

## **Chapter 6: Impact of Ecotourism**

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### **Introduction**

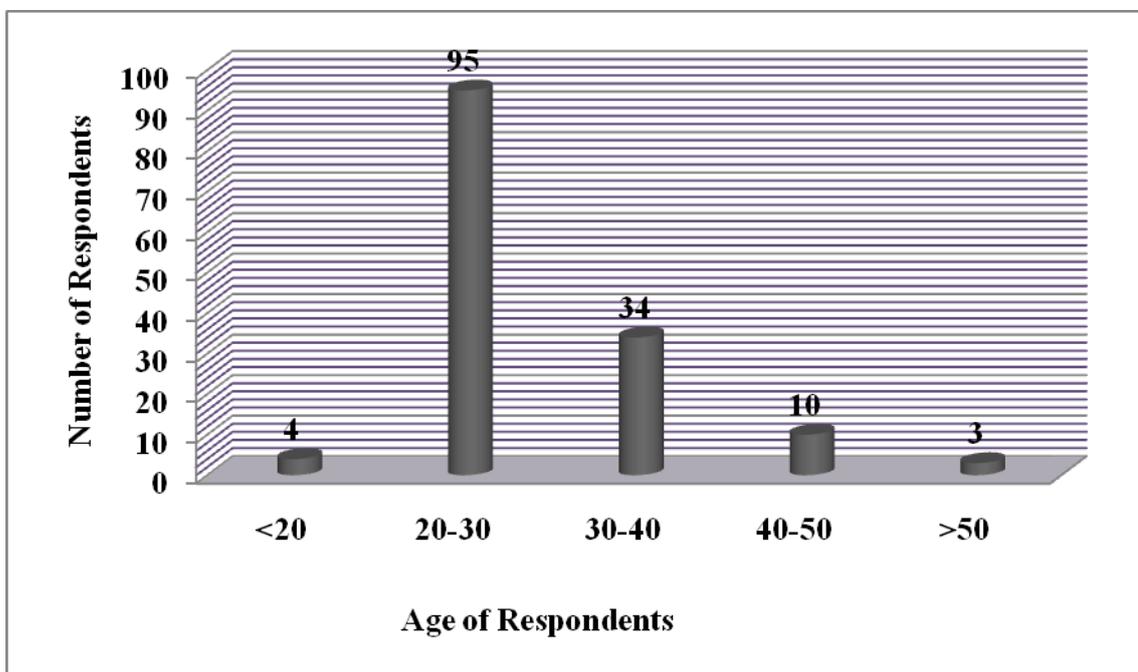
The impact of ecotourism in enhancing the economic status of the people in Sikkim is gradually increasing over the years. This study provides an insight into the impact of ecotourism related activities in the four case study areas of Sikkim, namely Yuksom, Aritar, Kewzing and Darap. The detailed analysis of various attributes pertaining to measuring the impact of ecotourism in the four areas are: age group of respondents, types of occupation involved, income earned through ecotourism and other occupations, income earned before and after entering into ecotourism, duration of the occupations, availability of basic amenities, livestock and vehicles.

### **6.1. Age Group of the respondents**

Table 34 offers the age groups of the respondents who participated in the study. In order to understand the perception of people belonging to different age groups a wide spectrum of respondents were selected for the study. This shows the majority of respondents (65.1%) were in the age group of 20-30 years. Since lot of people involved in ecotourism belong to this age group majority of respondents were selected from this age group. Besides, more than 23% of the respondents belonged to the age group of 30-40 years, and nearly 7% belonged to the age group of 40-50 years. In short, more than 95 % respondents engaged in ecotourism related activities were in the broad age group of 20 to 50 years. Participation of respondents in the age groups of below 20 years and above 50 years was minimal.

**Table 34: Age group of the respondents**

Age	Respondents	Percentage
<20	4	2.7
20-30	95	65.1
30-40	34	23.3
40-50	10	6.8
>50	3	2.1
Total	146	100.0

**Figure 40: Age group of respondents**

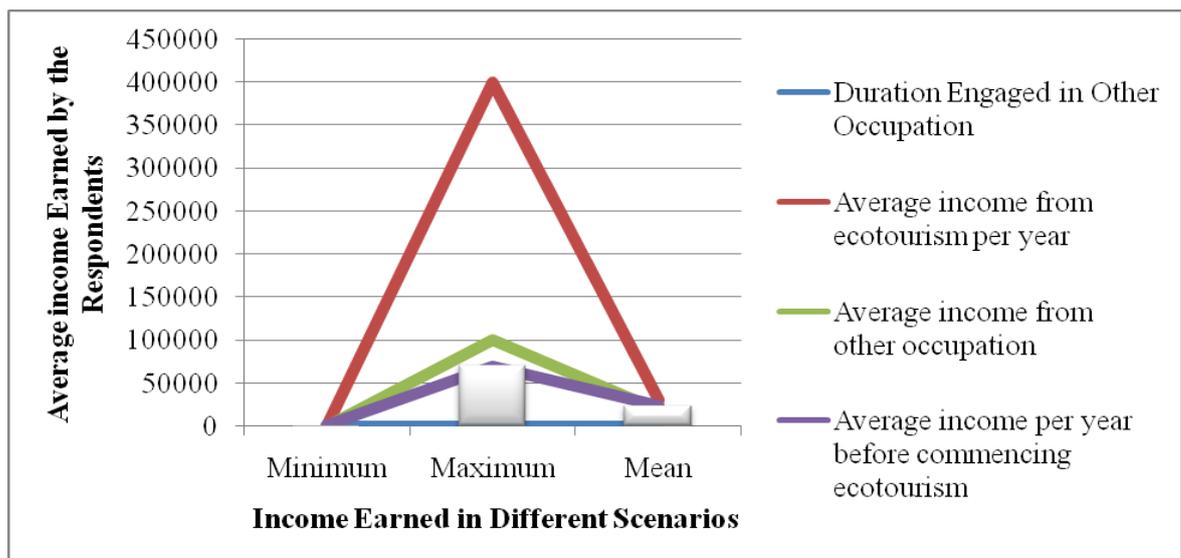
## 6.2. Average income earned by the respondents from different sources

Table 35 provides figures of the diverse attributes contributing to the income of the respondents which illustrates the average involvement in other occupation as 8.3 months (minimum 2 months and maximum 60 months), average income earned through ecotourism per year was Rs. 31179.45 (minimum Rs. 200 and maximum Rs. 400000), average income earned through other occupations was Rs. 18850 (minimum Rs. 300 and maximum Rs. 100000), and average earning before entering eco-tourism was Rs. 23462.32 (minimum Rs. 500 and maximum Rs. 70000). The data display a considerable increase in income of the respondents after they ventured into ecotourism.

**Table 35: Statistics of average income earned by the respondents in different scenarios**

		Minimum	Maximum	Mean
Duration Engaged in Other Occupation	146	2 months	60 months	8.322
Average income from ecotourism per year	146	200	400000	31179.452
Average income from other occupation	146	300	100000	18850.0
Average income per year before commencing ecotourism	146	500	70000	23462.329

**Figure 41: Statistics of average income earned by the respondents in different scenarios**



### 6.3. Duration in other occupation

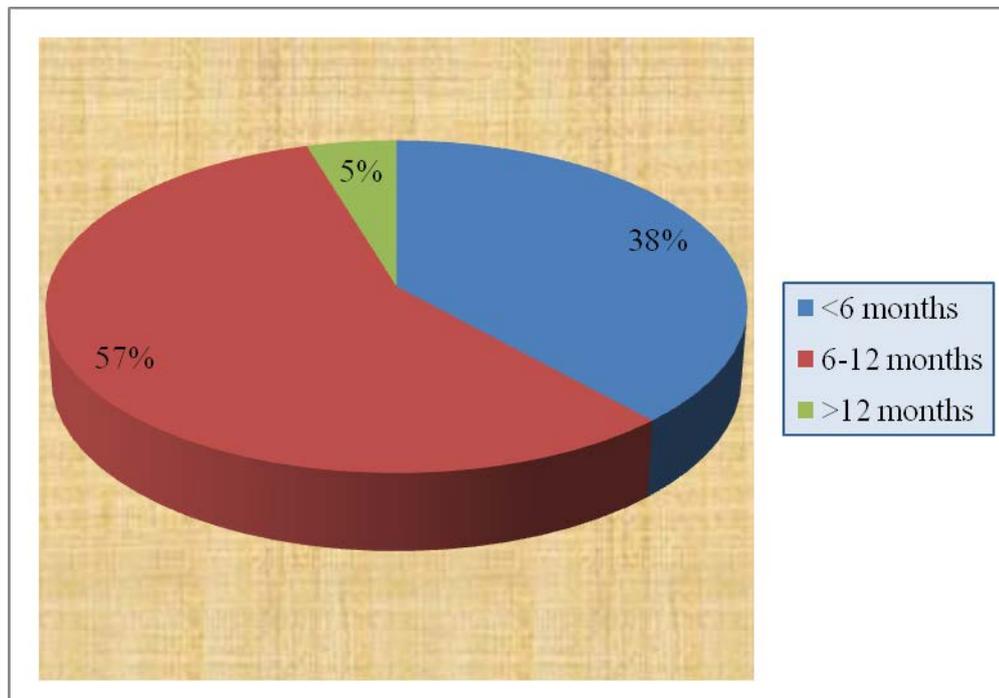
The time for which the respondents worked in other occupations other than ecotourism is also an index of the economic impact of ecotourism in the rural areas.

**Table 36: Duration in other occupation**

Duration	Frequency	Percent
<6 months	33	38.37
6-12 months	49	56.98
>12 months	4	4.65
Total	86	100.00

Table 36 illustrates the duration of involvement in other occupations. Out of 86 respondents who were engaged in other occupation, 49 (56.98%) respondents were involved for 6-12 months, 33 (38.37%) respondents were involved less than 6 months and 4 (4.65%) respondents were involved more than 12 months. This indicates the duration of respondents' involvement in other occupation were for short time. The other occupations in which the respondents were involved were in the office of panchayat, farming, travel agencies, shops, restaurants, nursing and labour. The engagement in these occupations was for short duration because the income earned through these occupations was insufficient.

