inflicted with cross border terrorism and Manali was the best option for these tourists who indentified it with Kashmir with its snow clad mountains. Tourism surge brought in prosperity to locals who built hotels/guesthouses/restaurants to accommodate tourism boom besides starting with the adventure sports to reap additional benefits and these sports attract lakhs of tourists every year. Tourism in Manali is identified with Rohtang Pass and Solang Valley where snow is the main attraction. The valley has grown in importance in last two decades not solely because of nature but this growth is result of the three processes, increased transport network, construction of tourist bungalows/hotels and organized publicity and information system (Singh, 1989). Tourism explosion has transformed economy of this valley bringing in easy money and providing more option to locals to diversify their economy. Sandwiched between the PirPanjal, Lower Himalayan and Great Himalayan range, the Kullu district is a paradise for tourists. The land is strewn with

ancient temples, small picturesque hamlets, snow-clad high peaks, perennial rumble of rivers and water streams, lush green forests of pine and deodar and sprawling apple orchards. It is the only district in the country which offers opportunities for wildlife tourism, adventure tourism, rural tourism and religious tourism in one trip (<u>http://Himachal.gov.in</u>.).



Source:Singh, 2015.

Table 1 shows an increase in tourist arrival in Kullu district from 1964 to 1985. For the years subsequent to 1985, there were no published data as yet but these figures are estimated through the duration of the study conducted by Gardner, Sinclair, Berkes and Singh (2002) depending on the year and its events.

Year	No. of Tourists Arrival	Simple Growth Rate
1964	10000	-
1971	18500	0.85
1975	30,000	0.62
1980	75,000	1.5
1985	140000	0.87
Compound Growth Rate	0.13	-

Table 1: Estimate	s of Tourists	Visits to Kull	u District 1964 to	1985
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Note: '-' denotes nil.

Source: Gardner, Sinclair, Berkes and Singh (2002), and Singh (1989).

Table 2: Trends of Tourists Inflow from the year 1987to 2016 (up to September) in District Kullu

Year	Indian	Foreigner	Total	Simple Growth Rate
1987	[0.50]	[0.35]	[0.49]	-
	206954	6037	212991	
	(97.17)	(2.83)	(100)	
1988	[0.32]	[0.2]	[0.32]	-36.13
	132444	3583	136027	
	(97.37)	(2.63)	(100)	
1989	[0.40]	[0.10]	[0.38]	21.89
	163935	1875	165810	
	(98.87)	(1.13)	(100)	
1990	[0.51]	[0.29]	[0.50]	29.65
	209917	5061	214978	
	(97.65)	(2.35)	(100)	
1991	[0.70]	[0.23]	[0.67]	35.09
	286538	3878	290416	
	(98.66)	(1.34)	(100)	
1992	[1.09]	[0.23]	[1.06]	56.96
	451904	3933	455837	
	(99.14)	(0.86)	(100)	
1993	[1.04]	[0.15]	[1]	-5.09
	430103	2517	432620	
	(99.42)	(0.58)	(100)	
1994	[1.30]	[0.84]	[1.28]	27.49
	537167	14420	551587	
	(97.39)	(2.61)	(100)	
1995	[1.03]	[0.80]	[1.02]	-20.27
	425878	13856	439734	
	(96.85)	(3.15)	(100)	
1996	[0.93]	[0.72]	[0.90]	-9.89

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1997 1998 1999 2000 2001 2002	383813 (96.87) [1.73] 717018 (97.84) [1.92] 795282 (97.83) [2.03] 838940 (96.82)	12390 (3.13) [0.92] 15793 (2.16) [1.02] 17613 (2.17) [1.60]	396203 (100) [1.7] 732811 (100) [1.89] 812895	84.95
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2000 2001	(97.83) [2.03] 838940	(2.17) [1.60]		1
2000 2001	[2.03] 838940	[1.60]	(100)	
2000 2001	838940		[2]	6.59
2001	(96.82)	27597	866537	
2001	· · · · · /	(3.18)	(100)	
	[2.16]	[1.93]	[2.15]	7.09
	894806	33244	928050	
	(96.42)	(3.58)	(100)	12.40
2002	[2.42] 1001296	[2.43] 41891	[2.42] 1043187	12.40
2002	(95.98)	(4.02)	(100)	
	[2.59]	[2.81]	[2.6]	7.46
	1072695	48352	1121047	
	(95.69)	(4.31)	(100)	
2003	[3.12]	[3.36]	[3.13]	20.26
	1290438	57833	1348271	
2004	(95.71)	(4.29)	(100)	14.72
2004	[3.57] 1477324	[4.04] 69649	[3.59] 1546973	14.73
	(95.50)	(4.50)	(100)	
2005	[3.96]	[3.94]	[3.96]	10.46
	1641007	67933	1708940	
	(96.02)	(3.98)	(100)	
2006	[4.51]	[5.21]	[4.54]	14.55
	1867984	89751	1957735	
2007	(95.42)	(4.58) [5.96]	(100) [4.79]	5.48
2007	1962424	102654	2065078	5.48
	(95.03)	(4.97)	(100)	
2008	[4.84]	[6.56]	[4.90]	2.39
	200167	112910	2114584	
	(94.66)	(5.34)	(100)	
2009	[5.37]	[6.94]	[5.44]	10.85
	22,24649 (94.90)	119514 (5.09)	2344163 (100)	
2010	[5.79]	[7.76]	[5.87]	7.91
2010	2395990	133707	2529697	1.51
	(94.71)	(5.29)	(100)	
2011	[6.43]	[8.04]	[6.49]	10.60
	26,59,527	1,38,488	27,98,015	
2012	(95.05)	(4.95)	(100)	15.21
2012	[7.45] 30,82,545	[8.36] 1.43,900	[7.48] 32,26,445	15.31
	(95.54)	(4.46)	(100)	
2013	[6.93]	[7.28]	[6.95]	-7.17
	28,69,577	1,25,330	29,94,907	
	(95.82)	(4.18)	(100)	
2014	[7.70]	[6.06]	[7.64]	9.91
	31,87,436	1,04,309	32,91,745	
2015	(96.83)	(3.17)	(100)	4.01
2015	[8] 33,14,463	[6.36] 1,09,468	[7.94] 34,23,931	4.01
	(96.80)	(3.19)	(100)	
2016	[6.93]	[5.50]	[6.87]	-13.51
	28,66,584	94,760	29,61,344(up to	
	(96.80)	(3.19)	September)	
			(100)	
TOTAL	[100]	[100]	[100]	-
	41390312 (96)	1722246 (3.99)	43112558 (100)	
Compound	0.094	0.099	1.095	-
Growth rate				

