

# Making index-based flood insurance socially inclusive in Bangladesh: Challenges and options



Sanjiv de Silva/ IWMI

Floods and other weather-related disasters plague farmers in Bangladesh, and climate change threatens to exacerbate these risks. At stake are the livelihoods of millions of small and marginal farmer households that are at risk of becoming further entrenched in poverty. Lack of compensation or other buffering mechanisms means crop losses give rise to deepening cycles of debt, especially when cultivation is financed through loans. While neighboring India has developed strong policy and strategic direction for using risk transfer mechanisms, such as Weather Index Insurance (WII), as a disaster risk reduction tool, policy support in Bangladesh is lukewarm. To date, most WII schemes have been pilots implemented mainly by nongovernmental organizations (NGOs) and donors. The Index-based Flood Insurance (IBFI) project of the International Water Management Institute (IWMI) hopes to adapt the pilot scheme it is trialling in Bihar, India, to Bangladesh. To understand how such a scheme can be made accessible, especially to marginal groups, fieldwork was undertaken in Sirajganj district. Here, a WII pilot project, funded by the Asian Development Bank (ADB), which offers insurance for crops during both the Aman and Boro seasons is ongoing. This brief is informed by findings from this fieldwork.

<sup>1</sup>Aman is synonymous with the Kharif season, when paddy is planted in mid-July and harvested in November/December. Boro is synonymous with the Rabi season, when paddy is planted in November/December and harvested in March/April.

## KEY MESSAGES

- Weather-related crop damage significantly threatens agrarian livelihoods in Bangladesh, potentially undermining progress towards reaching some of the United Nations Sustainable Development Goals (SDGs), especially those related to poverty reduction, food security, nutrition and health.
- Farmers lack safety nets and compensation mechanisms to buffer them against these climate-related risks. The food security of women is particularly affected by crop losses, given gendered norms that privilege males with access to household resources in times of scarcity.
- Risk transfer mechanisms, such as WII, may be one solution, but remain nascent in Bangladesh.
- Despite several pilot WII schemes in recent years, growth of WII is held back by an unclear business case for private insurers, as well as a distrust of the private sector among farmers and, most importantly, weak policy support.
- Lack of access to finance, illiteracy, gender norms and eligibility criteria can undermine the accessibility of WII for vulnerable groups. The complex structure of WII (e.g., how payout is triggered) requires careful explanation to minimize unrealistic farmer expectations.
- Partners with extensive knowledge of rural social structures, and institutional capacity and credibility at the village level are needed to overcome challenges through a systematic, multifaceted and time-intensive rollout process.



A settlement in a flood-prone village in Sirajganj district, Bangladesh  
(Photo credit: Mohamed Aheeyar, IWMI)

## VULNERABILITY OF AGRARIAN LIVELIHOODS TO WEATHER-INDUCED RISKS

Bangladesh is ranked as the world's fifth country most vulnerable to natural disasters. Agriculture is the largest producing sector of the economy, contributing 18.6% of the gross domestic product (GDP) and employing 45% of the labor force. Catastrophic flood events are periodic in Bangladesh, and these can significantly undermine efforts to achieve poverty reduction. The 71 major floods reported during the period 1980-2015 affected over 250 million people, with an estimated economic loss of over USD 14.5 billion (EM-DAT 2017). Despite large investments in structural solutions to minimize flood effects, the floods of 2017 alone affected at least 8 million people, with severe damage to the agriculture sector, including loss of crops, livestock and food supplies (FAO 2017). In Sirajganj district, crop damage due to monsoonal flooding occurs in the Aman season between mid-July and mid-September. Bangladesh suffered from the effects of 29 major floods and 40 storms from 2000 to 2015, resulting in USD 5.6 billion in losses due to damage to property,

crops and livestock (Jha 2017). Given the absence of any compensation mechanisms, a good case can be made for promoting IBFI to offset agricultural risks and minimize the financial burden to farmers.

Most farming households rely significantly on loans and credit to finance each cropping season. Therefore, the financial cost brought about by crop losses forces these households to borrow again to pay off outstanding debts and to finance the next crop. Consequently, a household's debt burden increases, unless family members, usually males, find work outside the village as day labor. The household income is further impacted because women are unable to earn supplementary income by undertaking post-harvest agricultural activities. Women, in particular, can be affected from a food and nutritional standpoint, if households are forced to sell their rice stock, and limit the number of meals and food items consumed in a day. While families would normally consume animal protein at least twice a week, under such scenarios, there is a decline in the consumption of fish or other meat products. Given the gendered norms that prevail in much of Bangladesh, women will let the males and children in the household eat first, and only then consume the remaining food.

## CAN INDEX-BASED WEATHER INSURANCE PROVIDE A SAFETY NET?

To date, no macro-level programs exist to buffer farming households against flood damage. Government compensation exists mainly through disaster relief funds and the distribution of seeds and other inputs needed for the next crop. However, this support is not widely spread and most affected households do not receive the help they need. Even those that do, do not have the resources to service their existing debts. In principle, this situation is well suited for the introduction of crop insurance schemes that cover weather-related risks, although no fully-fledged schemes exist to date. This may be due, in part, to the absence of policy direction to motivate both government and private sector actors, as well as the high transaction costs to insurance companies compared to more standard insurance sectors. Experience with crop insurance for weather-related risks is currently limited to a number of pilot schemes run mainly by non-governmental actors, which have each compensated for different elements of such risks, from lost income from labor opportunities to costs of production. IWMI's study on IBFI looked at the challenges faced and measures taken to reach marginal farmers in an IBFI scheme in Sirajganj district. The IBFI scheme integrates remotely sensed flood depth and duration to evaluate insurance payouts. The study highlighted the need for long-term investments to upgrade the hydrometeorological data gathering capacities, and data sharing between the government and private sector; promoting the use of information and communication technology (ICT); and access to high-quality information on crop production to provide insurance products that are credible and transparent to the insurer, farmers and the government.

