

Tourist penetration rate and index of tourism intensity in Kerala

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Abstract

Tourism occupies a vital role in the Kerala's economy and it became the most important event with immense worldwide recognition. The impacts created by tourism upon the destinations are different. As a result it is important to measure the penetration rate and index of tourism intensity to measure the varying impact of tourism upon the destinations. While the growth of tourism intensity index indicates the increase in number of temporary visitors comparing to the size of local population, while the tourist penetration rate quantifies the average number of tourist per thousand inhabitants in a destination at any one point in time. This allows for the classification of districts according to the resulting index, and to calibrate their position in the set of tourist destinations. This can be very useful for the application of economic policies aimed at correcting externalities that are generated in the advanced development of mass tourism. Thus, the purpose of this paper is to determine the penetration rate and index of intensity of tourism from 1991 to 2018. The relevance of this paper stems from the fact that penetration and index of tourism intensity in Kerala are different among the districts.

Key words: destinations, tourist penetration rate, tourism intensity, tourist arrival.

Introduction

Tourism creates different types of impact upon the regional economies where it is located. The impact created by tourism is also different in different regional economies based on the number of tourist arrivals, length of stay etc. The growth and trend of tourist arrival and tourism earnings illustrates the nature and contribution of tourism in general. But it is varied according to the region. This spatial difference in the impact of tourism is measured by using the Index of Tourism Intensity and Tourist Penetration rate. While the growth of tourism intensity index indicates the increase in number of temporary visitors comparing to the size of local population, while the tourist penetration rate quantifies the average number of tourist per thousand inhabitants in a destination at any one point in time. This allows for the classification of districts according to the resulting index, and to calibrate their position in the set of tourist destinations.

1) Tourist Penetration Rate

This rate quantifies the average number of Tourist per thousand inhabitants in the country at any one point in time (day) (Caribbean Tourism Organization). That is the tourist penetration rate gives the number of tourists for every 1000 inhabitants at any point of time. So this is an indicator of crowding and helps to measure the carrying capacity of a tourist destination.

$$\text{Tourist Penetration Rate} = \frac{(\text{Number of Visitors} \times \text{Average length of Stay})}{(\text{Midyear Population} \times 365)} \times 1000$$

Tourist penetration rate of Kerala is calculated from 2011 onwards because of the lack of availability of data for the previous periods. Here the penetration rate for foreign and domestic tourists is calculated separately because the average length of stay of foreign and domestics are varied. In Kerala the average length of stay of foreign tourists is 16 days since 2011. In the same way the average length of stay of domestic tourists are six days since 2011. District wise tourist penetration rate is shown separately in table 1 (foreign tourists) and table 2 (domestic tourists).

Table 1: District wise Tourist Foreign Penetration Rate of Kerala from 2011 to 2018

Districts	2011	2012	2013	2014	2015	2016	2017	2018
Thiruvananthapuram	2.98	3.21	3.55	3.82	4.08	5.02	5.51	5.70
Kollam	0.15	0.17	0.19	0.21	0.23	0.14	0.10	0.15
Pathanamthitta	0.04	0.05	0.05	0.05	0.06	0.06	0.07	0.08
Alappuzha	0.95	1.04	1.14	1.24	1.31	1.60	1.54	1.69
Kottayam	0.83	0.91	0.91	0.98	1.11	1.10	0.72	0.97
Idukki	2.21	2.48	2.74	3.10	3.35	2.02	1.70	2.25
Ernakulam	4.11	4.38	4.64	4.89	4.99	5.25	5.84	5.91
Thrissur	0.07	0.08	0.09	0.10	0.11	0.14	0.15	0.16
Palakkad	0.02	0.02	0.03	0.03	0.03	0.04	0.03	0.03
Malappuram	0.20	0.20	0.21	0.22	0.24	0.20	0.18	0.20
Kozhikode	0.14	0.15	0.15	0.16	0.17	0.17	0.18	0.19
Wayanad	0.41	0.51	0.58	0.62	0.65	0.37	0.47	0.51
Kannur	0.10	0.11	0.12	0.13	0.15	0.09	0.09	0.10
Kasaragod	0.07	0.07	0.08	0.08	0.10	0.06	0.04	0.06
State	0.96	1.03	1.11	1.19	1.26	1.32	1.39	1.47

