



Role Of Transportation In Tourism Industry In Sikkim State, India

Praveen Rizal

Ph.D Research Scholar, Department of Economics, Annamalai University,
Annamalai Nagar, Tamil Nadu, India

R. Asokan

Assistant Professor, Economics Wing, DDE, Annamalai University,
Annamalai Nagar, Tamil Nadu, India

Abstract:

The purpose of this paper is to examine the role of transportation in development of tourism industry in Sikkim state, India. Further, this study analyses the tourist inflow and the means of tourism transport in Sikkim state. This study is based on secondary data. Data have been taken from the Tourism Department and Transport department, Government of Sikkim. Simple percentage and multi-average growth rate have been used to have a comparative study of tourists' inflows and increasing taxis in Sikkim. Further, Pearson correlation has been used to test the hypothesis. It is found that the taxis are used as a means of tourism transport in Sikkim. The number of registered tourists' transport is increasing every year in Sikkim along with the inflows of tourists in the state but not in same rate. It was observed that an average annual growth percentage rate of tourists' inflow is 12.76 percent and for taxis is 4.67 percent. The paper is limited to the study of road-transport and tourism in Sikkim. Since, taxis are the main mode of tourist transport, only the total number of taxis and its average annual growth rate is compared with the average growth rate of tourists in Sikkim. The percentage rate of increase in taxis should increase equally to percentage increase in tourists inflows to meet the demand of tourism transport in the future. To meet the increasing demand of tourism transport, Government and stakeholders should give more focus on the improvement of tourism transport in state.

Keywords: Transportation, tourism transport, road transport, taxis, Sikkim

1.Introduction And Background

Travel and tourism involves the movement of people from their place of residence to a tourist place and, in consequences, the relation between transport and tourism development is a vital area of tourism studies (Bhatia, 2004). In tourism sector, transportation plays an important 'flow' function in the tourism value chain. It links tourists at their origin with appealing stocks of environmental and cultural assets at the destination (Jennifer Reilly et al. 2010). Kaul (1985) pointed out that the role of the transportation network as an essential component of successful tourism development and states that "transport plays an important role in the successful creation and development of new attractions as well as the health growth of existing ones." Transport activities are essential for tourism because they provide the link between generating and destination regions and the ability for tourists to move around the latter. Road transport is vital to the economic development and social integration of the country (Oscar Saenz-de-Miera et. al., 2012). Transport sector accounted for a share of 6.6 per cent in India's Gross Domestic Product (GDP) in 2008-09 and road transport is the dominant mode of transport with a share of 4.8 percent in GDP (Transport research wing, Ministry of Road Transport and Highways, Government of India, 2011).

As far as Sikkim state is concerned, Transportation is dominated by the road transport. Since it is one of the Himalayan states, the other means of transportations are insignificant. Sikkim has developed more in tourism sector and attracting more tourists from various Part of the world. As a result, the inflow of tourist to Sikkim is increasing every year. The tourism in Sikkim is totally depended on the roadways as a means of transport within the state. The numbers of vehicle, especially the means of tourist transport is also increasing every year. With the increasing inflow of tourist and the expected growth in tourist inflow, the numbers of vehicles, especially public transport and other tourist vehicles, is expected to increase to meet the demand of increasing tourist in the future. On the other hand the demand of tourism stimulated the rapid development of transportation. In the view of present perspectives, the study examines the role of transportation in tourism industry in Sikkim state and has a comparative study between the inflows of tourists and the means of tourist transport in Sikkim state.

2.Objectives

- To examine the role of transportation in tourism industry in Sikkim state.
- To analyse tourists' inflow and tourism transport in Sikkim state.

3.Hypothesis

- The hypothesis is framed to test the correlation/association between the inflows of tourists and numbers of registered taxis in Sikkim.
- Null Hypothesis: There is no association between the inflows of tourists and total numbers of registered taxis in Sikkim state.
- Alternative Hypothesis: There is association between the inflows of tourists and total numbers of registered taxis.

