

## NOTE ON WEATHER INSURANCE

### BACKGROUND:

Agriculture is still a dominant sector in India, contributing around 24% of GDP and providing employment to two – third of its population. However, Indian agriculture is extremely prone to inclement weather, particularly manifested as erratic rainfall during the Kharif season in the rain fed regions of India, which has the potential to wreak havoc on the fortunes of a large number of farmers concurrently. This in turn would adversely impact the financial health of the MFIs lending to them.

The existing crop insurance scheme provides coverage against fire, flood, drought, storm tempest, riots etc. It represents comprehensive coverage against most of the possible causes for losses. The effectiveness of the scheme is entirely ruined by the problems of adverse selection (covers only those farmers who take loans from state banks) and moral hazard (non-quantifiable and subjective ways like crop cutting experiments to determine the crop losses). The system is also inefficient as settlement of claims generally takes more than a year, thus providing a little help to smoothen income fluctuations of the affected farmers.

Against this background, the weather insurance provides a good alternative to farmers. Weather insurance is an insurance cover against losses incurred due to unfavourable weather conditions such as deficit/ excess/ untimely rainfall, variations in temperature etc. Weather insurance product is designed on the basis of locations, agricultural and climatic properties and productivity levels over the last several years.

The principal benefits of weather insurance products are:

1. It protects the farmers from the main production risk like temperature and rainfall causing deviation in crop yield.
2. It facilitates in faster settlement of claims, as calculation of the weather index is transparent and objective.
3. It provides high level of flexibility to the farmers to decide the level of indemnity and coverage.

## **Weather Insurance: Indian Scenario**

The three major players in the area of weather insurance are namely ICICI Lombard general insurance company, IFFCO TOKYO general insurance company, and Agricultural Insurance Company of India (AIC). Together these companies have been able to sell weather insurance policies to about 2 lac farmers across India, which amply demonstrates the high acceptability and relevance of weather insurance products. Moreover since its initiation in the year 2003-2004 the weather insurance products have been offered to a larger population covering a wider crop portfolio. Weather Insurance cover has already been developed and offered for crops like groundnut, oranges, coriander, wheat, soybean, cotton, black gram, castor and gherkins. Products have been offered to cover various risk parameters such as deficit rainfall, excess rainfall, high and low temperatures, frost or a combination of both.

### **FWWB Initiatives:**

In regions like Vidarbha, Telangana etc. where the large investment for cultivating cash crops like cotton gets eroded due to the vagaries of monsoon; crop failures invariably escalate into vicious debt traps. More than 400 cotton farmers have killed themselves because of debts and losses since June 2005. Particularly worse is Yavatmal where a bad cotton crop last year and low prices have pushed farmers to despair.

A report on farmers' suicides in Maharashtra, submitted in 2005 to the Bombay High Court by the Tata Institute of Social Sciences (TISS), suggests that crops had failed repeatedly for the past four years in the affected regions. The affected regions had little access to supplemental irrigation and thus were highly dependent on monsoon rains. It also exhorted that the High Court should stimulate the creation of an insurance safety net that assures a minimum life support system to cultivators.

FWWB has extended agriculture loans to Maharashtra Partner Organisations since last two years. The 4 main Partner Organisations -- Asmita Institute of Development, Priyadarshini Mahila Mandal, Navchetana and Sagras are operating in Yavatmal District i.e. Vidarbha region which is a drought prone area. Dyan Vikas Grameen Bahu-Uddeshiya Sanstha is another Partner NGO operating from Amravati district. In total all

five organisations have a **membership base of 13,142 women**. Looking to the nature of the loans, FWWB initiated the talks for Weather Insurance Product cover to these MFIs. Accordingly, details were called for from the Partner Organisations regarding the types of crops harvested by their members, average land holding and their feedback on what parameters to be covered under the Weather Insurance Product. An orientation workshop was organised wherein Cardinal Edge management Services, a private consultancy firm having experience in designing and implementing Weather Insurance products was specially called as a resource person.

