



## **Sajjata Sangh: Weather Based Crop Insurance Scheme—A Case Study**

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With the delay in the monsoon in 2012, Kuldeep Solanki had immediate issues to handle with the farmers. In the recent years while Sajjata Sangh had piloted and scaled up rainfall insurance, farmers have been reluctant in the current year to pay the premium. Even when 13 organizations came forward to participate in the weather insurance for Kharif 2012, only nine organizations eventually participated in the implementation of the scheme. Sustainable scaling up of the Weather Based Crop Insurance Scheme therefore looked like an optimistic but distant goal. Progress report of the scheme is up for submission to NABARD in 2013.

### **Background**

The Participatory Watershed Development Programme of the Ministry of Rural Development initiated by the Government of India in 1995 (as outlined in **Appendix 1**) was a major landmark in designing centrally-sponsored schemes. The programme focused on a bottom-up approach from the grassroots upwards, in place of the top-down approach. The bottom-up focus was possible through an intensive involvement of people in planning, implementation and management via village institutions, capacity building and provision of funding directly from the district to Watershed Associations. These Watershed Associations too by design are people's institutions. NGOs were encouraged to become

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Project Implementing Agencies (PIAs). Nearly 70 percent of all watershed projects were implemented by NGOs in Gujarat, thereby, forming a rich mosaic of experiences in natural resource management (Macwana, 2012).

With increased access to water, farmers voiced the need for improved variety of seeds and other agricultural inputs. Farmers also felt the need for dissemination of appropriate agriculture practices to enhance productivity of agriculture and allied activities. This felt need by the farmers initiated the process of networking parallel to the implementation of Watershed Development Programme. As a consequence Sajjata Samiti – a committee for capacity building of NGOs was formed in 1996. In 2000, the committee organized itself as Sajjata Sangh which was registered under the Societies Registration Act, 1860 and the Bombay Public Trust Act, 1950. As a network of Non Government Organizations engaged in the promotion of natural resource management in Gujarat, Sajjata Sangh initiated “watershed plus” activities (**Appendix 2**) aimed at enhancement of productivity and increase in the incomes of rural communities in the state. The network secretariat had disseminated new ideas and encouraged replication of the same through the partners (Sen Gupta, 2012).

Currently, the members of Sajjata Sangh work in about 8,000 villages in Gujarat. The focus of the network organizations is to work on participatory natural resources management, predominantly involving the resources of land and water. The objective of the Sangh was to arrest distress migration and to improve the socio-economic status of the rural communities. Recognized as a credible network of NGOs working on participatory natural resource management at the all-India level, a major source of financial support for Sajjata Sangh is from the Sustainable Community-based Approaches to Livelihood Enhancement (SCALE) project. The SCALE project is funded by the European Union through the Aga Khan Foundation (Jagawat & Kapoor, 2012).

**The major objectives of Sajjata Sangh are**

- Capacity building for NGOs for the provision of backward linkages including improved farming practices, integrated pest management, and efficient water management.
- Development of grassroots institutions and provision of technology along with provision of forward linkages such as post-harvest surplus value addition and marketing.
- Creating space for participation of NGOs in the formulation of policies for the Voluntary Sector.
- Encouraging NGO accreditation through agencies such as the Credibility Alliance to ensure transparency and accountability in the working of NGOs.
- Organizing crop specific congregations to bring input suppliers, farmers, NGOs, agricultural universities and the Department of Agriculture together to facilitate knowledge sharing.
- Documenting and disseminating issue-based research in agriculture to NGOs and farmer organizations (Macwana, 2012).

**Innovations**

On the basis of field level experiments to assess suitability of crops on treated lands with minimal water resources, Sajjata Sangh through the network secretariat provided for replication of new models. These models were generated to unlock the potential of agricultural productivity in rain-fed areas. The efforts of the network in farm research and extension tailored to suit local conditions, resulted in the introduction of new variety of wheat which requires lesser water and provides greater yields. The network was also instrumental in connecting the farmers to the Multi Commodity Exchange (MCX), for the first time in Gujarat. The objective of the MCX linkage is to offer protection against market price fluctuations in cotton and in the process secure higher income (Sen Gupta, 2012).