**Figure 42: Duration in other occupation**



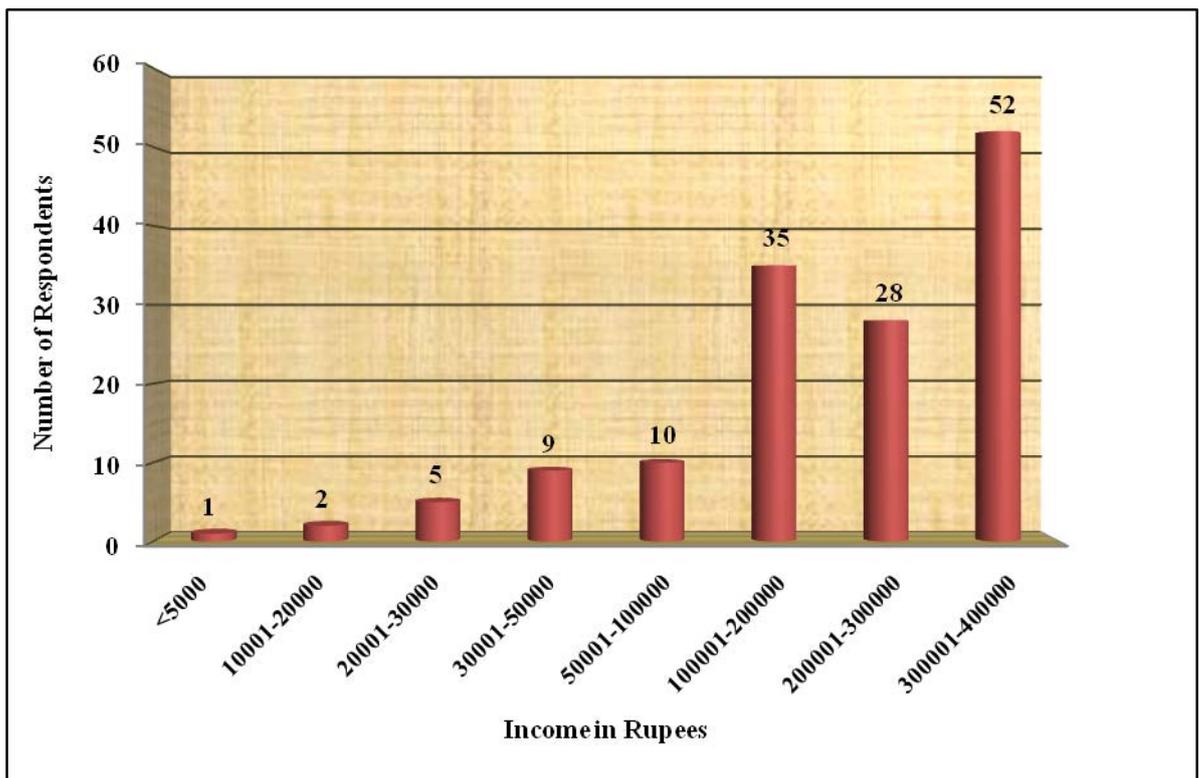
#### **6.4. Approximate income from ecotourism**

Ecotourism has made visible differences in the income and livelihood pattern in Sikkim. It generates earnings and presents the people with a variety of income sources. The survey in the study areas revealed that approximate annual income from ecotourism varied from less than Rs. 5000 to Rs. 400000 or more. It was observed that nearly one-fourth of the respondents earned between Rs. 300000 to Rs. 400000, which indicates an immense possibility to opt for ecotourism. Out of 146 respondents, 115 respondents earned more than Rs. 10000 per year from ecotourism and related activities. This obviously had positive impact on the life of the respondents in particular and on the region in general. Table 4 and figure 4 display the respondents' approximate annual income earned through ecotourism. A considerable increase in income of the respondents after involvement in ecotourism was clearly visualized.

**Table 37: Approximate income from ecotourism per year**

Income in Rupees	Respondents	Percent
<5000	1	0.68
5001-10000	4	2.74
10001-20000	2	1.37
20001-30000	5	3.42
30001-50000	9	6.16
50001-100000	10	6.85
100001-200000	35	23.97
200001-300000	28	19.18
300001-400000	52	35.62
Total	146	100.00

**Figure 43: Approximate Income from Ecotourism**



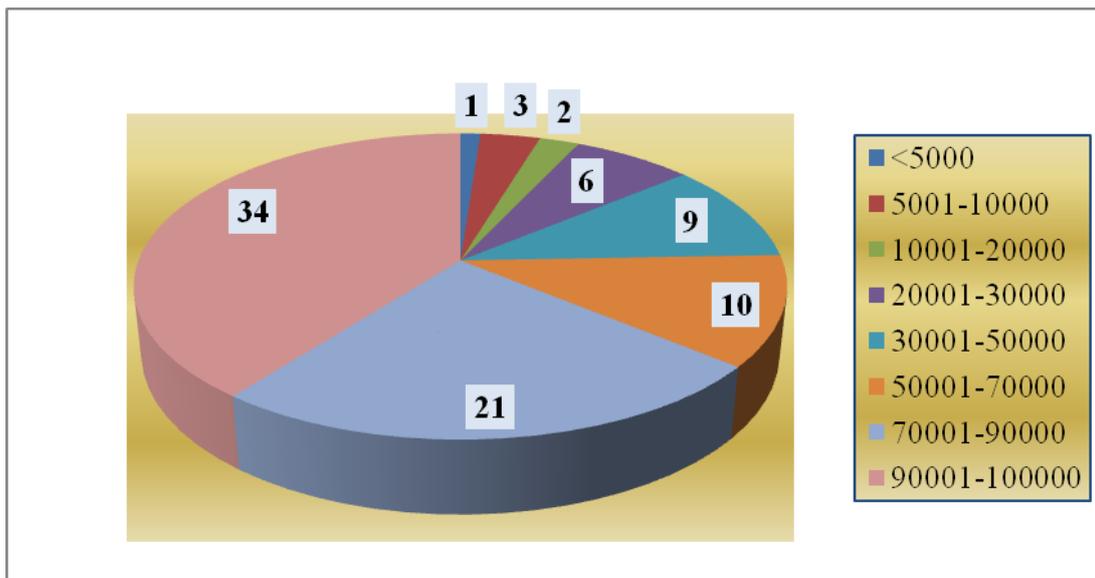
### 6.5. Approximate income from other occupation

Table 38 and figure 45 display the respondents' approximate income earned from other occupation every year. Out of 146 respondents, 86 had income from other occupation.

**Table 38: Approximate income from other occupation**

Income in Rupees	Respondents	Percent
<5000	1	1.16
5001-10000	3	3.49
10001-20000	2	2.33
20001-30000	6	6.98
30001-50000	9	10.47
50001-70000	10	11.63
70001-90000	21	24.42
90001-100000	34	39.53
Total	86	100.00

**Figure 44: Approximate income from other Occupation**



Out of 86 respondents, 34 (39.53%) respondents earned between Rs. 90001 -100000 per year, 21 (24.42%) respondents earned between Rs. 70001-90000, 10 (11.63%) respondents earned between Rs.50001-70000, 9 (10.47%) respondents earned between Rs. 30001-50000, 6 (6.98%) respondents earned between Rs. 20001 -30000, 3 (3.49%) respondents earned between Rs. 5001-10000 and only 1 (1.16%) respondent earned less than Rs. 5000. The average income earned from other occupation is lesser compared to income generated through ecotourism.

### 6.6. Approximate income per year before commencing ecotourism

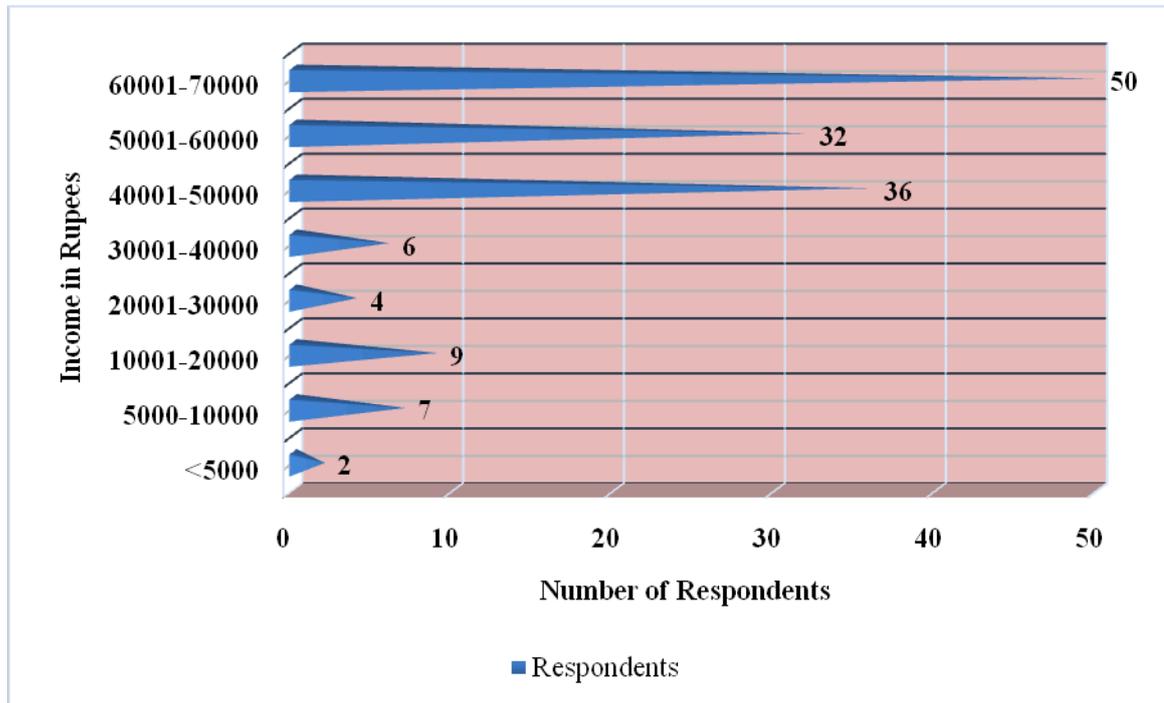
The approximate income of the respondents before commencing ecotourism was far less than that earned from ecotourism. The approximate yearly income from various sources other than ecotourism never reached Rs. 10000.

Table 39 and figure 46 represent the respondents' income prior to their involvement in ecotourism. The previous employment of the respondents generated much lower income compared to the earnings from ecotourism. This was mainly due non-availability of occupations which provided them with substantial earnings. The rural economy of Sikkim is mainly dependent on agriculture and related activities. They provide a limited income to the people living in rural areas. The duration of the earlier occupations and the income earned through them were insufficient for their living. Only few respondents who worked in government or well established private organizations had better income.

