Learning Journey

DHAN Foundation

Evolving Climatic Adaptation through Crop Insurance

This Learning Journey was created with contributions from (DHAN foundation) and Pranav Prashad (the Facility)

Contents

Project Basics .................................................................................................................................................. 1
About the project .......................................................................................................................................... 1
Project Updates .......................................................................................................................................... 2
Key Indicators ............................................................................................................................................... 2
What is happening? ................................................................................................................................. 2
Project Lessons ........................................................................................................................................... 6
On insuring crop risks .............................................................................................................................. 6
On factors determining the efficiency and effectiveness of crop insurance programmes .................. 6
On ensuring reliability of rain gauges and their effectiveness in increasing trust in product (single?) .. 8
On ensuring that own sales team is adequately trained and equipped to sell a new product .......... 9
On the timing for premium collection ..................................................................................................... 9
Next Actions ............................................................................................................................................... 11
Project Basics

About the project

The Development of Humane Action (DHAN) Foundation, a professional development organization, was established on the 2nd October 1997 with a mission to build people and institutions for development innovations and their scale-up, in order to enable poor communities to reduce poverty and be self-reliant.

People Mutuals is the insurance initiative of DHAN Foundation. Its primary purpose is to provide insurance services to address the risks and vulnerabilities of the poor. The initiative is collaboration between DHAN Foundation, Oxfam Novib, Rabobank Foundation, and Eureko Achmea Foundation. DHAN Foundation provides professional staff to manage the activities and provides strategic guidance and support.

The project is developing various mutual crop insurance products as adaptation measures to climate change issues faced by small farmers. The project is being delivered across eight districts in two states of India involving 15 blocks. The product is designed and implemented by a mutual insurance committee (MIC), which consists of older and wiser farmers from each covered village. The MIC decides on the risks to be insured and the level of retention of risk by the insured farmers. Given that issues emerging from climate change are highly localized, the MIC of each location can decide on which risks they would like to address through insurance and which they could address by themselves or through other means. The community itself will decide on the method of claim payment.

People Mutuals has developed innovative mutual insurance products for life insurance, comprehensive health insurance and income indemnification crop insurance. They have defined the member administration, policy administration, financial administration and claim administration systems, and developed in-house software for microinsurance.

Project Summary

- **Project Name:** Evolving Climatic Adaptation through Crop Insurance
- **Project Start Date:** July 2009
- **Duration:** 3 years
- **Country:** India
- **Product:** Agriculture insurance
Project Updates

Key Indicators

The following performance indicators are valid as of November 2011.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>July 2010</th>
<th>April 2011</th>
<th>November 2011</th>
<th>2012 (overall up to Nov)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Federations, Location</td>
<td>5</td>
<td>12</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Number of Crops</td>
<td>2</td>
<td>7</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Number of Rain Gauges installed in first phase</td>
<td>50</td>
<td>159 (DHAN had 9 available earlier)</td>
<td>159</td>
<td>159</td>
</tr>
<tr>
<td>Number of Rain Gauges installed in second phase</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of beneficiaries</td>
<td>748</td>
<td>3107</td>
<td>8743</td>
<td>15233</td>
</tr>
<tr>
<td>Area covered (hectares)</td>
<td>529</td>
<td>1007</td>
<td>1804</td>
<td>3663</td>
</tr>
<tr>
<td>Coverage ratio</td>
<td></td>
<td>26%</td>
<td>30%</td>
<td>30% (varies across federations)</td>
</tr>
<tr>
<td>Renewal Ratio</td>
<td>39%</td>
<td></td>
<td>30-100% overall it is about 83%</td>
<td>Farmers 88% Hectares 79%</td>
</tr>
<tr>
<td>Claims settlement time</td>
<td></td>
<td>30-90 days</td>
<td>30-90 days</td>
<td>Average 45 days. Can vary from 30-90 days as settlement is done when entire portfolio risk period is completed</td>
</tr>
<tr>
<td>Claims ratio</td>
<td></td>
<td>71</td>
<td>119%</td>
<td>78%</td>
</tr>
<tr>
<td>Expense ratio</td>
<td></td>
<td>90</td>
<td>47%</td>
<td>30%</td>
</tr>
</tbody>
</table>

What is happening?

