PREFACE

Agriculture, with its united sectors, is undeniably the largest source of employment in India, especially in the vast rural areas. Sustainable agriculture is critical for all aspects of rural development, including food security, rural development, and environmentally sustainable improvements. Uttar Pradesh is a main wheat growing state of India, which pays 32 percentages of the wheat production of the nation from just 7.34% of the whole geographical region of the nation.

One of India's most pressing issues is how to enhance agricultural patterns for cropping in order to boost agriculture output while making the most optimal use of land resources. The production is unable to fulfil demand due to the country's fast-rising population. According to this reason, crop growth yield dynamics, analysis, and crop growth prediction take a significant role. For this analysis here use the real-time satellite imaginary and observe the monthly basis monitoring over the penology period during the snowing time to harvesting time of a selected crop. This analysis helps to know estimate production and the physiographic and economical reason for the decreasing or increasing productivity.

Here in this project a predictive analysis was performed on the wheat acreage and crop health scenario with the help of remote sensing technology like satellite imaginary and yield dynamic analysis by different parameters with the help of comparison analysis like AHP method with a block-wise scenario in a desired study area. It represents the block-wise categorization which helps us to understand the blocks falling under high zone, moderate zone and low zone. This categorization is very significant for the understanding of block-wise yield prediction patterns and provides a perfect idea of crop growth pattern and indicates increase or decrease of crop productivity. Crop yield estimation can help decision makers make choices about whether production situations top or fall under production conditions, and can make timely importation and transfer decisions. Therefore, agricultural economic rules and yield prices are affected by the correctness and speed of crop yield estimates. The crop yield is estimated to play a vital part in financial growth. Due to population growth, the request for micro-level planning is increasing, especially the demand for crop insurance, which rises the demand for field-level production.

Keywords: Crop health_AHP_GIS_Wheat_Ballia