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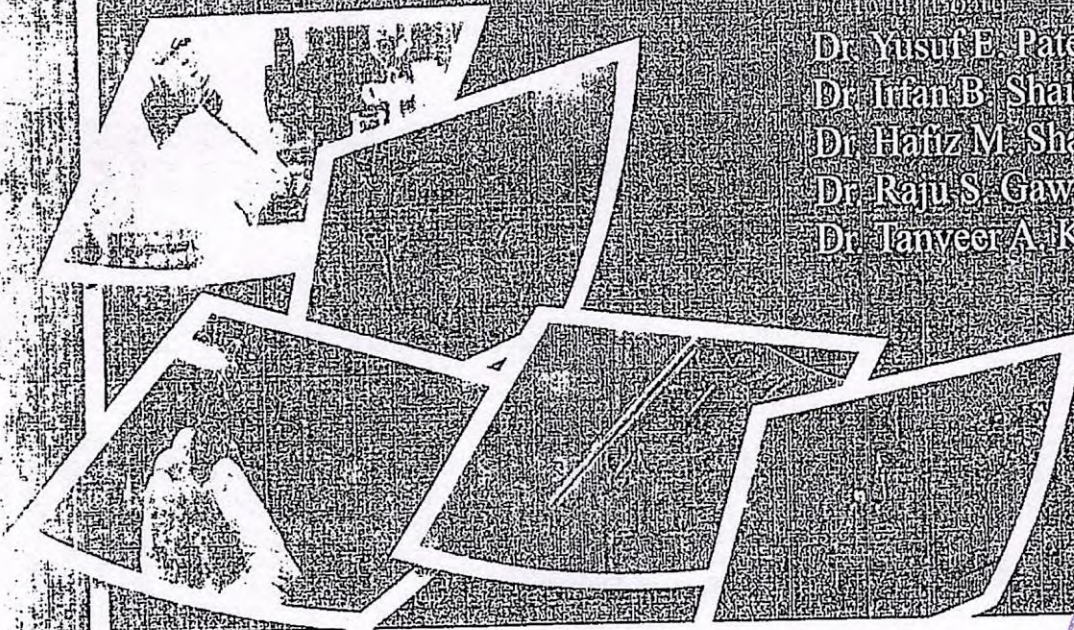
ENVIRONMENTAL STUDIES

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Effect of Decreasing Underground Water Level on Cropping Pattern in Bhadgaon Taluka, Dist. Jalgaon (M.S.)

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Abstract:-

Agriculture is lifeline of rural area of Bhadgaon taluka and irrigation is the soul of agriculture of this region. Due to scarcity of rainfall and unavailability of upper ground water, farmers are using to underground water for irrigation purpose on large scale with the help of lift irrigation system. So, the underground water level is going to decrease day by day in this area. That's why the cropping pattern also takes place of low irrigation crops in Bhadgaon taluka.

Introduction:-

Bhadgaon Taluka is come under semi-arid climate region. So, in this area rainfall is very low. And low rainfall affect to agriculture directly every year and every season. Farmers income is depend upon agricultural production and products. They sell his agricultural goods in market and get money for everyday expenditure. Farmers got money once in year and they maintain this income for fulfill his needs whole year. If sufficient rain came in the year, the agriculture products gave lot of production of grain to farmer and it is very helpful to his economy. But such type of condition rarely comes in the life of farmers. And he suffers from poor condition much time. So, farmers use lift irrigation system for development of his economic condition. Every farmer is going to use lot of effort to dug well and tube well and lift underground water for irrigation. So, underground water level decreasing day by day in every year. Due to decreasing underground water level, deficit the water availability and farmer goes to change cropping pattern.

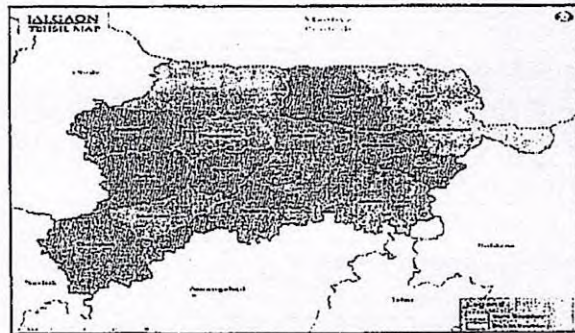
Key words:- Irrigation, Cropping pattern, Ground water, Water scarcity.

Study Area:-

Bhadgaon Taluka lies between 75013'N to 75022' N latitude and 20040'E to 20066'E longitude. The total area is 19841.41 hectares covered by this Taluka. At the Northern side of Bhadgaon is Parola and Jalgaon Taluka, at the eastern side is Pachora Taluka and at the western side is Chalisgaon Taluka to Bhadgaon Taluka.

Map No. 01

Location Maps of Bhadgaon Taluka



Research Methodology:-

1. Primary Data and Information:-

Some villages are selected through random sampling via contours and measure depth of wells, tube well and water level. 40% villages (25 out of 59) I have selected for the sampling. The data is collected from 274 farmers by personal interviews and questionnaires. I have personally measured the depth of wells, water level of wells and crops which are randomly selected of various village areas during Rainy, Winter and Summer seasons separately. The supporting evidences like photographs have been taken during the field work.

2. Secondary Data and Information:-

I have collected secondary data from published and unpublished document of Talathi, irrigation department, agriculture department of Taluka head quarter and District Geological Office at Jalgaon. The data is analyzed and maps and diagrams are finalized. Finally, I have interpreted the data and generate conclusion of the paper.

Aims and objectives- Aims and objectives are decided for this project is as follows-

- i. To find out irrigation problems in Bhadgaon Taluka.
- ii. To find out relation between irrigation and cropping pattern.
- iii. To account for the cropping pattern transformation that has been within last three year, (2012-13, 2013-14 and 2014-15).
- iv. Effect on cropping pattern and crops area.



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