**Table 39: Approximate income per year before commencing ecotourism**

Income in Rupees	Respondents	Percent
<5000	2	1.37
5000-10000	7	4.79
10001-20000	9	6.16
20001-30000	4	2.74
30001-40000	6	4.11
40001-50000	36	24.66
50001-60000	32	21.92
60001-70000	50	34.25
Total	146	100.00

**Figure 45: Approximate income per year before commencing ecotourism**



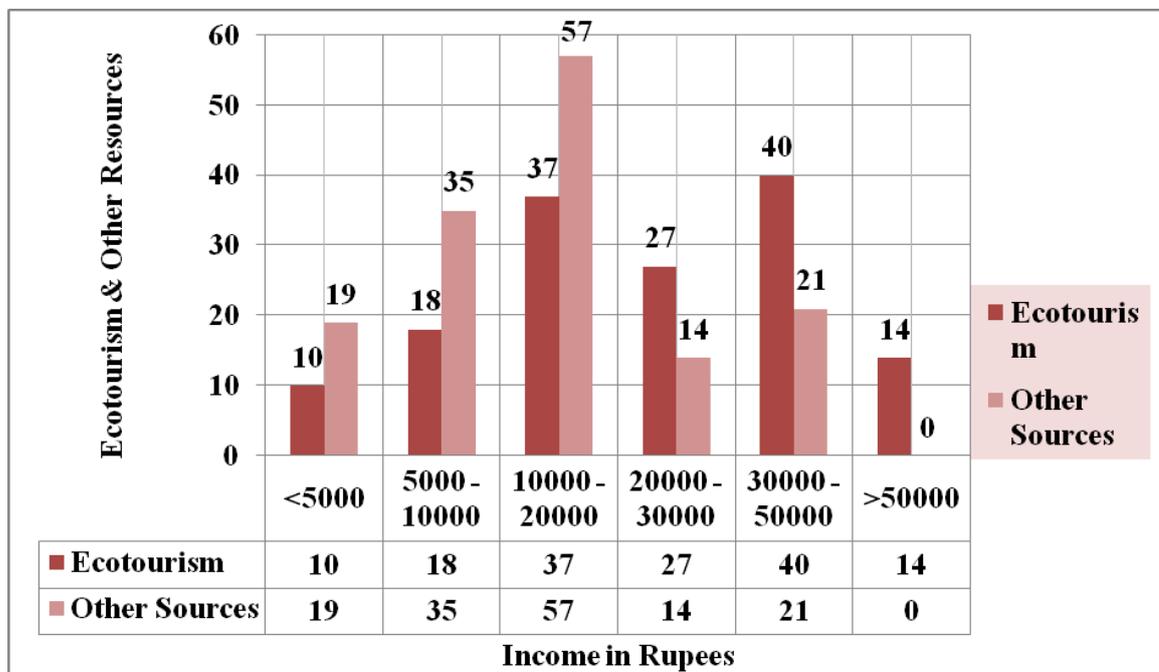
### 6.7. Income from ecotourism and other sources

After commencing into ecotourism, the income of the respondents has faced considerable increase. Almost majority of them have earned more than Rs.50000 which was four times more than the income earned previously.

The table 40 and figure 47 show the comparative income (approximate) from ecotourism and other sources. The data clearly show that income from ecotourism is on the higher side. No other sources provided an annual income of more than Rs. 50000.

**Table 40: Comparative income from ecotourism and other sources**

Income in Rupees	Ecotourism	%	Other Sources	%
<5000	10	6.8	19	13
5000 - 10000	18	12.3	35	24
10000 - 20000	37	25.3	57	39
20000 -30000	27	18.5	14	9.6
30000 -50000	40	27.4	21	14.4
>50000	14	9.6	0	0
Total	146	100	146	100

**Figure 46: Comparative income from Ecotourism and other Sources**

### 6.8. Comparative income per year before and after commencing Ecotourism

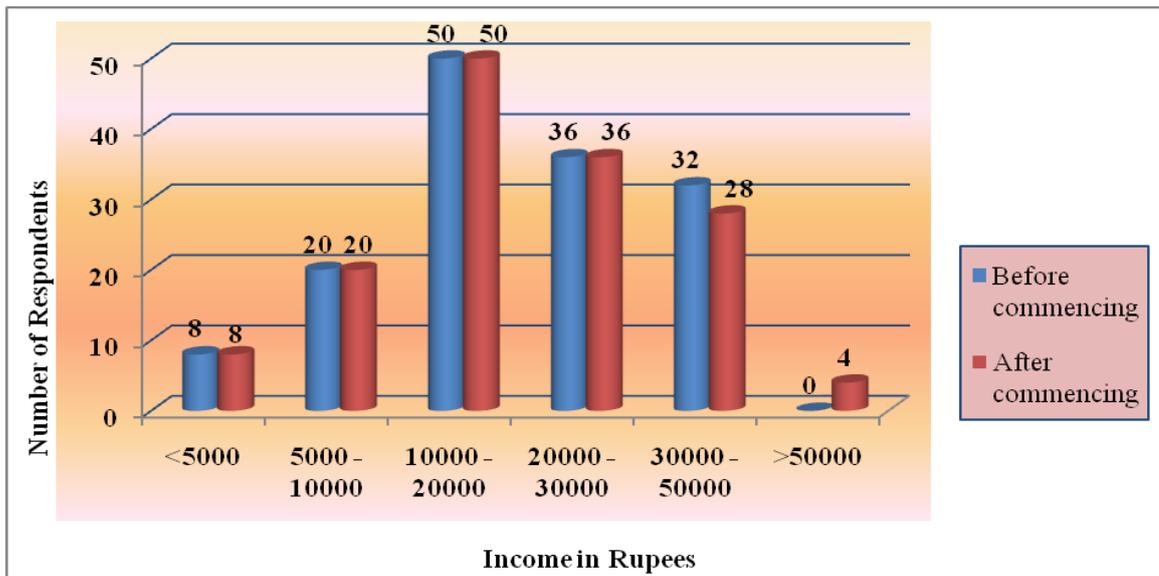
The table 41 and figure 48 show the comparative incomes per year before and after commencing ecotourism. There has not been a great difference in income earned respondents who fall under the income category Rs. < 5000 to Rs. 30000. But there has been an increase in income by the respondents who earned in the range of Rs.30000 to Rs. 50000, such that 4 respondents have started earning more than Rs. 50000. The

involvement in ecotourism activities has increased their income in a considerable manner.

**Table 41: Comparative income per year before and after commencing Ecotourism**

Income in Rupees	Before commencing	%	After commencing	%
<5000	8	5.5	8	5.5
5000 - 10000	20	13.7	20	13.7
10000 - 20000	50	34.2	50	34.2
20000 -30000	36	24.7	36	24.7
30000 -50000	32	21.9	28	19.2
>50000	0	0	4	2.7
Total	146	100	146	100

**Figure 47: Approximate income per year before and after commencing Ecotourism**



### 6.9. Domestic Amenities owned before and after Ecotourism

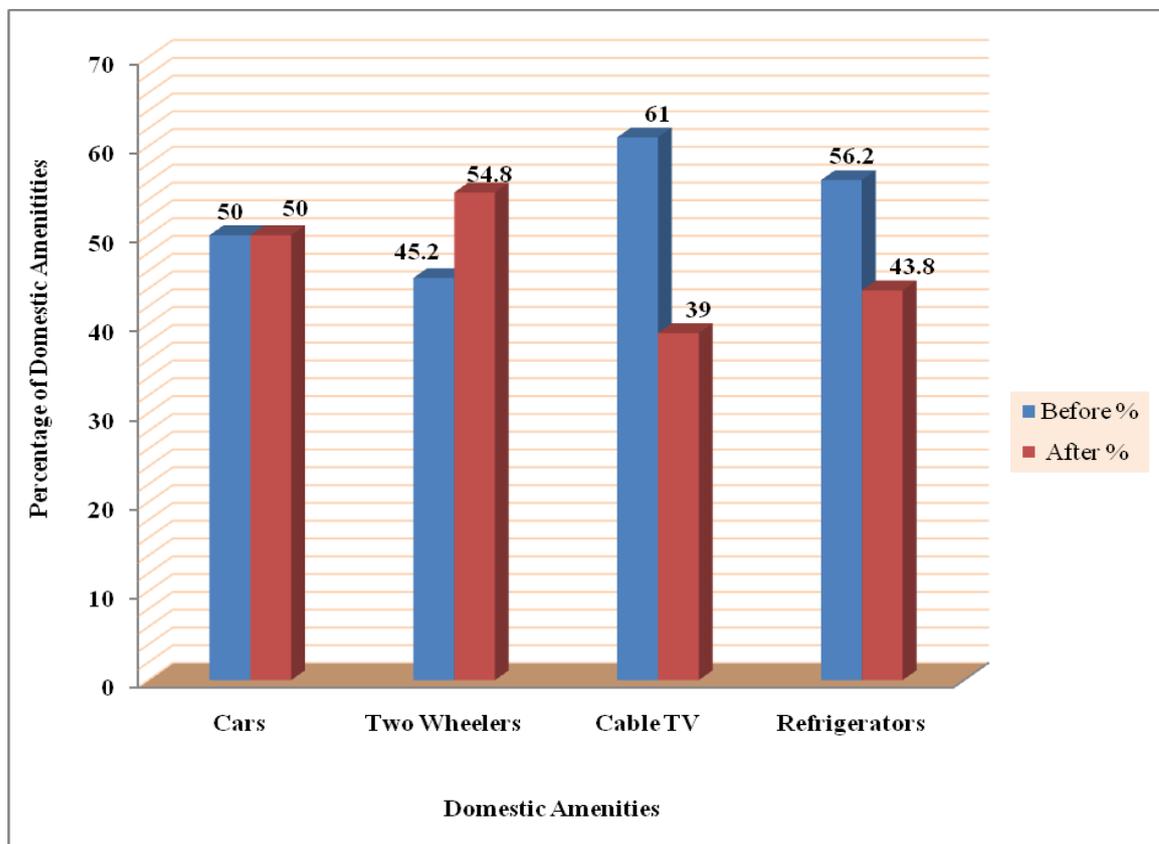
Table 42 and Figure 49 portrays the domestic amenities possessed by the respondents in both scenarios, i.e., before and after entering into ecotourism. The domestic amenities were Cars, Two Wheelers, Cable TV, Refrigerators. Out of 146 respondents, 73 respondents have possessed Cars already and whereas 73 respondents owned car after entering into eco-tourism. This fact validates that respondents possessed Cars have entered ecotourism to offer travel facilities such as Taxis or travel agencies in order to

improve their lifestyle. On considering Two Wheelers, it is witnessed that there has been an increase of 54.8% in the ownership of two wheelers. This shows that the lifestyle of few respondents has been improved after eco-tourism by owning a two wheelers. Almost majority of the respondents were sufficient enough with their living to own Cable TV and refrigerator and the rest of the respondents had possessed after entering into eco-tourism

**Table 42: Domestic Amenities owned before and after ecotourism**

Domestic Amenities	Before	%	After	%	Total	%
Cars	73	50	73	50	146	100
Two Wheelers	66	45.2	80	54.8	146	100
Cable TV	89	61	57	39	146	100
Refrigerators	82	56.2	64	43.8	146	100
Total	33	100	35	100	43	100

