

**Review Article**

## **A glimpse on post-graduate thesis researches of Agronomy Department of IAAS and prioritized future research directions**

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### **ABSTRACT**

To appraise the major research outputs of agronomic crops and cropping systems and to direct the future research priorities of Agronomy Department of post-graduate (PG) program of Institute of Agriculture and Animal Sciences (IAAS), a rigorous review was accomplished on about two decadal (2000-2018) student's thesis research works. The review revealed that the agronomic researches at IAAS from 2000 to 2012 were concentrated mostly in on-station farm of Rampur, Chitwan and found their focus on 11 food grain crops with five major themes *viz.* varietal evaluation, crop management, soil nutrient and weeds management, and crop simulation modeling. With the shifting of IAAS PG program from Rampur to Kirtipur in 2013, the major agronomic researches were found to be concentrated in on-farm stations due to transitional movement of IAAS to Agriculture and Forestry University, Nepal. A total of 115 agronomic studies were conducted on various crops, of which 92 were on cereals, 8 on legumes, oilseed and minor cereals including potato. There were records of 10 studies on rice-wheat and 3 studies on maize-based systems. The huge gaps between the potential and farmers' field yield and between the potential and research station yields for rice, maize and wheat crops suggested a great scope to raise yields of cereals by improved agronomical researches on varieties evaluation, crop and nutrient management and weed management. Simulation modeling study predicted that the varieties of rice and maize adopted at present could sustain the yields only for recent few years and needed for introduction of new climate resilient varieties, then after. Innovative and new researches on eco-region suited on-farm trails with variety identification, improved crop husbandry and soil nutrient management, improved weed and water management and on agro-meteorology, conservation agriculture, climate change adaptation and crop simulation modeling are advised as future research frontiers to uplift the productivity and reduce yield gaps of major food crops and to strengthen the academics of post-graduate research in near future.

**Keywords:** Agronomy department, Food crops, IAAS post-graduate thesis research, On-station and on-farm research, Yield gaps

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