Project Report

Evaluation of Crop Insurance Product in Karnataka, (Rural Insurance Service Programme, GIZ, India)

Prepared for: GIZ

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Institute for Governance, Policies and Politics

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Glossary of terms:

GDP	Gross Domestic Product
IRM	Integrated Risk Management
PMFBY	Pradhan Mantri Fasal BimaYojana
NSSO	National Sample Survey Organization
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
DFS	Department of Financial Services
RISP	Rural Insurance Services Programme
AICI	Agriculture Insurance Company of India
NABARD	National Bank for Agriculture and Rural Development
IRDA	Insurance Regulatory and Development Authority
KSDA	Karnataka State Department of Agriculture
DoH	Department of Horticulture
FPO	Farmer Producer Organization

Executive Summary

Only a minority of rural households in India have access to insurance services that meet their demand for mitigating agricultural and other livelihood risks (core problem). This situation has been caused by a variety of reasons, i.e. high distribution costs, inadequate infrastructure, lacking information and experience of insurance companies, low reliance on technological solutions, and the low financial literacy of rural households. According to the *Agriculture Insurance Company of India* (AIC) less than 25% of all small and marginal farmers are covered by agricultural insurance. This estimate reduces to almost 5% in the case of farmers who do not avail agricultural loans from financial institutions across the formal sector. The Government of India in its bid to increase crop insurance coverage across the sector; recently launched Pradhan Mantri Fasal Bima Yojana(PMFBY) While the new scheme PMFBY seeks to build on the experience of its predecessors, it attempts to safeguard farmers and growers from traditional risks by taking a broader area based approach. Given the diversity of agro-climatic zones and specific risks associated with variety of crops, there is need to develop localised approaches to crop insurance implementation.

Against this background, the Risk Reduction through Rural Insurance Insurance Services Programme (RISP) has tried to build such localised approaches to crop insurance. The programme has been co-operating with the the Agriculture Insurance Company of India (AICI) over the last 18 months and has piloted innovative crop insurance products for mango and grape implemented in association with the Karnataka State Department of Agriculture and Horticulture. These initiatives introduced new approaches and methodologies which include risk profiling of farmers to prevent moral hazard and antiselection (assessment prior to assuming risk),and loss data recording and localised assessment. The program has also made use of innovative technologies such as geo fencing/tagging for fraud prevention mobile applications for data capture and online systems for farmer information management as part of its implementation strategy.

The subsequent sections of this report evaluates the experience of the Risk Reduction through Rural Insurance Insurance Services Programme RISP in implementing this pilot projects in Karnataka over the past 18 months.

Surveying and interviewing a range of stakeholders, the report observes that, despite the limited scale of these pilots, the feedback from the various stakeholders is largely positive.There is overall satisfaction across interviewed beneficiaries as regards the product design, crops covered , pilot execution, risks covered and premium charged. Beneficiaries have also expressed satisfaction with the training and capacity building measures conducted, as part of the enrolment process. Farmers found the insurance product effective as it allowed them to easily repay loans and other financial commitments. This also freed them banking on alternatives which include personal savings and borrowing of funds from local banks and money lenders normally used to finance losses incurred as a result of extreme climatic events. . A significant part of the beneficiaries also found the product offered during these pilots to be need oriented and effective when compared with other crop insurance products available in the market.

At the same time, Half of the beneficiaries, who have intimated claims, found the payouts not in line with their expectations.. Others also pointed out delays in the claim settlement process. Requests have also been raised by the Insurance partner AICI on the development of operational models which can be

sustained based on the administrative expenses allocated within the standard product design process This is in lieu of the low premium rates mandated as part of the ongoing crop insurances schemes and are necessary to benefit from government subventions within crop insurance schemes in the form of premium subsidies.