**Figure 48: Domestic Amenities owned before and after ecotourism**



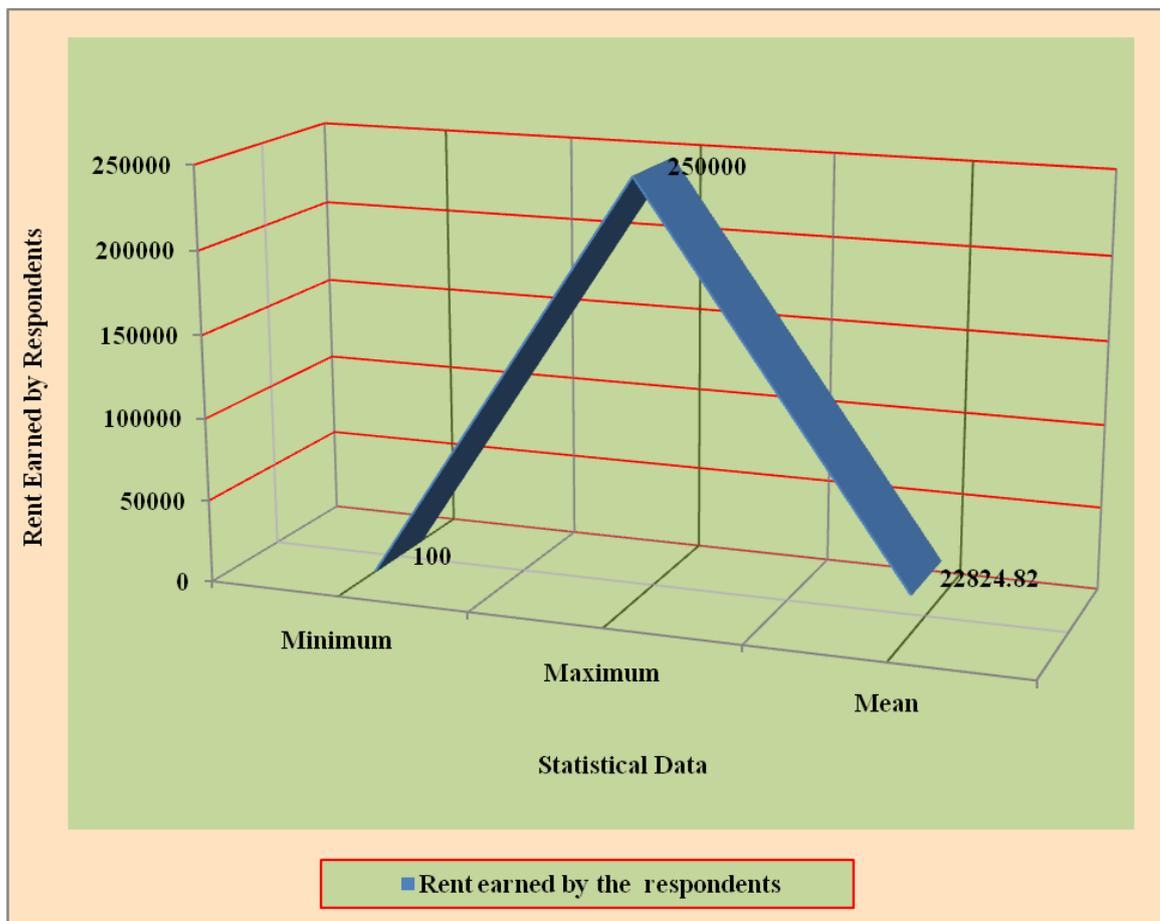
### 6.10. Statistics of Rent earned through Ecotourism

In the state of Sikkim, it is a common practice among the locals to give rooms in the house for rent. Since there is a regular inflow of tourists to this region, it gives the locals an opportunity to make earn some money. This also helps in compensating the income of the family. An average rent of Rs. 22824.82 was earned by 146 respondents (minimum Rs.100 and maximum Rs.2,50,000) is represented in table 43 and Figure 50.

*Table 43: Statistics*

	<b>Respondents</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
<b>Rent earned by the Respondents</b>	146	100	250000	22824.82

**Figure 49: Statistics**



### 6.11. Income from Tourism

In the state of Sikkim it is a common practice among the locals to give rooms in the house for rent. Since there is a regular inflow of tourists to this region, it gives the locals an opportunity to make earn some money. This also helps in compensating the income of the family. An average rent of Rs. 22824.82 was earned by 146 respondents (minimum Rs.100 and maximum Rs.2,50,000) is represented in table 44. Figure 51 portrays the same variation in tourism activities happening in four villages.

**Table 44: Income from Tourism**

	Village								Total	%
	Aritar	%	Darap	%	Kewzing	%	Yuksom	%		
<5000	1	3	3	8.6	3	7	3	8.6	10	6.8
5000-10000	5	15.2	4	11.4	0	0	9	25.7	18	12.3
10000-20000	9	27.3	4	11.4	15	34.9	9	25.7	37	25.3
20000-30000	9	27.3	2	5.7	12	27.9	4	11.4	27	18.5
30000-50000	8	24.2	16	45.7	12	27.9	4	11.4	40	27.4
>50000	1	3	6	17.1	1	2.3	6	17.1	14	9.6
<b>Total</b>	<b>33</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>43</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>146</b>	<b>100</b>

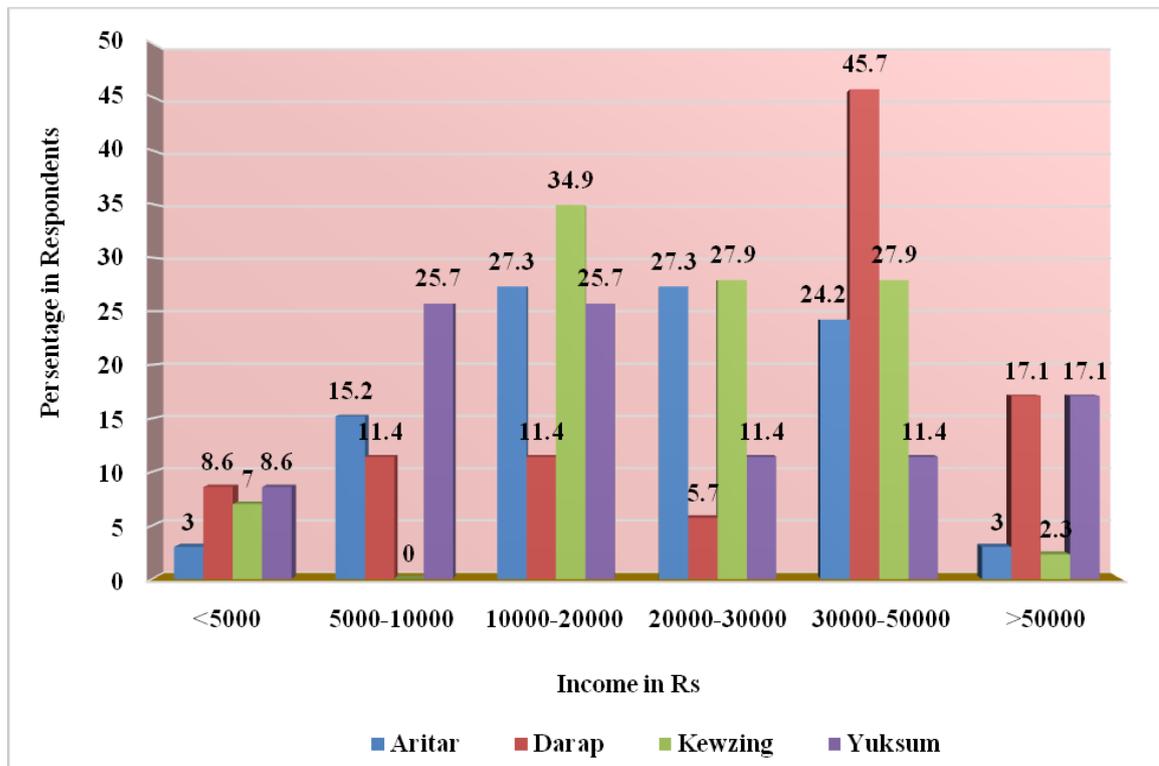
Table 44 demonstrates the village wise distribution of income per year earned by the respondents through tourism related activities. The various income ranges of the respondents were ranging from less than Rs. 5000 to more than Rs. 50000. Aritar has pristine environments and attracts much of the tourists and further it is considered to be the ultimate tourist destination in Sikkim. Majority of the respondents from Aritar village earned income of minimum Rs. 10000 to a maximum of more than Rs. 50000.

Though Darap Village is yet to be developed in terms of infrastructural facilities, the village environment is more congenial for ecotourism and the local people feel it prudent to earn from ecotourism related activities. Due to better offers of home stay facilities, majority of the respondents in Darap earned an income in the range of Rs. 30000 to Rs. 50000.

Kewzing village, a better recognized and developed village with all adequate tourist facilities offered better income through tourism to its respondents. The respondents' income range was from Rs. 10000 to Rs. 50000.

Yuksom with its wild life sanctuary park nearby is one of the most accessible villages in Sikkim. The income range of the respondents varied on a larger scale because of various sources of income. Though most of them offered home stay facilities, some also offered wild life park facilities and hence the range of income varied from Rs. 5000 to more than Rs. 50000.

**Figure 50: Income from Tourism**



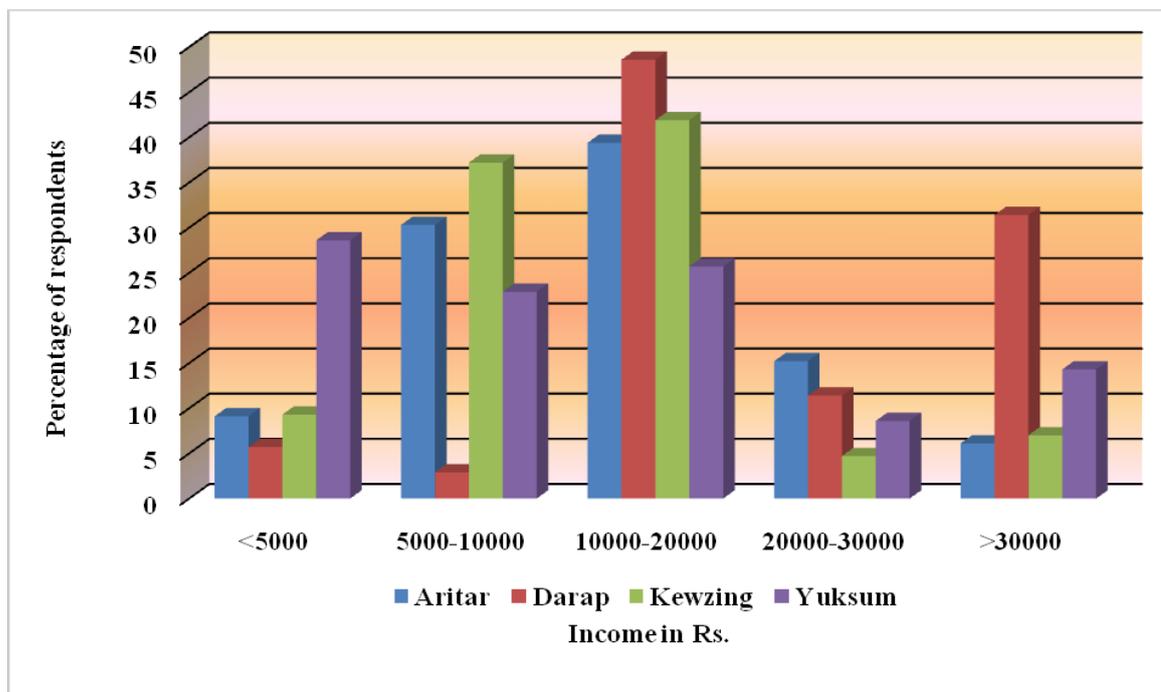
### 6.12. Village-wise income from other sources

Table 45 and figure 52 exhibit the village-wise distribution of income per year earned by the respondents through other occupations. The various incomes from other sources were ranging from less than Rs. 5000 to more than Rs. 30000.

**Table 45: Village-wise income from other sources**

	Village								Total	%
	Aritar	%	Darap	%	Kewzing	%	Yuksom	%		
<5000	3	9.1	2	5.7	4	9.3	10	28.6	19	13
5000-10000	10	30.3	1	2.9	16	37.2	8	22.9	35	24
10000-20000	13	39.4	17	48.6	18	41.9	9	25.7	57	39
20000-30000	5	15.2	4	11.4	2	4.7	3	8.6	14	9.6
>30000	2	6.1	11	31.4	3	7	5	14.3	21	14.4
Total	33	100	35	100	43	100	35	100	146	100

**Figure 51: Village-wise income from other sources**



Aritar village surrounded by lush green fields earlier had cattle rearing as the prominent occupation. Even now, it is a major occupation prevailing in that region. Majority of the respondents from Aritar village earned income of above Rs. 5000 to a maximum of Rs. 20000.