Source: Compiled by the Researcher

The table 1 indicates that the number of foreign tourists per thousand Keralites is on increasing trend. In 2015 there are 1.26 foreign tourists per thousand local people in Kerala and it increased into 1.47 in 2018. In the case of foreign tourists penetration rate Ernakulam (5.91) and Thiruvananthapuram (5.70) shows the highest rate and Palakkad shows the lowest (0.10). The table 2 indicates that the number of domestic tourists per thousand Keralites is on increasing trend. In 2011 there are 4.61 domestic tourists per thousand local people in Kerala and it increased into 7.20 in 2018. In the case of domestic tourists penetration rate Ernakulam (16.59) and Wayanad (16.35) shows the highest rate and Malappuram shows the lowest (1.97).

Thus the differences in the tourist penetration rate are affected by the institutional set ups in the state. The important activities of these institutional set ups are catalysing private investment, strengthening promotional activities, marketing activities and training manpower resources. That is different agencies under the state government in Kerala, plays a crucial role in coordinating and supplementing efforts of the state government to enhance the tourist arrivals to the state. The major institutional set ups for the tourism promotion in Kerala is Department of Tourism

Table 2: District wise Tourist Domestic Penetration Rate of Kerala from 2011 to 2018

Districts	2011	2012	2013	2014	2015	2016	2017	2018
Thiruvananthapuram	6.41	6.99	7.71	8.44	9.18	9.95	5.51	12.29
Kollam	1.31	1.38	1.47	1.60	1.72	1.85	0.10	2.29
Pathanamthitta	1.22	1.34	1.43	1.56	1.75	1.89	0.07	2.31
Alappuzha	1.54	1.63	1.73	1.89	2.08	2.42	1.54	3.13
Kottayam	2.79	2.95	3.18	3.43	3.80	3.96	0.72	4.28
Idukki	7.53	8.26	8.75	9.50	10.01	11.34	1.70	15.12
Ernakulam	10.84	11.68	12.58	13.38	14.15	14.75	5.84	16.59
Thrissur	10.84	11.58	12.31	13.18	13.70	13.80	0.15	14.68
Palakkad	2.24	2.34	2.53	2.72	2.85	2.86	0.03	2.98
Malappuram	1.47	1.53	1.63	1.73	1.78	1.73	0.18	1.97
Kozhikode	3.46	3.62	3.82	4.01	4.19	4.48	0.18	4.91
Wayanad	9.06	0.10	10.33	11.17	11.96	11.39	0.47	16.35

Kannur	3.17	3.35	3.57	3.75	3.91	3.98	0.09	4.49
Kasaragod	2.24	2.33	2.43	2.58	2.93	3.35	0.04	3.47
State	4.61	4.93	5.28	5.66	6.01	6.26	1.39	7.20