To conclude, a large number of interviewed respondents have expressed their interest in purchasing the products in forthcoming seasons and are willing to recommend the product to their friends and relatives. In general, majority of the interviewed beneficiary farmers see immense value and are agreeable to the continuation of the intervention in the coming seasons. A similar vote of confidence has been received from the Karnataka state department of Horticulture who has made a formal request to GIZ to scale up the pilot for the winter harvest (Rabi) post September 2016 with a commitment to enroll a minimum area of 10,000 acres for each product.

Introduction

Agriculture is a major source of livelihood across the rural Indian economy However, due to the lack irrigation facilities in rural areas, indian farmers are heavily dependent on climatic conditions. Some of the major challenges suffered by farmers include uncertainties like excess/ low rainfall leading to flood or drought, pests and diseases and in recent times the occurrence of hailstorms and rainfall during non monsoon months. uncannily coinciding with the harvesting period. Production risks are further exacerbated by price risks, credit risks, technological risks and institutional risks. In a country like India where agriculture is a major source of income for more than 58% of the country's rural population[1], it thus becomes extremely important to include the growers in some form of risk management strategy.

The agriculture and allied sectors have contributed 17% of India's GDP in 2014[2]. One of the key features of the National Agricultural Policy, 2000 was to "provide a package of insurance products for growers, from the sowing period to post-harvest operations"[3]. There have been various attempts at providing insurance schemes to farmers by the government. However, they were withdrawn for reasons which included high premium rates, low claim value, and non-coverage of localized crop loss[4]. In January 2016, Government of India launched the *Pradhan Mantri Fasal Bima Yojana* (PMFBY) which replaced the previously existing insurance schemes.

The scheme aims at supporting sustainable production in agriculture sector by way of - a) providing financial support to farmers suffering crop loss/damage arising out of unforeseen events b) stabilizing the income of farmers to ensure their continuance in farming c) encouraging farmers to adopt innovative and modern agricultural practices d) ensuring flow of credit to the agriculture sector; which will contribute to food security, crop diversification and enhancing growth and competitiveness of agriculture sector besides protecting farmers from production risks

A review of past experience in Crop Insurance

The fact that agriculture is shadowed by volatility of certain uncontainable factors like weather is well understood by the governments as well as the private sector around the world. Various schemes and policies involving insurance products are introduced to bring the growers under a safety net. However, two extremely important issues rise here regarding these risk mitigating measures- awareness and satisfaction. According to a report published by the National Sample Survey Organization (NSSO) titled "Key Indicators of Situation of Agricultural Households in India 57 percent of interviewed farming households werent aware that crops could be insured, while a mere 4 per cent had ever insured their crops.

Apart from that there are several studies in India have revealed that small and marginal farmers are usually unwilling to pay high insurance premiums in absence of subsidy support from government support making it difficult for these groups to avail of crop insurance. A study conducted in Andhra Pradesh, found that when farmers in regions prone to serious drought risk were offered the insurance product, interested was shown by a very small number of farming er households and those too across the educated and higher-income group. The study also identified four key drivers that influence farmer decisions in favour of the insurance products namely - co-relation between payouts and incurred losses, convenience of service delivery, program appropriateness, and government's support.

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[1] "Key Economic Sector". 2015.
[2] "Indian Economy at a Glance". 2015.
[3] "What Are The Main Features Of The National Agricultural Policy Of India?". 2012.
[4] "NDA Govt Launches New Crop Insurance Scheme". 2016. *PM India*.

The above mentioned secondary literature reviews indicate the lack of awareness amongst farmers on account of the inappropriate , complex design of the insurance process and cumbersome administrative procedures which undermine the implementation of crop insurance solutions. Respondents also highlighted that the product lacked relevance as it didn't cater to their needs and suggested the institution of a consumer consultation process prior to implementation of crop insurance in a particular area.

The Pilot Project- Crop insurance initiative, Karnataka

GIZ-RISP in association with the Karnataka State Department of Agriculture (KSDA), Karnataka State Department of Horticulture (DoH), and AICI, implemented a pilot project on farmer centric weather index plus insurance products for mango and grape growers in two districts of Chikkaballapur and Kolar in Karnataka.