Note: Figures in () parenthesis denote percentage to corresponding row totals; figures [] parenthesis denote percentage to corresponding column totals.

Source: District Tourism Development Office, Kullu, 2016.

Table 2 reveals annual domestic and international tourist inflow in Kullu district. It has been observed from this table that 41390312 Indians and 1722246 foreigners have come to Kullu from 1987 to 2016 which are 96 and 3.99 per cent respectively of total tourists (43112558).

In 1995 only 439734 visitors came which is lower than 1994, because of catastrophic flooding which occurred throughout the area in August and September, significantly affecting the early autumn tourist season. Based on interviews with local hoteliers and shopkeepers, it was evidence that the spring and summer seasons of 1998 were significantly disrupted by the nuclear tests conducted by India and Pakistan. Many package tours involving foreign tourists were cancelled. The Kargil crisis followed in 1999, caused a decline in tourist visits among Indians and foreigners alike during the spring and summer seasons.

As per the provisional data compiled by the District Tourism Development Office Kullu, there is an increase in inflow of tourists in Kullu district in 2015 having 33.14 lakh domestic and 1.09 lakh foreign tourists visited the districts as compared to 31,87,436 domestic and 1,04,309 foreign tourists in 2014. In spite of hue and cry raised over restrictions imposed by National Green Tribunal (NGT) on the movement of vehicles and other commercial activities in Rohtang area, Kullu district witnessesed 1.32 lakh more tourists in 2015 which indicates that the NGT orders did not exert much impact on tourism industry as a whole (http://www.tribuneindia.com/news/himachal/tourist-arrival-in-state-up-by-7.5%, 2016).This table shows decline in the number of tourists visiting in Manali in 2016. Exhorbitant taxi charges, non-availability of taxis, restrictions on tourism activities and permission to a limited number of tourists to go to Rohtang were the main reasons for the decline of tourist numbers. Large numbers of tourists com/city/Shimla/Manali-tourism-sees-downfall-inJune, 2016).

As per details available in the office of district tourism development office 1, 25,330 foreigners had visited Kullu district in 2013, while in 2014, 1, 04,309 tourists have visited Kullu district.

There is a drop in number of foreign tourists visiting Manali and other parts of Kullu district in 2014 compared to 2013. Mostly the tourists from the United States, Britain, France, Germany, and Italy visit Manali. Keeping in view the varying figures available at the tourism department office, the number of foreign tourists visiting Manali in 2013 was high compared to 2014. The decline in the influx of foreign visitors has been caused due to slump in economy in European countries since 2013(http://www.hindustantimes.com/Punjab/number-of-foreign-tourists-visiting-Manali-drops-in-2014.).

The Compound Growth Rate in number of tourist inflow in Kullu District is 1.095 for the duration 1987-2016.

Role of Bhunter Airport in Boosting Tourism

After the emergence of terrorism in the state of Jammu & Kashmir in 1988, Kullu valley experienced a sudden boom in the tourism sector bringing in hordes of private airline companies. Vayudoot, Raj Air, UP Airways, Jagson Airlines and Arachana Airways all had their operation base here. Vayudoot had played a crucial role in the promotion of aviation based tourism in the initial years. Raj Air's 50 seater Ahmedabad-Mumbai-Kullu unfortunately closed down in just 3 months. Likewise Archana Air's effort to launch Dash A 300, 50- seater met a similar fate due to technical reasons.

Archana Airway crashed in Jawalapur in district Mandi against a mountain enveloped in thick clouds on 9th July 1994. Landing at and taking off from Bhunter airstrip requires a high degree of expertise due to narrow runway, not more than 1000 meters long, between towering mountains on either side. Due to this challenge private aircrafts incurr loss because they are not able to operate at full capacity so they have ceased operations. The airport is located on the right bank of the river Beas, and in 1995, a flash flood posed a threat to the runway. Since 2012, when Kingfisher airlines ceased its operations, there is only one scheduled Air India flight. The arrival and departure of passengers and movement of flights have been shown in Tables 3, 4 and 5 respectively from 2012 because of non-availability of data before 2012.

Table 3 reveals that the highest numbers of tourist arrived in Bhunter Airport during the financial year 2012-13 in the month of April, May, June and July because there were two flights, Kingfisher and Air India operating from Bhunter Airport at that time. After September, 2012 Kingfisher shut down its operations due to financial crisis. However, after July the largest number of tourists arrived at Bhunter Airport during the financial year 2015-16 due to Dussehra festival and Winter Carnival. Table 3 shows that March, April, May and June account for the largest number of tourist arrivals because these are peak tourist season months in Kullu. Hence, Compound Growth Rate shows negative growth rate of passenger arrivals from April to July and positive growth rate after July for the duration 2012-16.

