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APPLICATION OF GIS FOR TOURISM

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Abstract: The application of Geographical Information System (GIS) in tourism information and development is vital. The improvement in advanced technologies supports the tourist in many ways and it made the tourism as much as easier. GIS technique offers spatial location maps of different tourism spots and other tourism related information. In this study, GIS database was created for the tourism spots in the Kanchipuram city by using spatial and non-spatial data. Global positioning system (GPS) device was used to locate the tourism and other tourism related spots in the study area. GPS data were incorporated in a GIS platform for creating different thematic maps. The created thematic maps will support the tourism activity by providing the tourism related information in the Kanchipuram city.

Keywords: Tourism, Kanchipuram, GIS, GPS, Tourism information

I. INTRODUCTION

The contribution of tourism in GDP is around ten percentage in 2016 due to increasing in growth of the tourism industry. The employment opportunity in India also rapidly increased in the tourism sector during the past few decades. Investment in tourism industry increased in many fold due to demand of the tourist services and growth in the industry. Geospatial technology was adopted to promote the tourism industry [1]. In this scenario information related to the tourism is very important for planning and development activities. Due to the development of information technologies, the marketing and attracting of foreign tourist also increased. GIS based spatial decision support will support the tourist [2]. The website based tourism information will be useful to the foreign tourist for understanding the tourism spots and the tourism information [3]. GIS based maps are useful to identify the tourism spots with the facilities available in the location. Facilities like ATM, police station, tourism spots, etc., are important for tourist to easily navigate for their needs. GPS coordinates are useful to access the location with the help of navigation device.

II. STUDY AREA

Kanchipuram city is one of the important tourism locations in South India. More than million number of Indian and foreign tourist visit the city yearly. The city is very much famous for the Hindu temples, it has more than one thousand Hindu temple. Festivals will happen often in many temples in the study area. Kanchipuram is also famous for silk saree business, apart from tourist business people will also visit the city often for business purpose. The city covers 36.14 sq.km with 51 wards in municipal limit. The study area location is shown in Fig.1 with the latitude and longitude information.

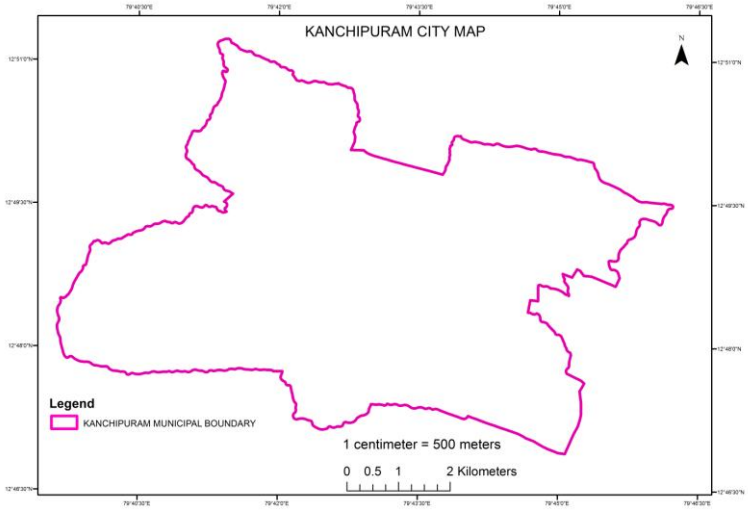

Fig.1 Study Area Map

III. MATERIALS AND METHODS

The GIS based spatial database was created for the study area to provide tourism information and also for tourism development activity [4]. The basic five themes are selected for database creation, for any tourist the information like tourism location, ATM, fuel, police station and hospital location information's are essential. In this study the above mentioned five themes are taken into account. Each feature spatial location is identified by means of field visit with handheld GPS device. The spatial locations are captured by using the GPS device. The identified location coordinates are incorporated in GIS for thematic map preparation [5]. Arcmap10.1 software was used to prepare the GIS database. The prepared map consists of the relevant attribute information like name, street name, nearby landmark, contact number, etc. During an emergency time GIS based information will support to understand the nearby facilities to take proper action [6].