The objective of the project was to test the efficacy of new products & solutions backed by technological approaches and operational methodologies that effectively reduce the impact of basis risk.

Also, the notion that all horticulture growers are financially secure has been proven to be a myth. Instead, for the poor and a middle-income farmer, horticulture despite being a cash crop has been found to be extremely risky.

Through well-established communication with interested growers and State Government official's, GIZ was informed about the need for an effective insurance solution which provides coverage against unseasonal rainfall and hailstorm. After a number of exhaustive discussions, farmer centric products were finalized for grape and mango in four locations and design specifications submitted to the Karnataka State Department of Agriculture for the Rabi 2014-15 season and the Karnataka State Department of Horticulture for the Rabi 2015-16 season, The local agricultural, horticultural departments along with the regional office of AICI played a major role in the implementation of the program. A call centre was established at the regional office premises of AICI to assist growers in registering complaints, reporting losses and addressing product related clarifications prior to enrolment within the insurance scheme[5]. As an integral part of the implementation approach, growers were also given detailed training which included relevant information on insurance and crop insurance using audio-visual tools and modules.

Objectives of the evaluation

The objective of the assignment is to assess the results of the RISP crop insurance initiative in Karnataka based on five evaluation criteria (relevance, effectiveness, impact, efficiency, sustainability) and the results indicators of the project.

- **Relevance**: to evaluate if the project is aligned with national and state policies, the needs and issues it is addressing, and the details about the policyholders in terms of the losses they have been facing in the past five years.
- **Sustainability**: to assess the long term viability of the programme and the state government's interest in continuing the programme in the near future.

[5] (Karnataka crop insurance pilot: A Business Case for Demand- oriented Crop Insurance Solutions, 2015).

- **Impact**: to study the benefits of the programme for clients (especially women), AICI, NGO partner if any and the state government. In particular, to estimate the quantum, pace of the claim settlements and volume of risk coverage.
- **Effectiveness**: to evaluate the effectiveness in terms of the product and the training given to the growers.

Evaluation Scope and methodology

Scope:

- How many crop insurance products, which reduce the basis risk through application of new technologies or methodologies, did the initiative develop?
- What is the number and percentage of growers who have optimised their risk management through the use of the newly developed crop insurance products?
- What is the number and percentage of growers who confirm that the newly developed crop insurance products meet their needs?
- What is the number and percentage of growers who are satisfied with the newly developed crop insurance products?
- Have the newly developed crop insurance products been marketed in a responsible manner?

Methodology:

The study has employed a mix-method strategy to evaluate the impact of the intervention in these two districts of Karnataka. The entire ecosystem around the insurance policies and training was investigated to get a holistic picture on the satisfaction level of the insurance product. An appropriate questionnaire was used to study the post intervention scenario (in accordance with terms of reference). The questionnaire was designed to collection farmer's socio- economic background, their land holdings, cropping patterns and risks they encounter in a year. It was also designed to collect details of satisfaction of the farmers about the crop insurance product they have availed in the last season.

The information was obtained through a recall and real time survey and collecting corroborative facts. Policyholder farmers or beneficiaries were asked to answer structured closed ended questions and the responses were recorded on paper instantly. Questionnaire had different sections to gauge their responses differently and subsequent alterations were recorded and previous responses were also amended wherever needed in front of respondents.

The evaluative study has collected both quantitative and qualitative information from the stakeholders in post intervention period. The study has conducted between two sets of respondents in the focus states of RISP, Karnataka. As stated above this study has used mix method. The first phase of the fieldwork conducted through a structuredquestionnaire, which was basically used for policyholders interview. In the second phase, AICI and some of the policyholders were interviewed using an interview schedule.

