Project No. 10

Adaptation strategies for climate change in North interior Karnataka

Objectives:

- To analyze the long period data of temperature and rainfall during *Rabi* season and identify different rainfall epochs
- Identify and propose the different sorghum genotypes for resistance to biotic and abiotic stress factors for various climate change epochs

Results:

2001-02 to 2002-03

- Climatological study of rainfall and temperature has been performed for all the four districts under study
- Farmers in Bijapur, Bellary and Raichur districts have been approached and information collected, as to know whether the same genotype was used in different decades by them although and if not why.
- Past and present eminent scientists of the University and administrators of the Department of Agriculture, Government of Karnataka, with longstanding experience in sorghum crop have also been approached, for their valuable inputs regarding changes in genotypes.
- Trends and periodicities of rainfall and temperature have been identified in the four districts.
- Majority of the farmers used Gundadeni variety during 1940-70 particularly due to it being the best variety available for higher yield and fodder quality.
- In all the three districts, the use of variety M35-1has reached more than 80% in the last two decades. Reason given by the farmers is that the variety is drought resistant and good quality of grain and fodder, thereby resulting in better market value.
- It is inferred that in epochs of low September and high October rainfall, genotypes resistant to pest incidence should be opted.
- The genotypes namely M35-1, Muguti and Selection-3, being drought tolerant have been identified for use during high September and low October rainfall epochs.
- The genotypes namely 9-13, GRS-1, Pule Yashoda, whose yields are higher in good moisture conditions and are also tolerant to biotic stress, have been identified as those preferable for epochs of low September and high October rainfall.
- Climate change scenarios for 2040-60 were provided by Dr. Krishna Kumar, IITM, Pune and the results for climate variability have been extended to climate change scenarios.