

SUSTAINABILITY OF PRODUCTION OF MAJOR CEREAL CROPS IN BANGLADESH

Major Professor and Supervisor: Dr.S.M. Fakhrul Islam

Author Name: Sankar Kumar Paul

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ABSTRACT

The present study made a broad quantitative analysis of sustainability of Bangladesh's cereal crops production with regard to resource allocation under an uncertain production environment. Specifically, it described the past growth rates and factors affecting area, production and yield of cereal crops in Bangladesh to attain sustainable agriculture. The study area consisted of major 17 districts in Bangladesh, named as, Dinajpur, Rangpur, Bogra, Rajshahi, Pabna, Kushtia, Jessore, Khulna, Barishal, Mymensingh, Dhaka, Faridpur, Sylhet, Comilla, Noakhali, Chittagong and Chit. Hill. Tracts. The compound growth rate model was used to find out the past trend of area, production and yield of cereal crops and the generalized method of moment was used for a moment based approximation of the stochastic technology with the use of Cobb-Dugbs production function. The analysis shows that the total cereal production in Bangladesh grew at an average yearly rate of 0.08 percent between 1971/72 and 1991/92. The average yield during this period grew by 0.0009 percent per year, and the total gross cropped area allocated to cereals by 0.09 percent per year. In the study, area and production growth rates of aus ,aman, boro and wheat are positive but yield growth rate of all except wheat are negative. The yield augmentation for the wheat varieties has been dependent on technological breakthrough in production The variable inputs of production in which irrigation, fertilizer, pesticide and humidity are contributing positively for all the cereal crops but rainfall and temperature are, however, contributing negatively to the production of some varieties. The coefficients of variation of the area and production for total cereal crops are more or less same but coefficients of variation of yield have been decreased. Irrigation, fertilizer, pesticide and temperature found to positively contributing to sustainable MV Aus. On the other hand, humidity and rainfall adversely affecting sustainability of MV Aus in Bangladesh. Irrigation, fertilizer, pesticide and temperature positively contributing to sustainability of MV Aman in Bangladesh. While humidity and rainfall are negatively contributing to its sustainability. Irrigation, pesticide and temperature found to be positively contributing to sustainable MV Boro production in Bangladesh. While fertilizer and humidity adversely affecting its sustainability. Fertilizer and temperature found to be positively contributing to sustainable Wheat production in Bangladesh.