The major occupation of the people in Darap village was agriculture and poultry activities. Though it lacked infrastructural facilities, with its prime occupations competing with tourism, the average income excluding tourism ranged from Rs. 10000 to more than Rs. 30000.

Kewzing majorly offered tourism related activities and hence other occupations were less prominent; they included dairy products manufacturing, cattle rearing and little bit of agricultural activities. For the majority of the residents the income from other occupations ranged between Rs. 10000 to Rs. 20000, which was insufficient for living.

Yuksom with much of greenery and pristine environment had yak herding as the major occupation before tourism was initiated. The income earned through this occupation was small and ranged from less than Rs.5000 to Rs. 20000.

**Table 46: Village-wise income from other occupation**

Income	Village								Total	%
	Aritar	%	Darap	%	Kewzing	%	Yuksom	%		
<5000	2	6.1	0	0	4	9.3	2	5.7	8	5.5
5000-10000	8	24.2	5	14.3	3	7	4	11.4	20	13.7
10000-20000	20	60.6	5	14.3	25	58.1	0	0	50	34.2
20000-30000	2	6.1	20	57.1	10	23.3	4	11.4	36	24.7
30000-50000	1	3	4	11.4	0	0	23	65.7	28	19.2
>50000	0	0	1	2.9	1	2.3	2	5.7	4	2.7
Total	33	100	35	100	43	100	35	100	146	100

Table 46 shows village wise distribution of income earned by the respondents per year from other occupations. Out of 33 respondents selected from Aritar village, 20 (60.6%) respondents earned between Rs. 10000 to 20000, 8 (24.2%) respondents earned between Rs. 5000 to 10000, 2 (6.1%) respondents each earned less than Rs. 5000 and Rs. 20000 to 30000 respectively and 1 (3.0%) respondent who earned between Rs. 30000 to 50000.

Out of 35 respondents selected from Darap village, 20 (57.1%) respondents earned between Rs. 20000 to 30000, 5 (14.3%) respondents each earned between Rs. 5000 to 10000 and Rs.10000 to 20000 respectively, 4 (11.4%) respondents earned between Rs. 30000 to 50000 and 1 (3.0%) respondent earned more than 50000.

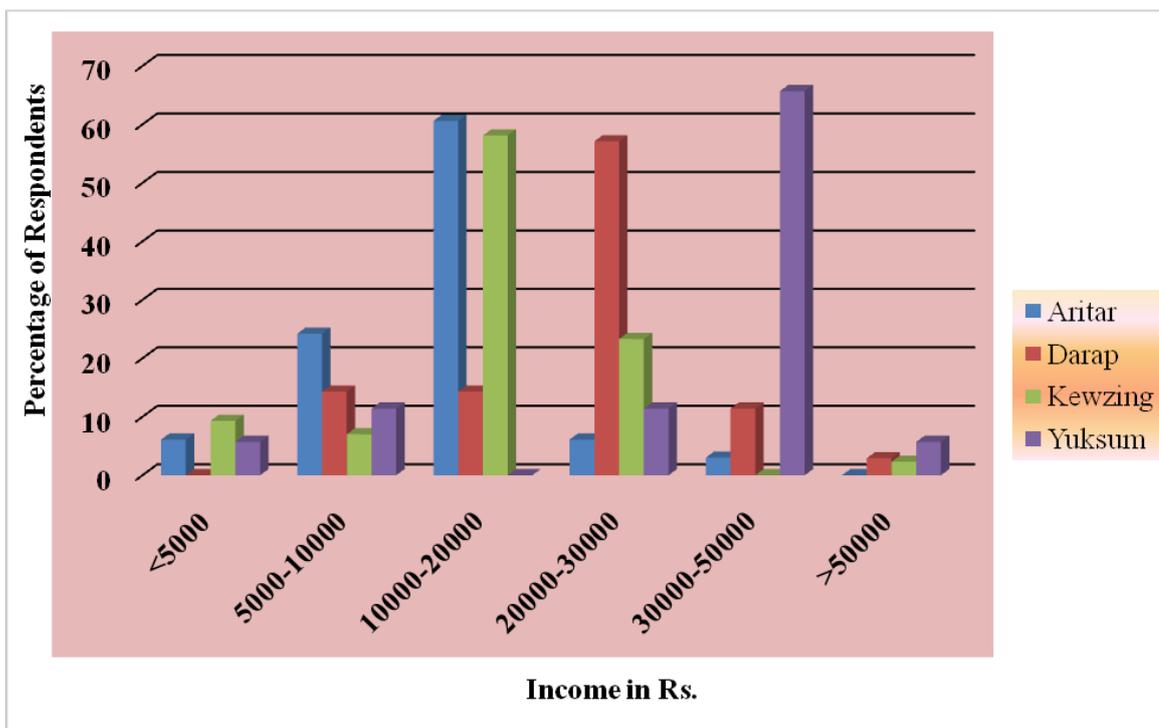
Out of the 43 respondents selected from Kewzing village majority 25 (58.1%) of the respondents stated that they earned between Rs. 10000 to 20000, while 10 (23.3%) respondents earned between Rs. 20000 to 30000. The income from other occupations for 4 (9.3%) respondents was less than Rs. 5000 and 3 (7.0%) respondents

earned between Rs. 5000 to Rs. 10000. Only 1 (2.3%) respondent earned more than Rs. 50000.

Out of 35 respondents selected from Yuksom village majority 23 (65.7%) of the respondents stated that they earned between Rs. 30000 to Rs. 50000 from other occupations. 4 (11.4%) respondents each earned between Rs. 5000 to 10000 and Rs.20000 to 30000 respectively and 2 (5.7%) respondents each earned less than Rs. 5000 and more than 50000 respectively.

Majority of the income earned by the respondents from all four villages are: Aritar village in the range of Rs. 10000 to Rs.20000; Darap Village in the range of Rs. 20000 to Rs. 30000; Kewzing village in the range of Rs. 10000 to Rs.20000 and Yuksom village in the range of Rs. 30000 to Rs. 50000. The highest village wise income from other occupations are earned by Yuksom village respondents because Yuksom village has the major occupations as Yak herding and farming on par with ecotourism activities, whereas Darap village competes with Yuksom village with wide agriculture and poultry businesses. Lesser income is witnessed from Aritar and Kewzing since they occupy themselves with cattle rearing as the major village wise occupation.

**Figure 52: Village-wise income from other occupation**



Aritar earns highest income through livestock since it handles large amount of livestock and their major income is earned through it. Comparatively respondents from Kewzing village earns more than Darap village. Yuksum village does not possess much of livestock, hence the income earned by respondents in Yuksum village is lesser than others.

**Table 47: Earning per month from live stock**

Income in Rupees	Village								Total	%
	Aritar	%	Darap	%	Kewzing	%	Yuksum	%		
<2000	3	9.4	15	42.9	19	46.3	21	65.6	58	41.4
2000-4000	1	3.1	3	8.6	5	12.2	5	15.6	14	10.0
4000-6000	10	31.3	6	17.1	3	7.3	0	0	19	13.6
6000-10000	8	25.0	6	17.1	9	22.0	3	9.4	26	18.6
>10000	10	31.3	5	14.3	5	12.2	3	9.4	23	16.4
Total	32	100	35	100	41	100	32	100	140	100

**Figure 53: Earning per month from live stock**

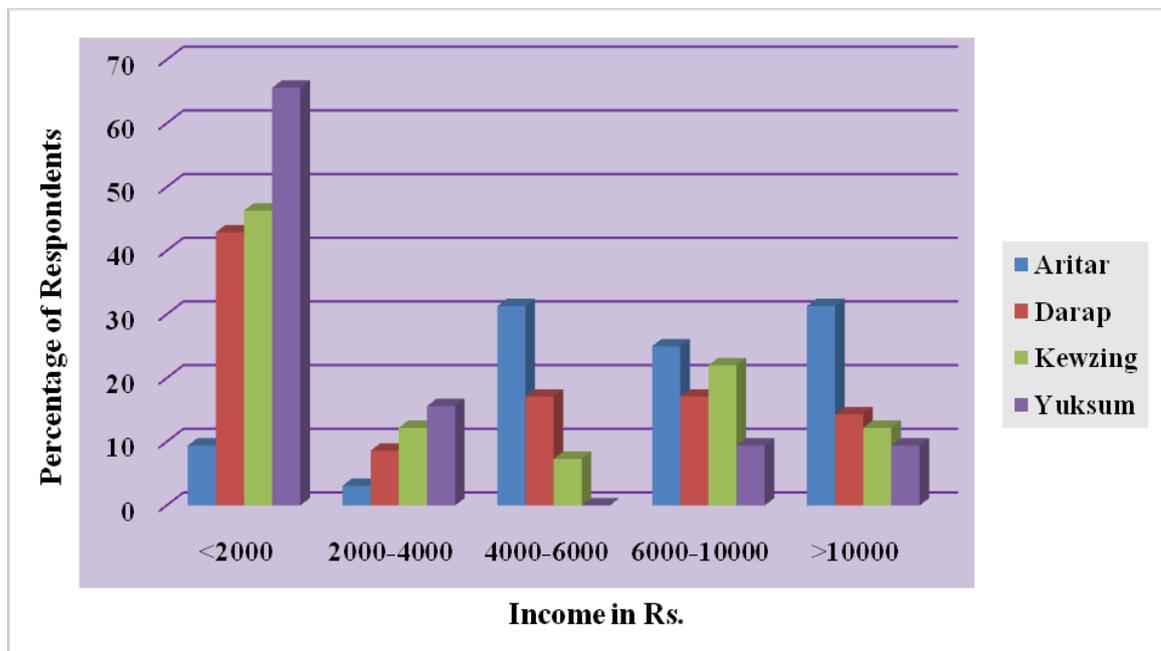


Table 47 depicts village wise distribution of earnings per month of the respondents from the livestock they have owned. Out of 32 respondents from Aritar village, 10 (31.3%) respondents each earned between Rs. 4000 to Rs. 6000 and more than Rs.

10000, 8 (25.0%) respondents earned between Rs. 6000 to Rs. 10000, 3 (9.4%) respondents earned less than Rs. 2000 and 1 (3.1%) respondent earned between Rs. 2000 to Rs. 4000 from their livestock.

In Darap village out of 35 respondents 15 (42.9%) respondents earned less than Rs. 2000, 6 (17.1%) respondents each earned between Rs. 4000 to Rs. 6000 and Rs. 6000 to Rs. 10000 respectively, 5 (14.3%) respondents earned more than Rs. 10000 and 3 (8.6%) respondents earned between Rs. 2000 to Rs. 4000 from their livestock.

In Kewzing village out of 41 respondents 19 (46.3%) respondents each earned less than Rs. 2000, 9 (22.0%) respondents earned between Rs. 6000 to Rs. 10000, 5 (12.2%) respondents each earned between Rs. 2000 to Rs. 4000 and more than Rs.10000 respectively and 3 (7.3%) respondents earned between Rs. 4000 to 6000 from their livestock.

