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Research Paper

Impact of climate variability on crop yield in different districts of Gulburga division

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ABSTRACT : India is mainly an agricultural country. Agriculture being a means of livelihood of almost 58 per cent of the population in the country represents India's most important economic sector. Climate and Agriculture are inextricably linked. Climate change affects agriculture in a number of ways, including through changes in average temperatures, rainfall, climate extremes, changes in pests and diseases; changes in atmospheric carbon dioxide and ground-level ozone concentrations; changes in the nutritional quality of some foods; and changes in sea level. Realizing the importance of climate for agriculture production, present study was carried out in different districts of Gulbarga division. Study was based on secondary data collected from DES and one more published source entitled as "Statistical analysis of hundred year's rainfall data of Karnataka" published by M. B. Rajeegowda, Head AICRP on Agro-meteorology project at UAS, Bangalore. Analytical tools such as tabular analysis and multiple regression models were used. Results of the study revealed that, in all the districts namely Bellary, Bidar, Gulburga and Raichur rainfall showed decreasing trend during the period of study from 1983-84 to 2012-13. Maximum range in the magnitude of average rainfall between the driest and wettest years was observed in Bidar district *i.e.*, 332.74 mm followed by Gulbarga, Bellary, Raichur and Koppal. In Bellary district 80.11 per cent and 86.50 per cent of variation in the yield of Jowar and Cotton was explained by the Climatic parameters used in the study. In Gulbarga district 84.60 per cent variation in Jowar yield was explained by the variables such as actual rainfall, maximum and minimum temperature and maximum and relative humidity. In case of Raichur district Sunflower and Jowar yield were highly sensitive to the climate variability because 94.30 per cent and 81.56 per cent variation in the yield of Sunflower and Jowar was explained by the variables under study.

KEY WORDS : Climate variability, Climate change, Deviation, Range, Green house gases

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