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Bundling risk

The need to link weather index insurance with other agricultural services

Crop yields, especially of smallholder farms, are influenced by a wide range of environmental, biotic and management factors. Amongst environmental factors, adverse weather events associated with climate change threaten crop yields and agriculture in general. Although several mechanisms have been proposed to manage production risks including the reduction of weather risks, weather index insurance (WII) has gained popularity over the past two decades because it is potentially capable of hedging farmers against the negative impacts of adverse weather. The development of WII tools is timely as climate change is expected to exacerbate the frequency, intensity and impacts of adverse weather events. However, recent studies show that smallholder crop yields are equally influenced by

management-related factors including sowing date, seed variety, fertilizer application rate, soil preparation, type of farm ownership (individual/cooperative), availability of farm equipment, etc. Therefore, crop yield variations are not only due to the naturally occurring weather conditions, but also to farming practices and resource availability.

Many studies that have attempted to design WII products report weak or moderate correlations between weather indices and crop yields. WII requires a weather index that matches and correlates well with crop yields because the index is used to calculate indemnification. If the index does not correlate well with crop yields, the farmer may not get fair indemnification, or the insurer may overcompensate. That is why insurers test and compare weather indices against historical yields when they are designing insurance contracts. The failure of the index to explain or match yields is known as basis risk, and this mismatch is partly attributed to the influence of non-weather factors on crop yields. In other words, if crop yield variation is not explained by the weather then it must be explained by non-weather factors. In WII, losses

caused by non-weather factors like inappropriate application of fertilizer, the use of unsuitable seeds and late planting are not compensated. Drought index insurance, for example, pays out when the index (rainfall) value is below a certain threshold, irrespective of other yield-determining factors.

To achieve the intended outcomes, this article argues that insurance must be linked or bundled with other agricultural services like input supplies, credit, and advisory services. This will ensure that weather-related risk is covered by insurance; farm inputs or investments are optimized; while farmers gain improved access to agricultural credit. Insurance cover makes it easier for farmers to access credit because it protects not only farmers from financial loss, but also lenders from credit risk. Insurers can either provide these services as a bundle or establish well-coordinated partnerships with input suppliers, advisory service providers (Department of Agriculture, Land Reform and Rural Development) and lenders. ■

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