4.Methodology

4.1.Data And Sources

The present study is conducted on the tourists' inflow and means of tourism transport in Sikkim state. The study is based on secondary data which have been collected from the Tourism Department of Government of Sikkim, Department of Statistics, evaluation and monitoring, Transport department, and various others organization. The present paper covers the five years of study form 2006 to 2010.

4.2.Statistical Methods Used

Simple percentage and multi average annual growth rate has been used to have a comparative study of tourists' inflows and increasing taxis in Sikkim. Further, Pearson correlation has been used to examine the comparative study between the inflows of tourists and number of registered taxis in Sikkim. The average annaul growth percentage rate of tourist and registered taxis has been taken with the help of the following multi-year growth rate percentage formula.

Average annaul Growth percentage rate = [(value at end of period - value at beginning of period)/value at beginning of period] * 100.

Later, the value obtained is again divided by total number of years.

5.Limitations Of The Study

The present paper is limited to the study of tourists' inflow and the total number of registered taxi, both motor and maxi caps, as a means of tourism transport, in Sikkim state. Since, the means of transportation is Roadways in Sikkim where taxis are the main dominant mode of transportation as a tourist transport in Sikkim, only the total number of taxis and its average annual growth rate has been compared with the average annual growth rate of tourists in Sikkim state in the study.

6.Results And Discussion

6.1.Discussion On The Role Of Transportation In Tourism Industry In Sikkim

The importance of transportation for tourism is as equal as the importance of water for navigation. We cannot even think about the tourism industry without the transportation system. It is the sector which gives needed boost to the tourism industry. Transportation links the various destinations and ferries people, goods, and services. Tourism is all about travel; and the role of transportation in its operation is vital. It is largely due to the improvement of transportation that tourism has expanded (Sorupia, 2005). In many tourism studies, the relationship between transport and tourism is defined in terms of accessibility; that is, transport is seen as a link between tourist generating regions and tourism destination regions (Prideaux, 2000). Kaul (1985) stated that the role of transport system as an essential component of successful tourism development and stated that "transport plays an important role in the successful creation and development of new attractions as well as the healthy growth of existing ones. Provision of suitable transport has transformed dead centers of tourist interest into active and prosperous places attracting multitudes of people". Transport plays a big part of the tourist equation. In fact the transport system is responsible for connecting tourism generating regions to tourism destination regions and providing transport within the tourism destination (to attraction, hotels, shopping etc). A destination should be easy to get to and easy to get around, particularly if the country is geographically dispersed (Seetanah, 2006).

Sikkim is hilly region, situated in Himalayas with a total area of 7096 Square kilometers the road transport is the prime means of transport. Road (National Highway-31A) is the National Highway which is linked Sikkim and others neighboring state. Sikkim have total road network of; State Highways: 186 kilometers, Major District Highways: 442 kilometers, Other District Highways: 1104 kilometers. Road transport is vital for

transport of goods and people across the region of Sikkim state. It is a key factor to social, regional and economic development, and the development of rural areas in the state. Road transport by bus or cars provides regular direct route services for short and medium distance. Although, the road transport is a main means of transport, landslides are the major constraints. Landslides, because of heavy rain in hilly region, results in seasonality of tourism which is dominated by the Road transport. Car is the most perfect means for providing door-to-door service providing views of the landscape and a means of transporting recreational equipment (Sharma, 2004). Within Sikkim, the efficient mode of transport is road transport and it is vital for the movement of tourists. The movement of tourists within the tourist's destinations of Sikkim is especially done with the help of taxis i.e. both motor caps and maxi caps, in large extent. With the increasing inflow of tourist to Sikkim the impacts has been increasing accordingly. It is providing income and employment to the local people and a means of livelihood in the state. With the inflows of tourist the demand of tourist transport also increases in the state. The increasing trend of tourist in Sikkim results in the increase in demand for vehicle to meet the future demand of tourist transport.

6.2. Discussion On The Tourists' Inflows And Tourism Transport In Sikkim State

The inflow of tourists in Sikkim is outstanding and increasing every year. The table 1 shows that the inflow of tourists is increasing per year.

