

PROJECT – 2

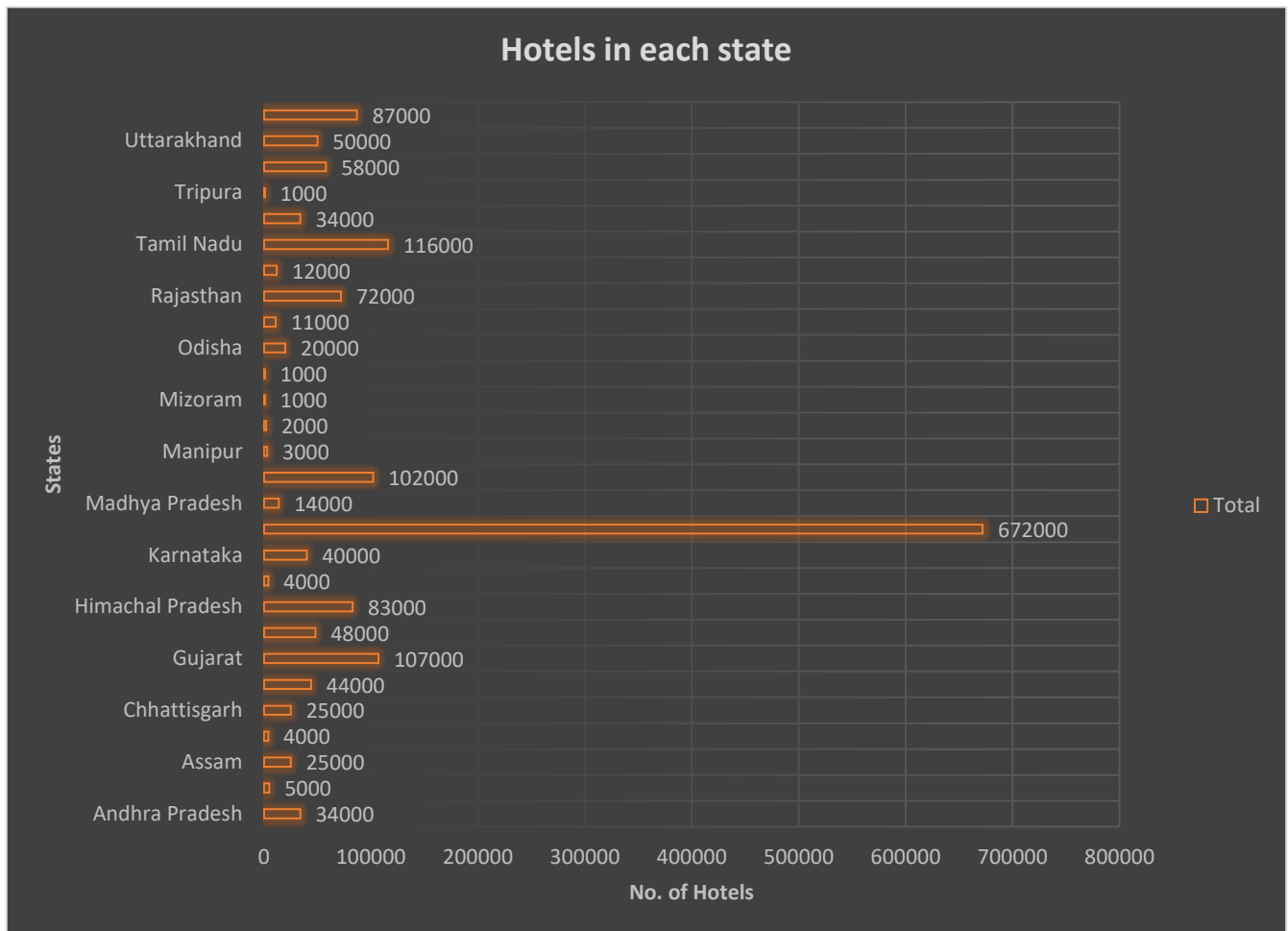
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The information of the onset and retreat of the south west monsoon in the country across different states and regions is given.