Subsequently, FWWB hired Cardinal Edge Management Services to develop the Weather Insurance product for these 5 Partner Organisations. In association with the Cardinal Edge, FWWB,India initiated talks with Agriculture Insurance Corporation of India to underwrite the new Insurance product and provide Insurance cover. An extensive field survey was undertaken by Cardinal Edge Management services with an aim to:

1. Assessing the insurability of covering the specific weather perils/events as deemed important by target population
2. Studying, analysing, and estimating (wherever required through heuristics) the nature and extent of production losses caused by the key perils identified above
3. Procuring weather-related and other necessary data from relevant agencies and cleaning the data for further processing
4. Selecting appropriate form of weather insurance models for covering the various weather perils
5. Developing a product covering all insurable weather perils/events
6. Facilitating negotiations with insurance companies for underwriting the structured solutions at an affordable price

### **Product Review and Revision**

Product review exercises were undertaken at two stages. Initially the structured insurance propositions were discussed with the team of FWWB-India that gave relevant inputs for making the product better suited to the requirements of the local farmers and the partner organisations of FWWB-I.

Thereafter the revised weather insurance structures were discussed in a multi-stakeholder workshop in Pune on 20<sup>th</sup> April 2006 that involved representatives from all the key stakeholders at the apex level. It was decided that an orientation and product awareness campaign for farmer clients and the staff of MFIs be jointly undertaken by the Regional Office of the Agriculture Insurance Company of India Ltd and the local partner organisations of FWWB-I in Yavatmal.

In order to compensate the partner MFIs for their support in distribution and marketing of weather insurance products to farmer clients, it was decided that a service charge (as a percentage of total premium collected) would be provided to the local MFIs, which in turn would pass it on to their personnel for their contribution to this initiative.

### **CLAIM SETTLEMENT**

In order to minimize the large basis risk that is inherent in rainfall and to enhance the credibility and representative ness of claim settlement, negotiations were carried out with the underwriter of the weather insurance policy i.e. the Agriculture Insurance Company of India Ltd. It was thus mutually agreed that the weather data for settling claims would be captured through third-party weather stations that would be installed in different blocks of Yavatmal where client patronage is reasonable to justify the costs of such weather stations. Such an arrangement is quite novel and could only become possible as a result of working with a government-backed insurance company. For this Khariff season, FWWB and AIC have mutually agreed to sponsor 5 independent Weather stations on equal basis. This sort of intervention was felt necessary to gather block level weather data which shall help in final claim settlement.

### **OUTCOME:**

The weather insurance initiative that has been started by FWWB-India for meeting the agricultural production risk management needs of its partner MFIs and their farmer clients can act as a precursor to more holistic community risk management programs. Under this scheme, aggregate of 3112 marginalized women farmers have been covered for the 2006 khariff season. Such initiatives have the potential of being spread across a

large geographical landscape due to inbuilt strengths like affordability, insurability and efficiency. It is only through multi-stakeholder collaborations as inherent in this initiative that potent safety nets like Microinsurance can make their way towards people at the bottom of the socio-economic pyramid.

### Current Update:

Considering the fact that the period for excess rainfall cover for cotton is from June to December and Soya bean is June to October and the cumulative excess rainfall units has to be calculated for the entire period. However, losses have been reported from these areas due to heavy rain in the month of August. In view of this fact FWWB initiated talk with AIC to consider to make a partly compensation to these farmers based on the rainfall data available from the Automatic Weather Stations from period of June to August. Accordingly AIC have processed the location-wise per unit claims as per the rainfall data for the period from 1st June to 31st August. Based on these calculations, details of the claims payable are given in the Table below

Crop	District	Taluka	Period	Sum Insured (Rs./Acre)	Cumulative excess rainfall till 31st August	Claim/Unit (Rs.)
Cotton	Yavatmal	Pandarkavda	June to December	1000	74.2	186.80
		Zoharma			44.6	88.80
		Darwha			13.2	0.00
		Ghatanji			94.0	266.00
		Pusad			42.8	83.40
		Washim			Karanja	53.2
Soyabean	Yavatmal	Pandarkavda	June to October	750	81.4	176.70
		Zoharma			59.6	111.60
		Darwha			13.2	7.20
		Ghatanji			109.0	259.50
		Pusad			42.8	73.80
		Washim			Karanja	53.2

After the entire period of insurance under excess rainfall is over, the total claims will be calculated and the above claim amount will be adjusted against the total claim.

This positive step has been taken with a view to provide some relief to beleaguered farmers during the Diwali festival (The Festival of Lights which is an important Hindu festival).