IV. GIS FOR TOURISM

The application of GIS as a tool in tourism will be useful in many aspects, such as tourism planning, tourism marketing, tourism development and tourism facility provision. The GIS database creation will be implemented in many platforms like website, android app, etc. The information in the created GIS database can be editable and updatable [7]. The facilities and new information for tourist can be easily conveyed by using GIS applications. It is possible to apply query in database to retrieve the necessary information. The important touristy location in the study area is Hindu temples. The spatial locations of Hindu temples are identified and shown in Fig.2 to easily identify the temple location and to plan the tour.

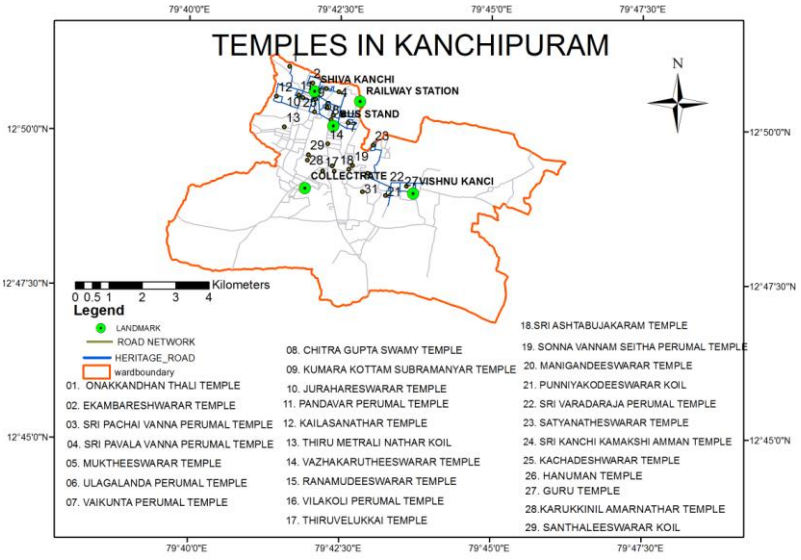

Fig.2 Temple location in Kanchipuram

The necessity of ATM service is essential for all the tourists, the prepared map shown in Fig.3 indicates the locations of ATM facility in the study area with the bank name and nearby landmark. This information will be useful for all the tourists for money managing during the tour period. The sustainable development, understanding the available resources is essential [8].