## KEY PRACTICAL CHALLENGES

The current situation in Bangladesh is marked by a lack of confidence in WII schemes among key stakeholders. As noted, there is no national policy promoting this form of insurance in the country; transaction costs for payout are high relative to the potential revenue gained by the insurer; and there is a need for investment in technology, all of which undermine the business case for private companies. Farmers, too, lack trust in private insurance companies in relation to receiving payment, partly because they have difficulty in grasping the complexity of how these schemes operate. This is exacerbated by very low literacy rates. Another study conducted among maize farmers in Bangladesh indicates that farmers' lack of understanding about the possible impacts of climate change and the need for adaptation measures, as well as about the design of the insurance scheme, make it unlikely that they would invest in insurance (Akter et al. 2017). Since customers usually approach insurance providers for more conventional insurance schemes, most private insurance companies lack institutional networks at the village level, as well as the technical expertise needed to overcome negative farmer perceptions and lack of knowledge about how WII schemes operate. The ability of farmers to pay insurance premiums is also limited, given the cost of various agricultural inputs. This is particularly true for small and marginal households that need insurance the most. The government may need to subsidise the premium to ensure that it is affordable to small and marginal farmers.

Discussions with farmers and implementers about WII schemes should outline the features of an index-based insurance product, the pricing and use of technologically derived data, and a model of uncertainties and payout triggers to reduce misunderstanding and distrust in the insurance scheme. In addition to literacy, eligibility criteria can influence how inclusive the scheme is. Requiring a land title can be a particularly difficult requirement for households to fulfil, given the high incidence of landlessness, where farmers rely on land leasing or other types of tenure arrangements to access farmland. Moreover, while insurance is usually purchased by males, discussions indicate significant interest in crop insurance among women, who own plots, even if these are marginally productive. Ensuring women are informed of the insurance product and its functionality can be an effective means to influence the decisions of their husbands or other male members of the household about whether or not to purchase insurance. Discussions with farm households in Sirajganj district suggest that a significant proportion of payouts under the WII scheme were used to finance the next crop, with only residual amounts spent on food and other household needs. While this may provide household food security in the long term, it does not address the immediate impacts of food insecurity after a flood, especially for women. Underlying this issue is the dominant role men appear to play in decision making over how payouts are spent, and it may be surmised that since their future food security is ensured, spending on food is not perceived as a priority. Since it is mostly male members of the household that are migrating to urban areas and other agricultural production areas in search of employment after a flood event, it is the women and children that have to cope with food scarcity.



Water environments require alternate transport  
(Photo credit: Sanjiv de Silva/IWMI)

## OPTIONS FOR OVERCOMING THESE OBSTACLES

Since private insurance companies are motivated by profit and farmers are unlikely to pay the full premium, a mechanism to subsidise the premium is a key to balancing the needs of the insurer and capabilities of the marginal farmers. In the ongoing WII pilot project financed by ADB, a 50% subsidy ensured that farmers paid only BDT 250/bigha (about USD 3/a third of an acre<sup>2</sup>) as a premium. Subsidy options beyond short-term pilot schemes may not exist outside

of the government, which reinforces the importance of policy level commitment to making insurance economically viable for both private insurance companies and farmers. This is arguably the most fundamental determinant for using insurance as a disaster risk management tool in Bangladesh. Strong advocacy to convince and mobilize government authorities to pay attention to risk transfer solutions such as WII is thus a key requirement.

From a field implementation perspective, insurance needs to be accessible to a broad spectrum of farmers. This means ensuring all farmers are aware of the

insurance product, and sufficiently understand how it works. Key to this are strong partnerships between the stakeholders, including a well-established micro-finance institution (MFI), as was the case in the WII pilot. Here, the MFI had a robust network in the villages and had built trust among farmers through years of association. From the WII perspective, this partnership is critical for reaching diverse households, as well as women, who are a major client base of MFIs. Promoting understanding of how the product functions requires a multipronged approach to ensure less literate households grasp the basic principles and features of the product.

<sup>2</sup>In Bangladesh, 1 bigha = 120 square feet, which is less than one-third of an acre and approximately 0.13 hectares.

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This approach must also navigate different religious and cultural norms that, for example, limit the geographical mobility of women. The WII pilot thus utilized posters and leaflets for the functionally illiterate, and face-to-face meetings, street dramas and a promotional video prepared as a mini story to reach out to the less literate and literate alike. The local staff of MFIs was available to assist farmers, when needed, to complete the forms and prepare documentation that would accompany payment of the

insurance premium. For farmers leasing land, the pilot scheme accepted a letter from landlords confirming the lease, although the discretionary nature of this approach leaves farmers vulnerable to the inclinations of their landlords. While a letter from a Union Parishad member could be an alternative, a solution devoid of subjectivity and opportunity for rent seeking is difficult to identify.

While premiums were collected manually in the pilot scheme, future schemes

could consider using ICT for direct bank transfers that could significantly reduce transaction costs. Although the premium appears affordable to the better-off farmers, options for making it more affordable to small and marginal farmers could include staggered payments over the growing season. Another option, especially if women's self-help groups exist, is to finance premium payments through these groups.

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