The data about the number of hotels in different states is also given. The information is as follows:

| States | No of Hotels |
|-------------------|--------------|
| Andhra Pradesh | 34000 |
| Arunachal Pradesh | 5000 |
| Assam | 25000 |
| Bihar | 4000 |
| Chhattisgarh | 25000 |
| Goa | 44000 |
| Gujarat | 107000 |
| Haryana | 48000 |
| Himachal Pradesh | 83000 |
| Jharkhand | 4000 |
| Karnataka | 40000 |
| Kerala | 672000 |
| Madhya Pradesh | 14000 |
| Maharashtra | 102000 |
| Manipur | 3000 |
| Meghalaya | 2000 |
| Mizoram | 1000 |
| Nagaland | 1000 |
| Odisha | 20000 |
| Punjab | 11000 |
| Rajasthan | 72000 |
| Sikkim | 12000 |
| Tamil Nadu | 116000 |
| Telangana | 34000 |
| Tripura | 1000 |
| Uttar Pradesh | 58000 |
| Uttarakhand | 50000 |
| West Bengal | 87000 |

- 1) **Kerala** has the greatest number of hotels in the country. It has a whopping **6,72,000 hotels**.



Above is a bar graph comparing all the states with their respective number of hotels. We can clearly see the number of hotels in Kerala were way more than any other state.

- 2) In the graph given in the question, different climatic conditions were depicted. By converting the unstructured data into a structured data using excel we were able to determine the states with different climatic conditions.

After converting into structured data, I made some observations. They are as follows:

- **States with the three types of climatic conditions are:**
 - ❖ Gujrat
 - ❖ Haryana
 - ❖ Himachal Pradesh
 - ❖ Maharashtra
 - ❖ Punjab
 - ❖ Rajasthan
 - ❖ Tamil Nadu
- States with the two types of climatic conditions are: Andhra Pradesh, Arunachal Pradesh, Assam, Chhattisgarh, Jharkhand, Karnataka, Madhya Pradesh, Odisha, Telangana, Uttar Pradesh, Uttarakhand and West Bengal.
- States with only one climatic condition are: Bihar, Goa, Kerala, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura.

| States | Arid, Steppe, Hot | Tropical Savanna, wet & dry | Montane | humid sub-tropical | Tropical Monsoon | Hot Deserts, Arid | Total no of climates |
|-------------------|-------------------|-----------------------------|---------|--------------------|------------------|-------------------|----------------------|
| Andhra Pradesh | Yes | Yes | No | No | No | No | 2 |
| Arunachal Pradesh | No | No | Yes | Yes | No | No | 2 |
| Assam | No | No | Yes | Yes | No | No | 2 |
| Bihar | No | No | No | Yes | No | No | 1 |
| Chhattisgarh | No | Yes | No | Yes | No | No | 2 |
| Goa | No | No | No | No | Yes | No | 1 |
| Gujarat | Yes | No | No | Yes | No | Yes | 3 |
| Haryana | Yes | No | No | Yes | No | Yes | 3 |
| Himachal Pradesh | Yes | No | Yes | Yes | No | No | 3 |
| Jharkhand | No | Yes | No | Yes | No | No | 2 |
| Karnataka | No | Yes | No | No | Yes | No | 2 |
| Kerala | No | No | No | No | Yes | No | 1 |
| Madhya Pradesh | No | Yes | No | Yes | No | No | 2 |
| Maharashtra | Yes | Yes | No | No | Yes | No | 3 |
| Manipur | No | No | No | Yes | No | No | 1 |
| Meghalaya | No | No | No | Yes | No | No | 1 |
| Mizoram | No | No | No | Yes | No | No | 1 |
| Nagaland | No | No | No | Yes | No | No | 1 |
| Odisha | No | Yes | No | Yes | No | No | 2 |
| Punjab | Yes | No | No | Yes | No | Yes | 3 |
| Rajasthan | Yes | No | No | Yes | No | Yes | 3 |
| Sikkim | No | No | Yes | No | No | No | 1 |
| Tamil Nadu | Yes | Yes | No | No | Yes | No | 3 |
| Telangana | Yes | Yes | No | No | No | No | 2 |
| Tripura | No | No | No | Yes | No | No | 1 |
| Uttar Pradesh | Yes | No | No | Yes | No | No | 2 |
| Uttarakhand | No | No | Yes | Yes | No | No | 2 |
| West Bengal | No | Yes | No | Yes | No | No | 2 |