In Yuksom village out of 32 respondents 21 (65.6%) respondents earned less than Rs. 2000, 5 (15.6%) respondents earned between Rs. 2000 to Rs. 4000, 3 (9.4%) respondents each earned between Rs. 6000 to Rs.10000 and more than Rs.10000 respectively from their livestock.

### 6.13. Own Tourism Facility

Information on the type of ecotourism service provided or activity engaged in was also collected to analyze which activities were popular among the people.

**Table 48: Own Tourism Facility**

Income	Village								Total	%
	Aritar	%	Darap	%	Kewzing	%	Yuksom	%		
Taxi	4	12.1	12	34.3	1	2.3	9	25.7	26	17.8
Pack Animal	6	18.2	0	0	6	14	5	14.3	17	11.6
Tent	0	0	3	8.6	2	4.7	3	8.6	8	5.5
Hotel	13	39.4	11	31.4	10	23.3	9	25.7	43	29.5
Restaurant	10	30.3	8	22.9	24	55.8	9	25.7	51	34.9
Other	0	0	1	2.9	0	0	0	0	1	0.7
Total	33	100	35	100	43	43	35	100	146	100

Table 48 shows village wise distribution of ecotourism facilities owned by the respondents. Out of 33 respondents from Aritar village, 13 (39.4%) respondents owned a hotel, 10 (30.3%) respondents owned a restaurant, 6 (18.2%) respondents owned pack animals and 4 (12.1%) respondents owned a taxi.

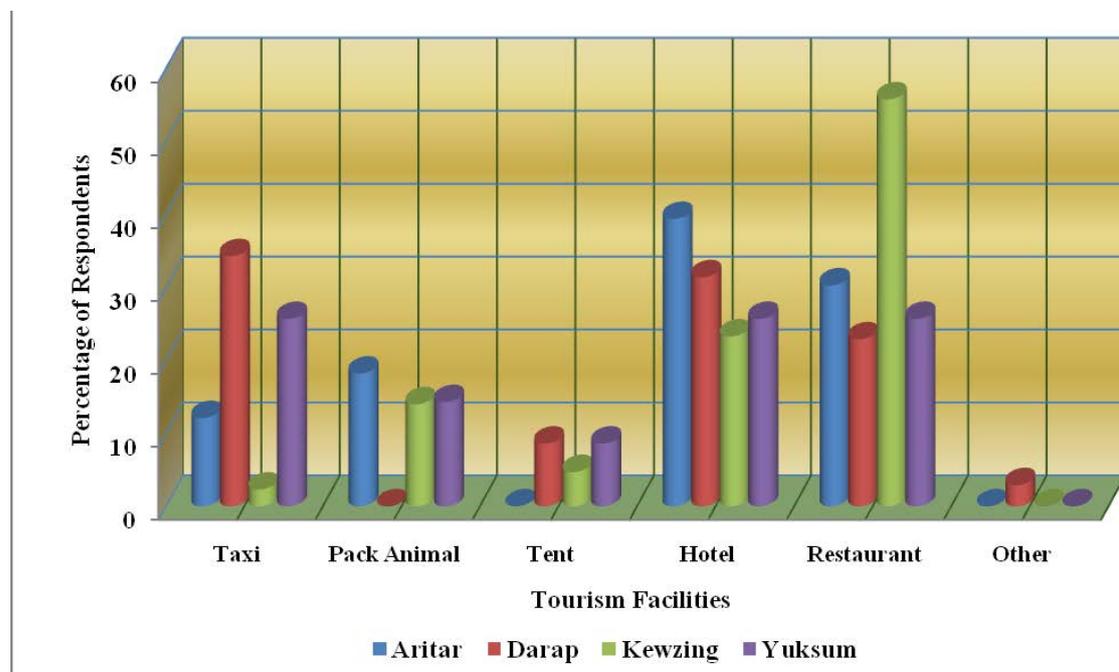
Out of 35 respondents from Darap village, 12 (34.3%) respondents owned a taxi, 11 (31.4%) respondents owned a hotel, 8 (22.9%) respondents owned a restaurant, 3 (8.6%) respondents owned a tent and 1 (2.9%) respondent owned other ecotourism facility.

Out of 43 respondents from Kewzing village, 24 (34.3%) respondents owned a restaurant, 10 (23.3%) respondents owned a hotel, 6 (14.0%) respondents owned pack animals, 2 (4.7%) respondents owned tents and one (2.3%) respondent owned a taxi.

Out of 35 respondents from Yuksom village, 9 (25.7%) respondents each owned taxies, hotels and restaurants respectively, 5 (14.3%) respondents owned pack animals and 3 (8.6%) respondents owned tents.

The statistics depict that majority of the respondents from Aritar and Kewzing village owned hotels and restaurants since Aritar and Kewzing has been well developed and has pristine environments to attract tourists than the other two villages. Whereas even Darap and Yuksum village respondents possess a considerable range of hotels and restaurant facilities

**Figure 54: Own Tourism Facility**



Among the socioeconomic indicators of well-being or economic development used was the possession of a car.

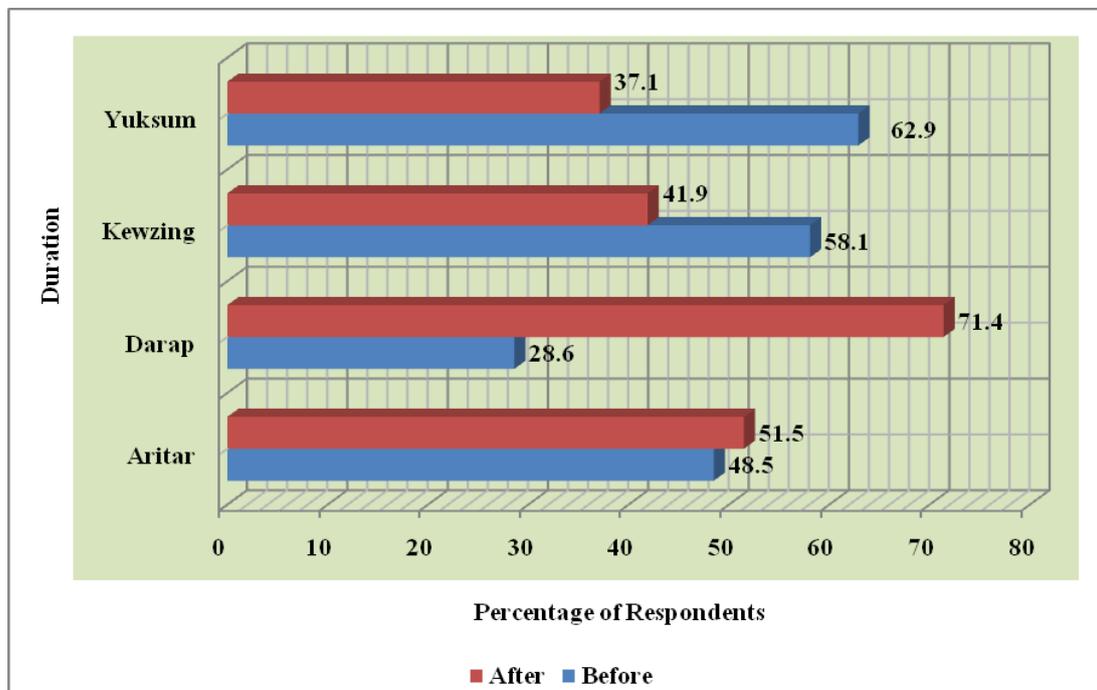
### 6.14. Purchase of Car

**Table 49: Purchase of Car**

Duration	Village								Total	%
	Aritar	%	Darap	%	Kewzing	%	Yuksom	%		
Before	16	48.5	10	28.6	25	58.1	22	62.9	73	50
After	17	51.5	25	71.4	18	41.9	13	37.1	73	50
Total	33	100	35	100	43	100	35	100	146	100

Table 49 shows village wise distribution of cars owned by the respondents before and after joining ecotourism. Out of 33 respondents from Aritar village, 16 (48.5%) respondents owned car before joining eco-tourism and 17 (51.5%) respondents purchased a car after joining eco-tourism. Out of 35 respondents from Darap village, 10 (28.6%) respondents owned a car before joining ecotourism and 25 (71.4%) respondents purchased a car after joining ecotourism. Out of 43 respondents from Kewzing village, 25 (58.1%) respondents owned a car before joining ecotourism and 18 (41.9%) respondents purchased a car after joining eco-tourism. Out of 35 respondents from Yuksom village, 22 (62.9%) respondents owned a car before joining eco-tourism and 13 (37.1%) respondents purchased a car after joining eco-tourism.

**Figure 55: Purchase of Car**



Though tourist activities improved economic status of people and many could afford to buy cars which helped them in tourism activities, usage of cars affected environment. Sikkim being an ecotourism and bio-diversity hotspot, the usage of cars may be detrimental to its ecology. The vehicles disturb animals in the forest and pollute pristine mountain atmosphere. Tourist vehicles usually try to capture the sight of animals at a minimum distance, but due to the usage of too many vehicles, the visibility of the animals decreased in the prominent animal habitats. The noise and smell produced by automobiles go against the golden rules of ecotourism. As is understood, ecotourism should aim to preserve environment and encourage the tourists to live within nature. Unlike mainstream tourism, ecotourism is meant to uphold environment-friendly practices. The number of vehicles present in a tourist region should be restricted and controlled to maintain ecological balance. In other words, purchase of car may be a symbol of prosperity earned through tourism, but they may not uphold the principles of ecotourism.

### **6.15. Purchase of Two Wheeler**

Another socioeconomic indicator of well-being or economic development used was the possession of a two wheeler.

Table 50 and Figure 57 shows village wise distribution of two wheelers owned by the respondents before and after they joined ecotourism. Out of 33 respondents from Artar village, 19 (57.6%) respondents owned a two wheeler before joining eco-tourism and 14 (42.4%) respondents had purchased a two wheeler after joining ecotourism. Out of 35 respondents from Darap village, 13 (37.1%) respondents owned a two wheeler before joining ecotourism and 22 (62.9%) respondents had purchased a two wheeler after joining ecotourism. Out of 43 respondents from Kewzing village, 10 (23.3%) respondents owned a two wheeler before joining ecotourism and 33(76.7%) respondents had purchased a two wheeler after joining ecotourism. Out of 35 respondents from Yuksum village 24 (68.6%) respondents had purchased a two wheeler before joining ecotourism and 11 (31.4%) respondents had purchased a two wheeler after joining ecotourism.

