"Tourism in India post Covid-19"

Rugved Deshpande

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1.Introduction

1.1 Background
Covid-19 pandemic has wreaked havoc across the world. Entire world economy is at standstill. All the Sectors viz Manufacturing, Service, Information & Technology, Tourism, Food, Petroleum, Agriculture, Entertainment have been affected by it. Tourism is one such major contributor of the economy anywhere in the World.

1.2 Problem
Post Covid-19 pandemic one major concern for any potential customer in Tourism sector will be the question whether the City I want to visit is safe or not? This project intends to map out the spread regarding spread of Covid-19 as on 03.05.2020 in India and try to address this question.

1.3 Interested Parties
Domestic as well as International Tourism Companies shall be interested parties for the answer to the above question.

2 Data Acquisition & Cleaning

2.1 Data sources
Data for addressing the above problem will be downloaded from multiple sources:

1) Covid-19 Data for India: https://www.mygov.in/covid-19:
   This is a government website which continuously updates the stats of Covid-19 spread in India. This data will give us an idea of State wise spread of the infection
2) Popular Tourist Destinations in India: https://traveltriangle.com/blog/places-to-visit-in-india-before-you-turn-30/ :
   This data will give us popular tourist locations in India which we will be plotting on Map to get and comparing with Covid-19 spread to get an idea of which locations are safe to go
3) Popular Destinations in Goa https://traveltriangle.com/blog/tourist-places-in-goa/

2.2 Data Wrangling
The Covid-19 Data downloaded from Source No.1 needs to be appended with geo coordinates for each state. This was done using geopy library. Similarly, the list of popular destinations downloaded from Source No.2 contains a comprehensive list of all the tourist destinations in India. For the scope of this assignment we will be limiting this list to top 5 destinations distributed geographically across different directions in India. Geo-locations were also appended to this data set well. Later we have appended the second data set to the first one and created a unified data set

3 Exploratory Data Analysis
Using the unified dataset we plotted the active Covid-19 infections in India and layered it with prospective tourist destination's location.
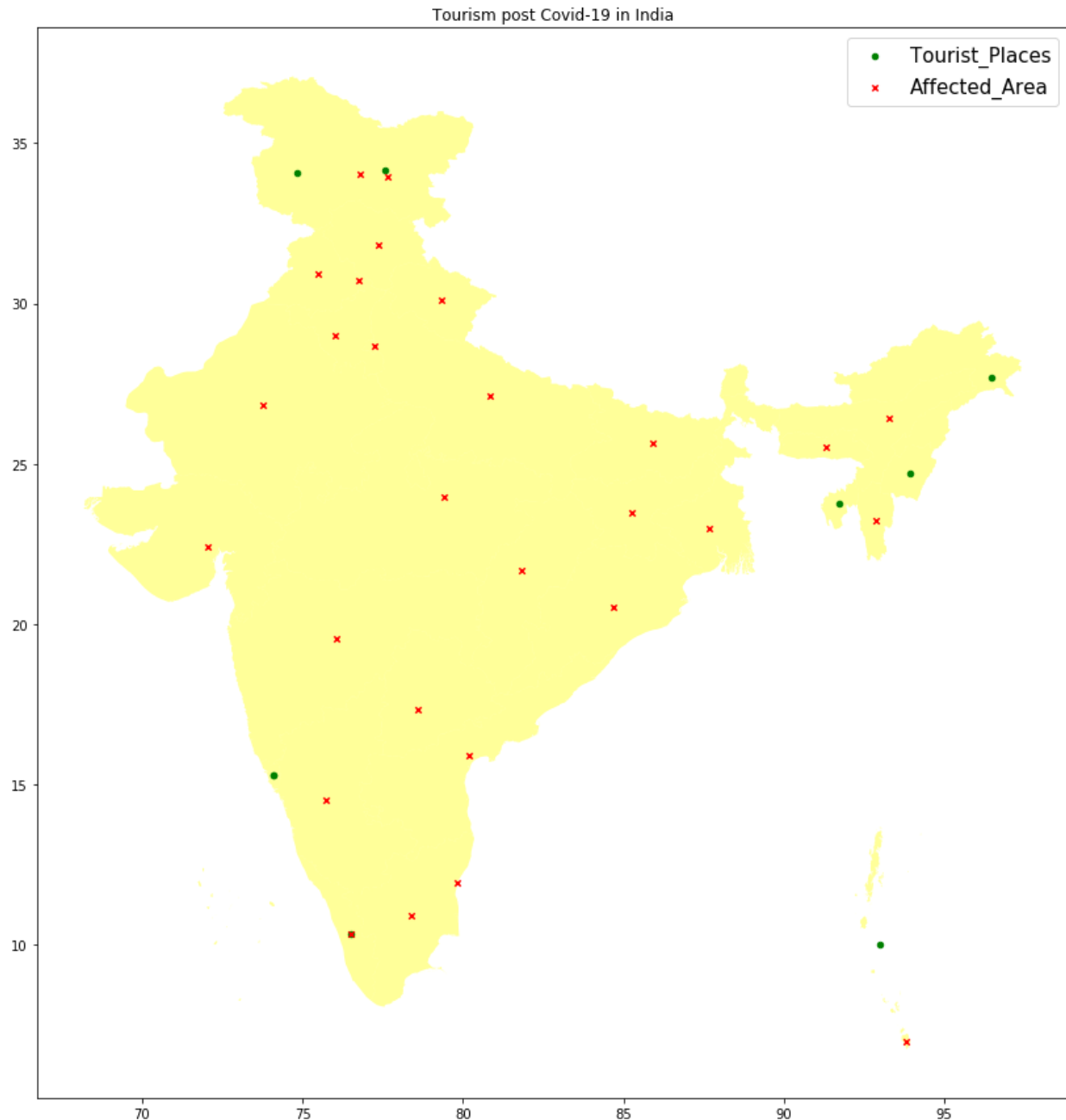
Tourism post Covid-19 in India

Figure 1:Map of India showing spread of Covid-19

Looking at the map above we conclude that Thus out of the five shortlisted hot tourist destinations in India viz: Goa, Andaman & Nicobar Islands, Srinagar, Leh-Ladakh, Kerala, Goa is the only place which has no active infection in its vicinity.