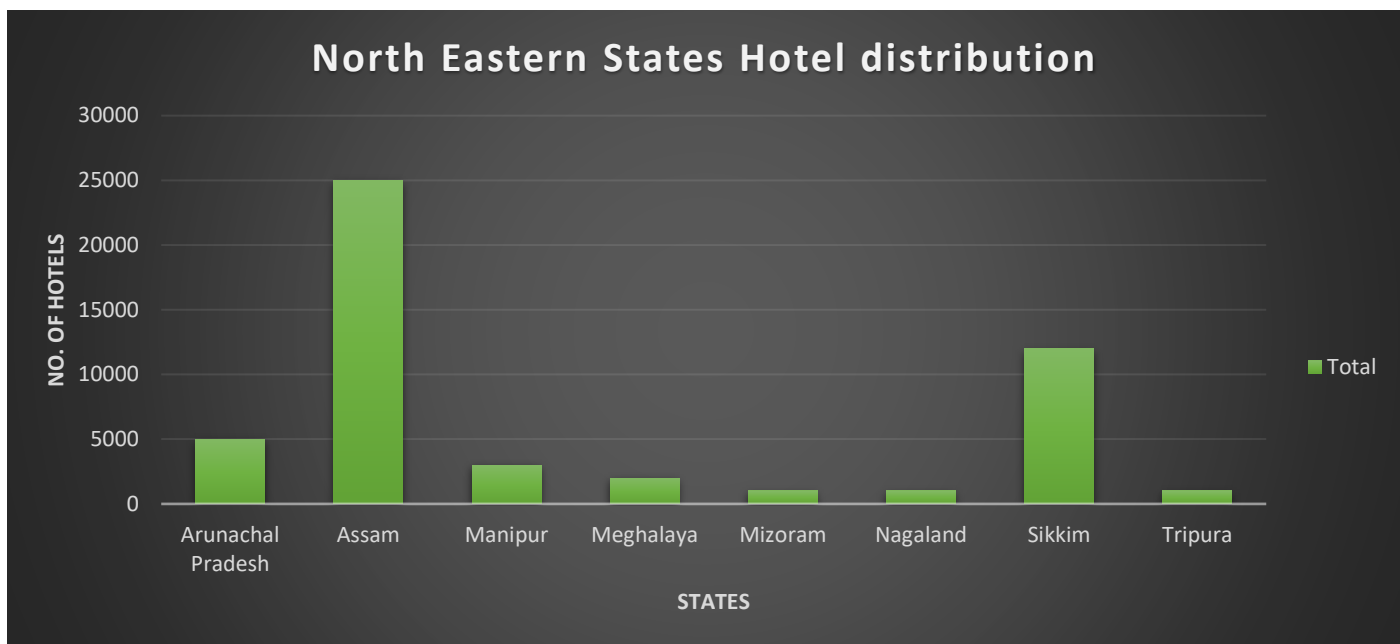
- Humid Subtropical climate, prevalent in nearly 20 states across India, is the dominant climatic condition observed in the country.
- Next to Humid Subtropical climate is both Arid, Steppe, Hot and Tropical Savannah, wet& dry climatic conditions, which is prevalent in nearly 10 states each.
- Hot, Deserts and Arid climate is the least dominant climatic condition in India, as it only prevails in 4 states across the country.

3) For setting up a hotel in any state, there are many constraints to look up to. With the information provided to us, we can consider two main constraints before setting up a hotel. They are Climatic conditions and the number of hotels in the state.

By looking at the number of hotels in the North Eastern states, we can see that Assam followed by Sikkim have the greatest number of hotels.