Source: Compiled by the Researcher

1.1) Department of Tourism in Kerala

In Kerala, the Department of Tourism is functioning under the Ministry of Tourism. This department is considered as an independent department and field agency. It is the responsibility of the department to perform as a facilitator between various agencies involved in the development of tourism, coordinate different activities and take care of different aspects related to tourism in Kerala. The State Guest Department of the former Travancore Department was renamed as Tourist Department and Department of Tourism in 1989. It is the first tourism department in the country which registered under the Government of India at Registrar of Trade Marks. Today the department has the functions of hospitality wing of the State Government, estate office duty and tourism development. Hospitality wing of the State Government provides accommodation and transport to state guests, caters to the needs of the VVIPs and VIPs of the state, maintains 24 guest houses and two Kerala houses of the state and owns and operates a fleet of cars for providing transport to the guest of the state. Estate office duty of the Department of Tourism is responsible for providing furnished residential bungalows and transportation to Ministers, Leader of opposition, Chief Whip and Speaker. The functions of tourism department includes marketing and promotion, planning and development, development and support to other agencies and undertakes various measures such as media advertisements, printing and distribution of multicolour brochures, hospitality to travel writers, conducting festivals, participating in national and international fairs and festivals for marketing and promoting tourism. Department of Tourism is now responsible for identifying and developing new destinations and various schemes for the development of tourism in the state (Department of Tourism, Kerala, 1999 and 2000). The department has offices in all the districts of the state. By providing concessions and incentives government is encouraging private investors in the tourism sector. For the face to face interaction with those who wish to invest in this sector, a Tourism Guidance Cell was opened in June 1998. The key objectives of the department are framing policy (for promoting fair and open competition, drawing international support to augment expertise in developing Kerala tourism, strengthening institutional capacity to implement and enforce policies and supporting a transparent and inclusive policy process), infrastructure (focusing on the core and linkage infrastructure and investing in strategically focused capacity to support development priorities), tourism services (including increasing technical skills, building a critical mass of tourism workers, strengthening community entrepreneurial skills and augmenting managerial capacity to build a service sector sensitive to tourists and tourism), marketing (providing demand-driven information, collaborating on international and regional platforms to create a highly visible platform for the state, building a brand, competing at a global level, emphasizing quality assurances) and product development (by creating new products (Kerala Tourism Department has developed more than 14 different products), creating enabling investment environment, promoting partnerships to ensure the flow of funds into the tourism sector, leveraging core strengths, focusing on sustainable development to offer products of international quality, building USP and stimulating demand.

Department undertakes hospitality to travel writers, media advertisement, conducting festivals, printing and distribution of multicolour brochures and participating in national and international fairs and festivals to highlight Kerala as a tourist destination. So all the innovative marketing strategies implemented by the department have made Kerala tourism as a global brand. As a result in order to maintain the global brand image of the state tourism and to permit diffusion of benefits directly to the local people a Tourism Advisory Committee has been formed in the state. The members of the committee are from government officials, private officials, academic

institutions and famous journalists. Now the department is operating 24 guest houses in different districts, Yatri Nivas at Trivandrum and Ernakulam and Kerala house at Kanyakumari and New Delhi. The major organisations, departments and organisations under the department for the development of tourism in the state includes Kerala Tourism Development Corporation (KTDC), District Tourism Promotion Councils (DTPC), Tourism Resorts (Kerala) Limited (TRKL), Bekal Resorts Development Corporation (BRDC), Kerala Institute of Travel and Tourism Studies (KITTS), Thenmala Eco-Tourism Society and Kerala Institute of Hospitality Management (KIHMS). The detailed explanations of these institutions are incorporated as:

1.1.1) Kerala Tourism Development Corporation

KTDC is a commercial agency under the Government of Kerala. It was formed in 1966 and became a separate commercial entity by the 1970s. Its main responsibility is to provide accommodation and transportation facilities to the tourists visiting Kerala. For that, it operates resorts, hotels and tourist rest houses in the key locations of the state. It offers different tour packages like back water houseboat holidays, Ayurvedic rejuvenation programmes and leaves travel concession tours. It also undertakes promotion and publicity of the state tourism to a limited extent. It is funded by the state government (sole share holder), institutional loans and central government assistance. The other financial resources of the corporation include institutional finance, assistance from the government of India and internal resources of the corporation. The objectives of KTDC are:

- To promote Kerala as a leading tourist destination
- To provide auxiliary support in developing key tourist destinations
- To act as one-source destination for various information regarding tourist destinations and other related information
- To identify key tourist destinations within Kerala and promote it outside
- To provide highest quality hospitality services to tourists
- To ensure higher returns to government, through financial and social viable projects, and thereby provide employment