Sajjata Sangh had piloted and scaled up weather insurance in Gujarat, clubbing scientific practices with insurance. An attempt was made to cushion the farmers from crop losses on account of the vagaries of the monsoon. Where rainfall deviations from the normal trend were recorded, farmers could as a result of this initiative, recover investments, in recent years. The state was required to subsidize the premium of the Weather Based Crop Insurance Scheme (WBCIS). Sajjata Sangh negotiated with the Agricultural Insurance Company (AIC) for product customization to suit the needs of the farmer members in its operational areas (Sen Gupta, 2012).

Sajjata Sangh facilitated the formation of AVIRAT Agro Business Producer Company Limited, to organize farmers into a producer company. The company is a self-sufficient institution supplying quality seeds to farmers at affordable prices. The company also initiated capacity building activities to equip small and marginal farmers with knowledge of modern practices in agriculture (Shelar, 2012).

## **ICT Initiatives**

Changing patterns and practices of agriculture initiated by the large farmers are impacting the small and marginal farmers in the rain-fed areas. Consequently, small and marginal farmers in non-irrigated areas started to opt for cash crops and high yielding varieties without sufficient understanding of accompanying risks. Dissemination of timely information through linkages between researchers, extension professionals and farmers, on weather particularly monsoon forecasting, new techniques in cropping, agrarian policy, agricultural markets and commodity prices therefore was an identified priority (Dave, 2012).

Sajjata Sangh initiated an innovative Agriculture Radio Programme titled *Sajjata No Sangh Lave Kheti Ma Rang*, which had now been broadcast for five years with a listener base of approximately 500,000. This non-commercial community radio based programme received through low-cost, battery-operated portable sets involved community members in the planning, production and broadcast of its programmes. The Radio uses docudrama format other than

lectures and interviews to showcase the experiences of farmers. A telephone helpline is opened at the end of each episode facilitating the farmers to seek expert advice about agricultural practices in general, productivity enhancement and risk and cost reduction in particular. The programme disseminates information pertinent to all agro-climatic regions of Gujarat, on improved agricultural practices, integrated pest and nutrient management. The programme encourages *shrota sammelans* to review contents and plan future episodes. *Sajjata Samachar*, a news section was later introduced for provision of updates on government policies and agricultural research. The radio initiative led to the piloting of a voice message model. The voice message prototype evolved into *Avaaj Otalo*, a mobile phone technology based initiative of the network to address knowledge needs. *Avaaj Otalo* aims to ensure access of small and marginal farmers to information on agricultural practices (Dave, 2012).

The radio programme furthered public listening through formation of listeners' groups to facilitate post-episode discussions. These groups in turn became sources of information for other farmers and participated in training programmes and exposure visits to innovative projects across the state. The groups also undertook field experiments by partnering with agricultural universities and disseminated vital information through demonstrations (Dave, 2012).

Sajjata Sangh's ICT initiatives facilitated timely knowledge sharing which helped farmers save crops from pest attacks and other agricultural disasters. Babubhai Poppatji Thakore, a farmer from Banaskantha, for instance reported that he was able to save his castor crop from a disease consequent to an episode of the radio programme. The farmer had no prior knowledge about identification of the pest or the pesticide and the dosage required for control (Dave, 2012).

## **Weather-based Crop Insurance**

Unpredictable rainfall is a major adversary that can seldom be controlled for farmers in rain-fed regions. More than 90% of crop

loss in Gujarat had been attributed by the General Insurance Company to erratic rainfall. Sajjata Sangh put forth an intervention to insure farmers against the vagaries of the monsoon in areas where financial service providers have limited reach and the high-risk nature of service wards off private insurers. In times of crises, farmers are forced to sell their limited disposable assets including livestock and land thereby continuing to remain steeped in poverty. A component of crop insurance is tagged to credit when institutions lend credit advances to farmers. Available crop insurance schemes cover exogenous losses during production and are yield-based. The schemes lack transparency in assessment methods and are plagued by long settlement periods (Macwana, 2012).