Table 4 shows detail of passenger departure from Bhunter Airport. If Table 4 is compared to Table 3, it is evident that fewer numbers of passengers departed from Bhunter Airport than passenger arrival in each month of every year. The chief reason is that flights are not able to take-off with more passengers due to high

mountainshence flights take-off with a maximum of 38 passengers only and land with maximum of 50 passengers according to Manager-Engineering Civil, Bhunter Airport, 2016.

Month	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	Total
Year		-		-	-	_							
2012-13	[43.3]	[36.9]	[38.7]	[41.5]	[45.9]	[5.6]	[2.4]	[0.5]	[1.1]	[18.8]	[10.9]	[15.0]	[23.3]
	1673	1636	1574	762	459	119	63	10	21	433	316	494	7560
	(22.1)	(21.6)	(20.8)	(10.1)	(6.1)	(1.6)	(0.8)	(0.1)	(0.3)	(5.7)	(4.2)	(6.5)	(100)
2013-14	[10.8]	[11.1]	[8.2]	[0.1]	[1.6]	[15.5]	[25.6]	[25.7]	[30.1]	[25.3]	[20.4]	[19.7]	[16.0]
	416	490	332	1	16	326	676	552	572	584	590	647	5201
	(7.9)	(9.4)	(6.4)	(0.01)	(0.3)	(6.3)	(12.9)	(10.6)	(10.9)	(11.2)	(11.3)	(12.4)	(100)
2014-15	[17.7]	[21.6]	[27.9]	[19.6]	[0.4]	[32.1]	[28.6]	[29.5]	[17.9]	[11.7]	[24.6]	[25.6]	[22.7]
	685	955	1140	359	4	678	756	632	341	269	710	844	7373
	(9.3)	(12.9)	(15.5)	(4.9)	(0.1)	(9.2)	(10.3)	(8.6)	(4.6)	(3.6)	(9.6)	(11.4)	(100)
2015-16	[28.3]	[30.3]	[25.2]	[38.8]	[52.1]	[46.7]	[43.4]	[44.4]	[50.8]	[44.1]	[44.0]	[39.6]	[37.9]
	1092	1341	1026	712	522	987	1148	952	966	1016	1272	1302	12336
	(8.9)	(10.9)	(8.3)	(5.8)	(4.23)	(8)	(9.3)	(7.7)	(7.8)	(8.2)	(10.3)	(10.6)	(100)
Total	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]
	3866	4422	4072	1834	1001	2110	2643	2146	1900	2302	2888	3287	32470
	(11.9)	(13.6)	(13.6)	(5.6)	(3.08)	(6.5)	(8.1)	(6.6)	(5.9)	(7.1)	(8.9)	(10.1)	
Compound	-0.10	-0.05	-0.10	-0.02	0.03	0.69	1.07	2.12	1.60	0.24	0.42	0.27	0.13
Growth													
Rate													

Table 3: Passenger Arrival Detail in Bhunter Airport from April 2012 to 2016

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Source: Administrative Records Bhunter Airport, 2016.

Table 4: Passenger	Denarture Detail in	Rhunter Air	nort from A	nril 2012_16
Table 4. Lassenger	Departure Detair in	Difunce An	μοι εποπι Α	pin 2012-10

N	Table 4. I assenger Departure Detail in Dhunter Amport from April 2012-10												
Month	April	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	March	Total
Year													
2012-13	[34.2]	[30.5]	[31.2]	[14.9]	[31.2]	[7.9]	[3]	[0.9]	[1.02]	[19.8]	[6.3]	[19.4]	[21.1]
	1301	1040	1052	505	210	105	58	16	14	428	331	574	5,634
	(23.1)	(18.5)	(18.7)	(8.9)	(3.7)	(1.9)	(1.02)	(0.3)	(0.2)	(7.6)	(5.9)	(10.2)	(100)
2013-14	[11.8]	[8.6]	[6.4]	[0.02]	[0.7]	[14.01]	[22.9]	[21.7]	[26.9]	[22.4]	[9.2]	[22.6]	[14.9]
	450	294	215	1	5	185	442	363	368	484	483	670	3978
	(11.4)	(7.4)	(5.4)	(0.02)	(0.12)	(4.7)	(11.2)	(9.2)	(9.3)	(12.2)	(12.2)	(16.9)	(100)
2014-15	[28.7]	[22.6]	[31.8]	[10.9]	[2.4]	[29.8]	[24.6]	[28.5]	[12.3]	[10.9]	[10.9]	[21.8]	[23.6]
	1094	769	1073	368	16	394	474	476	168	235	574	648	6289
	(17.4)	(12.2)	(17.1)	(5.9)	(0.3)	(6.3)	(7.5)	(7.6)	(2.7)	(3.7)	(9.1)	(10.3)	(100)
2015-16	[25.3]	[38.3]	[30.7]	[17.4]	[65.7]	[48.2]	[49.5]	[48.7]	[58.3]	[46.9]	[22.3]	[36.2]	[40.4]
	964	1304	1037	587	443	636	955	812	795	1016	1168	1074	10791
	(8.9)	(1.2)	(9.6)	(5.4)	(4.1)	(5.9)	(8.8)	(7.5)	(7.4)	(9.4)	(10.8)	(9.9)	(100)
Total	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]	[100]
	3809	3,407	3377	1461	674	1320	1929	1667	1363	2163	5226	2966	26692
	(14.3)	(12.8)	(12.7)	(5.5)	(2.5)	(4.9)	(7.2)	(6.2)	(5.1)	(8.1)	(19.6)	(11.1)	(100)
Compound	-0.07	0.06	-	0.04	0.21	0.57	1.01	1.67	1.75	0.24	0.37	0.17	0.18
Growth			0.004										
Rate													

Note: Figures in () parenthesis denote percentage to corresponding row totals; figures [] parenthesis denote percentage to corresponding column totals.