KTDC owns more than 40 properties including heritage five-star resorts (Bolgatty Island Resort, Mascot Hotel and Lake Palace), specialty range hotels (Marina House, Bolgatty Island Resort, Aranya Nivas, Waterscapes, Samudra, Tea Country and Susan Lake Resort), three-star "value plus" range hotels across five districts of Kerala, Tamarind Easy a series of 15 budget hotels, Aaram (motels), Events Hub (Bolgatty Events Center and GV Raja international Convention Center, and Take a Break. Take a Break is the most recent endeavour from the part of KTDC. TAB is a multi utility booth including refreshment center, information center with ATM facility, souvenir shop, pharmacy, rest rooms and cloak room. It is a public private partnership program, i.e., KTDC is assisting the private individuals having these facilities. Presently they own 8 classified hotels, 7 budget hotels, 13 motels, 13 Yatri Nivas and Tamarind Hotels, 20 Restaurants and Beer parlour, four Restaurants and four Boat Clubs (Economic Review, 2011).

1.1.2) District Tourism Promotion Councils

DTPCs are also for the promotion of tourism in all the districts. It functions under the Department of Tourism, district collectors as chairman and comprises selected people's representatives and officials as members to deal with the improvement of less branded tourist centres within the districts. It is a new attempt to the implementation and functioning of small and medium size tourism projects at district levels. DTPCs undertake children's festivals, tourism week celebrations, tourism day celebrations, food festivals and such other programmes at the district level to highlight Kerala as a tourist destination. The levels of sanitation in tourist destination are monitored and supervised by the DTPCs. Also it undertakes the development of tourism clubs, home stay scheme, the creation of awareness of facilities and services in their

specific area, development of local basic infrastructure and dissemination of tourism specific information.

1.1.3) Tourist Resort (Kerala) Limited (TRKL)

It is a public sector organisation for the mobilisation of the private sector investments and institutional finance. It was formed on August 16, 1986 to develop tourism infrastructure and to promote tourism infrastructure in the state. In 1989 it was separated from KTDC and became an independent company. In association with Taj groups it has four hotels in Ernakulam, Thekkady, Kumarakom and Varkala. To make land available at tourist destinations it has also started a Land Bank project. The other attainments of TRKL include the formation of consultancy cell for tourism development, investment development at tourism Sector and conducting of Investors Meet. The Government of Kerala reconstituted TRKL as Kerala Tourism Infrastructure and Investment Company Limited for the widening of its activities. The TRKL's activities can be broadly divided into

- **Joint Venture Partnership**
Under this, the company is developing public-private partnership projects for the development of tourism infrastructure. Example, Taj Kerala Hotels and Resorts, Urban entertainment centre at Veli, Trivandrum etc.
- **PPP Venture**
Under this, the company is doing development of tourism projects by utilizing idle land owned by the Government in locations having tourism potential on the PPP model. Example, Veli Urban Entertainment Center with an amusement park, recreational hub and cultural museum, the company partnered with mega International Convention Center at Akkulam in Trivandrum along with Raheja Group.
- **Government Projects**
 - Sarovaram Bio Park- Kozhikode
 - Thalassery Circuit
 - Thali Temple Conservation Project- Kozhikode
- **SAPARYA(Synergizing Actions through Participatory Approach)**
It is for the developing community based tourist projects. It would deal with the problems of degeneration of culture and heritage, unregulated development, inadequate local benefits, increasing environmental impact and social perception among common people towards tourism. In this ecologically sustainable community, initiatives are developing with the investment of communities and TRKL. The pilot projects are implemented in Kottayam, Kannur (Meenkunnu Beach, Thalassery region), Pathanamthitta (Aranmula, Konni region) and Kasaragod (Bekal, Valiyaparamba region). It also creates linkages with the different sectors of traditional industry, agriculture, people and lifestyle fisheries and heritage.