Sajjata Sangh considered an alternative product designed on the basis of regions, crops and climate characteristics to facilitate better risk management. A product named *Visistha Varsha Vima Policy* was unveiled for groundnut farmers in Khambaliya and Kalyanpur areas of Jamnagar district. The product proposes to cover the risks of weather including deficiency in the volume and erratic distribution of rainfall during the phase of crop growth. The product was unique in that payment of claim was not dependent on loss; rather the farmers became automatically entitled for payments in case of vagaries of the monsoon as reported by the local weather stations. The product was piloted by Saurashtra Voluntary Action (SAVA) in 2006 over an area of 39 acres of land covering 35 farmers with a premium levy of Rs. 750 per acre. The piloting of this product was used as a platform for insurance education among the farming communities of the region. The pilot was received positively. In 2007 SAVA further mobilized another 110 farmers covering 180 acres under groundnut (Macwana, 2012).

During Kharif 2008, Sajjata Sangh further extended the insurance programme to cotton, groundnut and maize crops and to the areas of Ghogha and Talaja in Bhavnagar District and Dhari, Khambha and Rajula in Amreli District. The product design was improved to cover excess rainfall. The design was also modified to cover consecutive dry days based settlement involving entitlement on account of lack of rainfall for 25 consecutive days during season (Macwana, 2012).

With financial support from Oxfam, the insurance based on weather index was further extended by Sajjata Sangh to the drought-prone districts of Surendranagar, Junagadh, Amreli, Bhavnagar, Dahod, Panchmahal, Bharuch and Narmada. The strategy for scaling up this intervention is outlined in **Appendix 3**. Difficulties were experienced by the member agencies in taking this intervention to scale, convincing farmers to pay premium and in clearing the claims as shown in **Appendix 4** (Macwana, 2012).

Subsequent to a policy dialogue with the state government, Sajjata Sangh received support from NABARD, through a grant of Rs. 8.379 million over three years to subsidize the cost of the premium. A grant of Rs. 0.429 million for promotion of the product was given by the Coastal Salinity Prevention Cell (CSPC), Ahmedabad (Macwana, 2012).

Despite educating farmers to ensure participation and efficient real time settlement of policy claims, Sajjata Sangh encountered constraints. Small and marginal farmers considered the premiums high and therefore participation was not to the expected levels. The farmers also misconceived that there would be payouts in case of any eventuality. Farmers who bought these policies, for instance, during the first two years did not participate subsequently as they have not received payouts during the initial two years. This is due to the lack of knowledge that the claims are conditional on certain triggers. Kharif 2010, for instance in Khambha for groundnut, saw payouts substantially lower to the sum assured, as shown in **Appendix 5**. The issue was compounded by an increase in rates of premium every year, although NABARD and CSPC subsidized the premium paid by farmers of areas around which seven partner organizations of Sajjata Sangh operated. Consequently by 2011 the number of farmers covered showed a drastic decline vis-à-vis 2010 as shown in **Appendix 6**. Therefore, Sajjata Sangh suggested a break in promoting weather insurance and a reassessment of the product. However seven partner organizations continued to promote the product with minor modifications made by the Agriculture Insurance Company. Weather insurance coverage from Kharif 2011, subsequent to product modification vis-à-vis 2010 is shown in **Appendix 7** (Macwana, 2012).

Sajjata Sangh currently faces the challenge of promoting weather insurance in the absence of premium subsidy from Kharif 2013. Poor rainfall during 2012 would have a further impact on the premium rates. Poor monsoons have compounded the issue further, with farmers incurring huge losses in 2012. Consequently, partner NGOs have been unwilling to take up insurance promotion activity for 2013 (Personal communication with Kuldeep Solanki).