As of Nov 2009

Fifty rain gauges were installed in collaboration with Spatika of Bangalore across five locations of Kamuthi, Sayalkudi, Singampunari, Kottampatti, and Thiruppullani. They were approximately five kilometers apart, depending upon host availability. The gauges were installed with proper cementing and protected from outside interference. The data is received on a GSM signal every 15 minutes at a central data receiving mechanism at DHAN, and consolidated daily. If there is a breakdown in signal connectivity, the data has to be manually checked at the recorder that is installed with the rain gauge. Data capture is regular and the quality of the data is good.
The federations prepared an inception document including background information about the federation area (geographic, demographic and agricultural information), risk and vulnerabilities of farmers, and design of crop mutual insurance.

Rainfall related risks were identified for paddy and chilies in consultation with the community through the MIC. Focus group discussions were conducted and the product was designed by People Mutuals with the support of Eureko Re.

DHAN trained staff and community leaders to conduct exposure visits to the federations where crop insurance had been implemented during the past period. As the index based crop insurance was new to farmers, staff wanted to make sure that farmers understood the product concepts and its relevance for their crop risks. Some training and farmer awareness material were developed in local languages.

It was decided to only distribute the insurance to members of the Federations.

**As of February 2010**

A reinsurance arrangement was put in place with Eureko Re with a 90/10 quota share.

The first round of the product distribution in November to December 2009 received a mixed response. Against a planned 776 hectares, 529 hectares of coverage was achieved, with a very low number of farmers participating in the programme. Only 748 farmers took the coverage against a target of 4,000 farmers. This shows that either the marginal farmers have not been reached, or they were not interested in the cover. Field staff (about four) and Federation leaders (around 15) were involved in promoting the product. Claims amounting to 10,500 Indian rupees (INR) were triggered for paddy crops in Singampunari block.

**As of July 2010**

Preparations were made for the next round of sales. Lessons learnt from the first round were incorporated in terms of increased community involvement in product design and customer awareness.

Field staff was trained on the risks and vulnerabilities of farmers, the meaning of insurance, the meaning of mutuality and working with MICs, and rainfall indexed insurance and automatic rain gauges. Exposure visits were organized to the locations served by the insurance.

Ten new locations were identified for extension of the programme and work was carried out to install rain gauges and conduct customer awareness. Overall, plans were made to cover 2,800 hectares of crops in the 15 project locations (1,200 hectares in the five locations of year one and 1,600 hectares in the ten locations of year two).

**As of January 2011**

A total of 150 rain gauges were installed in addition to DHAN’s earlier nine rain gauges (bringing the total to 159), which provide data for about 15 locations. A product was developed for 15 locations using inputs provided by the MICs and advice from the Agriculture Insurance Company (AIC), the government’s specialized agricultural insurance organization.
In a significant departure from the earlier round, the risk for all the locations was transferred to AIC instead of being retained in the community. The entire development, promotion, and implementation of the programme, however, were retained with DHAN. The decision to transfer the risk to AIC was taken because the community was interested in increasing the nature and extent of risks covered. This would have entailed an increase of premium, which may be unaffordable. An increase in cover without a premium rise could be addressed by spreading the risks over larger and more diverse geographical and agro-climatic areas and crops. This was possible only through collaboration with a prominent national agricultural insurer, which led to the decision to transfer the risk to AIC.

A four-stage awareness creation plus training programme was developed to make sure that all members in the delivery chain were comfortable with the product. The awareness programme was launched in 12 locations and resulted in 3,107 farmers enrolling and 1,007 hectares covered. Renewal rates for the five locations where the index based insurance product was sold for the second time varied from 8 per cent to 80 per cent. Claims were triggered in five locations and paid out through AIC.

**As of August 2011**

DHAN continued to focus on the expansion of the programme and used the time between the slacker summer seasons to understand how processes could be improved. This has led to an additional 2,400 farmers enrolling in the programme in two Federations where the product was rolled out in the Kharif season. DHAN also started preliminary work to test the impact of the changes to the processes and the overall impact of the programme.