Source: Administrative Records Bhunter Airpor, 2016.

Table 5: Movement of Flights and Passenger Details for the year 2012 to 2016

Table 5. Wovement of Fights and Fassenger Details for the year 2012 to2010								
Financial year	Total Movement	Arrival	Departure	Total Passengers				
2012-13	[12.2]	[23.3]	[21.11]	[22.3]				
	896	7560	5634	13,194				
2013-14	[11.5]	[16.01]	[14.9]	[15.5]				
	848	5201	3970	9,171				
2014-15	[16.9]	[22.7]	[23.6]	[23.09]				
	1243	7373	6289	13,662				
2015-16	[59.4]	[37.9]	[40.4]	[39.09]				
	4365	12336	10791	23127				
Total	[100.00]	[100.00]	[100.00]	[100.00]				
	[7352	32470	26684	59154				
Compound Growth Rate	0.49	0.13	0.18	0.15				

Note: Figure in [] parenthesis denotes percentage to corresponding column totals. Source: Administrative Records Bhunter Airport, 2016. Table 5 reveals that the incoming and outgoing flights were highest in 2015-16 because along with Air India, Himalyan Bulls also commenced Kullu-Chandigarh-Kullu flights thrice a day from 2 April 2014. However, the lowest incoming and outgoing flights occurred in 2013-14 due mainly to the shuting down of Kingfisher flights.

Business Sector

Airports play a vital role in connecting communities, people and markets. The airport creates diverse employment opportunities in various retail and commercial activities to service passengers, airport visitors and workers. These business activities that have developed in the areas around this airport generate jobs and attract new business in other locations too. In present study, the geographical location of business related to airport has been classified into four categories: (1) at airport, (2) adjacent to the airport (3) vicinity of the airport (4) elsewhere in the area or region. Each has different characteristics of airport related business and different timings of development. These characteristics can be related to explanatory factors including airport requirements, the regional economy, local transportation access and local markets. These four categories of location have been shown in Table 4.6.

Table 4.6 reveals that at the Bhunter Airport, business associated with airport operations includes aircraft support services such as fire services and Indian oil ltd for fueling of aircraft, and passenger services including showroom of handloom and desks for car rentals. These activities started within a year of the commissioning of the airport.

Ranked by Degree of Proximityto the Airport	Categories by Location	Business	Establishment Year of Business
Very High Concentration near Airport	At the airport	Handloom Showroom	July 2016
		Indian Oil ltd	1975
		Fire Services	1975
High Concentration near Airport	Adjacent to the airport	Taxi Stand	1989
	(within 0-5 Kms)		(registration 2003)
		Hotels	1986-2011
		Fruit Shops	2000-16
		Shopping Mall	-
Moderate Concentration near Airport	Vicinity of the airport (within 5-10 Kms)	Bhuttico ltd	1944
	(while 5 To Kins)	River Rafting	-
Increasing Concentration near Airport	Elsewhere in the area (more than 10 Kms)	-	-

Table 6: Geographical Location of Business Related to Bhunter Airport

Note: '-' denotes nil.

Source: Field Survey.

Activities immediately adjacent to Bhunter Airport include services for airline employees and passengers such as hotels, restaurants, shops of fruits, shopping malls and car rental facilities etc. Such activities are often located on adjacent land reserved for such uses. They often take 10-12 years from the commissioning of the airport to fully develop and it was revealed that such business activity is most concentrated around Bhunter Airport within a 5 Km radius.

Within a 5-10 km radius, Bhuttico ltd, river rafting and petrol filling stations etc. have been established. Hence, it is evident that in these areas either 'spin-off industries' or 'attracted businesses' have been established. Spin-off industries include petrol filling stations, housing for airport workers and retail services etc. "Attracted businesses" are businesses that do not rely directly on the airport for their operation, but they get value located near an airport because of its prestige, air services and accessibility of location for visiting customers and employees coming by air.

Some business growth has occurred elsewhere in the area distance of more than 10 kms from airport as an indirect effect of net regional growth in airport-related businesses. This is because those businesses in turn increase demand for other local goods and services supplied to them. Other business growth has occurred as an induced effect of the additional consumer spending by workers hired at airport-related businesses and their suppliers.

Employment Opportunities Generated by Bhunter Airport in Kullu Town: Direct and Indirect

Employment here refers to the number of jobs directly dependent on airport operations. Job locations which are related to the activities of an airport are one of the most important indicators of the economic significance of airports. In this study not only the level of employment at the airport has been considered, but also the employment level in retail outlets located within and near the airport (shops, bars, hotels and car rentals).

Direct Employment in Bhunter Airport

In order to estimate the direct impact, data was gathered by means of personal interviews/questionnaire with the airport operators. The information regarding the direct employment is described in Table 4.7 as under:

Table 7 has described the details of those directly employed at Bhunter Airport. The numbers of employees are categorized as being on regular or contract bases and some others for business purpose. Evidence reveals that there are 91 persons who have got employment in Bhunter Airport accounting for 94.5 per cent of total employees (91). There are 45 employees on contract bases and 41 employees on regular bases as such this table shows the difference between numbers of contractual and regular employees.