From Source No.3 we imported a list of popular tourist locations in Goa. We extracted the geo-coordinates for these locations and using Foursquare API we got detailed data regarding nearby venues.
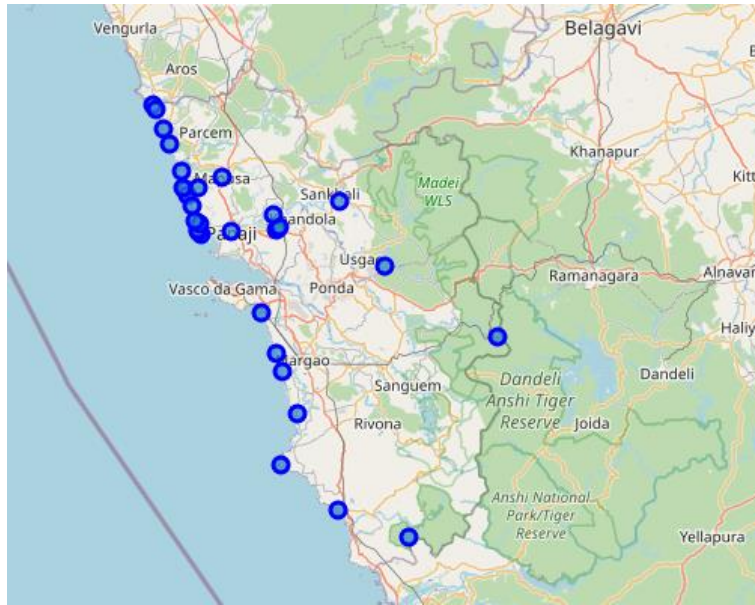
Figure 2 Popular Tourist locations in Goa

Later on we explored venues around these popular tourist destinations. We got a list of 770 venues which contained 165 unique categories. By taking mean frequency of occurrence of each category we reduced the data set size to 39.We performed clustering on this data set and mapped out the clusters.
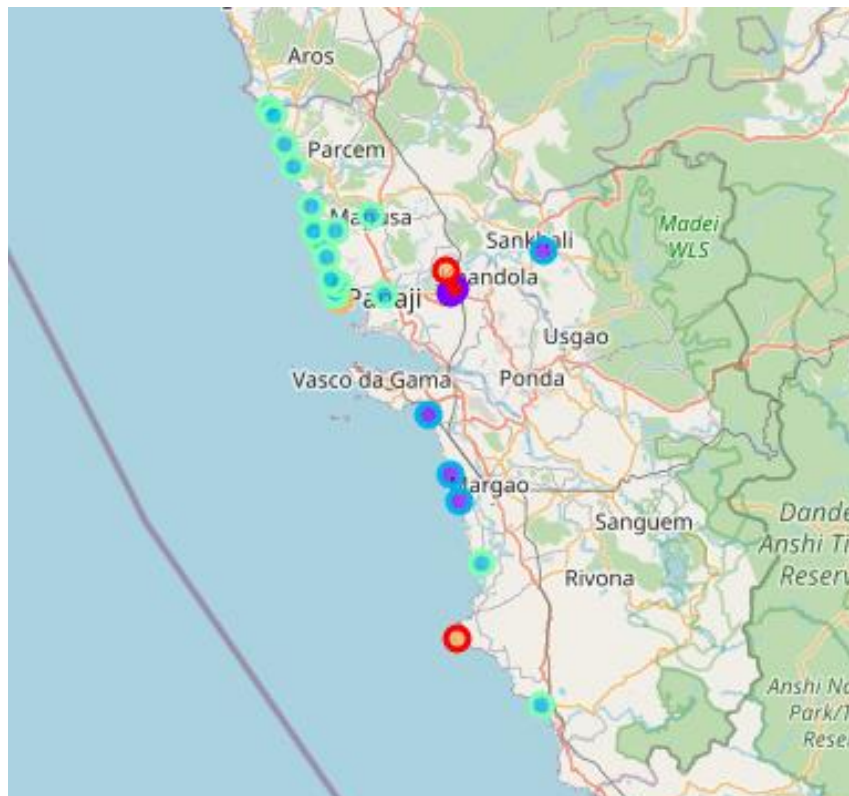

Figure 3 Tourist destinations in Goa clustered

4 Results and Discussion

Our Analysis shows that India is not an exception as far as Covid-19 spread is concerned. The virus has spread far and wide in the Country just like the Rest of the world. In India, despite its geographical area, "Goa" remains the only State/Tourist location which is safe to visit as of 02.05.2020. Goa despite being a small state has a lot to offer to Domestic as well as International tourists. There are multiple forts. Also, there are several popular beaches as the state is located along the Arabian Sea. It justifies its USP viz "Official Party Hub"

5 Conclusion

The purpose of this project was to identify tourist destinations in India which would be safe to visit post normalization of Covid-19 pandemic in order to aid stakeholders (Domestic & International Tour operators) in offering customized targeted packages to prospective customers. By calculating and clustering the top venues for each Tourist Destination in Goa we were able to provide ample options to the prospective customer for planning his trip. Clustering of those locations was then performed in order to create major zones of interesting places to visit