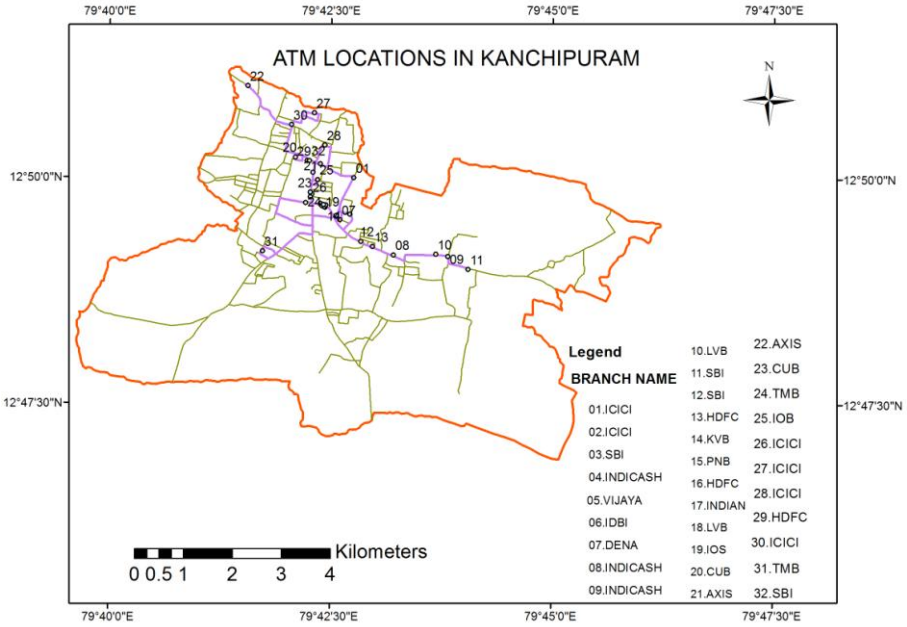

Fig.3 ATM location in Kanchipuram

The presence of fuel station in the study area is shown in Fig.4 it indicates the different fuel station location with the nearby landmark. The information about fuel station is essential for the tourist to know where to get fuel for the vehicles. This information is important for the tourist particularly using their own vehicles during the tour trip. The development of information sector will support the GIS database incorporation in suitable platform [9].

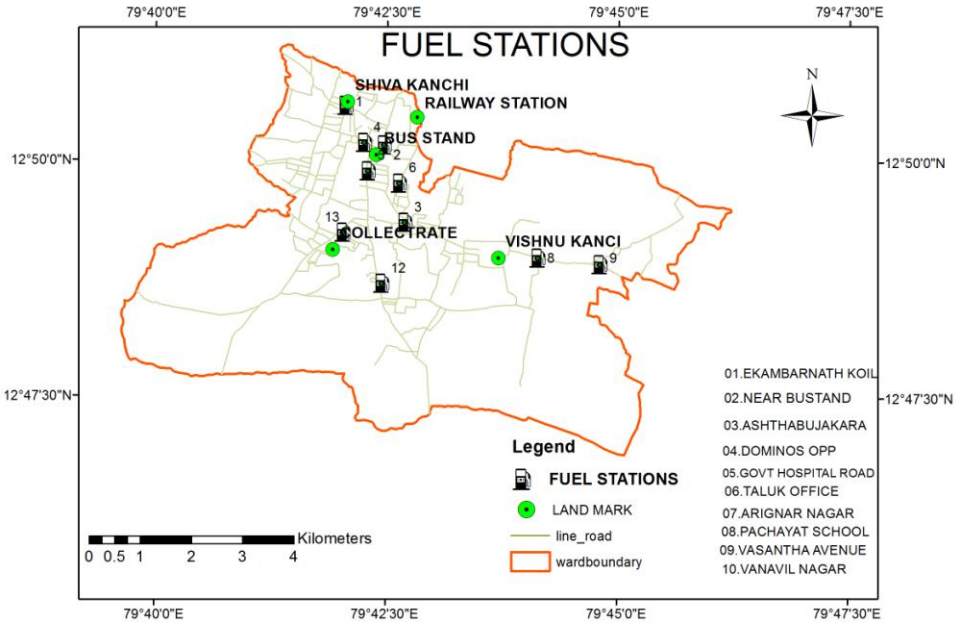

Fig.4 Fuel station location in Kanchipuram

The study area has five important police stations to control law and order. The location of police stations with nearby landmark is shown in Fig.5 this is an important spatial information for the tourist. This thematic data will be useful to the tourist particularly in situations when police support needs. The personalized recommendation based on location is possible by using GIS analysis process [10].