Sampling

Total number of farmers who have taken insurance is 163. For this study 109 samples were randomly selected from the clients list, who have already used the insurance product designed by RISP for Mango and Grape in two districts of Karnataka (Chikkaballapurand Kollar). These samples were selected various parts of the intervention region to maintain a representativeness of the

sample. Out of 109 sample 68 Grape and 41 mango frames were chosen for the study from Chikkaballapur and Kollar district. Apart from that two AICI staffs andtwo farmers were also interviewed to gather qualitative information regarding the insurance in the intervention region.

Evaluation Findings:

Relevance:

The government discontinued and integrated parts of previous insurance schemes within the, *Pradhanmantri Fasal Bima Yojana* (PMFBY) in Jan 2016. Products developed by GIZ and its partners are found suitable to cover perils identified by the program and present an opportunity for future integration and alignment. Doing so, will not only facilitate the process of increasing coverage, but also benefit growers across the agricultural sector. The implementation of relevant schemes, along with other integrated risk management approaches especially within the agriculture and rural sector can result in increased farmer productivity, rural employment, women empowerment, food security, stronger rural communities and eco-system resilience.

The recently concluded pilot project in the state of Karnataka is an important intervention, given the nature of farming and sustenance conditions. The evaluation study reflects not only the enthusiasm on the part of the growers to accept an innovative method to safeguard their produce but also enables the partner organization and the state together to protect the interests of the growers whose major source of livelihood is agriculture.

Research Sample overview:

Out of the total growers interviewed, 83% were men and 17% were women and 73% of the total growers belonged to the hindu caste followed by 15% who belonged to other backward classes. More than half of the growers were middle-aged (58%), followed by about one-third belonging to the senior section of the society. It was found that majority i.e. about 40% of the growers went to primary school and only 21% went to secondary school. About 64% of the households are mid-sized families, i.e., 4-6 family members, and this number is further reflected in the number of earning members in these families; more than one-third of the families have 4 working members. It is important to note that for most of the growers (98%), agriculture is the primary source of income.

However, the annual income of the total sample of growers through agriculture, 65 percent of them earn less than rupees one lakh per annum, 14 percent earns between 1-2 lakhs rupees, about 18 percent earns between 3-5 lakhs rupees and 2% has an annual income of more than Rs.5 lakh. Most of the respondents (46%) were marginal land holders.

Given the socio-economic and educational backgrund of the growers, majority of them belong to the majority caste, their poor economic conditions and dependence on agriculture as the primary source of income reflect their vulnerable position within the social strata. Thus, it is of utmost importance to ensure that they protect their produce and bring efficient farming practices to improve their sustenance.

With regard to other types of insurances that the growers availed, growers awareness levels were found to be high vehicle insurance (86%), other crop insurances (72%) and life insurance (60%). Close to half of the total respondents seemed aware of livestock insurance (51%) and health insurance (52%).

62% of the growers reported that they currently have life insurance and 52% are covered under health insurance. 88% of growers reported that they purchased vehicle insurance while more than half were not insured under accidental covers. 51% of the respondents are also availing livestock insurance services.

The most common reason for purchase of any type of insurance product was that protection coverage/features were found to be attractive. However, an exception here was in the case of vehicular insurance which 78% of the growers confirmed was a compulsory purchase.

Impact:

In terms of risks that the policy holders face, impact of abiotic stress results in the maximum loss to their crops. During the interactions, growers informed that, hailstorm (89%) was the riskiest peril, followed by unseasonal rain (54.1%), high wind (33.9%), and drought (28.4%), of the total sample respectively. When collectively asked about the repetitive occurrences of these risks, about 80% of the growers reported facing these natural risks 1-3 times in a year.