Year	Domestic	Foreign	Total
2006	421943	18049	439992
2007	465204	17837	483041
2008	512373	21162	533535
2009	615628	17730	633358
2010	700011	20757	720768

Table 1: Tourist inflow in Sikkim from 2006-10 (in numbers)

Source: Tourism Department, Government of Sikkim, 2011

A study of the table 1 shows that the flow of tourists in Sikkim is increasing every year. Tourist's inflow increased from 439992 in the year 2006 to 720768 in the year 2010. If compare the tourists inflow, as per the types of tourist, the increase in domestic tourists was from 421943 (2006) to 700011 (2010). Similarly, the flow of foreign tourists was

recorded as 18049 in 2006 and it increased to 21162 in 2008. But in the year 2009, the flow of foreign tourists decreased to 17730 was because of natural, and social- political disappointments like landslides and Socio-political condition of neighboring states. Again it increased to 20757 in the year 2010.

As per the tourism transportation is concerned, the main mode of tourism transport in Sikkim is road transport through taxis. Since, taxis are basically used as a tourist transport within Sikkim, the table 2 explains about the total number of registered taxis in Sikkim in past five years from 2006 to 2010.

Sl. No.	Year	Taxis		Total
		Motor caps	Maxi caps	
1	2006	2770*	3282*	6052*
2	2007	2997*	3502*	6499*
3	2008	3216*	3592*	6745*
4	2009	3507*	3601*	7180*
5	2010	3687#	3780#	7467#

Table 2: Total number of registered taxis in Sikkim (2006-2010)

*Source: * Road Transport Year Book (2007- 09), Ministry of Road Transport and Highway, Government of India, 2011*

Motor Vehicle Division, Transport Department, Government of Sikkim, 2012

The table 2 shows that the total numbers of registered taxis in Sikkim is increasing every year. For tourism transport, both motor caps and maxi caps are used. It is clear from the table that the increase in motor caps is higher than the increase in the maxi caps. It increased from 2770 in the year 2006 to 3687 in the year 2010. And for maxi cap, it increased from 3282 in the year 2006 to 3780 in the year 2010. From here, we can conclude that the motor caps are now frequently used as a mean of transport for tourist as well as for public. Further, their demand is increasing in tourism transport. Since rate of increase in motor cap is 6.62 percent which is much higher than that of 3.03 percent for maxi caps.

7. Testing Of Hypothesis

To find the correlation, we have applied Pearson correlation (r), to test the hypothesis. As per the statistical test, Pearson correlation coefficient $r = .93$, $p = .023$. It indicates that, the correlation between the tourists' inflows and total numbers of registered taxis in Sikkim is statistically significant at 5 percent level ($p < 0.05$). Thus we can reject the Null hypothesis of no associations between the inflows of tourists and total numbers of

registered taxis in Sikkim and state that, there is an association between the inflow of tourists and numbers of registered taxis. From the above, we can conclude that there is a positive correlation between the tourists' inflows and numbers of taxis in Sikkim.

8. Discussion On The Demand Of Tourism Transport In Sikkim

In Sikkim too, the road transport have a big role to play in tourism industry. The increasing inflow of tourist also increases the demand for tourism transport. The basic reason of tourism transportation's generation lies in the demand of tourism. And we know, tourism demand is a kind of high-level demand instead of the basic demand (Yang Shanshan et al, 2003). The creation of demand for transport is by Tourists. They provide the necessity to travel. Demand is only created when one wants to move from one area to the other and hence local residents cannot create it (Gui, 2009). Form the economic point of view, with the increase in the vehicle, as forecasted; the employment opportunity will increase for the local people. The effect of this transportation expansion, because of more demand of tourism transport, will fall positively on the tourism sector. Expansion in transport sector and innovation on global tourism trends has led to the growth of tourism and improvements of the infrastructures. Tourists have the tendency of touring the areas that have better infrastructure and good services. Some of the effects are faster access to the destinations and better services (Gui, 2009).