Particulars	Number of E Airport in 2016	Total	
	Male	Female	
No. of employees employed in Airport (regular)	[48.7]	[40]	[47.67]
	37	4	41
	(90.24)	(9.76)	(100)
No. of employees employed in Airport (contract)	[51.3]	[60]	[52.32]
	39	6	45
	(86.67)	(13.33)	(100)
Total	[100]	[100]	[94.50]
	76	10	86
	(88.37)	(11.63)	(100)
No. of workers employed in Indian Oil in Airport (regular)	[50]	-	[50]
	2		2
	(100)		(100)
No. of workers employed in Indian Oil in Airport (contract)	[50]	-	[50]
	2		2
	(100)		(100)
Total	[100]	-	[100]
	4		4
	(100)		(100)
No. of workers employed in Handloom shop in Airport	[100)	-	[100]
	1		1
	(100)		(100)
Fotal	[100)	-	[100]
	1		1
	(100)		(100
Grand Total Employment (direct)	81	10	91
Grund Foun Employment (un tet)			

Note: Figures in () parenthesis denote percentage to corresponding row totals; figures in [] parenthesis denote percentage to corresponding column totals.

Source: Airport Director Office, Administrative Records Bhunter Airport, 2016.

These contract bases employees reduce cost because regular and contract employees work the same hours but the latter for less wages. The reasons for contractual employment include:

- i. Increasing demand for employees.
- ii. The workers who retire or expire, their vacancies are filled by contract employees hence their numbers have increased.

This table shows absence of female workers in Indian Oil ltd established in Bhunter Airport because these activities dominantly absorb male workers. In addition to this, there is only one handloom shop of Bhuttico ltd on Bhunter Airport premises and it employs only one worker who stays there for only two-three hours at the time of flight arrival. It is evident that airport employment depends on the volume of aviation activity at the airport, which is determined not only by the population of the region it serves, but also by airport's air service function. The number of flights and locations served by them defines as an: (1) intercontinental gateway (2) international gateway (3) regional transfer hub (4) local origin (5) specialized air cargo distribution centre. The implication is that there will always be on a limited level of employment at Bhunter Airport due to its small scale of operation.

About female employment, it has been reported at Bhuntar Airport:

i. There are 4 females employed on regular and 6 females employed on contractual bases at Bhunter Airport.

ii. All the regular female staff deals with the administration department [Asstt. Manager (ATM), Sr. Supdt-HR (SG), Sr. Attendant Office, and Office Attendant]. In other words qualified women do find employmen at the airport.

The chi square has been applied to compare the number of males and females employed a Bhunter Airport. The chi square was calculated for the significance level 0.05 and for four degree of freedom. The table value of Chi square $\chi^2_{(.05, 4)}$ is 9.488 and the calculated value was 3.1004. Hence, the calculated value of χ^2 less than the corresponding table value leads to the acceptance of the null hypothesis. It can thus be safely concluded that it is more likely that those employed (regular and / or contractual workers) are most likely to be male.

Indirect Employment

There are about 527 people indirectly supported and employed by Bhunter Airport. The details are as under:

S.N.	Particulars	No. of Workers
1.	No. of workers in selected10 shops of fruits(2 person at per shop) in Bhunter	[3.79] 20
2.	No. of workers in selected Taxi Stand in Bhunter	[51.23] 270
3.	No. of workers in selected Hotels	[36.81] 194
4.	No. of workers in repair shops, <i>dhabas</i> and dealers of products around the Airport (approximately)	[3.79] 20
5.	No. of workers employed in selected Handloom shops	[1.35] 15
6.	No. of workers employed in river rafting	[3.03] 16
	Total Employment (Indirect)	[100.00] 527

Table 8 Indirect Employment

Note: Figures in [] parenthesis denotes percentage to corresponding column totals. **Source:** Field survey.

Table 8 describes indirect employment created by Bhunter Airport. It has been observed that per fruit shop, 2 persons were employed which has created employment for 20 people. 20 workers were employed in repair shops, *dhabas* and dealers ofproducts, 194 workers in hotels, and 15 workers were employed in handloom shops, and 16 workers in river rafting. About 270 taxis were engaged in the taxi stand in Bhunter and this constitutes the largest percentage share as a source of indirect employment. Thus, it was found that 527 people were indirectly employed by the Bhunter Airport.

Total Employment Generation

Table 9 describes the total employment opportunities generated by Bhunter Airport (directly and indirectly). It was found that 618 persons were employed due to Bhunter Airport of which 91 found direct employment while 527 were indirectly employed.

The percentage of residents of Kullu and residents of other districts of Himachal Pradesh or other States of India employed in Bhunter Airport is 80.90 and 19.09 respectively. Hence, it is evident from this table that Bhunter Airport has benefited a large number of residents of district Kullu.However, the specific types of jobs that have gone to the residents of District Kullu (shown by Table 4.10) reveal an interesting dimension.Those in direct employment and technical personnel are all "outsiders". The resident of Kullu has found largely non-technical, indirect employment except in the case of the taxi operators.

S.N.	Particulars	rs No.ofemployees/worker No.ofemployees/workersBelongi			
		s belonging to Kullu	ng to other Districts of HP and	Employees/W	
		District	States of India	orkers	
1	Direct Employment in Bhunter	[13]	[22.03]	[14.7])	
	airport	65	26	91	
	_	(71.43)	(28.57)	(100)	
2	Indirect Employment around	[87]	[77.97]	[85.28]	
	the Bhunter Airport	435	92	527	
	_	(82.54)	(17.46)	(100)	
	Total Employment created by	[100]	[100]	[100]	
	Bhunter Airport	500	118	618	
	(approximately)	(80.90)	(19.09)	(100)	
		For V=1, $\chi^2_{0.05=3.841}$, and ca	lculated value=0.2729		

 Table 9 Total Employment (direct & indirect) Generated by BhunterAirport

Note: Figures in () parenthesis denote percentage to corresponding row totals; figures in [] parenthesis denote percentage to corresponding column totals.