Table 1: Percentage of growers who reported loss due to the following factors

	Hail Storm	Unseasonal rainfall	High wind	Drought
	%	%	%	%
No Loss	0	6	0	0
Once in a year	22	22	30	66
1-3 times in a year	74	57	43	26
3-5 times in a year	2	9	16	8
5 times or more	2	6	11	.0
Total	(n= 91)100.0	(n=54) 100.0	(n=37) 100.0	(n=35)100.0

Among those (n=91) who reported hailstorm as the most certain risk, 74% informed that they face loss due to this natural hazard at least 1-3 times in a year(*see table 1*). About 57% of those respondents (n=54) who reported unseasonal rain as a risk for their farming, said that unseasonal and heavy rainfall brings loss as many times as hail storms in a year. Again loss or damage due to high wind occurs 1-3 times a year as informed by 43% of interviewed growers (n=37). Drought is reported to bring losses to growers once a year as informed by 66% of the growers (n=35).

Natural hazards are inevitable while it brings woes to the growers. For growers with marginal landholding, poor annual income and considerably large family size, such frequent occurrences disrupt their livelihood conditions every year. The crop insurance intervention appears to have brought some level of respite to these growers.

Table 2: Percentage of growers who managed losses by other means apart from crop insurance

	Before %	After %
Crop insurance	.9	**21**
Bank Loan	62	**58**
Own saving	15	**22**
Other source of income	12	2
Local money lenders	5	2

Previously to manage their losses due to unpredictable climatic conditions, the farmers took to various means to safeguard their produce. Before the WBCIS Plus insurance product was introduced to growers, 62% of growers took loans(non-collateral) from the bank to manage agricultural losses. Through this intervention, it was expected that the growers would find a new avenue to insure their produce from incurred losses due to the failure of their crop. The growers, have shown faith in this product solution which is evident from the percentage change in the use of own savings and other financial means vis-a-vis benefits from the crop insurance product which is found

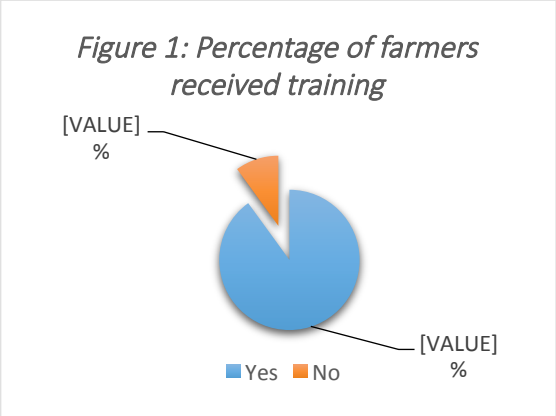
to be positive after the intervention. The number of growers using crop insurance as means to cover losses from crop failure has gone up from a mere 1 grower to 23 growers after the introduction of the new insurance product.

Effectiveness:

The initiative towards providing crop insurance to the marginal growers sought out not only relevance and sustainability, but also effective implication upon farming practices and agricultural production in the long run.

Crop Insurance Awareness and Training

The Program has conceptualized and developed multimedia based training packages on crop insurance for improving the understanding of growers on insurance and crop insurance in particular. This comprehensive training package on crop insurance has five training modules. The training modules have been developed on the lines of 'general to specific' guidance on crop insurance. By participating in insurance trainings and awareness programs, growers gain a step-by-step understanding on various conceptual and practical aspects of insurance and crop insurance where technically challenging topics such as basis risk etc. are also explained in a simple manner.

