

University of Washington (USA) presents a vision for a water and fuel-efficient rice production system for Department of Agricultural Extension to the Bangladesh Planning Commission -The Asian Age



On August 16, 2021, a virtual seminar was presented by Dr. Faisal Hossain of University of Washington titled "Towards a Climate-Resilient, Water-efficient, Fuel-efficient and Decarbonized Rice Production System for Bangladesh." The seminar was organized hosted by the Planning Commission under the Ministry of Planning and hosted by Dr. Saleemul Huq of International Center for Climate Change and Development (ICCAD). During the seminar the implementation and impact evaluation of a satellite-based irrigation rice advisory system (IRAS) was presented. IRAS is an irrigation advisory system co-developed in collaboration with Dr. Md. Shah Kamal Khan of Department of Agricultural Extension who is project director of the Agro-Meteorological Information System Development Project (AMISDP). The Chief guest of the ceremony was Member, Programming Division and Secretary, Planning Division, Ministry of Planning.

During the seminar, Dr. Faisal Hossain presented the results of the impact evaluation of the Integrated Rice Advisory System (IRAS) that had been in operation in collaboration with DAE AMISDP project at select regions of Northeastern Bangladesh from January 2021 to May 2021. IRAS transmitted text advisory to farmers in Northeastern Bangladesh on optimum ways to irrigate while safeguarding crop yield. These texts were generated on the basis of weather, satellite data, estimated water consumption by crops and modeled crop water need. To quantify the impact of IRAS, a survey was carried out of farmers and pump owners who were divided into control and experimental groups. On an average, IRAS was found to be instrumental in reducing irrigation water use and fuel consumption by up to 40% while safeguarding rice yield and potentially increasing earnings by 30%. More than eighty percent of farmers and pump owners reported the weather forecast of IRAS to be the most useful component for making decisions to avoid unnecessary irrigation. The seminar also stressed the need for a satellite-based crop area monitoring for DAE to track the area under cultivation for major crops of Bangladesh for an accurate estimation of annual crop production.

The seminar concluded that the impact evaluation survey revealed IRAS can make a significant reduction in the water and energy footprint of dry-season rice production for Bangladesh by using less water and fossil-fuel to maintain similar levels of productivity. During the discussion session, the need for an effective communication strategy was stressed by experts to make science-based solutions sustainable. AMISDP Project Director Dr. Shah Kamal agreed that DAE is now well-suited to continue its capacity development of the Bangladesh Agro-Meteorological Information System (BAMIS) portal by pioneering satellite-based irrigation advisory and crop area monitoring. Everyone agreed that this would further strengthen the agricultural sector of Bangladesh with 21st century Information Technology on weather and earth observations.

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