1) **Introduction:** - Water is essential for the life on earth. It is a basic resource as well as necessary for plants, animal and human beings. They cannot survive without water. According to its distribution and availability, water resource may be broadly classed as: Underground water and Surface water (Singh 2007). About 97% of earth’s water is found in ocean; 2% is frozen in poles etc. and remaining 1% is available to us in the fresh water in river, lakes and ground water which is useful for human beings for their daily needs, irrigation and industries (Kudesia 1988) India has plenty of water. The subcontinent receives most of its water during monsoon month (almost 75%) Rest of the month which necessitates the use of ground water or stored water during the dry spells. The uneven distribution of rains in different months of the year is matched by its equally uneven distribution over different region of the country. Part of Rajasthan receives very little rains.

In, Dhule District there are 8 Medium Projects and 47 Minor Irrigation Projects. By the Medium Irrigation Project the water capacity status is 302.62 Mcum water availability and 47 Minor Irrigation Projects water capacity 126.62 Mcum water availability. This water utilization helps agriculture, industrial and domestic purposes. The sites of catchment area find another source of water availability.

2) **Study Area:** - The area is located in the north part of Maharashtra State. Jalgaon is located to the East, Nasik is to the South, Gujarat State and Nandurbar District is located to the West of Dhule District. Because of the Satpuda ranges, Dhule District is separated from Madhya Pradesh, Satmala ranges also separates it from Western Maharashtra. Dhule District contributes 2.62 % area of the Maharashtra State.

Dhule District with its headquarter at Dhule includes four tahsils namely, 1) Dhule, 2) Sakri, 3) Shindkhede, 4) Shirpur, Dhule is the only district in the state having such less numbers of tahsils except Mumbai City and Mumbai Suburban Districts.

Dhule District forms a distinct geographical unit as it is occupied by Satpuda ranges in the North, Satmala in the South and central part is occupied by Tapi basin with its major tributaries like Panzara, Burai and Arunawati.

Most part of the Sakri and Dhule tahsil is occupied by Dhanora and Galana hills, Hanuman is highest peak on Galana hills. Kandaibari and Laling Bari are minor Ghats in the district. Babakuvar is the highest peak in Shirpur Tahsil. Bijasan Ghat is Major Ghat to the North East of Shirpur Tahsil. Central and Eastern part of district is occupied by fertile plain. Shindkhede, Shirpur and Dhule Tahsils are included in central fertile plain.
RIVERS:

Tapi is the major river in Dhule district; it enters from Jalgaon district and flows from East to West. Aner, Arunawati are the major tributaries flowing from Eastern bank where as Panzara, Burai, Amravati joins to the Tapi on Southern bank. Panzara is the largest tributary of the river Tapi. Therefore, most part of the Dhule districts is made fertile by the tributaries of Tapi River.

SOILS:

Soils of the Dhule district are fertile Black cotton due to the depositional work of the Tapi and her tributaries. Mountainous region of the west having sandy soil, which is favourable for cultivation of Jawar, Bajra and other food grains.

CLIMATE:

The climate of the Dhule district is hot and dry. Summers are dry whereas winters are cold. The average temperature during the month of May is 45\(^0\)c and the average temperature during December is 12\(^0\)c.

The average annual rainfall is 60 cm. The distribution of rainfall is uneven and unreliable; therefore, Dhule district comes under drought prone region. The district receives most of the rain from south west monsoon. The western region receives more rainfall as it is located on higher elevation where as Shirpur, Shindhkheda and Dhule receives comparatively low rainfall.