

2 Mexico

Agriculture Insurance Market Review

SAB Basic Crop Insurance: A Successful Public-Private Partnership

A Demonstrated Need for Adequate Protection for Farmers

In the fall and winter of 2010/2011 a severe frost hit Northwest Mexico which nearly destroyed agricultural yields in the region. The State of Sinaloa faced particularly dramatic damage, emerging from the growing season with MXP 2.61 billion in claims and a loss ratio of 1,346 percent (claims divided by premiums as a percentage) for just those crops insured by farmer mutual insurance funds (Fondos).¹

The severe losses in 2010/2011 also demonstrated a deeper issue: farmers were only purchasing the minimum levels of agriculture insurance required by credit providers to cover their loan amounts, and not the farmers' own proportion of the production costs. Most farmers facing crop losses did not have their own investment in the costs of production covered by insurance and were forced to take out new loans in order to replant their crops, increasing the sum insured by Fondos for 2012. This pattern was leading to decapitalization, lack of resources for subsequent crop cycles, and loss of income, and the Government of Mexico frequently had to intervene to provide financial assistance after major loss events.

In addition, there were loopholes in the existing policy requiring crop insurance in order to access credit, which allowed many farmers to avoid purchasing any coverage. Credit is the main driver of agricultural

insurance sales in Mexico, and approximately 80 percent of crop and 60 percent of livestock insurance is linked to loans. However, it is estimated that about 35 percent of farmers with loans do not have crop insurance. Farmers were trying to minimize their premium cost by limiting sums insured, or the perils covered, or otherwise were managing to obtain a letter of exception from an insurance company (specifying that their crop or area is not coverable by insurance).

In the face of these challenges, the Government sought a more robust system that would provide adequate agriculture insurance coverage and increase penetration of the market, while at the same time reducing the need for ex post or ad hoc governmental interventions.

The SAB Model

SAB (*Seguro Agrícola Básico*) is a basic crop insurance scheme developed jointly by the Ministry of Finance (SHCP), private banks, state banks (FIRA), private insurance companies, Fondos, and the Ministry of Agriculture, Livestock, and Fisheries (SAGARPA). Officially launched in the autumn/winter season 2012/2013, SAB is intended to be a standardized crop insurance product to be marketed to commercial farmers by insurance companies and Fondos and to increase market penetration for basic crop insurance. It is an extension of the existing Investment Cost Policy (*Seguros a la Inversión*), which is the principal cost insurance policy type in use in Mexico and has been the main crop insurance policy linked to credit. Investment Cost Policy forms the technical basis for SAB, though SAB attempts to incorporate production costs into its coverage and

¹ Fondos are mutual insurance funds formed by local growers which only provide insurance to their members. They operate under a differentiated legal framework and reinvest any underwriting surplus into contingency reserves or social services in the local community.

overcome the loopholes exploited under Investment Cost Policy.

Similar to the Investment Cost Policy, SAB offers two loss adjustment versions: Named Peril Crop Insurance (NPCI), which is used mainly on irrigated land, and Multiple Peril Crop Insurance (MPCI), which is used mainly on non-irrigated land. Coverage is divided into three layers (see Figure 1 for more details):

- Layer 1: Credit amount normally loaned per hectare as the standard seasonal crop production loan (currently required to receive financing). Amounts to 75-80 percent of the financeable costs per hectare.
- Layer 2: Component which farmers are expected to contribute towards the financeable variable costs of production from their own resources. Amounts to 20-25 percent of the financeable costs per hectare.
- Layer 3: Catastrophe Layer, which is only triggered once total loss or constructive total loss is declared.

