

## RapAgRisk for Rice in Guyana: Rapid Agricultural Supply Chain Risk Assessment Tool to Reduce Vulnerability in Agriculture

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The agricultural sector constitutes an important source of growth, development and poverty reduction in Latin America and the Caribbean (LAC). Aggregate growth from agriculture is estimated to have been 2.7 times more effective in reducing poverty in LAC than growth outside agriculture. The agricultural sector is negatively affected by a variety of risks with serious consequences for food security and livelihoods. Climate variability and climate change (CC) create large risks to agriculture production, including droughts, floods, hurricanes and sudden changes in temperatures. Data shows that countries in LAC will be among the most affected by these changes. Between 1992-2011 Honduras, Nicaragua, Haiti and the Dominican Republic were among the top 10 countries in the world hardest hit by CC and between 1976-2005 LAC was the region with the second highest incidence of number of natural disasters in the world. In LAC, weather-related disasters affecting the agriculture sector are projected to increase in frequency and the projected impact of CC on major crops could be significantly larger than what has been previously predicted. Under these changing climatic conditions more resilient agriculture will require strategic investments in adaptation measures to reduce vulnerability to increased weather risks. Understanding the vulnerabilities associated with agricultural risks due to increased frequency and severity of severe weather events can improve planning and reduce the need for government ex-post interventions. Currently LAC's risk management strategies for weather events rely heavily on ex-post arrangements, especially for countries with limited access to financial markets that depend heavily on donor support. Ex-ante strategies can eventually help countries to mitigate, transfer and make specific provisions for risk, which will help to reduce budgetary pressures for ex-post support and make fiscal planning more effective and efficient. The World Bank has developed a comprehensive approach to assess agriculture risks within specific supply chains to help governments develop ex-ante risk management strategies. The Rapid Agricultural Supply Chain Risk Assessment (RapAgRisk) provides a system-wide approach for identifying risks, risk exposure, severity of potential losses, and options for risk management. RapAgRisk uses a four component approach to quantify risks according to probable losses and frequency and analyzes risks and vulnerability within key supply chains to prioritize and target public expenditures and investments in the agriculture sector. A RapAgRisk was conducted for Guyana's rice sector as well as other commodities in other countries. The supply chain risk assessment of Guyana's rice sector identified flooding as one of the main sources for rice paddy losses in the country, in part due to increase in the severity of rainfall events that have exceeded national coping capacities. The study concluded that stronger flood management structures, including additional investments in new drainage infrastructure, and improved water management systems were high priority policies in order to have the largest reduction in the exposure to supply-chain risks. Guyana will incorporate recommendations from RapAgRisk to prioritize their spending for ex-ante strategies with the aim to reduce their cumulative ex-post spending. The application of RapidAgRisk for key agriculture supply chains in LAC countries will help public and private sector identify the main risks and the level of exposure of the various processes and actors along the supply-chains in order to strategically prioritize policies and investments to increase adaption to climate change.