So, Assam and Sikkim are not preferable with respect to hotels available in the states. Because as there are already more hotels, it is not beneficial to set up a hotel. **Except Assam and Sikkim, other north eastern states are preferable** for setting up a hotel due to more competition at Assam and Sikkim.

Here is a Bar graph showing the number of hotels in the North Eastern states.



Now looking in to the climatic conditions in North Eastern states, only two types of climatic conditions are prevalent here. The climatic conditions which are prevalent are:

- ❖ Humid Sub-tropical
- ❖ Montane

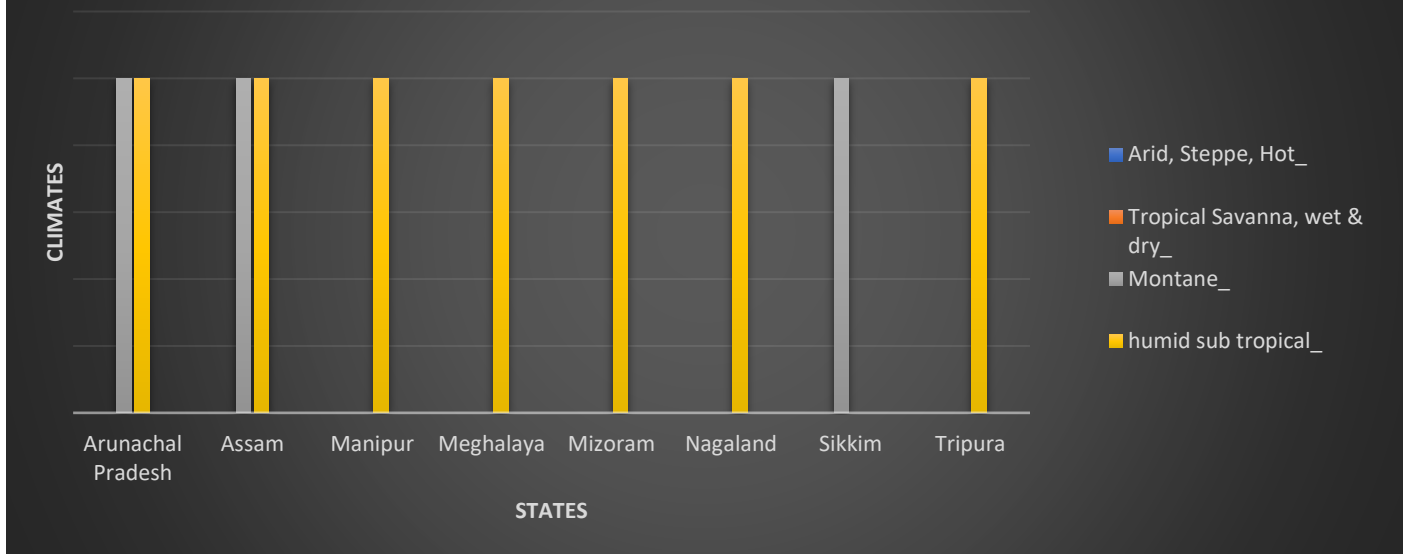
During humid subtropical climate, summers are quite hot and winters might see temperature of 0°C. And Montane climate is a varied climate where the climate changes drastically for every 100m of elevation gain, during December through February state will see most snowfall.

So, we can say that states with both climatic conditions is more suitable for setting up a hotel due to varied climatic conditions, tourism will be there. So, **Assam and Arunachal Pradesh were good to set up a hotel based on climatic conditions.**

Depending on both the conditions it is **better to set up a hotel in Arunachal Pradesh.**