The project moved its focus to understanding how and whether DHAN’s mutual set-up and related processes, along with the transfer of risk to AIC, can deliver value to the community members and lead to operational efficiencies for DHAN. The project also tested the business case for such an institutional model. The project focused on a few locations in the first phase, and planned to conduct an “in-depth analysis” of the activities being conducted as a part of the programme.

**As of November 2011**

In 2011, in Kharif and Rabi, a total of 1,804 hectares of eight crops – Groundnut, Paddy, Pulses, Maize, Cotton and Millets – Bajra and Jower, cultivated by 8,743 farmers were insured. Due to the awareness created for the weather index insurance and the contact with the community through the year, the renewal ratio was overall 83 per cent, ranging from 30 per cent to 100 per cent across different blocks, with an expenses ratio of 47 per cent.

**As of August 2012**

DHAN continued with its activities across 16 federations and overall the project was able to achieve the following:

- Village-level infrastructure development of 150 rain gauges in 16 locations and sustainable maintenance and operationalization through the social capital of farmers’ federations
• Literacy on crop insurance in general and on rainfall indexed crop insurance in particular to about 30,000 farmers

• Capacity building to over 140 community leaders to manage the crop insurance for protecting the member farmers against the rainfall risks in farming

• During the project period of three years, cumulatively the rainfall risks were covered for eight crops – paddy, chillies, black gram, green gram, maize, bajra, and sorghum and groundnut for about 3,663 hectares, cultivated by about 15,233 farmers

• During the initial year, the rainfall risks were retained by the community through mutual insurance and this was changed to a collaboration with the nationalized premier agriculture insurer – Agriculture Insurance Company of India from year two, resulting in comprehensive coverage of rainfall risks at a reasonable premium. This demonstrated how links can be developed with larger programmes with national insurers, and the related advantages for both parties – communities develop and administer the programme with the insurance company providing benefits of a larger portfolio and carrying the risk

• An in-house software is aiding the rainfall data analyses and interpretations. This rainfall data-base will help in developing different farming practice interventions over a period of time

• The community insurance governance (mutual insurance committee) at federations have been enabled and empowered on rainfall indexed crop insurance processes, administration and management
Project Lessons

On insuring crop risks

It is critical to work closely with the community in order to understand the risks being faced by them. DHAN has formed farmers’ groups and mutual insurance committees that provide regular feedback to the field officers on which crops to insure and the risks and losses associated with them. The close collaboration with the community enabled DHAN to gain a clear understanding of the cropping patterns and the rainfall requirements and therefore to design a better product.

The rainfall requirement for the deficit rainfall trigger, the required distribution of rainfall for the area/soil type for the dry spell trigger, and the crop stages when rains would be detrimental are decided along with communities, making the product specific to their needs. Such specific and complex insurance would not be possible without the insured farmers’ involvement.

The product features need to be explained and understood in local terms. When explaining the insurance product, DHAN learnt that farmers had problems understanding the rainfall measurement being used in the product. To counter this issue, DHAN believes that an additional session on measures on crop risks and measurements would have been useful.

On factors determining the efficiency and effectiveness of crop insurance programmes

Customer education has an important role to play. DHAN’s experience in the first round has shown that due to lack of time, education efforts were insufficient, meaning that farmers did not fully appreciate the association of crop yield loss to the quantum of rainfall, thus leading to low enrollment. Intensive insurance education efforts are required to improve customer’s understanding of the product.

Systematic awareness and education is required at all levels. One aspect of this is the participation of federation leaders plus additional village representatives who discuss and provide feedback on the relevant crops to cover and the connected risks, the cover, and the price that is affordable. These inputs were used to finalize the product features.

It is also important to provide orientation of the field staff and the Federation Leader, with explanations of the product at each location.

Customer education must be carried out at the village level; the field staff and leaders should explain the product to all members.