The table 3 explains that increasing inflow of tourists the demand for transportation is increasing too. And the rate of increase in the tourist's inflow is much more than that of increase in the rate of vehicle, especially taxis, in Sikkim. It is clear from the table that the rate of increase in vehicle is much less than increases in the inflow of tourist in Sikkim.

Table 3 clearly explains that in the year 2006 the inflow of tourists in Sikkim was 439992 and 6052 total numbers of registered taxis within Sikkim. In the year 2007 it was 483041 (tourists) and 6499 (taxis). In 2008, it was 533535 for tourists and 6745 for taxis. It was 633358 for numbers of tourists and 7180 numbers of registered taxis. As on 2010, tourists' number was 720768 with taxis total numbers of taxis 7467. The inflow of tourists increased from 439992 (2006) to 720768 (2010). Similarly, the total numbers of taxis increased from 6052 (2006) to 7467 (2010). It can be observed from the figure 1 that both tourists' inflow and the total numbers of registered taxis in Sikkim are increasing every year.

Sl. No	Year	Tourists' inflow		Total Number of registered taxis	
		(in numbers)	(%)	(in numbers)	(%)
1	2006	439992*	15.65	6052#	17.83
2	2007	483041*	17.19	6499#	19.15
3	2008	533535*	18.98	6745#	19.87
4	2009	633358*	22.53	7180#	21.15
5	2010	720768*	25.65	7467**	22

Table 3: Tourist's inflow and total number of taxis in Sikkim

Source: * Tourism Department, Government of Sikkim, 2012

** Road Transport Year Book (2007- 09), Ministry of Road Transport and Highway, Government of India.

Motor Vehicle Division, Transport Department, Government of Sikkim, 2012

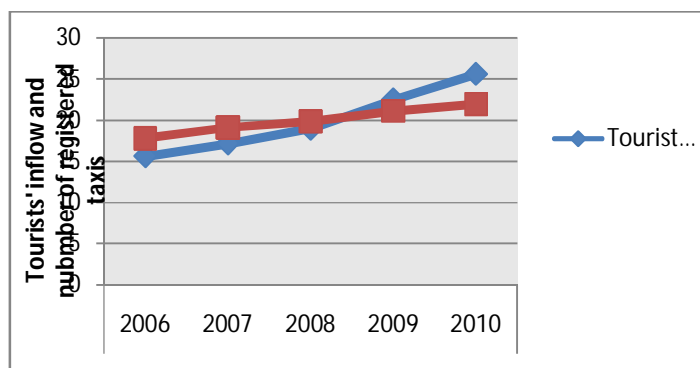


Figure 1: Tourist inflow trend and total number of registered taxis in Sikkim 2006-10

(%)

Above Figure 1 shows that the increase in inflow of tourists is higher as compare to the total number of registered taxis in Sikkim state. As in figure 2 the growth of registered taxis is higher then inflows of tourist from year 2006 to 2008. After 2008 till 2010 the inflow of tourist is higher then the increase in numbers of taxis. The study also revealed that the average annual growth rate of tourist in Sikkim much higher then that of an average annual growth percentage rate of Taxis. It is observed that an average annual growth percentage rate of tourist's inflow in Sikkim state is 12.76 % whereas, the numbers of registered taxis of only 4.67%.

The percentage rate of increase in taxis should equal to the percentage increase in the rate of tourists in Sikkim. It is to meet the tourist demand in the future. The demand of tourism transport therefore very necessary for the economic benefit of tourism to the

local. Otherwise, since tourist hire taxis and vehicle from other neighbouring state, the leakages problems will arise. To check the leakages the numbers of tourist transport system should increase along with the increasing inflow of tourists in Sikkim.