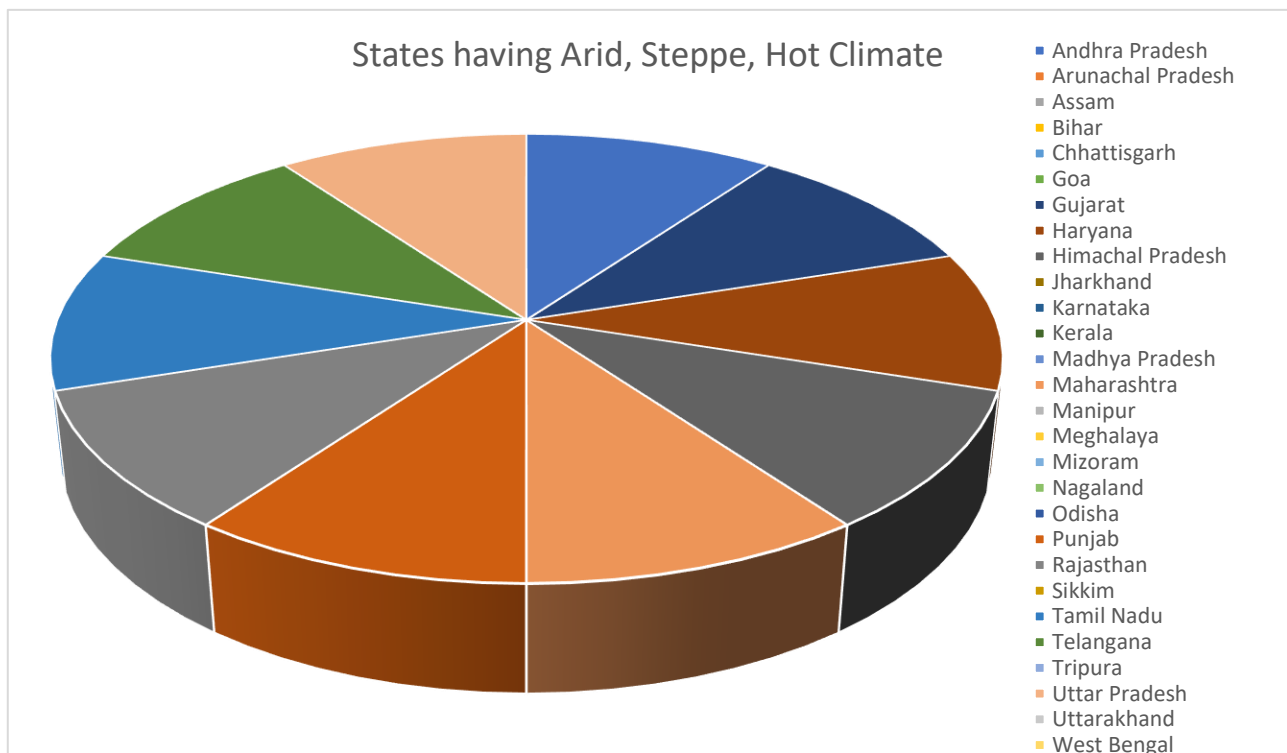
| North-Eastern States | Arid, Steppe, Hot | Tropical Savanna, wet & dry | Montane | humid sub-tropical | Tropical Monsoon | Hot Deserts, Arid |
|----------------------|-------------------|-----------------------------|---------|--------------------|------------------|-------------------|
| Arunachal Pradesh | No | No | Yes | Yes | No | No |
| Assam | No | No | Yes | Yes | No | No |
| Manipur | No | No | No | Yes | No | No |
| Meghalaya | No | No | No | Yes | No | No |
| Mizoram | No | No | No | Yes | No | No |
| Nagaland | No | No | No | Yes | No | No |
| Sikkim | No | No | Yes | No | No | No |
| Tripura | No | No | No | Yes | No | No |