Source: Field Survey.

The Chi Square was calculated for the significance level of 0.05 and for 1 degree of freedom. The table value of Chi Square $\chi^2_{(.05, 1)}$ is 3.841. The calculated value was 0.2729. The χ^2 table value> χ^2 calculated value as such the null hypothesis cannot be rejected. This leads to the conclusion that overall the numbers of person employed, whether directly or indirectly, largely belong to District Kullu. This result is best understood in light of the fact that this is a small airport with only a limited technical staff requirement.

Table 4.10 reveals that there are 41 regular employees in Bhunter Airport out of which 9 employees are engaged in 1st class which comprise 21.95 per cent but in this class, there is only one employee belonging to district Kullu other 8 employees are from other districts of Himachal Pradesh and States of India respectively. As far as 4th class is concerned, there are also 9 employees engaged in this class, of which 8 employees are from district Kullu and only one is from other state of India. This is indicative of the fact that the residents of Kullu are only employed in manual works as labourers, security guards, sweepers etc. All white color jobs were fetched by the residents of the Central India. It can be said that the residents of Kullu were only restricted to manual work.

Status of Employment	No. of Employees in Bhuntar Airport Belonging To District Kullu	No. of Employees in Bhuntar Airport Belonging to Other Districts of HP	No. of Employees in Bhuntar Airport Belonging to Other State of India	Total
1 st Class	[5.6]	[50]	[33.3]	[21.95]
	1	1	7	9
	(11.1)	(11.1)	(77.77)	(100)
2 nd Class	[16.7]	-	[28.6]	[21.95]
	3		6	9
	(33.33)		(66.66)	(100)
3 rd Class	[33.3]	[50]	[33.3]	[34.15]
	6	1	7	14
	(42.86)	(7.14)	(50)	(100)
4 th Class	[44.4]	-	[4.8]	[21.95]
	8		1	9
	(88.88)		(11.11)	(100)
Total	[100]	[100]	[100]	[100]
	18	2	21	41
	(43.90)	(4.87)	(51.22)	(100)
		For V=6, $\chi^2_{0.05=}$ 7.815, and cal	culated value=3.09	

Table 10: Status of Employment of the People of Kullu District in Bhunter Airport

Note: 1) Figures in () parenthesis denote percentage to corresponding row totals; figures in [] parenthesis denote percentage to corresponding column totals.

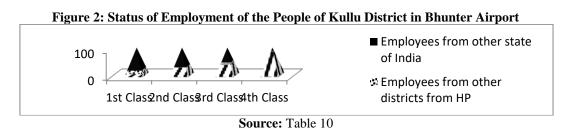
2) 1st class- Airport Director, Asstt.Gen.Manager, Sr.Manager, and Manager; 2nd class- Asstt. Manager, Sr. Supdt.-HR; 3rd class- Sr. Supdt-FS, Supervisor-FS, Sr.Supdt.(MT); 4th class- Sr.Attendent Aero., and office Attendant.

3) '-' denotes nil.

Source: Airport Director Office- Administrative Records Bhunter Airport, 2016.

Here too, the chi square statistic was calculated for the significance level 0.05 and for 6 degrees of freedom. The table value of Chi square $\chi^2_{(.05,6)}$ is7.815. The calculated value is 3.09 and hence that χ^2 table value> χ^2 calculated value, the null hypothesis is accepted.

It can be concluded, therefore, that the employment profile described by domicile can be attributed to chance. In other words an individual hailing from any of the three locations is actually equally likely to find employment in one of the otherfour statuses of employment categories. Where one gets located is dependent on ones qualifications and skill levels.



Educational Attainment of Regular Employees (2016)

The details regarding educational standard of employees in Bhunter Airport are given as under:

Status of]	No. of w	orkers		Ed	ucationa	l Stano	dard		Т	%
Employment	Μ	F	Т	Abov	e +2	Below	v +2	Illit	erates		
				Μ	F	М	F	Μ	F		
1 st Class	9		9	9	-	-	-	-	-	9	Literate
			[21.95]								=36=87.80
2 nd Class	7	2	9	6	1	1	1	-	-	9	Illiterate =5
			[21.95]								=12.19
3 rd Class	14		14	5	-	9	-	-	-	14	Male Educated
			[34.15]								Staff=33 =89.2
4 th Class	7	2	9	-	1	3		4	1	9	Female
			[21.95]								Educated
											Staff=3 =75
Total	37	4	41	20	2	13	1	4	1	41	

Table 11: Details of Educational Standard	of Employees in Rhuntar Airport in 2016
Table 11. Details of Educational Standard	of Employees in Difuncal An port in 2010

Note: 1) Figures in [] parentheses denote percentage to corresponding column totals.

2) 1st class-Airport Director, Asstt.Gen.Manager, Sr.Manager, and Manager; 2nd class-Asstt. Manager, Sr. Supdt.-HR; 3rd class- Sr. Supdt-FS, Supervisor-FS, Sr.Supdt.(MT); 4th class- Sr.Attendent Aero., and office Attendant.

3) '-' denotes nil.

4) M-male, F-female, T-total.

Source: Reported Values Interviewed from Airport Officials.

Table 11 describes the educational standards of the employees in Bhunter Airport and it was found that all 1^{st} class workers were educated above +2. In 2^{nd} class, out of 9 employees, 7 are educated above +2 with 1 female employee in office. Remaining 2 employees were below +2level. In 3rd class, out of 14 employees, 5 are educated above +2 level and 9 are educated below +2 level. In 4th class, out of 9 employees, 1 female employee is educated above +2level, 3 male employees are educated below +2 level and remaining 5 are illiterates including 1 female.