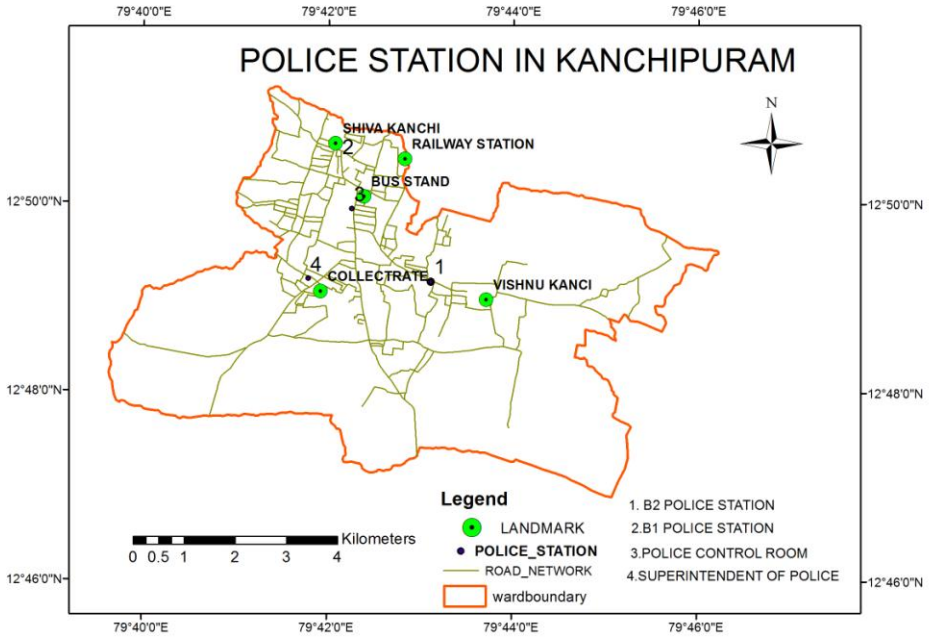

Fig.5 Police station location in Kanchipuram

The location of hospitals in the study area is shown in Fig.6. The hospital service information is vital for the tourist to understand the hospital location with contact number at the time any causality or any medical assistance need during the tour period.

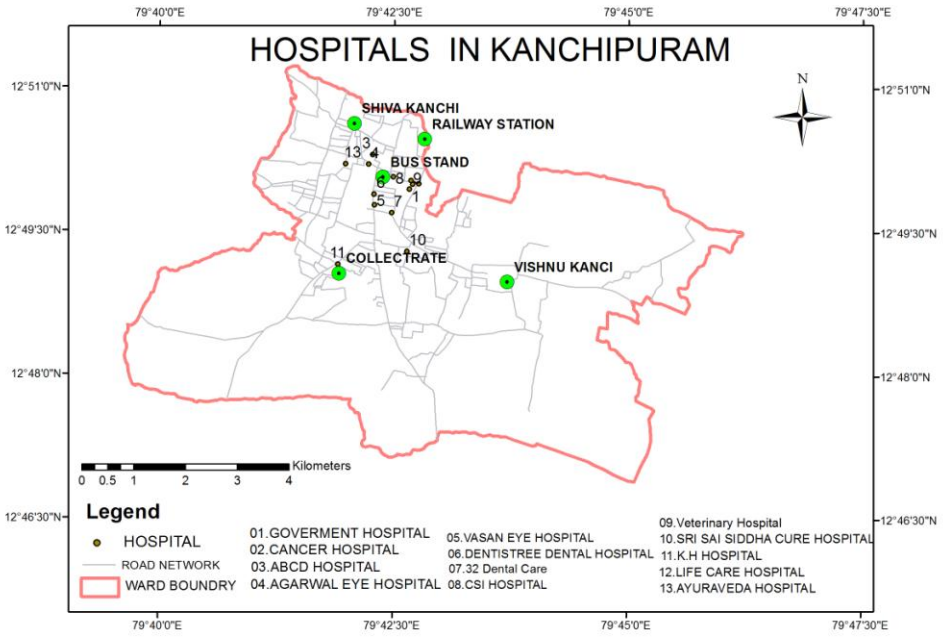

Fig.6 Hospital location in Kanchipuram

V. CONCLUSION

The created GIS database will support the tourism activity in Kanchipuram. This database not only useful for location identification, but also useful for planning and development activity in tourism. The prepared digital map can be updatable and editable, so that in future updating of any information is possible. The spatial database can be used for spatial analysis also like proximity study for facility provision.

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