STUDY AREA
Satara district is situated in the western region of Maharashtra. It lies in between the north latitudes of 17.5° to 18.11° and east latitude 73.33° to 74.54° with an area of 10,480 km2. It is surrounded by Pune at north, Solhapur district at east, Sangali at south and Ratnagiri in the west while the Raigad district lies on the north-west Satara. The Satara district is located in the Basin of the river Bhima and Krishna. The physical settings of Satara show a contrast of immense dimensions and reveal a variety of landscapes influenced by relief, climate and vegetation. The variation in relief ranges from the pinnacles and high plateaus of the main Sahyadri ranges having a height over 4500 feet above the mean sea level to the subdued basin of the Nira river in Phaltan tehsil, with an average height of about 1700 feet above mean sea level. The climate ranges from the rainiest in the Mahabaleshwar region, which has an average annual rainfall is of over 6000 mm to the driest in Man tehsil where the average annual rainfall is less or about 500 mm. The vegetation cover too varies from the typical monsoon forest in the western parts to scrub and poor grass in the eastern parts.

Satara district consists of 11 tehsils (Fig. 1). These are Jaoli, Karad, Khandala, Phaltan, Khatav, Koregoan, Mahabaleshwar, Man, Patan Satara and Wai. The tehsils like Jaoli, Mahabaleshwar, Wai, Patan and some part of Satara are lying in Western Ghats which receive higher precipitation which is more than 600 cm per year. So the diversity of vegetation is more in this area while, moderate vegetation was found in the remaining part of Satara tehsil, Karad tehsil and Koregoan tehsil and remaining part shows very less diversity.

The study region is divided into 3 different zones (Fig 2), these are as follows,

a. Richest diversity Zone,
b. Moderate diversity zone and
c. Low diversity zone

a. **Richest diversity zone:** It includes the tehsils lying in Western Ghats which are Jaoli, Khandala, Mahabaleshwar, Wai, Patan and Western part of Satara tehsil.

The average annual rainfall is more than 1200 mm per year.
b. **Moderate diversity zone:** It includes the tehsils lying adjacent to Western Ghats viz. Karad, Koregoan, western part of Khandala, and Eastern part of Satara tehsil where the annual rainfall is 800 mm.

c. **Low diversity zone**

It includes the eastern tehsils of Satara districts, viz. Khatav, Phaltan and Man tehsils where the annual rainfall is less than 500 mm.

**Topography**

The Satara district is having two main organizations of hill ranges, they are Sahyadri and Mahadev hill ranges.

**Sahyadri hill**

The Sahyadri hill ranges running North to South directions from the western boundary of the district about 20 km from north of Pratapgad, passes southwest for about 30 Kms and then turns towards southeast for 50 Kms till it enters into Sangali district in between Patan and Shirala tehsil.

**Mahadev hill**

Mahadev hill running South to East direction respectively of the district. It originates from 16 Km North of Mahabaleshwar and stretches East and Southeast across the whole breadth of Satara district. The top of the both hills, especially in the North-Western tehsils, viz. Wai, Javoli, and Patan look is like a succession of fortress raised on a series of plateaus, piled one over the others, the whole surmounted by a wall of rocks.

**Soil**

The soil of Satara district is broadly classified into three main types, viz. reddish brown, black and light colored soil.

**Reddish brown**

The reddish brown soil is in the hills of Sahyadri, formed from the disintegration of laterite.
Black soil
It was found in Wai, Jaoli and Patan along the banks of streams. The Krishna valley is having broadest belt of black soil and said to be one of the richest belts in Southern part of India.
Light colored soil
It is also known as *malran* or *murummal* and is a poor and hard rocky soil common at the base of the plains in the Eastern hills. The district is drained by four major rivers namely Krishna, Yerla, Nira and Manganga (District Gazetteers, 2012). The Yerla and the Krishna in the south, the Nira in the entire northern belt whereas the Manganga in the southeast region of the district.

The climate of Satara district is broadly divided into four seasons, viz. monsoon, post monsoon, winter and summer.

**Monsoon season** starts with the onset of South-West monsoon which arrives in the month of June remains till October.

**Post Monsoon or retreating monsoon season** is about two months, i.e. from October to November. Humidity decreases during this period to the minimum.

**Winter season** is from December to about the middle of February. During this the temperature is at minimum level (12 °C).

**Summer** is the hot season, lasting till the end of May. The western part remains pleasant with compared to the eastern part of the district, which is too hot and the temperature is rising up to 38 °C.

The average annual rainfall in the district is 400 – 6000 mm. Western region of the district receives very high annual rainfall of about 4000 – 600 0mm whereas, the Eastern region was receiving low annual rainfall of about 500 mm. The average annual temperature ranges from 13 – 38 °C. During the monsoon period the humidity is high (over 85 %) whereas, in late winter and in summer the air is dry (30 %).

Vegetation of Maharashtra is a product of varied rainfall, topography and climatic conditions. It ranges from southern tropical semi-evergreen forests to...
littoral and swamp forests. Satara district having a total area of 4,022.6 square miles of land out of which 579.07 square miles occupied by forest. The vegetation of the district is of three type’s evergreen forests, dry mixed deciduous forests; and wet mixed deciduous forests.
Map 1. A map showing tehsils in Satara district
Map 2. Showing different rainfall zones in Satara district