Layers 1 and 2 combined form the core SAB policy modeled on the Investment Cost Policy, with the addition of the farmers' own production cost coverage (Layer 2). However, the Insured Yield under SAB

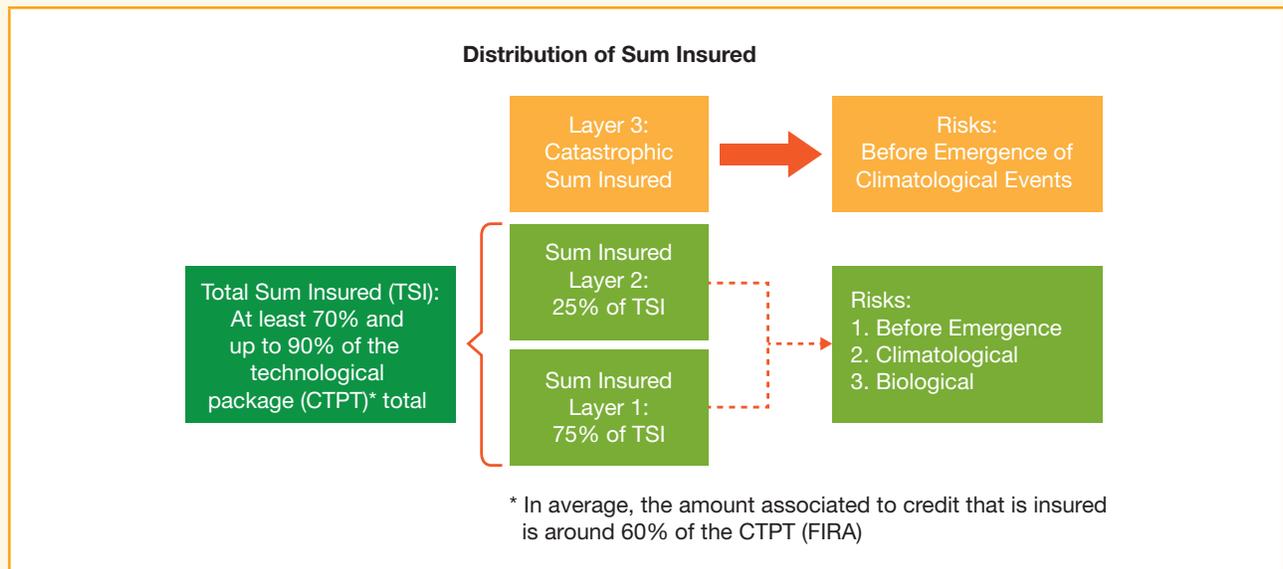
cannot exceed 70 percent of the yield used to derive the expected revenue, and the sum insured for Layers 1 and 2 combined is divided into the Insured Yield to establish a sum per unit of production, which forms the basis on which losses will be adjusted. The deductibles for Layers 1 and 2 vary between 10 and 30 percent of the sum insured.

The Government plans to extend the existing premium subsidy level of 35-60 percent for Layer 1 to include Layer 2, and 75 percent for Layer 3 (see Table 1 for premium subsidy levels by State). The market has advised that it intends to maintain the existing premium rates which are in force for Investment Cost Policy and apply these same rates to the combined sums insured for Layers 1, 2, and 3.

Key Features of SAB

- SAB is based on the existing Investment Cost Policy, and will be operated using similar loss adjustment methods and premium rates.
- Coverage is extended to Layer 2 to include farmers' own financial contributions to the costs of production, and to Layer 3 to include additional financial assistance in the event of catastrophic total loss.

Figure 1. The Three Component Layers of the SAB



Source: FIRA/SHCP/SAGARPA presentation.

Table 1. Rates of Premium Subsidy for Basic Types of Crop* by State, for Layers 1 and 2 of SAB

| Region 1 | Region 2 | Region 3 | Region 4 |
|--------------------|--------------------|--------------------|---------------------|
| 60% Subsidy | 45% Subsidy | 40% Subsidy | 35% Subsidy |
| Campeche | Aguascalientes | Chihuahua | Baja California |
| Guerrero | Distrito Federal | Coahuila | Baja California Sur |
| Oaxaca | Guanajuato | Colima | Sinaloa |
| Quintana Roo | Hidalgo | Durango | Sonora |
| Tabasco | Edo. de México | Jalisco | |
| Veracruz | Michoacán | Nayarit | |
| Yucatán | Morelos | Nuevo León | |
| | Puebla | Tamaulipas | |
| | Querétaro | | |
| | San Luis Potosí | | |
| | Tlaxcala | | |
| | Zacatecas | | |

Source: Authors with data from Agroasemex, 2012.