Sajjata Sangh's challenges emerged in attempting to take the innovations beyond its partners through negotiations with support agencies, setting up partnerships, encouraging large scale replication of best practices and defining the role of the network agency. The lab-to-land agenda needs to be scaled up to the next level of cost, price and risk management synergistically with increase in production through scientific practice of agriculture (Sen Gupta, 2012). The goal of the "Sustainable Upscaling of Weather Based Crop Insurance in Gujarat", project of Sajjata Sangh (**Appendix 8**) seems to be an uphill task.

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## Appendix 1: Watershed Development Approach

The Watershed Development Programme initiated as a land-based programme had gradually been focused on water. The objective of the programme was to enhance agricultural productivity through in-situ moisture conservation and protective irrigation.

Various Ministries of the Government of India outlined several schemes under the Watershed Programme to improve storage of surface water through construction of check-dams, tanks and ponds; and storage of groundwater through recharge of wells, gabion structures, sub-surface dams and percolation tanks.

- Ministry of Agriculture (Department of Agriculture and Co-operation)
- National Watershed Development Project for Rainfed Areas (NWDPR)
- River Valley Project and Flood Prone Rivers (RVP & FPR)
- Watershed Development Programme for Shifting Cultivation Areas (WDPSCA)
- Watershed Development Fund (WDF) in collaboration with NABARD
- Reclamation of Alkali Soils (RAS)
- Ministry of Rural Development (Department of Land Resources)
- Drought Prone Area Programme (DPAP)
- Desert Development Programme (DDP)
- Integrated Wasteland Development Programme (IWDP)
- Ministry of Environment and Forests
- National Afforestation and Eco-development Project (NAEP)

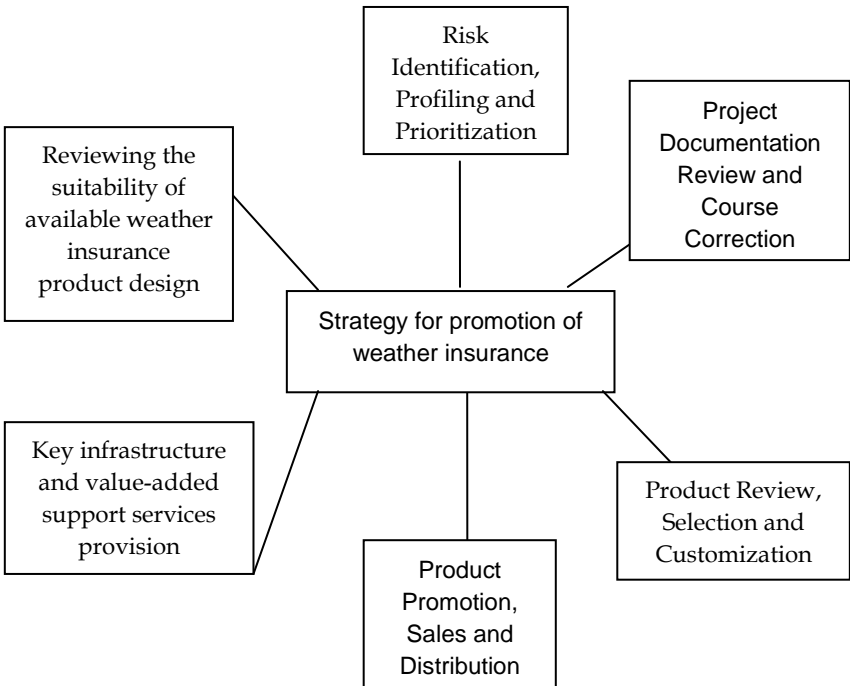
Source: Joshi et al., (2006). Socioeconomic and Policy Research on Watershed Management in India: Synthesis of Past Experiences and Needs for Future Research. SAT eJournal 2(1), 1.