The increase in the usage of two wheelers has its contribution in polluting the natural beauty of Sikkim in recent years. Two wheelers help the mountain people

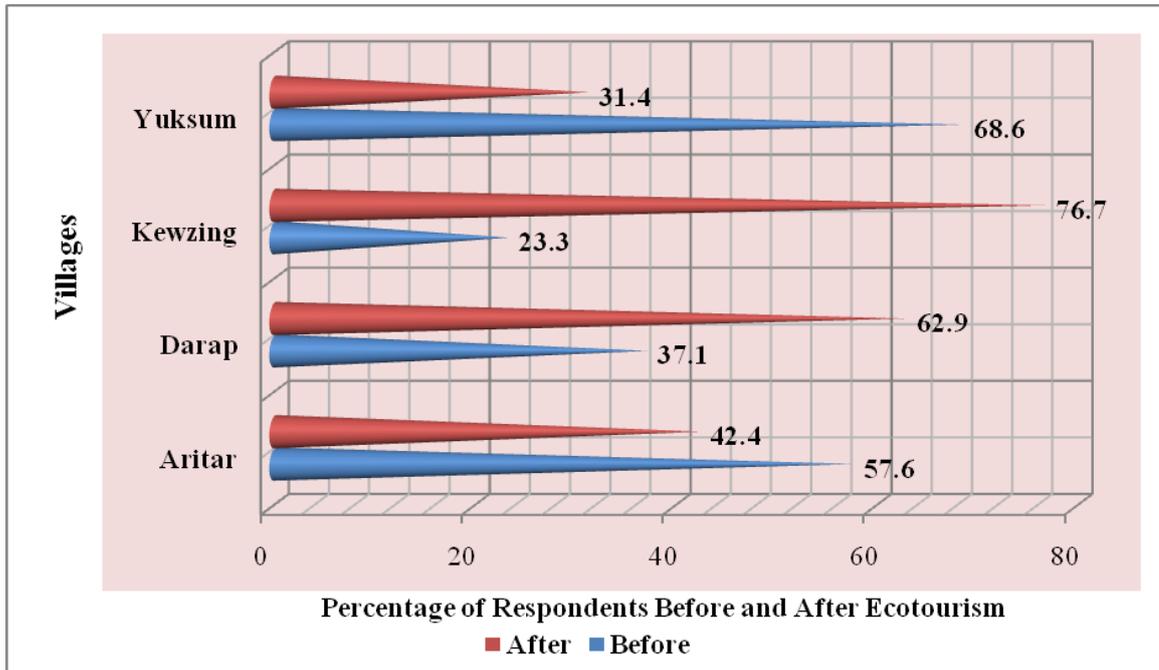
enormously in carrying out their day to day activities and travelling quickly and easily from their home to work. Though its beneficiary effects cannot be omitted, its disadvantages to the ecotourism activities should also be considered to maintain a pollution free environment.

**Table 50: Purchase of Two Wheeler**

Duration	Village								Total	%
	Aritar	%	Darap	%	Kewzing	%	Yuksom	%		
<b>Before</b>	19	57.6	13	37.1	10	23.3	24	68.6	66	45.2
<b>After</b>	14	42.4	22	62.9	33	76.7	11	31.4	80	54.8
<b>Total</b>	33	100	35	100	43	100	35	100	146	100

Table 50 shows village wise distribution of two wheelers owned by the respondents before and after they joined ecotourism. Out of 33 respondents from Aritar village, 19 (57.6%) respondents owned a two wheeler before joining eco-tourism and 14 (42.4%) respondents had purchased a two wheeler after joining ecotourism. Out of 35 respondents from Darap village, 13 (37.1%) respondents owned a two wheeler before joining ecotourism and 22 (62.9%) respondents had purchased a two wheeler after joining ecotourism. Out of 43 respondents from Kewzing village, 10 (23.3%) respondents owned a two wheeler before joining ecotourism and 33(76.7%) respondents had purchased a two wheeler after joining ecotourism. Out of 35 respondents from Yuksom village 24 (68.6%) respondents had purchased a two wheeler before joining ecotourism and 11 (31.4%) respondents had purchased a two wheeler after joining ecotourism.

**Figure 56: Purchase of Two Wheeler**



The increase in the usage of two wheelers has its contribution in polluting the natural beauty of Sikkim in recent years. Two wheelers help the mountain people enormously in carrying out their day to day activities and travelling quickly and easily from their home to work. Though its beneficiary effects cannot be omitted, its disadvantages to the ecotourism activities should also be considered to maintain a pollution free environment.

Another socioeconomic indicator of improvement of economic status used was the possession of cable TV.

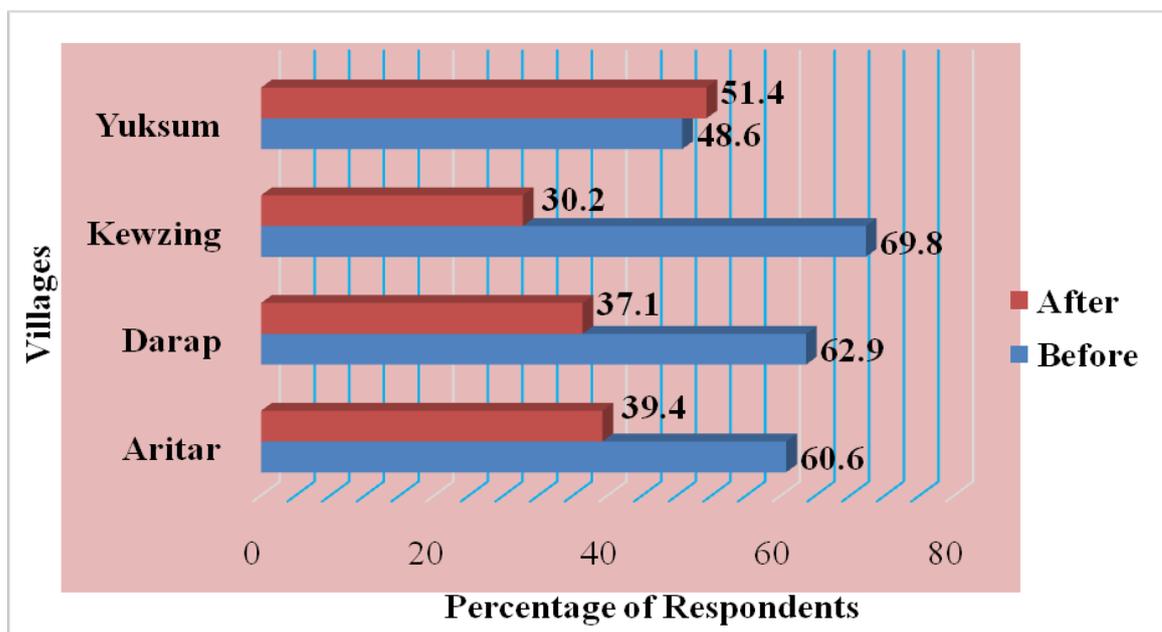
**Table 51: Purchase of Cable TV**

Duration	Village								Total	%
	Aritar	%	Darap	%	Kewzing	%	Yuksom	%		
Before	20	60.6	22	62.9	30	69.8	17	48.6	89	61.00
After	13	39.4	13	37.1	13	30.2	18	51.4	57	39.00
Total	33	100	35	100	43	100	35	100	146	100

Table 51 shows village wise distribution of cable TV connection owned by the respondents before and after they joined ecotourism. Out of 33 respondents from Aritar village, 20 (60.6%) respondents had Cable TV connection before joining ecotourism and 13 (39.4%) respondents obtained Cable TV connection after joining ecotourism. Out of 35 respondents from Darap village, 22 (62.9%) respondents had Cable TV connection before joining ecotourism and 13 (37.1%) respondents obtained Cable TV connection after joining ecotourism. Out of 43 respondents from Kewzing village, 30 (69.8%) respondents had Cable TV connection before joining ecotourism and 13 (30.2%) respondents obtained Cable TV connection after joining ecotourism. Out of 35 respondents from Yuksom village, 17 (48.6%) respondents had Cable TV connection before joining ecotourism and 18 (51.4%) respondents obtained Cable TV connection after joining ecotourism.

Use of Cable TV is essential to offer better infrastructural facilities to the tourists because majority of the tourist related activities are offering home stay. So after the tourist activities, the tourists will utilize their leisure time in watching TV. It helps tourists to get updated regarding the news happening around the world. TV is considered an essential gadget because of the lack of efficient mobile transmission networks to get updated regarding the latest news. Sikkim is currently taking steps to improve their mobile transmission networks.

**Figure 57: Purchased Cable TV**



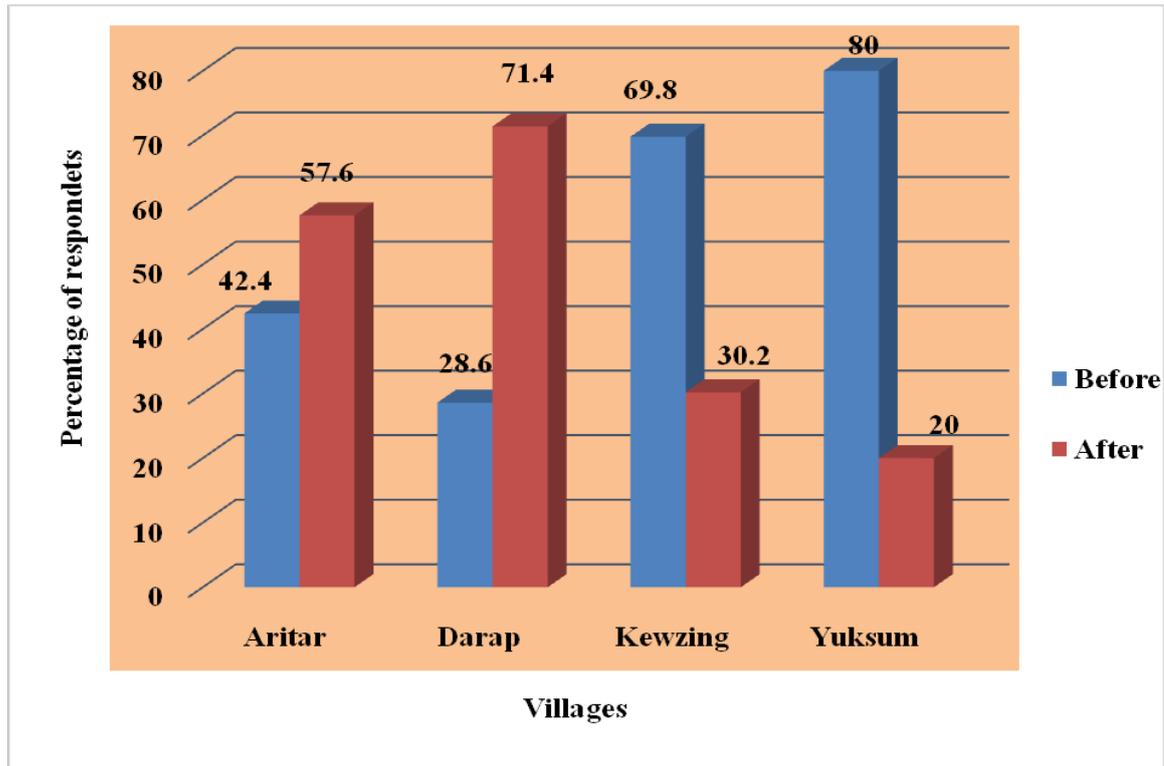
Another socioeconomic indicator of improvement of economic status used was the possession of refrigerators. This is especially important in the lower income bracket groups.