Awareness and sales activity should be conducted in the villages by the field staff and the Federation leaders. They should answer queries and provide clarifications to the members.
Communities’ and community leaders’ involvement is critical for to ensure understanding of the programme, and its success. Under the mutual insurance initiative, the community was fully involved in product design, member administration, and claim administration. Even when risks were transferred to an insurer, the community continued to perform all these functions except policy administration and claim disbursement. Since they are involved from the initial stages of the programme, the community in general, and the governance/mutual insurance committee in particular, possess better knowledge of the product.

Also, working with the communities and leveraging pre-existing social capital increase the chances of successful implementation of a non-traditional insurance project. Community involvement helped in deciding on locations for the rain gauges, faster turnaround for product design, and extensive customer education and awareness. Based on community feedback various product modifications were made to help counter the temporal basis risk, for example, the use of dynamic sowing and cover start dates.

Customer education is not an ad-hoc activity – it needs to be continued after the risk period. The farmers and the customers need to be constantly engaged to increase their belief in the product. DHAN attempted to do this by regularly providing updates on the data from the rain gauges. This helped the farmer understand the correlation and the representative nature of the rainfall recorded at the rain gauges with the field conditions. This was also helpful for future premium collection.

Over-customisation of product can be counter-productive. Covering broad risks that are easily understood by both the sales teams and the prospective beneficiaries is helpful. Community leaders’ inputs are taken for deciding the rainfall requirement during the cropping period, the required distribution of rainfall for the area / soil type, and the crop stages when rains would be detrimental. These help in setting up broad parameters and triggers for deficit rainfall, dry days, and excess rainfall, which are used for communities with similar conditions rather than becoming too specific.

On working with large insurance company and risk transfer for efficiency and effectiveness of crop insurance programmes

Aligning products with others available in the surrounding area improves understanding. The availability of government schemes at different rates was impacting the sales of the products developed by DHAN. From the second season onwards, DHAN started using the Agriculture Insurance Company to carry the risk and help with develop the product. This model of co-development of the products and transferring risk to the national insurer helped DHAN create products in line with AIC’s other products (reducing confusion amongst farmers), and offer them to the farmers at better (lower) premium rates.

Below is an example of how this alignment aided in enhancing the range of risks covered and the benefit available:
Paddy product of Mudukulathur

<table>
<thead>
<tr>
<th>Period</th>
<th>Premium</th>
<th>Risk</th>
<th>Risk Period</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>INR 290/acre</td>
<td>Deficit rainfall: &lt;60 mm</td>
<td>November 1 to November 30</td>
<td>INR 1,500/acre</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deficit Rainfall: &lt;240 mm</td>
<td>October 1 to December 31</td>
<td>INR 2,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dry period: 20 days</td>
<td>October 1 to October 31</td>
<td>INR 500/acre</td>
</tr>
<tr>
<td>Year 2</td>
<td>INR 415/acre</td>
<td>Excess rainfall: 100 mm in 3 consecutive days</td>
<td>January 1 to February 15</td>
<td>INR 1,500</td>
</tr>
</tbody>
</table>

For Mudhukulathur and Kadaladi, the rainfall indexed crop insurance product was initially designed to cover the risk of deficit rainfall and excess rainfall risks only in the year 2009 for paddy and chillies crops. In subsequent years, a much needed cover against the risk of a dry spell was also included in the product design. Additionally, the premium was reduced to 10 per cent from 15.5 per cent.

Similarly, at Singampunari and Kottampatti, the rainfall indexed crop insurance product was initially designed to cover the risk of deficit rainfall risk alone in the year 2009 for both paddy and groundnut crops. Subsequently, with the AIC tie up, the risks of a continuous dry spell and excess rainfall were also included. Apart from broad basing the risk cover, the premium was reduced to 7.5 per cent from 13 per cent for paddy and 8.8 per cent from 19 per cent for groundnut.

Claims payout also stabilized at 45 days from the close of the risk period.

**On ensuring reliability of rain gauges and their effectiveness in increasing trust in product**

**The rainfall data from the rain gauges needs to be monitored regularly and recorded.** The proper functioning of the rain gauges needs to be ensured through field visits by the federation staff and maintenance visits by staff of the supplier. Regular systems of checks and balances are required, verifying the data of adjacent rain gauges and checking with the data of the nearest Indian Meteorological Department’s rain gauge.