1.1.4) Bekal Resorts Development Corporation (BRDC)

It was established in 1995 entirely for the development of an integrated tourism project at Bekal. It is to provide marketing resources and to be actively involved in local, regional and state wide marketing promotions (Economic Review, 2011). The major aims of the project are

- To identify, acquire and develop potential resort sites
- Develop and strengthen infrastructure like roads, electricity, sanitation
- Solid waste disposal and water- supply
- Invert promoters and investors
- Market Bekal as an integrated tourist destination
- Co-ordinate development at every level.

1.1.5) Kerala Institute of Travel and Tourism Studies (KITTS)

KITTS was established in 1988 as an autonomous institution under the Department of Tourism. It is for quality education and training in tourism in the state. That is it plays an important role in the manpower training in the field of tourism and undertakes different human resource development programs related to tourism. Now KITTS is conducting different courses like post graduate and diploma courses to enhance skilled manpower existing in the tourism sector. KITTS is affiliated to PATA, IATO, TAAI, KTM, and SKHF. KITTS also provide consultancy to different groups like Kerala State Planning Board, Department of Tourism(Government of Kerala), Department of Forest and Wildlife(Government of Kerala), Directorate of Vocational Higher Secondary Education, Indian Railway Catering and Tourism Limited and various private sector industrial houses. The various research reports produced by KITTS include

- Local Impacts of Tourism Development in Kerala-A Study on Selected Centres
- Incentives and Supports to Backwater Tourism in Kerala- A Study on Houseboats in Alleppy and Kumarakom
- Incentives and Supports to Tourism Projects-A Study on Grihasthali
- A Study on Rail bound Tourists to Kerala
- Restructuring Vocational Secondary Education in Kerala
- Developing Micro Level Enterprise in Eco-Tourism Destinations in Kerala
- Impact of Recession in Tourism in Kerala- A Study on Kovalam
- Positioning Destination Management Councils in the context of Kerala

1.1.6) Thenmala Eco Tourism Society

Thenmala Eco Tourism Society is registered under the Kerala Societies Registration Act. This society consists of the members from the department of tourism, department of forest, department of immigration and department of power. The first phase of the project was completed on January 2001. The major aims of this society are

- Developing Thenmala dam and its surroundings as a unique eco-tourism destination
- Promoting eco-tourism on the basis of principles of ecological sustainability in the surrounding areas of Thenmala
- Developing a well-planned tourism destination with emphasize on sustainable tourism development.

1.1.7) Kerala Institute of Hospitality Management (KIHMS)

The Kerala Institute of Hospitality Management Studies has been set up by KITTS as a hospitality wing. It is conducting Certificate courses in Food and Beverage Service, Food Production and Accommodation Operations.

In addition to these organisations, there are different schemes under the state government for the promotion of tourism. State government introduced the scheme 'Grihasthali' for the conservation of heritage buildings. Another scheme namely Investment Guidance Cell was introduced for the guidance of private investors in the tourism sector. Centrally sponsored schemes for construction of Yatrivas and Wayside amenities; various departments of the government like department of power, department of forest and department of irrigation; a number of private sector companies and individuals like Taj, Oberoi, Le Meridian, Golden Tulip, Casino, Mahindra Resort etc. and a group of non resident Keralites are taking an active role in the promotion and development of tourism in Kerala (Seena Augustine, 2009)

2) Index of Tourism intensity

One of the defects of tourist penetration rate is that this takes into account only the stay over tourists. Those who are not stayed in a registered accommodation unit are not included. The impacts of tourism upon a destination is determined by the volume of tourists arrivals, their

spending pattern, duration of stay, type of accommodation they are using and their interaction with the host population. So the nature of impacts varies with the changes in these factors. Thus the Index of Tourism Intensity can be used as a measure to infer impact of tourism in Kerala. That is, this indicator measures the impact of tourism per kilometre square. According to Euro stat (2010), tourism intensity provides a more objective measure of economic significance of tourism for a region compared to absolute numbers of tourist arrivals or overnight stays. A lot of numbers are related to tourism namely, number of tourists, number of flights, number of restaurants and cafes and number of jobs created. The measurement of tourism intensity describes relative benefits of tourism by assessing all the relative weights of above numbers. Index of Tourism Intensity is a measure of concentration and it uses two density measures namely tourist density and resident population density. It can be calculated as