9. Conclusion

Transport is the one of the main factor promoting the growth of tourism in Sikkim state. Among different modes of transport, road transport plays an important role in hilly regions of Sikkim with mountain and slopes. Taxis i.e. both motor caps and maxi caps, are the dominant modes of tourists transport. With the inflows of tourist the numbers of taxis are also increasing but not equally to the increasing rate of inflows of tourists to Sikkim. To meet the future demand of tourism transport, the numbers of tourists' vehicle should be increase parallel to the tourist inflow. To enhance the tourism industry in Sikkim the growth of tourism has inspired transport. Therefore, the growth and improvement of tourism transport is very necessary for the economic benefit of tourism to the local people. Though it have some negative impact on the environment with the increase in numbers of vehicles but the income and employment to outsiders through tourism and transport much check, otherwise, since tourist might hire taxis and vehicle from other neighbouring state, the leakages problems will arise. To check this leakages the numbers of tourist transport system should increase along with the increasing inflow of tourists in Sikkim. To meet the tourism transport demand of the increasing inflow of tourists in Sikkim, Government, along with all the stakeholders, should give focus on the improvement of means of transportation and should seek for various alternatives.

Although, both the transportation and tourism have many issues related to environment and affected by many factors in the Sikkim state, their improvement is highly important for the industries. However, the demand for transport, especially tourism transport, increase with the increasing inflow of tourists, the impact of transport is equally fall on the environment, for which further research is needed in this particular area.

10. Acknowledgement

The authors acknowledge the Department of Economics, Annamalai University. We, further, thank Dr. D. Murgan, Assistant Professor of Department of Economics, Annamalai University for his suggestion and generous support throughout the work that helped to sharpen the discussion and retrieve it from details of study.

11.Reference

1. Bhatia, A.K (2004), International tourism management, revised edition, Sterling Publishers Private Limited, New Delhi.
2. Bruce Prideaux (2000), The role of the transport system in destination development, *Tourism Management*, Vol. 21, pp. 53-63.
3. Eden Sorupia (2005), Rethinking The Role Of Transportation In Tourism, *Proceedings of the Eastern Asia Society for Transportation Studies*, Vol. 5, pp. 1767 – 1777.
4. George A. Morgan, N. L. Leech, G. W. Gloeckner, K. C. Barrett (2004), *SPSS for Introductory Statistics: Use and interpretation*, Second edition, Lawrence Erlbaum Associates, Publishers, Mahwah, New Jersey, London.
5. Government of India (2011), Road transport year book - 2007-2009, Volume –I, Transport research wing, Ministry of Road Transport and Highways, New Delhi. March.
6. Government of Sikkim (2007), Annual Report - 2006-07, Department of Transportation (Motor Vehicle Division), Gangtok, Sikkim.
7. Gui, L (2009), *Transport and Tourism: Developing Gateways as Tourist Destinations*. Publisher LAP Lambert, 2009.
8. Jennifer Reilly, Peter Williams, and Wolfgang Haider (2010), Moving towards more eco-efficient tourist transportation to a resort destination: The case of Whistler, British Columbia, *Research in Transportation Economics*, Vol. 26, pp. 66–73.
9. Kaul, R. N (1985), *Dynamics of tourism: A trilogy*, New Delhi: Transportation and Marketing, Vol. 111, pp. 496, 1985.
10. Kothari, C. R (2004), *Research Methodology Methods and techniques*. Second revised edition. New Age International (P) Limited, Publisher.
11. Krishan, K. K (1997), *Tourism: Theory, Planning and Practice*, Indus Publishing Company, New Delhi.
12. Lama, M. P (2008), *Sikkim Development Report-2008*, Planning Commission, Government of India, Acedemic Foundation, New Delhi, India.
13. Oscar Saenz-de-Miera, and Rossello, J (2012), “The responsibility of tourism in traffic congestion and hyper-congestion: A case study from Mallorca, Spain”. *Tourism Management*, Vol. 33, pp. 466-479.

14. Seetanah, B (2006), Transport Capital as a Determinant of Tourism Development: A Time Series Approach, *Tourisms, An International Multidisciplinary Journal of Tourism*, Volume 1, pp. 55-73.
15. Sharma, S. P. (2004), *Tourism Education: Principles, Theories and Practices*, Kanisha Publisher, Distributers.
16. Yang Shanshan, LU Huapu, and JIAO Pengpeng (2003), Study on Models and Algorithms of Tourism Demand and Environmental Capacity, *Proceedings of the Eastern Asia Society for Transportation Studies*, Vol. 4, pp. 929-941, October.