

# Index Based Insurance

## A way of giving smallholders access to insurance services

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I had the chance to be invited to a conference organised by Swiss Re about the “Risk for Rural Communities”. Let me share with you some of the insights gained.

### Introduction

Smallholders account for a large percentage of global food production. By increasing their productivity a substantial contribution could be made to poverty alleviation and food security. One of the means to increase their productivity consists in reducing their risks and allow them a more intensive cultivation of their land. One measure to reduce risk consists in covering losses caused by draught or excessive rainfall. However, very few smallholders do have access to the service of insuring their crops. So it seems only natural that insurers, while trying to enlarge their clientele, are looking for new products to be put on the market. One of these new products is called “Index Based Insurance”.

### The principle of an Index Based Insurance (IBI)

Smallholders normally live in remote areas where access is difficult and time consuming. The costs for collecting premiums and controlling the severity of damages suffered by the farmers are way to high for any insurer to become interested and even less to make a profit. An index based insurance is one of the means to reduce the cost for data collection on individual farms. An insurer can reduce the cost by looking at a bigger area and deal with similar producers as a whole.

Let me explain the principle of such an insurance.

Figure 1: Example of a rainfall index

	Planting	Growth	Harvest
Rainfall required	● ●	● ● ● ●	●
Actual rainfall	● ●	●	● ● ●
Period	→	→	→

Normally three periods are distinguished for the cultivation of one crop and each has its requirements in rainfall. As you can observe in the above example. The rainfall during the planting period was up to standards. During the growing season rain was lacking and unfortunately it fell during harvest time. Losses for lack of rain and excessive rainfall are calculated for each period according to historical data and all producers registered in a previously identified area with similar weather conditions are compensated indiscriminately. It sounds pretty simple until you want to implement the scheme.

### The stakeholders

When we look at the stakeholders involved in such an insurance scheme we find the following picture.

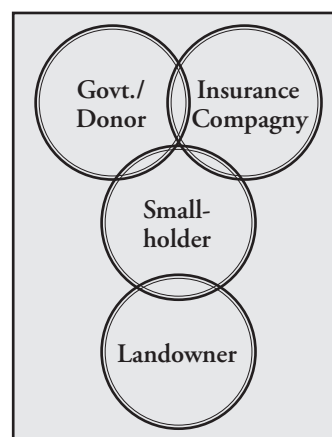


Figure 2: Stakeholders in a smallholder insurance scheme

As you notice there are four or even more stakeholders involved.

- Government and donors want to improve the livelihood of smallholders. One of their means consists in subsidising the premium smallholders would have to pay for the insurance.
- The insurance company wants to diversify its products and to make a profit. It has to deal with govt./donors about the subsidy and with the producers about normal insurance proceedings.
- In many places smallholders especially don't own their land but work the land of landowners. Here the question arises: Who is dealing with whom, first in the case of paying the premium and second in getting compensated in case of calculated losses.

## Challenges in the introduction of IBI

Being protected from the high risks they face now, even smallholders might change their cultivation habits and move to more promising techniques and thus increase their yields. That is the objective shared by all mentioned stakeholders. Although the plan of insurance companies to provide smallholders access to insurance services is a most welcome move there still remain several challenges for the stakeholders involved.

- Insurance companies need very accurate data to calculate the risks so as to be able to fix an index that satisfies all parties. These data include the rainfall in the observed area, a history of former yields etc. They rely both on weather stations distributed in the area covered and on information gathered by remote sensing.
- Smallholders usually diversify their crops. It is one of their strategies to avoid risks. On the other hand insurers would prefer uniform single crops as a basis for their calculations.
- Even in an index based scheme the insurer can't collect premiums from single farmers. This means that a financing institution is a prerequisite, i.e. a micro-finance group or a co-operative.
- This leads to the next challenge. Insurance is operational mostly in cases where taking a credit is part of the production habit. In this case the insurance

is protecting the bank in case the borrower won't be able to pay back his/her loan because the harvest is lost. Subsistence farmers, however, do not call on credits by fear of getting indebted and loose their only asset, their land.

- It is well known, that prices for most agricultural products are politically influenced or even fixed. Staple crops are very seldom left to market forces. If there is a good harvest, prices are low, if there is a crop failure, surplus food is imported and put on the local market, and prices are kept low again. It is a double bind for most governments: they want to increase the earnings of smallholders without asking the urban population to pay higher prices.
- Especially with the smallholder community the notion of an insurance being part of their production cost is far from being common. Smallholders want to get something real in exchange to their money. They might even agree to paying premiums but after five years at the latest, they want to get the invested money back in some way or another.
- For smallholders - if not for everybody - it is difficult to understand on what data the insurance company has based its calculation of the risks. How should a smallholder be convinced that some shade of green captured by remote sensing from the fields in his area should be the basis for being paid or not.
- Mutual trust among smallholders is low. They trust, if at all, their family members, in-laws or long-standing acquaintances. They very often mistrust government institutions and other somehow anonymous organisations like insurance companies.

## Conclusion

As you may imagine, there is still some way to go, before smallholders are full-grown partners in the insurance business. In any case, there is one characteristic common to all farmers around the world: The best way to convince them is proving to them, that they get a profit from the proposed transaction. And this is, to my understanding, the biggest challenge for insurance companies: How are they going to convince smallholders that there is something to be gained by insuring their crops?