$$\text{Index of Tourism Intensity} = \frac{N(i) \times 100}{R(i)}$$

Where,

R (i) = Density of population

N (i) = Density of Tourists

Here tourist density is a proportion of total number of the tourists arrived and area in sq.km. This ratio shows the density of tourists in a destination at any point on time on average. That is,

$$\text{Density of Tourists} = \frac{\text{Total Number of Tourists}}{\text{Area in sq.km}}$$

The table 3 shows the Index of Tourism Intensity of Kerala from 1991 to 2018. Index of Tourism Intensity shows an increasing trend from 1991 to 2018 except in the year 1998. In 1998 tourist density also decreased when compared to the previous year. The growth rate of index of tourism intensity is negative in the years 1991, 2001 and 2005. In 1998 and 2005 total number of tourists arrived is lower compared to the previous years. As a result it decreased density of tourists and thereby index of tourism intensity. But in 2001 total number of tourists arrived and the tourist density are increased when compared to the previous year. But the negative growth rate was caused by the increase in the density of population.

Table 3: Index of Tourism Intensity of Kerala from 1991 to 2018

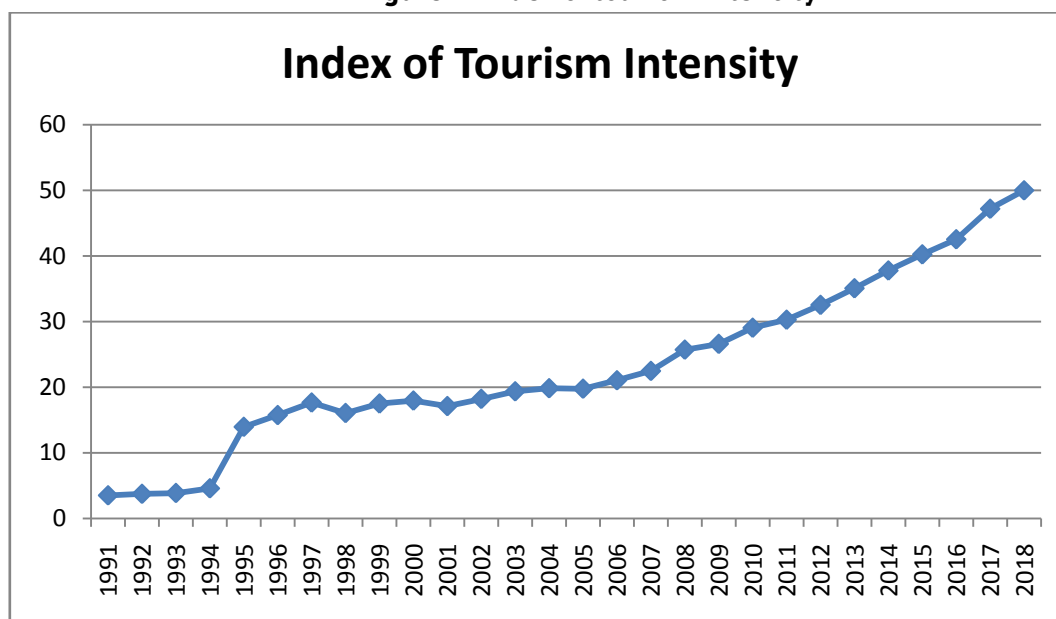
Year	Total Number of Tourists	Area in sq.km	Density of Tourists	Density of population	ITI	Growth rate of ITI
1991	1018300	38863	26.20	749	3.50	-
1992	1084775	38863	27.91	749	3.73	6.571
1993	1122445	38863	28.88	749	3.86	3.49
1994	1331290	38863	34.26	749	4.57	18.39
1995	4058628	38863	104.43	749	13.94	205.03
1996	4579857	38863	117.85	749	15.73	12.84
1997	5135828	38863	132.15	749	17.64	12.14
1998	4671655	38863	120.21	749	16.05	-9.03
1999	5090460	38863	130.98	749	17.49	8.96
2000	5223154	38863	134.40	749	17.94	2.6
2001	5448522	38863	140.20	820	17.10	-4.71
2002	5800820	38863	149.26	820	18.20	6.47
2003	6165849	38863	158.66	820	19.35	6.29
2004	6317728	38863	162.56	820	19.82	2.46

