

Category	: International Rice Research Conference
Select Theme	: Climate change and environmental sustainability
Endorsement email	:
Keyword 1	: Adaptation to climate change
Keyword 2	: Climate smart agriculture
Keyword 3	: Multidimensional sustainability (environment, economic, social, governance)
Title of Entry	: An Assessment of the Potential Impact of Climate Change on Rice Markets and Farm Households in Bangladesh
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Select only one type of presentation	: 15 minute oral presentation
Abstract	: Bangladesh, the sixth largest rice producer in the world, has been identified as high risk from the effects of climate change. Many of the adverse impacts of climate change, such as land inundation and changes in weather patterns and CO ₂ levels will impact the agricultural sector. This study develops a multi-regional farm household model of Bangladesh rice and non-rice agricultural markets to quantify the impacts of climate change on consumption, production, prices, farmers' welfare. The model is calibrated to the Bangladesh rice market using Household Income and Expenditure Survey data. The model is simulated to analyze the impact of land reduction and productivity decline resulting from climate change. This is the first study to simultaneously examine the impacts of climate change on not only production and prices, but also consumption and welfare under a farm household structure. The results show that the decline in production in the coastal and northern regions offsets the production increase in the central and eastern regions, and the simulation predicts that total rice production for Bangladesh falls by about 2%. As total rice consumption falls and imports rise, and the net effect leads to a rise in the rice price by 5.71% and a decline in farmers' welfare. Sensitivity analysis shows that more (less) aggressive public investment in abatement technology will play a key role in mitigating (exacerbating) the price and welfare effects. The model predicts that many farmers in regions directly impacted by climate change will leave farming in search of off-farm work. Thus the government can ease this transition by promoting manufacturing industries and inward foreign direct investment to provide more job options.

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