**Table 52: Purchase of Refrigerators**

Duration			Village							
	Aritar	%	Darap	%	Kewzing	%	Yuksom	%	Total	%
Before	14	42.4	10	28.6	30	69.8	28	80	82	56.2
After	19	57.6	25	71.4	13	30.2	7	20	64	43.8
Total	33	100	35	100	43	100	35	100	146	100

Table 52 illustrates village-wise distribution of refrigerators owned by the respondents before and after they joined ecotourism. Of the 33 respondents from Aritar village, 14 (42.4%) respondents had refrigerators before joining ecotourism while 19 (57.6%) respondents purchased refrigerators after joining ecotourism. Of the 35 respondents from Darap village, 10 (28.6%) respondents had a refrigerator before joining ecotourism and 25 (71.4%) respondents purchased a refrigerator afterwards. Out of 43 respondents from Kewzing village, 30 (69.8%) respondents already had refrigerators and rest 13 (30.2%) respondents purchased a refrigerator after joining ecotourism. Out of 35 respondents from Yuksom village, 28 (80.0%) respondents had a refrigerator before joining ecotourism and 7 (20.0%) respondents purchased refrigerators later. Refrigerators are essential for eco-tourist activities because majority of the respondents offer food and accommodation and also dairy related products manufactured locally.

Figure 58: Purchase of Refrigerators



### 6.16. Ownership of Land

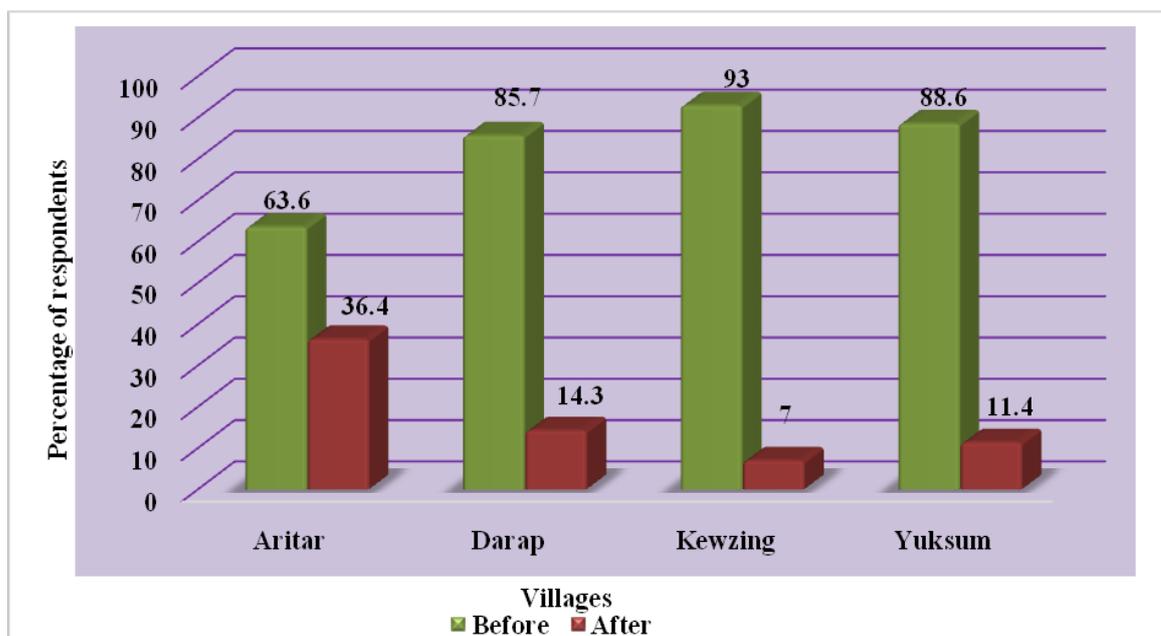
The landholding pattern of respondents and how they utilize the land for cultivation or other purpose is also used as an indicator of impact of ecotourism in economic development of communities.

Table 53: Ownership of cultivable land

Duration	Village								Total	%
	Aritar	%	Darap	%	Kewzing	%	Yuksom	%		
Before	21	63.6	30	85.7	40	93	31	88.6	122	83.6
After	12	36.4	5	14.3	3	7	4	11.4	24	16.4
Total	33	100		100	43	100	35	100	146	100

Table 53 depicts village wise distribution of cultivable land owned by the respondents before and after they joined ecotourism. Out of 33 respondents from Aritar village, 21 (63.6%) respondents had cultivated before joining ecotourism and 12 (36.4%) respondents started cultivation after joining ecotourism. Out of 35 respondents from Darap village, 30 (85.7%) respondents had cultivated before joining ecotourism and 5 (14.3%) respondents started cultivation after joining ecotourism. Out of 43 respondents from Kewzing village, 40 (93.0%) respondents had cultivated before joining ecotourism and 3 (7.0%) respondents started cultivation after joining ecotourism. Out of 35 respondents from Yuksom village, 31(88.6%) respondents had cultivated before joining eco-tourism and 4 (11.4%) respondents had started cultivation after joining eco-tourism.

Figure 59: Ownership of Cultivable Land



### 6.17. Land Holding

The study also tried to find out whether the size of land holding had a relationship to inclination for engaging in ecotourism and on the type of ecotourism activity engaged in.

Since Aritar village has much of pristine environments for tourist activities, respondents do not possess agricultural land for farming. Darap and Kewzing possess considerably increased land holdings than Aritar village since their dominant income generating occupation excluding eco-tourism is agriculture; whereas Yukusum possess least amount of agricultural land than all others since a wild life sanctuary park is placed in Yuksum village which occupies majority of the landscape.

**Table 54: Land Holding**

Size of Land in Acres	Village								Total	%
	Aritar	%	Darap	%	Kewzing	%	Yuksom	%		
<2	12	36.4	7	20	16	37.2	15	42.9	50	34.2
2-4	14	42.4	5	14.3	11	25.6	5	14.3	35	24.0
4-6	1	3.0	14	40.0	12	27.9	7	20.0	34	23.3
6-10	5	15.2	1	2.9	2	4.7	2	5.7	10	6.8
>10	1	3.0	8	22.9	2	4.7	6	17.1	17	11.6
Total	33	100	35	100	43	100	35	100	146	100

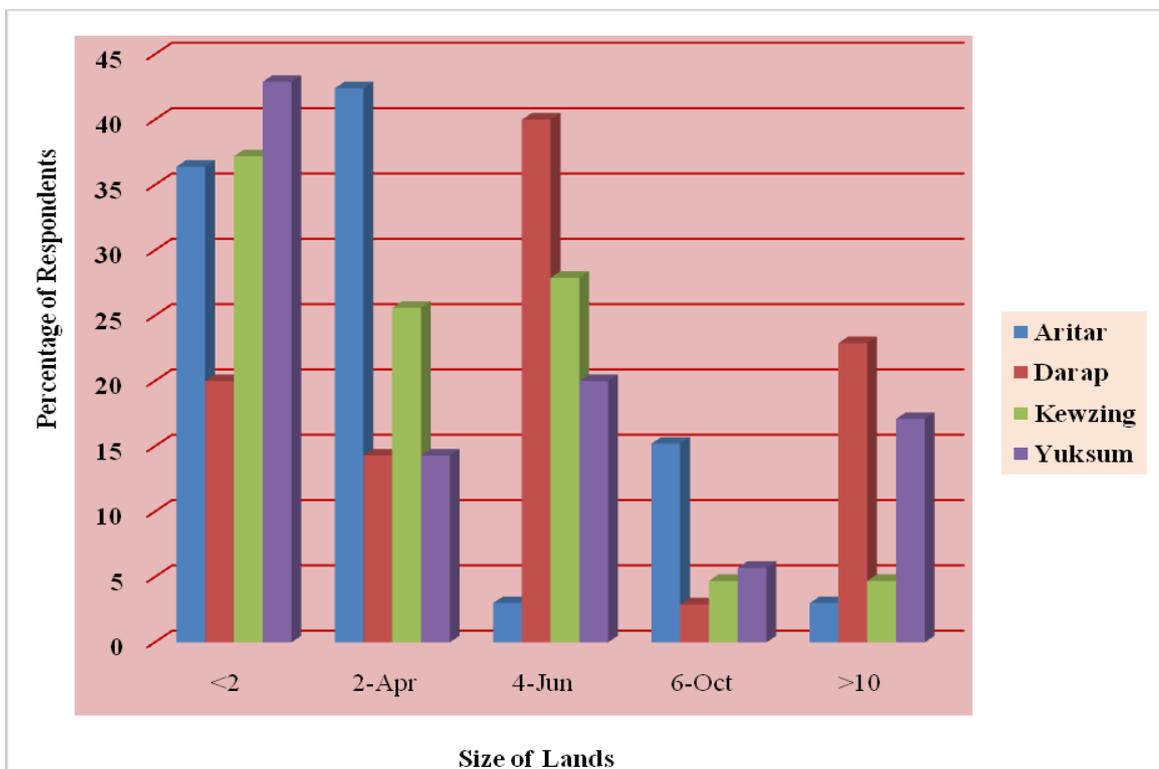
Table 54 depicts village wise distribution of land holdings of 146 respondents. Out of 33 respondents from Aritar village, 12 (36.4%) respondents owned less than 2 acres, 14 (42.4%) respondents owned 2 to 4 acres, 1 (3.0%) respondent owned between 4 to 6 acres, 5 (15.2%) respondents owned between 6 to 10 acres and only 1 (3.0%) respondent owned more than 10 acres respectively.

Out of 35 respondents from Darap village, 7 (20.0%) respondents owned less than 2 acres, 5 (14.3%) respondents owned 2 to 4 acres, 14 (40.0%) respondents owned 4 to 6 acres, 1 (2.9%) respondent owned 6 to 10 acres and 8 (22.9%) respondents owned more than 10 acres.

Out of 43 respondents from Kewzing village, 16 (37.2%) respondents owned less than 2 acres, 11 (25.6%) respondents owned 2 to 4 acres, 12 (27.9%) respondents owned 4 to 6 acres, and 2 (4.7%) respondents each owned 6 to 10 and more than 10 acres respectively.

Out of 35 respondents from Yuksom village, 15 (42.9%) respondents owned less than 2 acres, 5 (14.3%) respondents owned 2 to 4 acres, 7 (20.0%) respondents owned 4 to 6 acres, 2 (5.7%) respondents owned 6 to 10 acres and 6 (17.1%) respondents owned more than 10 acres of land.

**Figure 60: Land Holding**



### 6.18. Conclusion

From the above study it can be significantly concluded that ecotourism initiatives have made a tremendous impact in the lives of people situated in the four case study areas in Sikkim viz., Aritar, Kewzing, Darap and Yuksom. Not only has ecotourism opened new avenues for people from these regions who had no big source of income earlier, it has also supplemented the income of people who were involved in traditional occupations like farming, cattle rearing etc. Ecotourism has helped many respondents

to earn a decent livelihood. One noticeable feature is that, many people who did not own cultivable land before are now owners of their own land for cultivation. They could produce and offer home-grown food to their valued guests living in their home stays.

Moreover, with the advent of ecotourism people from these four villages were able to enhance their lifestyles wherein, people were able to afford various luxury items like automobiles, purchase refrigerators and other modern home appliances, avail cable TV services, provide better education for their children etc. In addition to augmenting their incomes and enhancing their lifestyles, people from these regions became more aware about the environment and understood the need for environmental conservation. On the whole, ecotourism has had a largely positive impact on people from these villages.