2005	6292922	38863	161.93	820	19.75	-0.39
2006	6700258	38863	172.41	820	21.03	6.47
2007	7158749	38863	184.20	820	22.46	6.84
2008	8190179	38863	210.74	820	25.70	14.40
2009	8470795	38863	217.97	820	26.58	3.42
2010	9254340	38863	238.13	820	29.04	9.25
2011	10114440	38863	260.26	860	30.26	4.21
2012	10870550	38863	279.71	860	32.52	7.48
2013	11715954	38863	301.47	860	35.05	7.78
2014	12618777	38863	324.70	860	37.76	7.71
2015	13443050	38863	345.91	860	40.22	6.53
2016	14210954	38863	365.67	860	42.52	5.71
2017	15765390	38863	405.67	860	47.17	10.94
2018	16700278	38863	429.721	860	49.97	5.93

Source: Number of Tourists- Department of Tourism, Kerala, Area in sq.km and Density of population- Census Report 2011, Density of Tourists, Index of Tourism Intensity- calculated by the researcher

The increasing trend of index of tourism intensity is shown in the figure 1.

Figure 1: Index of tourism intensity



Source: Compiled from the index of tourism intensity

The five yearly average of the index of tourism intensity (table 4) shows that there is a threefold increase in the index from 1991-1995 to 1995-2000. After that there is a steady growth up to 2018.

Table 4: Five Yearly Average of Index of Tourism Intensity

Period	Five Yearly Average
1991-1995	5.92
1996-2000	16.97
2001-2005	18.844
2006-2010	24.962
2011-2015	35.162

Source: Compiled from the Index of Tourism Intensity

The table 5 shows the Index of Tourism Intensity across districts of Kerala.

Table 5: Index of Tourism Intensity of Kerala across the Districts

Districts	Total Number of Tourists	Area in sq.km	Density of Tourists	Density of population	Index of Tourism Intensity
Thiruvananthapuram	2171693	2192	990.74	1508	65.70
Kollam	291209	2491	116.90	1061	11.02
Pathanamthitta	127799	2637	48.46	452	10.72
Alappuzha	334345	1414	236.45	1504	15.72
Kottayam	508077	2208	230.11	895	25.71
Idukki	752431	4368	172.26	255	67.55
Ernakulam	3281537	3068	1069.60	1072	99.78
Thrissur	2667771	3032	879.87	1031	85.34
Palakkad	504476	4480	112.61	627	17.96
Malappuram	493670	3550	139.06	1157	12.02
Kozhikode	823789	2344	351.45	1316	26.71
Wayanad	619712	2131	290.81	384	75.73
Kannur	622221	2966	209.79	852	24.62
Kasaragod	244320	1992	122.65	657	18.67
State	13443050	38863	345.91	860	40.22