**Rain gauge installation can take time and should be started early in the project.** Rain gauge installations took approximately 90 days. Since rain gauge installation was delayed in the first round, there was very little time available for education and sales which contributed to low enrollments.

**Presence of rain gauges is critical to convince farmers about the product.** There is skepticism when the promise of a rain gauge is made and “Seeing is believing”. Since most rain gauges were only set up very close to the risk inception date, enrollments were impacted as farmers did not physically see the rain gauge from where data will be collected for their fields.
Rain gauges helped in better product explanation and understanding. The presence of multiple rain gauges close to each other and close to the farmers’ fields helps in better understanding of the risk and can help in better acceptance of product. Further, the farmers were able to appreciate the appropriateness of the product and the project, with reduced basis risk due to the proximity of the rain gauge.

Also, automatic rain gauges available in public areas enable the insurer to have access to data in real time. This facilitated transparency, resulting in client value, increased trust, and faster claims payments.

Rain gauges helped in dispersing risk and prevented “bunched” claims payouts. Out of the 12 locations that implemented the crop insurance programme, during the Rabi season in 2010, claims were triggered in only five locations. Even among these five locations, the claims were triggered only in 15 rain gauges out of 50 rain gauges. This helped in localizing the risk and prevented claims from being paid to all farmers in the location.

On ensuring that the sales team is adequately trained and equipped to sell a new product

The doubts of the sales team need to be explored and clarified, and it is important to win them over. DHAN understood that layering an index insurance programme on other activities being carried out by the field staff was a challenge. Repeated clarifications backed by case studies of similar projects helped the sales team understand the concepts and equipped them to explain them to the beneficiaries. Additionally, since field staff was the first point of access for the beneficiaries, the data updates, claims settlement process and timing had to be clear to them so that they could answer queries from the beneficiaries.

On the timing for premium collection

Premium collection needs to be aligned to availability and ability to pay. It became apparent to the sales teams that the premium collection period coincided with the time the farmer had to pay for other inputs, like seeds and fertilizers, which involved sizable cash outflows. Farmers were therefore hesitant to also make insurance premium payments. DHAN is exploring if premium payment in instalments could be an alternative.

On the viability and sustainability of the programme

Effort on selling weather insurance products can be combined with other activities with the communities. Initially, when DHAN was designing and selling the product as well as carrying the risks, the volumes were small. In order to enhance the value from the product and cover greater risks, it tied up with Agriculture Insurance Company and started earning a “commission” for the business being generated. However, this is not sufficient to cover the actual costs of developing the products and customer education. However, since the insurance programme piggy-backs on the tankfed / rainfed / coastal agriculture programme infrastructure and systems which DHAN has developed over many years, the operational costs of the programme are in fact minimal, thus underlining its sustainability.
High renewal rates are vital for sustainability. Since communities themselves had helped in product development they were positively inclined to buy the product. Though overall coverage ratios remained low, pointing to a need for wider community involvement, the farmers buying the insurance product once generally bought it again the next season, resulting in a very high renewal rate of 88 per cent.
Next Actions

The project has helped create a dense infrastructure for measuring rainfall. This has aided in development of a mechanism to protect small and marginal farmers in the project area from rainfall risks, thus enabling them to cope with variations in rainfall quantity, intensity and patterns, experienced due to climate change.

DHAN Foundation is now looking at expanding beyond the project areas to start similar programmes, install village rain gauges, and develop products. For this, DHAN Foundation is focused on enhancing its capacity to execute this programme through proper training of staff and improved customer awareness through education and awareness programmes.

Additionally, to ensure that the product effectively represents the risks being perceived and experienced by the farmers, DHAN’s field staff will work even more closely with the farmers and the MICs to properly identify the risks, and will design the products with external help.

AIC will continue to support product design for different locations. DHAN, in combination with the tankfed irrigation programmes, is focusing on how product design, sales force training, customer education and awareness, and product sales can be carried out in a mutual set up.