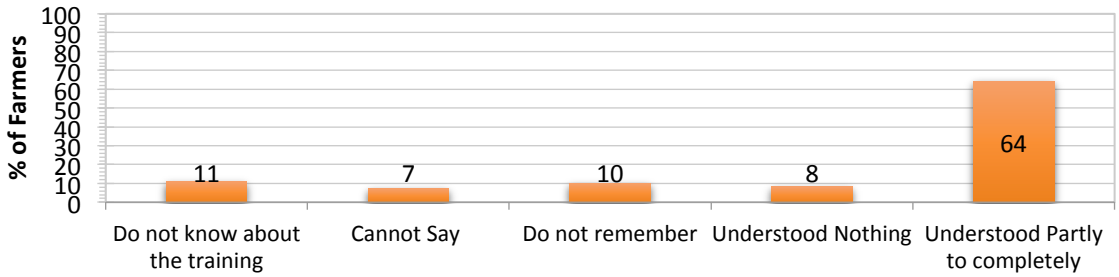


The growers did express their understanding with regards to the trainings received on crop insurance before availing the insurance policy. 90% of the growers confirmed that they received training on crop insurance. Out of the total selected sample (109) of policy holders for the structured interview, 70% of the growers confirmed their participation in crop insurance training programs prior to availing the insurance policy. 95% of the interview sample also informed that the training was organized by GIZ and its associates (see Table 3). It is an important marker for the success of the product as the growers could clearly distinguish between the previously available sources of information and existing ones.

Table 3: Crop Insurance training	Percent
GIZ	95%
Insurance Agent	4%
Private Company	1%
Panchayat Office	2%
NGO	4%

The majority (89%) of the growers underwent training in the course of the pilot organised during Rabi 2015-16. Further, 63% said that the training programme was a one-day session. While 80% of the growers responded that the training was held through videos while 38.5% mentioned lectures followed by audio sessions as claimed by 25% of respondents.

Figure 2:Understanding of the insurance product through training



Of the 70% of growers who received training, 64%, partly to completely understand the content. 57% of growers raised queries during the training; of which only 9.2% felt were completely addressed by the trainers.

48% reported that they bought the product in the year 2015 and 52% in 2016. By this time they had some knowledge about the crop insurance product in their area and their buying decision was was based on this experience. AICI facilitated the purchase of the product by the growers.

The policy holders had good knowledge of the insurance product as was evident from the responses on the coverage that the product had. Of the total sample, 73% were aware that the product did not cover losses to irrigation equipment while 85% of them informed that the policy only covered losses to crop yield. The opinion was almost equally divided with regard to the coverage for loss due to natural calamity and any other losses.

Sum Insured and premium paid:

Table 4: Sum Insured and premium paid

	N	response
Average sum assured for excess rainfall	107	Rs 66780
Average sum assured for hailstorm	92	Rs 37769
Average premium amount	109	Rs 2763
Average rate of premium	80	5.5%

The insured growers reported, they availed the crop insurance at an average premium rate of 5.5% (see table 4). On an average each grower approximately assured a sum amount of Rs 66780 for excess rainfall and Rs. 33769 for hailstorm. An average amount of premium paid by each growers is Rs 2763 and a total of Rs 301162 ranging from Rs 900 to Rs 9000 per farmer.

Awareness about premium Subsidy and State support.

Table 5: Premium paid and subsidized

Premium shared by ↓	Paid full premium →		
	Yes%	No %	Total %
The Insurance Company	4.3	7.1	11.4
The State Government	11.4	51.4	62.9
The Central Government	2.9	22.9	25.7
Total	18.6	81.4	100.0

More than 50% of the growers out of those who responded said they did not have to pay full premium. According to the growers, premium was shared by state/central government and the insurance company. This can be seen in accordance with the state level policy to facilitate agricultural incentives and help the vulnerable growers financially. The policy covered the risk for more than 90 days as reported by 98% of the growers across the total sample.

Average landholding of participating growers.

Table 6: Percentage area covered by WBCIS plus (In Hectare)	
<1 hectare	71%
1-2 hectare	25%
2> hectare	4%

Of the majority of growers across the total sample (71%) covered under WBCIS plus insured less than one hectare of their land.

