

**Impact of Climate Change on Hydrology, Agriculture and Natural Vegetation:
A case study in an irrigation sub-division Buchiana, Punjab Pakistan**

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Water scarcity has been emerged as global issue. The main cause of the scarcity is growing of extensive water demand. The country like Pakistan where the population has increased manifolds, and the socio-cultural, agricultural and economic practices have changed entirely, which have substantially modified the actual cropping patterns and intensities. The extensive use of fertilizers, a shift towards higher-delta cash crops and high-yielding crop varieties, and increased water application to maximize the crop yields, have resulted in a tremendous increase in irrigation water demand.

On the other hand, the available limited water resources are insufficient to meet the requirement. This situation was aggravated by coming change in climate, especially the recent period of drought after three subsequent years of low rainfall. In many areas of the country there was not even enough water to meet the minimum requirements for domestic use and how crop water requirement is fulfilled.

The climate change has visible impact in Pakistan irrigated agriculture by studying a case of an irrigation sub-division Buchiana, where an International Water Management Institute (IWMI) launched the study for one year. The result shows that there is an average variation of 19% in canal flow, 23% in rainfall, 8% in cropping area and 25% in cropped production. Similarly, farmers have to pay extra amount of \$50 per hectare in a cropping season.

Seeing the seriousness, need is to highlight the issue at global level, so as the measures could be taken for the sustainability of the resources.

Thursday I (Talk)