A spatial analysis regional distribution of domestic tourism in India

Introduction:

Tourism is an important sector of the economy and contributes significantly in the country's GDP as well as Foreign Exchange Earning (FEE). It has been a major social phenomenon of societies all over the world. With its backwards and forward linkage with other sectors of the economy, like transport, construction, handicrafts, manufacturing, horticulture, agriculture and health etc. tourism has the potential to not only be the economy driver, but also become an effective tool for poverty alleviation and ensuring effective role in achieving the growth with equity (Annual Report, 2010-11). The importance of tourism, as an instrument of economic development and employment generation, particularly in remote and backward areas, has been well recognized the world over. It has the capacity to capitalize on the county's success in the services sector and provide sustainable model of growth (Annual Report, 2009-10).

Regional tourism is identified here as activities of different purpose of travel by people within the same region, but outside their usual country of residence, such as one region to another region. Besides the close geographical proximity, countries in a given region may share many similar historical developments, ecological characteristics, standards of living, socio-economic structures, cultural features and population composition. Hence there are likely to be many distinct features in the composition of the principal domestic tourist groups, their holidays, leisure & recreation interests and activities and their influence on the local economy, culture. But information on many of these crucial aspects in Indian context is totally lacking.

At the national level, there are only a small number of developing countries that have attempted to assess the potential regional tourism development. The regional tourism has been considered as a phenomenon to be recognized and worth integrating into the process of development and regional planning.

Literature Review

Spatial and regional tourist flow.

(Pearce, 1993) studies on domestic tourist travel in Sweden: A regional analysis he has basically focus on Spatial variations in purpose of trip-visits to friends and relatives and to second homes, leisure travel and business travel-are analysed on an origin-destination basis for 31 regions, primarily through the use of ternary graphs, dominant flow analysis and the derivation of Relative Acceptance Indexes. He found the similar Swedish patterns and results generally follow those found in earlier studies which underline the importance of distance, population and the geography of the country concerned but noticeable differences were identified according to trip purpose. Spatial inequity in tourism has also been observed in other countries. It has been found that regional tourism demand is not stable across space and diverse spatial patterns coexist;

there are clusters of popular and unpopular area (Pearce & Gillmor, 1987). (Gillmor, 1996) argued several reasons for clustering and concentration of tourist flows, such as the economies of scales, the economies of scope and risk aversion of tour operators. Moreover, (O'Hare & Barrett, 1999) suggested that the concentration of tourist flows is associated with complex spatial variations in terms of tourist attraction, transport access, tourism service and government policy. According to past research, some areas are more likely to be hot-spot area of tourists, such as insular and coastal areas (Pearce, 1987; Gillmor,1996), gateway area (Wu & Carson, 2008) and area belonging to higher hierarchy within the county (Pearce, 1996). In comparison with spatial pattern of tourism studies in other countries, several similarities are matched. First, tourism flow distribution is polarized and clustered in hot spots of several regions (Pearce, 1987; Gillmor, 1996; Ivy, 2001). Second, this spatial pattern of tourist flows is relatively stable over time, and hot-spot areas continue to attract a large amount of tourists (Burton & Cooper, 1994; Gillmor, 1996). Considerable research emphasis to the field are quite naturally concerned with two broad topics: the general nature of tourist flows and their impact on receiving countries and regions economically, culturally, and environmentally (Barbier, 1989; Mansfeld, 1990; Pearce, 1989). Whereas previous studies indicate tourist flows are generally from industrialized, cool weather, urbanized countries (Lundberg, 1985; Rafferty, 1993; Hudman, 1979). Some researcher believe that such measures as coordinated development of regional industry, accelerating the marketization process, enhancing utilization efficiency of the elements, and increasing investment in human capital are important means to narrow the economic gap (Lin, et al. 1998; Fan and Yang, 2002; Chen and Xu, 2004; Wan and Zhang, 2008) In fact, tourism, an important component of the modern service industry, has been internationally recognized as an effective means of reducing regional disparities, and as early as 1997 the Treaty of the European Union made clear point that tourism should play an effective role in reducing disparities of regional development (Wanhill,1997). Due to a significantly associated and leading role, tourism has been considered a driving force for economic development in developing countries or regions (Durbarry, 2004). (Wagner, 1997; Dwyer & Narayan, 2004; Christer, 2009) found that tourist substantiated the leading action of tourism in regional economic development.

Data Sources and Methodology:

Data sources: This study is based on secondary data set and intended to uses data on domestic tourism (Schedule 21.1: Domestic Tourism) of the National Sample Survey Organization (NSSO), Ministry of Statistics and Programme Implementation, Government of India conducted an all-India survey of households in the 65th round of NSS during the period of July 2008 - June 2009).

***Methodology*:** For this study Exploratory Spatial Data Analysis (ESDA), through Geographical Information Systems (GIS)-based spatial statistical tools will be used. ESDA is a set of geographic information system (GIS) spatial statistical techniques that are useful in describing and visualizing the spatial distribution, detecting patterns of hot spots and suggesting spatial regimes or other forms of spatial heterogeneity

(Anselin,1998). ESDA provides measures of both global and local spatial autocorrelation, which are fundamental to outline the spatial inequity. The global one detects this correlation from the general perspective by incorporating all samples. In contrast, the local one only focuses on the specific relationship in a particular location over space. Local Indicators of Spatial Association (LISA) is an indicator to confirm the significance of hot spots suggested by Moran's I and I have choose local Moran's I statistic as LISA in this research. The LISA statistics used to further inspect the significant clusters and hot-spot areas for domestic tourist flows in the region of India. The local version of Moran's I statistic for each region i at year t is written as:

$$I_{it} = \frac{z_{it} - \mu_t}{m_0} \sum_j w_{ij}(z_{jt} - \mu_t) \quad \text{With} \quad m_0 = \sum_i (Z_{it} - \mu_t)^2 / n \quad \textbf{3}$$

Where Z_{it} is the number of tourist departure (origin) to region i for year t, μt is the mean value across region for year t and wij is the element of the spatial weighting matrix W. A positive value of I_{it} indicates spatial clustering of similar values, whereas a negative value indicates spatial clustering of dissimilar values between a region and its neighbours. In this research, local Moran's I statistic specified in Equation (3) used as the LISA statistic. To further visualize hot-spot areas (High to High clusters) for tourist flows, the Moran significance map will be used. It contains information from LISA, showing region with significant LISA statistics and indicating the hotspot areas by color-coded quadrants map.

Summary and Conclusion

Past decade the study on regional tourism in context of domestic tourism in India was never seen. This paper investigate the regional domestic tourist flow from origin for the different purpose of trip in India. This paper will be helpful for stakeholder, regional planning and policy maker to develop their plan in specific location over the space for the sustainable tourism development. The result suggest that there are some Indian region where domestic tourism for different purpose is highly concentrated like, holidaying, leisure & recreation, business, professional, education training , religious & pilgrimage and health and medical. It has been observed that some of the region for the social (Including friends and relatives) purpose are (High to High) highly concentrated in the following regions. **High to High Cluster zone** are North eastern (Rajasthan), southern upper Ganga plains (Uttar Pradesh), Easter (Uttar Pradesh).**Hot spot analysis Getis-ord Gi** on 99% confidence level - Southern upper Ganga plain, central and southern (Uttar Pradesh). 95% confidence level – North-eastern (Rajasthan), Eastern (Uttar Pradesh), Northern (Chhattisgarh), Ranchi Plateau (Jharkhand), Inland southern (Andhra Pradesh).

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