

GHANA

Strategy Support Program



New Developments in Financial Risk Management Tools for Farmers

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DISCUSSION NOTE # 014

INTRODUCTION

Agriculture is a precarious business in which farmers face a host of market and production risks that make their incomes volatile from year to year. These risks include yield losses due to bad weather, pests and diseases, postharvest losses during storage and transport, unexpectedly low market prices, and catastrophic events. While the consequences of these risks are challenging for industrialized countries, they can be even more severe in developing countries where losses may undermine agricultural development and poverty reduction, contributing to food insecurity and humanitarian crises.

TRADITIONAL RISK MANAGEMENT STRATEGIES

Given their historical experience with risk, farm households and rural communities have developed a number of strategies for managing it. These strategies have included the diversification of crops and crop varieties, staggering planting dates, offsetting price and yield variations with surpluses, engaging in off-farm employment, and stockpiling basic assets. At the community level religious funds, credit groups, kin-support networks, and sharecropping contracts have played an important role in reducing risks.

While traditional risk management practices have been shown to be effective they are not without costs and limitations—they frequently require income tradeoffs and foregone investments. Additionally, traditional risk management arrangements frequently fail to provide an adequate safety net for the poorest and most vulnerable households. These strategies are also limited in their ability to manage catastrophic risks that impact most farmers within a region at the same time. The highly covariate nature of these losses makes them especially difficult to manage as many financial institutions and input suppliers are also strained.

Recognizing the limitations of traditional risk management institutions and their adverse social and development consequences, governments have intervened with a range of programs for farmers, including crop insurance, price stabilization, and emergency relief. Crop insurance programs generally provide

comprehensive coverage against low crop yields, typically tied to credit from publicly run agricultural development banks. Experiences with publicly provided crop insurance have proved widely disappointing for a variety of reasons. Crop insurance is susceptible to moral hazard because attempts are rarely made to limit the kinds of losses covered or to identify the cause of losses. Adverse selection arises because premium rates are set at regional or national levels while payments are based on individual losses. Incentive problems arise within insurance institutions when the government underwrites their programs, and these institutions are also undermined by government regulations for low premium rates and direct assistance programs in disaster areas. Many crop insurance programs become too specialized, and without a well-diversified insurance portfolio expose themselves to the covariate risk problem. As a result of these difficulties, public crop insurance programs were largely phased out in the 1990s or redesigned as partnerships with the private sector.

Price stabilization schemes involve buffer stock schemes, variable trade levies, and tariffs. Buffer stock schemes involve parastatals that control imports and exports, procure domestic production at set prices, and hold stocks to stabilize prices. Variable trade levies and tariffs do not require parastatal support. Overall, price stabilization schemes have varied widely in their effectiveness, and like public crop insurance programs were largely phased out as part of the market liberalization programs of the 1980s and 1990s.

Some of the key problems contributing to their demise included the following:

- Difficulty setting the price band within which prices are stabilized
- Price bands are open to political manipulation even when average prices are not distorted
- A run of bad years can bankrupt the stabilizing agency
- A crowded out private sector
- Inability to seal national borders to control imports and exports

Relief programs are provided directly by governments to assist rural areas with catastrophic losses. In addition to emergency

assistance, recovery may be built around food and cash transfers, debt forgiveness, temporary employment schemes, and asset replacement. While most programs achieve their primary objectives, they vary widely in terms of their costs and efficiency. Two of the biggest challenges facing relief programs:

- Targeting relief aid to those in greatest need is often difficult.
- By the time an emergency has been declared, the assistance often arrives too late to relieve the worst losses.

Like most other public risk interventions, relief programs can inadvertently distort incentives.

NEW RISK MANAGEMENT STRATEGIES

Given such variability in the effectiveness of traditional risk management institutions, there is significant interest in the development of market-mediated approaches that enable farmers and rural people to manage more of their risks without government help. Two of the most promising approaches are area-based index insurance and futures markets. Area-based index insurance differs from traditional forms of crop insurance in that contracts are written against events defined and recorded at regional levels rather than at individual farm levels. All buyers in the same region are offered the same contract terms per unit of insurance coverage, avoiding the perverse incentive problems such as moral hazard and adverse selection. Importantly, index insurance has the potential to unlock credit if insurance and credit arrangements are linked so that the lender is backed in the event of a default.

Over the past 5 years, a plethora of pilot programs have been launched around the world. Although it is still too early to evaluate most of these programs, some important lessons have emerged. A fundamental problem on the demand side stems from basis risk, which arises if an individual farmer experiences losses due to events that are too localized to trigger regionally based insurance payouts. In such cases, farmers lose interest in insurance. Basis risk can be reduced by increasing the number and dispersion of weather stations, investing in agrometeorological research, developing indices that correlate highly with production or asset losses instead of local weather data, and limiting insurance to the kinds of low frequency, high-impact weather risk that affect most people in a region.

Futures markets enable farmers to lock into forward prices. Trading is conducted within organized markets with transparent prices, and futures price contracts can be traded in the market at any time up to its maturation date. Since there are relatively few operating futures markets around the world, their use is constrained by basis risk, particularly for non-export crops where local spot and world market prices are weakly correlated. In export crop markets, the farmer is selling in parallel and highly linked world spot and futures markets where transactions are undertaken in the same currency. Despite the promise of futures markets, especially for export crops, few farmers use them. This may be due to access to markets and contracts that require large underlying volumes as well as substantial margin payments. To overcome these constraints, individual farmers need marketing intermediaries who can trade on their behalf.

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This publication has been prepared as an output of the Ghana Strategy Support Program, which is funded by USAID and facilitated by The International Water Management Institute (IWMI) headquarters. It has not been peer reviewed. Any opinions stated herein are those of the author(s) and do not necessarily reflect the policies of the International Food Policy Research Institute (www.ifpri.org), its partners, or its collaborators.

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