*Note: *Eligible basic crops are Coarse and Small Grains as well as Oilseed crops.*

- The Sum Insured is determined by technological packages provided by FIRA.
- For Layers 1 and 2 coverage, there is a 35-60 percent premium subsidy, and for Layer 3, a 75 percent subsidy.

Challenges, Observations and Options for Strengthening SAB

As SAB was only launched in 2012, there is little data available on the results of implementation. However, based on an analysis of the proposed policy, the following observations and options for strengthening SAB can be proposed:

1. International experience has shown that demand on a voluntary basis for agricultural insurance is often weak, and market volumes are highly dependent on compulsory linkages, particularly to credit. Since Layers 2 and 3 of SAB are not compulsory to producers, maintaining the status quo for producers by insuring only Level 1 is a possibility. The uptake of SAB is unknown and will be heavily dependent on marketing efforts by insurers

and Fondos. Premium rates in the market have increased as a result of the 2010/11 claims events, and the higher sums insured for SAB further increase the premium cost compared to the existing Investment Cost Policy (Layer 1 only). The level of demand for the product remains to be seen, and whether there is a need in the future to strengthen directives to link SAB to credit. The introduction of SAB does not substantially alter the product range available to producers, but it provides a logical and uniform marketing package.

Option: Issue directives from FIRA and encourage marketing of SAB by insurers and Fondos to increase uptake of SAB. Alternatively, subsidize 100 percent of Layer 3 on a flat rate basis where beneficiaries purchase Layer 2.

2. An actuarial review of the real premium rates applicable to Level 3, according to crop, State, and farming system (irrigated or rainfed) would allow the Government to consider whether the current 75 percent premium subsidy is sufficient to cover the actuarial needs of Level 3, in which case Level 3 could be provided at

no cost to producers (as is the case with the basic weather catastrophe insurance program CADENA, on which Level 3 is modeled in terms of sums insured). **Option: Conduct an actuarial review of the real premiums applicable to Level 3.**

3. Insurers propose to maintain the same principle of establishing an Insured Yield for each farmer, and to increase the Insured Value per ton in order to accommodate both Level 1 and Level 2 sums insured, whilst limiting the Insured Yield to a maximum of 70 percent of Normal Average Yield. Where the costs in the FIRA packages of Level 1 and Level 2 sums insured exceeds 70 percent of Expected Yield, *this will result in an Insured Value per ton at a higher price than the value of the commodity stated within the FIRA package.* The theoretical implication of this practice is that, once the policy trigger point (Insured Yield, less deductible) is exceeded, the farmer will gain more from his or her insurance claim than he would achieve by harvesting the crop. This disincentive to harvest may be lessened

as the actual commodity prices available to farmers are higher than the conservative figures used in the FIRA packages. **Option: Address the subsidy rules for Yield Guarantee Crop Insurance policies in order to prevent paying more than the actual market crop value per ton in case of production shortfall.**

About the Authors

This paper contains a partial summary of the report "Mexico: Agriculture Insurance Market Review" (June, 2013) which was authored by a World Bank team led by Diego Arias (Senior Agriculture Economist, LCSAR) and composed of Charles Stutley (Senior Agriculture Risk Management Specialist, LCSAR), William Dick (Senior Agriculture Risk Management Specialist, LCSAR), Sandra Broka (Senior Rural Finance Specialist, ECSAR), Michael Grist (Senior Financial Sector Specialist, FCMNB), Hector Peña (Economist, LCSAR), Sophie Storm Theis (Environmental Specialist, LCSSD), Mildred Brown (Economist, LCSOS), Miguel Camarillo (Agriculture Insurance Specialist, LCSAR), Marcelo Angione (Agriculture Insurance Specialist, LCSAR), Héctor Ibarra (Senior Financial Officer, FABBK), Erika Salamanca (Project Assistant, LCSAR) and Ariel Donnini (Senior Agriculture Reinsurance Specialist, LCSAR).



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