It can be observed from table that 36 out of 41 employees in airport were educated which was 87.80 per cent of total employees in Bhunter airport. Total educated male staff in airport was 33, which is 89.2 per cent of total male staff (37) and female staff was 3 which were 75 per cent of total female staff (4). 5 employees are illiterate which is12.19 per cent of total employees (41).

Income Generation

The economic impact of airport has been measured as the income generated by the airport activities and businesses based within and in the close vicinity of the airport.

Income generated by the airport employees has been calculated on the basis of statement of employees and Income generated by the business sector has been calculated on the basis of money value of sale of fruits and room rents charged by hotels.

As the result of the analysis, it has been estimated that the Bhunter Airport has directly generated `3,70, 000 and indirectly `13,135,650 income in the economy of Kullu Town which is shown in Table 12. The table also shows that total income generated by direct and indirect employment is `13,505,650.

1 st Class 2 nd Class 3 rd Class 4 th Class Indian Oil Itd.	150000 95000 75000 50000
3 rd Class 4 th Class	75000 50000
4 th Class	50000
Indian Oil ltd.	N
	Non response
Handloom Shops	Non response
Total	370000
Shops of fruits	1,95,000
Taxi stands	Non response
Hotels	12,940,650
Repair shops, <i>dhabas</i> and other shops	Non response
Handloom shops	Non response
Total	13,135,650
Grand Total	13,505,650
	Shops of fruits Taxi stands Hotels Repair shops, <i>dhabas</i> and other shops Handloom shops Total

Table 12: Scenario of Income Generated	y Direct and Indirect Employment
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Source: Field Survey.

Problems Faced by Different Segments of the Economy of Kullu Town

During field survey, the information regarding the problems faced by different segments of the economy were recorded and details of these problems have been reported below:

Problems Faced by Tourism Sector

Tourism is considered as a major tool of economic development such as employment generation, development of infrastructure and State Gross Domestic Product. Accessibility is the most important factor affecting tourism because tourist centers are accessible by various modes of transportation like roads, railways, airways and waterways. Airports offer increased accessibility, which in turn fuels the tourism sector.

The natural beauty of Kullu has made Kullu tourism really popular for a long time now. Tourist in Kullu can indulge in a plenthora of activities such as trekking, camping, adventure tourism, eco-tourism, religious tourism, visit wildlife sanctuaries, tour lakes and attend fairs and festivals.

Kullu is accessible by roads and air but tourist can not avail of this airport because of high air fare and low supply of flights. There is only one scheduled flight of Air India which provides its regular services in Bhunter Airport. Due to Monopoly of Air India, it charges `16,800 per person from Bhunter to Delhi in 2016. As such, households with low incomes do not demand air travel and it is not a popular means of transportation with the locals.

Problems Faced by Business Sector

Airport facilities have proven to attract business (hotels, restaurants and shops etc.) in the vicinity of airport subsequently more jobs are generated in the related economy.

In case of Bhunter Airport, it has been revealed from the study that business activities related to Bhunter Airport includes aircraft support services such as fire services and Indian oil ltd, and passenger services including showroom of handloom, desks for car rental, services for airline employees and passenger such as hotels, restaurants, shops of fruits, shopping malls and river rafting etc. However, proprietors have expressed concern over lack of passengers coming by air who hire taxis and demand for their products, hotels and restaurants. However, decrease in passenger arrival by air exerts an adverse impact on selling products and increase loss in revenue.

Limited Number of Employees

The most significant criterion for estimating the level of employment related to the activities of an airport is the passenger traffic in airport. With an increase in the number of passengers and airport users, more money flows into the local economy. With increased economic activity and employment, consumer behaviour changes, the standard of living of the people raises in the region. Thus, the availability of airports provides a thrust to the GDP of the local region, having a positive impact on the economy.

In case of Bhunter airport, it has been mentioned above that there is only Air India flight providing services to a few numbers of passengers coming by air mainly due to high air fare and some other reasons such as lack of flights and fear of crash which lead to limited number of employees required to handle one flight.

Limited Number of Airlines

Low demand of air travel by passengers due to high air fare has also led to a decrease in the number of passengers arriving by air.

However, in case of Bhunter Airport, it was found from the study that number of passengers (12336) who arrived in 2015-16 is higher than number of passengers (7373) who arrived in 2014-15 despite high air fare. Data therefore confirm that there is high demand of air travel to Bhunter Airport but low capacity to handle flights due to narrow runway is a deterrant. During field work carries out for the present study,Director, Bhunter airport, tourism entrepreneurs and other proprietors expressed their concern over runway length at Bhunter Airport, saying that it exerts its adverse impact on number of flights. Bhunter Airport runway is only 1 Km in length and has capacity to handle only 1 flight, since runway length positively affects flight frequency, airports with longer runways will be capable of having more aircraft movement. Runway length is also often a constraint on aircraft size. Larger planes require longer runways to take-off and land, and this connection is confirmed by the positive relationship between aircraft size and runway length.

As mentioned earlier, it is also a challenging runway due to high peaks which create problems for flights to take-off. Due to this, flights are not able to fill all seats and incurr losses so high fares are charged to compensate empty seats which exert an adverse impact on demand of air transport by tourist or local and lead to decrease in tourist arrival by air. Hence, in order to keep planes full, airlines have to utilize smaller aircraft with lower frequency. Otherwise, they cease their operation due to fear of loss.

It was found that the key challenge for Bhunter Airport arises out of the high economic dependence on a limited number of airlines.