Source: Number of Tourists- Department of Tourism, Kerala

Area in sq.km, Density of population- Census Report 2011

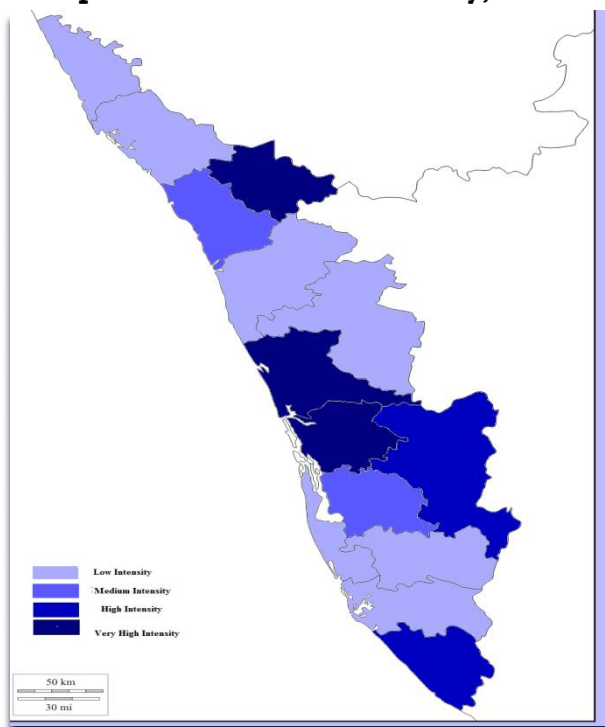
Density of Tourists, Index of Tourism Intensity- calculated by the researcher

Here the Index is graded into four as Very High Intensity ranges from index value 75 to 100, High Intensity ranges from index value 50 to 75, Medium intensity ranges from index value 25 to 50 and low Intensity ranges from index value 0 to 25. So Ernakulam, Thrissur and Wayanad are included in the category of Very High intensity, Thiruvananthapuram and Idukki High Intensity, Kottayam and Kozhikode Medium and remaining under the category of Low Intensity. From the table 3.20 it is inferred that in the case of Alappuzha and Kozhikode even the tourist density is higher, a higher population density brought down the Index of Tourism Intensity value. Both the Index of Tourism Intensity and density of tourists is higher in the case of Ernakulam. Ernakulam was followed by Thrissur and Wayanad. Here five districts namely Thiruvananthapuram, Idukki, Ernakulam, Thrissur and Wayanad exhibit an index value which is greater than the state level. In order to know how population density and tourist density are linked each other, it is essential to establish the consistency of the both. For this, Spearman's Rank Correlation was worked out. The result indicates a positive correlation ($r_s=0.512$, $p=0.061$) between the density of tourists and density of population of the state. The result indicates that higher population density necessarily be

associated with high tourist density. However, this does not indicate that tourists prefer a destination with high population.

The categorisation is shown in the state map 1.

Map 1: Index of Tourism Intensity, Kerala



Source: Compiled by the Researcher

Considering all the 14 districts we can see that tourist density is always lesser than population density. A higher index would logically suggest that the magnitude of tourism's impacts to both guests and the hosts could be higher with higher tourist activity intensity (Sutheeshna, 2006-07).

3) Conclusion

From the above analysis it is clear that the arrivals, penetration and index of tourism intensity in Kerala are different among the districts. The share of domestic tourist arrival was highest in Ernakulam, followed by Thrissur and Thiruvananthapuram. In the case of foreign tourist arrivals Ernakulam tops the highest and followed by Thiruvananthapuram and Idukki. Domestic tourist penetration and foreign tourist penetration of Kerala in 2018 is 1.47 and 7.20 respectively. Highest domestic tourist penetration was shown by Ernakulam followed by Wayanad. It is noticed that domestic tourist arrivals and domestic tourist penetration was highest in Ernakulam. Similarly, foreign tourist arrivals and foreign tourist penetration was also highest in Ernakulam. In the case of index of tourism intensity Ernakulam, Thrissur and Wayanad shows very high index of tourism intensity. One peculiarity of these districts is that these three also shows highest domestic tourists penetration rate. This result allows for the classification of districts and to calibrate their position in the set of tourist destinations. This can be very useful for the application of economic policies aimed at correcting externalities that are generated in the advanced development of mass tourism.

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