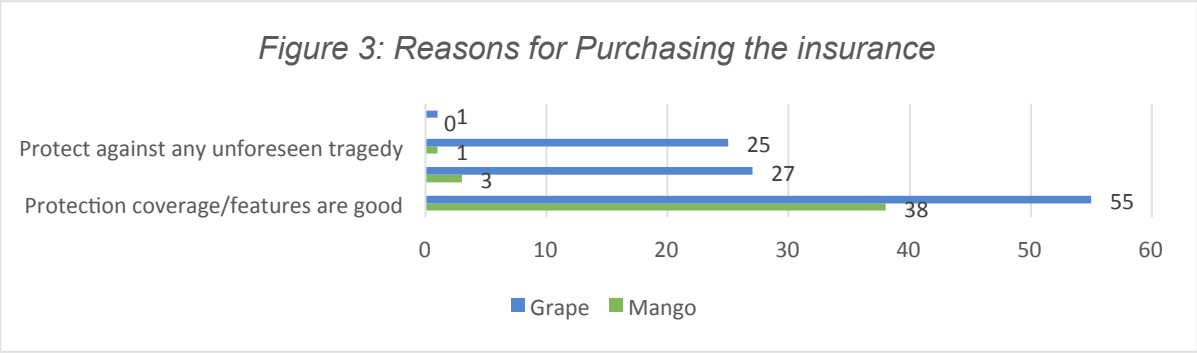
Every year they incur agricultural loss mostly due to both these natural perils. In fact 80% of the growers said that risk profiling of their produce and farming conditions were done before they bought the product.

Feedback on risk profiling and enrolment procedures.

Table 7: Method of Risk Profiling of the farmland			
Procedure for risk profiling ↓	**Risk profiling was done before the purchase of the product? →**		
		Yes	No
Personal and land information was collected	Yes	36	0
	No	50	4
Photos and videos of farm	Yes	67	3
	No	19	1
Status of orchard, age, variety and other management practices of the garden	Yes	6	1
	No	80	3
Score was given to each risk factor	Yes	0	0
	No	85	4

Out of the total, 67 growers, i.e. about 61% of them said photos and videos of the insured area was collected as part of the risk profiling exercise while one-third of the total sample informed that their personal and land information was collected as part of the process. Undertaking of a transparent result oriented risk profiling process provided assurances to growers as the assessment was done on the basis of the actual farm conditions and included factual information about the growers.

Factor that influenced purchasing decisions:

