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SBE**

# ECONOMICS DEPARTMENT SEMINAR

**Speaker: Dr. Syed Mortuza Asif Ehsan,**  
Assistant Professor, Department of Economics



**Title of the Presentation: Disaster Induced Agricultural  
Productivity in Coastal Regions of Bangladesh:  
A Stochastic Frontier Analysis Approach**

## Profile of the speaker:

Dr. Syed Mortuza Asif Ehsan is an Assistant Professor in the Department of Economics at North South University. He holds a Ph.D. in Economics from Virginia Tech., USA. His current research areas include development economics, international trade, environmental economics, and applied econometrics. As an empirical researcher, besides working on core economic issues, Dr. Ehsan has also worked on a number of interdisciplinary research projects commissioned by the North South University and the Bangladesh Planning Commission, involving social and environmental aspects. He has presented his papers in several international conferences and has published in a number of academic journals. He also writes economic articles on national and international periodicals. At the Department of Economics of North South University, Dr. Ehsan teaches Graduate Level econometrics courses on Panel Data, Time Series forecasting, and Game Theory, among others.

## Abstract of the Paper

The dominant food crop in the agricultural sector of Bangladesh is Rice, which is also the source of livelihood for about half of the rural population. The rice sector constitutes about 70 percent of the agricultural GDP and about 92 percent of total food grain in Bangladesh. Both the level of production and efficiency of the rice sector in the coastal areas of Bangladesh is vulnerable to a wide range of natural disasters. In this paper, we have conducted a comparative study of the groups of households based on their natural disaster exposure during the last five years. Utilizing Stochastic Frontier Analysis approach, we have determined factors that can improve or deteriorate the household-level production-efficiency in the low-lying flood-plain areas of three coastal districts, namely Patuakhali, Cox's Bazar, and Khulna. Different specifications of the production function have been considered in our analysis to ensure the robustness of the results. Our results suggest that households experiencing natural disaster during 2014-2018, produced 20.3 percent more rice compared to the households without any exposure to disaster. The production-efficiency analysis results show that, on average, the rice-producing households in our study are operating at 73.25 percent of their maximum productive efficiency. And the level of efficiency is much higher for the disaster-experiencing households at 77.18 percent compared to the group that did not face any disaster (68.89 percent) during the last five-years. Findings from our paper also suggested that the production of rice in the coastal areas of Bangladesh registered a lower level of production efficiency compared to the other regions of the country, as indicated in the existing literature. Farmers experiencing a disaster in recent years were 20 percent more efficient in rice production compared to their disaster-unaffected counterparts. The average age of working-age household members and the size of households,

**Date: 3 September 2020**

**Day: Thursday**

**Time: 1:00-2:00 PM**

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