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Appendix 2: “Watershed Plus” Activities

- Productivity enhancement activities including access to agricultural research, extension and demonstration
- Access to improved seed varieties including high yielding varieties for the rainfed areas
- Land development activities including leveling and land reclamation
- Access to fertilizers and improved awareness about appropriate use of fertilizers and dosages
- Linkages with banks and formal sources of credit
- Enhancing the effectiveness of animal husbandry practices

Appendix 3: Strategy of Sajjata Sangh for scaling up weather-insurance



Source: Macwana, N.(2012). Bringing Back the Lost Smile: A Case of Weather-based Crop Insurance. Ahmedabad: Sajjata Sangh.

Appendix 4: Difficulties experienced in piloting the weather insurance product

- Delays in customization of the product
- Difference in reference points used by the Agriculture Insurance Company and the Indian Meteorological Department stations
- Lack of sufficient IMD stations and distance of available ones from the villages resulting in inaccurate rainfall measurement
- Design loopholes like “carry forward” of excess rainfall to the next phase resulted in farmer grievances
- Minimum payment limit stipulation lead to non-payment of claims below Rs. 400

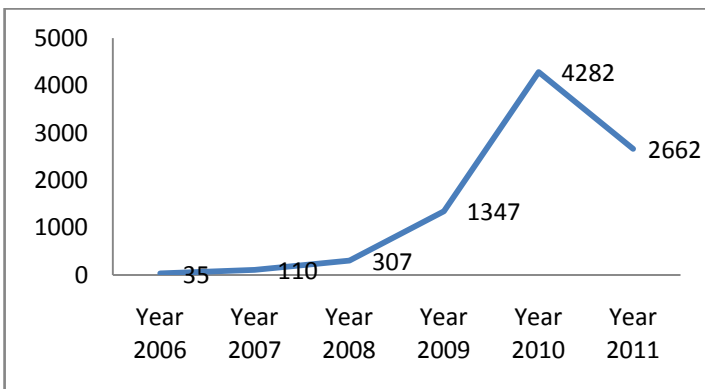
Weather-based Crop Insurance. Ahmedabad: Sajjata Sangh.

Appendix 5: Premium and payouts for groundnut in Khambha

Year	Premium (Rupees)	Payout (Rupees)	Farmers covered	Sum Insured (Rupees)
2008	550	465	45	7,500
2009	660	79	80	5,200
2010	750	62	145	5,000
2011	850	--	46	5,500

Source: Macwana, N. (2012). *Bringing Back the Lost Smile: A Case of Weather-based Crop Insurance*. Ahmedabad: Sajjata Sangh.

Appendix 6: Weather Insurance Coverage, 2006-2011



Source: Macwana, N. (2012). *Bringing Back the Lost Smile: A Case of Weather-based Crop Insurance*. Ahmedabad: Sajjata Sangh.

Appendix 7: Weather insurance data post product modification in 2011 vis-à-vis 2010

Season	Farmers covered	Area (In acres)	Premium Contributed (In rupees lakhs)			Payout (In rupees lakhs)
			Farmers	Subsidy	Total	
Kharif 2010	4282	5227	28.49	13.06 (NABARD)	41.54	26.98
Rabi 2010	1409	1417	3.58	3.93 (NABARD)	7.51	0.40
Kharif 2011	2626	2909.50	13.35	11.13 (NABARD)	24.48	29.76
Rabi 2011	604	604	1.9	0.76 (CSPC)	2.65	1.14
Kharif 2012	3306	3382	18.88	18.14 (NABARD)	37.02	67.08
Total	12,227	13,539.5	66.20	47.02	113.20	125.36

Source: Personal communication with Kuldeep Solanki

Appendix 8: Goal of “Sustainable up scaling of Weather Based Crop Insurance in Gujarat” project

- To enhance farmers’ capacity and the resilience, particularly those of
- small and marginal farmers, to deal with externalities by insuring
- against anticipated shortfall in yield arising out of deviations in
- weather parameters like rainfall through cover of Weather Insurance