North Eastern State's Climatic conditions

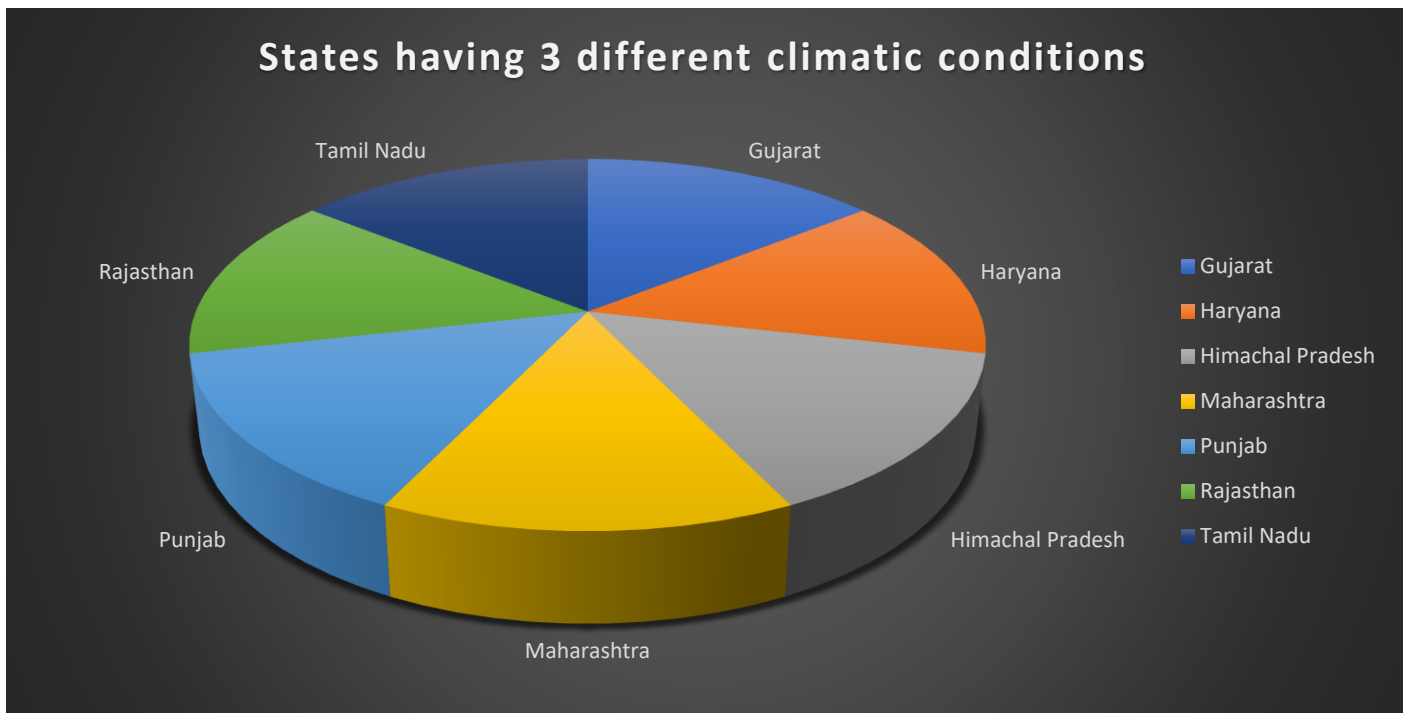


4) We can have different types of pivot charts by selecting different combinations of parameters. Here are some:

➤ We can have a **pie chart of states having different climatic conditions:**



- We can have a **pie chart of states having varied climatic conditions:**



- 5) As stated above (3), we have to consider both the climatic conditions and number of hotels already exists in the state.
- Considering the climatic conditions, we will end up having 7 choices of choosing the states. And also seeing the number of hotels present in those 7 states will give us a good idea.

Below is the table showing the number of hotels in those 7 states.

| States | No of Hotels |
|------------------|--------------|
| Gujarat | 107000 |
| Haryana | 48000 |
| Himachal Pradesh | 83000 |
| Maharashtra | 102000 |
| Punjab | 11000 |
| Rajasthan | 72000 |
| Tamil Nadu | 116000 |

So, **Haryana, Himachal Pradesh and Punjab were good choices** as there are a smaller number of hotels present and also these states have varied climate which might attract the tourists.

- 6) For determining the average number of days, the rainy season lasts in India we can refer the Indian map given in the question, in which the onset and retreat of south west monsoon were mentioned with the dates.
- From June 5th to October 15th = 137 days
 - From June 10th to October 1st = 114 days
 - From June 15th to September 15th = 92 days
 - From July 1st to September 1st = 63 days
- So, on an **average the rainy season lasts for almost (102) 100 days.**