Technology Fact Sheet for Adaptation

Technology Fact Sheet: Development of salinity-tolerant rice varieties [i]

Sector	Agriculture/ Technology development and knowledge management
Technology Name	Development of salinity-tolerant rice varieties
Adaptation Benefits	Coastal farmlands now face loss of rice crop production due to salt water intrusion caused by sea level rise and unusual high tide. This technology will allow protect agriculture based small-holders livelihoods, reduce the number of landless people and protect increasing number of poverty affected people. The introduction of salt-tolerant rice varieties could also help the region cope with another problem — land subsidence.
Background/ Notes, Short description of the technology option	According to the Intergovernmental Panel on Climate Change, Bangladesh is slated to lose the largest amount of cultivated land globally due to rising sea levels. A 1m rise in sea levels would inundate 20 percent of the country's landmass. In recent decades, rising sea levels in the Bay of Bengal have encroached on vast tracts of agricultural land in the south, undermining rice production, a staple part of the Bangladeshi diet. Meantime, thousands of small-scale rice farmers have seen their livelihoods decimated due to the effects of climate change in the low-lying area. With soil salinity spreading fast, the key to survival lies in developing salt-resistant agriculture A new salt-resistant paddy could offer hope to coastal farmers in the coastal regions of Bangladesh whose crops are being affected by increased level of salinity. Though the rice variety 'BRRI -47', developed by the Bangladesh Rice Research Institute (BRRI) is claimed to survive high salinity and water-logging but its capacity of salinity tolerance level require to upscale to that this variety could withstand even in higher salinity level.
Implementation assumptions, how this technology will be implemented and diffused across the subsector	Important considerations for this technology implementation and diffusion includes: • Development of improved rice variety • Experimentation of performance in different soil salinity condition • Field experimentation and demonstration

	• Development of dissemination packages and tools • Monitoring of variety suitability in different coastal regions
Impact Statements-How this option impacts the country development priority	
Country social development priorities	• Number of jobless and unemployed people will be reduced. • Will protect from increasing number of poverty affected people
Country economic development priorities	• This technology will increase rice production and will contribute to country's goal of attaining food security
Country environmental development priorities	• Awareness building to guide for taking action by the decision makers to ensure future sustainability.
Costs	
Capital costs	• Approx cost = Tk 2000.00 Lakh for research and development of new variety • Approx cost for experimentation of the performance new rice variety Tk 500 lakh/ town Total: Taka 2500 lakh; (USD 3125000)
Operational and Maintenance costs	• Approx cost of field experimentation and demonstration = Tk 500.00 lakh • Development of dissemination packages and tools Tk 250 lakh • Approx cost of monitoring = Tk 250.00 lakh/ year Total: Taka 1000 lakh; (USD 1250000)

[i] **This fact sheet has been extracted from TNA Report – Technology Needs Assessment and Technology Action Plans For Climate Change Adaptation– Bangladesh. You can access the complete report from the TNA project website http://tech-action.org/**