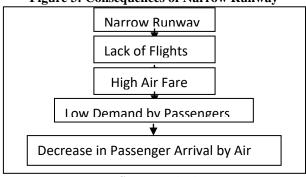


Figure 3: Consequences of Narrow Runway

It was found that tourism and business sectors are not able to derive benefits from Bhunter Airport due to small number of passengers coming by air. Locals do not avail of Bhunter Airport for reasons cited above. Hence, there is low demand of airport. Demand of airport refers to the amount or volume of aircraft, pilots and passengers who request the use of airport facilities.

Suggestions to Overcome Problems

On the basis of assessment of problems, the study suggests the following ways and means to be taken:

- Airport infrastructure in Bhunter Airport should be developed and upgraded because airlines, passengers and cargo need safe, functional and affordable airport infrastructure for operation to thrive. Airports need to have the infrastructure in place to provide efficient operations with safety and security, allow aircraft to operate efficiently, minimize inconvenience for passengers and provide fast and reliable baggage systems. The availability of sufficient airport capacity is an important constraint on Bhunter Airport growth. Runway length and apron space should be increased to improve the capacity of Bhunter Airport to handle more flights because capacity of airports are affected by runway length, apron space, ATC procedures, taxiway, size and location of terminal building and noise abatement procedures etc.
- Airport facilities, ATC services, local attractions and current State of the economy of Kullu should be improved to increase the demand for Bhunter Airport.

The relationship of demand vs. capacity and delay has been shown in figure 5.5. It can be seen that as demand for airport increases, it begins to reach the limit of airport capacity, which is defined by existing facilities and airspace structure. As demand for airport services nears capacity is reached. Once the airport has reached capacity, delays increase significantly.

- Passengers should be provided facilities such as restaurants, emergency, Wi-Fi and internet access to use their electronic equipment in Bhunter Airport.
- There should be adequate and regular supply of flights by different airlines to decrease monopoly of airlines which automatically decrease fare and increase demand for flights and further increase number of employees to handle increased flights.
- Technical education should be provided to locals to improve the capacity of local employees in Bhunter Airport.
- Study reveals that tourism is a vital economic development parameter for the economy of Kullu, generating income and jobs, spawning new businesses, spurring economic development, promoting economic diversification, developing new products and contributing to economic integration. Himachal Pradesh Govt should take plans to develop the tourism destinations and preserve cultural, heritage and environment at tourist destinations to attract more tourists which provide locals a higher quality of life while generating sustained economic, environmental and social benefits.

V. Key Findings/ Conclusion

Secondly, by examining the contribution of Bhunter Airport to the economy of Kullu town it was found that:

- After 1987, Kullu experienced a boom in the tourism sector which brought hordes of private airlines.
- The Compound Growth Rate in number of tourists inflow in Kullu District is 1.05 for the duration 1987-
 - 2016. There is fluctuation in trend of tourists inflow since 1987 due to the following reasons:
- ✓ Catastrophic flood
- ✓ Kargil crisis

Source: Field Survey

- ✓ Exhorbitant taxi charges and non-availability of taxis due to restrictions imposed by National Green Tribunal on movement of vehicles and other commercial activities in Rohtang areas.
- It is evident from the study that fewer numbers of passengers depart from Bhunter airport than passengers arrive because flights are not able to take off with a maximum of 38 passengers only and land with maximum of 50 passengers.
- It was found that number of tourists coming to Kullu have increased from 32,26,445 in 2012 to 34,23,931 in 2015 and despite operation of only one Air India flight in Bhunter Airport, number of passengers arrived in Bhunter Airport has also increased from 7560 in 2012-13 to 12336 in 2015-16. This revealed that there is high demand for flights to Bhunter Airport but has a low capacity to handle flights.
- In present study, the geographical location of business related to airport and their different timings of development have been identified. It was revealed that at the Bhunter Airport, business associated with airport operations includes aircraft support services such as fire services and Indian oil ltd for fueling of aircraft and passenger services including showroom of handloom and desks for car rentals. These activities started within a year of the opening of the airport. Business activities located on adjacent land such as hotels, restaurants, shops of fruits, shopping malls etc. often take 10-12 years airport opening. In the vicinity of Bhunter Airport, spin-off industries include petrol filling stations, housing for airport employees and retail services etc. were established.
- The Chi Square statistics revealed that most of the males are employed in Bhunter Airport in 2016 because there is no female workers were employed in Air Traffic Control and Fire Services. All the regular female staff deals with the administration department (Asstt Manager, Sr. Supdt-HR (SG), Office Attendant).
- It was found from the study that employees are distributed on the basis of regular and contract at Bhunter Airport. It was found from the study that majority of the employees belong to Kullu are engaged in manual work as labourers, security guards, sweepers etc. due to lack of education qualification required for airport. All white color jobs were fetched by the people from the Central India.
- Study revealed that 87.8 per cent employees are literate and 12.19 per cent are illiterate. All 1st class employees are male and educated above +2. In 2^{nd} class, 77.8% and 22.2% employees of total employees (9) are educated above +2 and below +2 respectively. In 3rd class, all employees (14) are male and out of which (35.7%) are educated above +2 and (64.3%) are educated below +2. In 4th class, (11.1%) employees are educated above +2, (33.3%) employees are educated below +2 and (55.6%) employees are illiterates out of total employees (9).
- It was found that the Bhunter Airport directly generated `3,70,000 and indirectly `13,135,650 incomes in the economy of Kullu Town.
- Study brought out the problems faced by tourism and business sectors which harness their benefits such as problems of high fare, low demand and supply of flights, monopoly of airlines, and limited number of employees in airport, narrow runway, and low capacity of Bhunter Airport to handle flights.

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