

Abstract No. 51**Changes in cropping pattern between 1970 and 2015 in Barind Tract, Brahmaputra Floodplain and Ganges Floodplain**

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Abstract With the advancement of time the cropping pattern in Bangladesh has been changed, which needs quantitative investigation. The present study was performed based on both primary and secondary data that analyzed using GIS Arc Info software, with area coverage calculated under different cropping patterns in 1970, 1990 and 2015. In 1970, the level Barind tract under Shajahanpur upazila mostly used Fallow - T. Aman rice (59%) pattern which in 1990 changed to Boro rice covering 61% area and in 2015 it increased to 71% followed by T. Aman rice (69%). For high Barind tract under Chapai Nawabganj Sadar upazila the area was greatly covered with grassland or barren accounting 54% in 1970 which little changed in 1990 due to inclusion of Boro rice (8%), which in 2015 became doubled. Brahmaputra floodplain was significantly used for Fallow - Aus rice or Jute - T. Aman rice in 1970 comprising 51% area, later in 2015 cropping pattern changed to Boro rice - Fallow -T. Aman rice (51%), Boro - T. Aus rice -T. Aman rice (8%), Boro rice - Fallow - Fallow (4%), and Mustard - Boro rice - T. Aman rice (1%). In 1970, Ganges river floodplain was largely used for rabi crop/Fallow - Mixed Aus & B. Aman rice amounting 44% area coverage, then in 1990 cropping sequence became as Boro rice - Fallow - T. Aman rice (21%). In 2015, Boro rice coverage increased to 37% area with cropping sequences Boro rice - Fallow - T. Aman rice (26%), Boro - T. Aus rice - T. Aman rice (8%) and Boro rice - Fallow - Fallow (3%). The increasing area under Boro rice cultivation contributed to the crop productivity as well as food security, but nevertheless this situation might have changed the biogeochemistry of paddy soils which warrants investigation.

Keywords Barind tract, Brahmaputra floodplain, Ganges floodplain, Cropping pattern