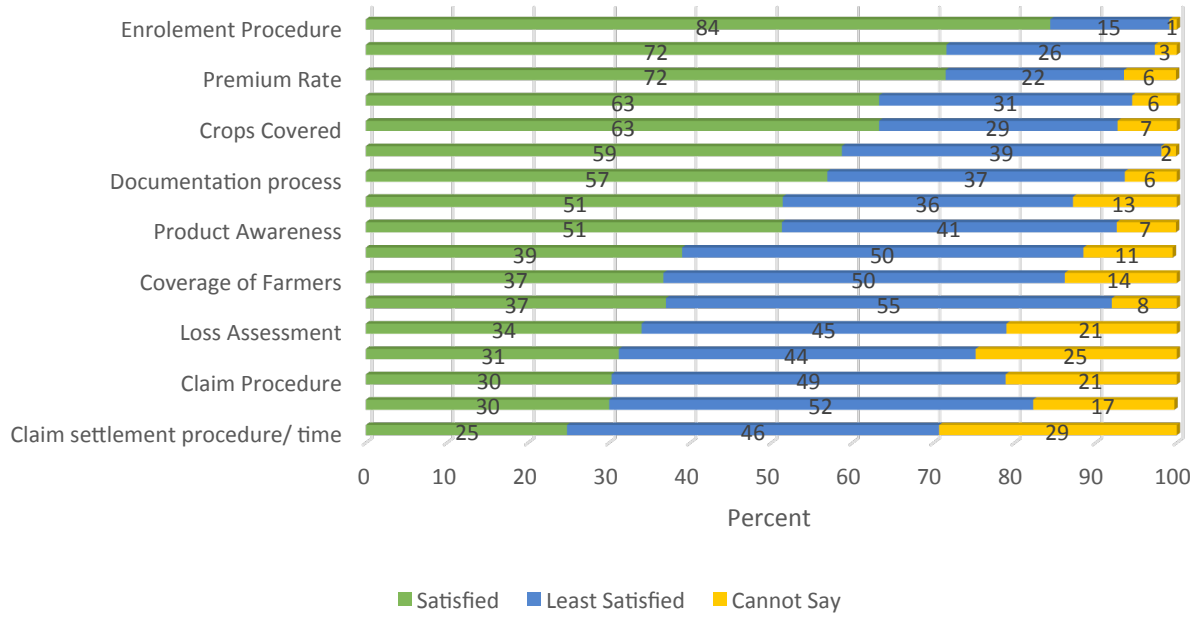


The growers cited protection coverage and its features as the most frequent reason for purchase of the insurance product, followed by affordable premium and protection against unforeseen tragedy. In this light it is important to note how have the growers in totality responded to the product and what could be the possible design of the product when replicated in the future.

Product Satisfaction

In terms of satisfaction level of the growers, 84% of growers from the total sample were satisfied with the enrolment procedure and 72% were satisfied with purchasing the product (*see Figure 4*). 63% growers were satisfied with the crops and perils covered. 72% of growers were satisfied with the premium rate. While more than half of the interviewed growers shared their satisfaction on the product awareness, localised approach, premium subsidy and the documentation procedure. However, satisfaction levels were lower across feedback related to coverage of farmers in their area, claim procedure, and value of the insurance; 50%, 49%, and 55% was the distribution reported across these parameters respectively. The major reason for dissatisfaction was found amongst growers who had intimated losses but yet to receive pay-outs.

Figure 4: Product Satisfaction



The perception of growers with regards to their awareness levels about the product was scaled from strongly disagree to strongly agree. Analysis showed that 87% growers agreed to be fully aware of crop insurance in their area. 49% of the respondents believed that all growers in their area were covered under the product while 38% remained neutral. Furthermore, 59% confirmed that the product only insures losses related to crop yield. 40% of the respondents agreed to the statement that seasonal crops need higher insurance coverage (sum assured) than perennial crops. 52% of the respondents claimed that they were well aware of the crop insurance provision and 60% were well informed about the insurance product before availing it. Out of the total respondents, 56% of growers agreed that crop insurance is important for their farming decisions.

Table 8:Percentage of growers who would purchase the product in the next season and recommend it to others

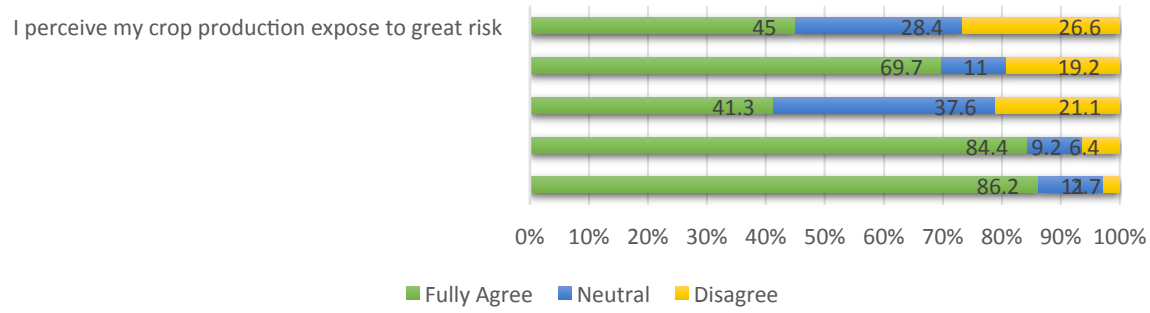
Likelihood of Purchasing the product in the next season as well↓	Likelihood of recommending the product to friends and families →		
	Yes %	No %	Total%
Yes %	73	1	74
No %	14	12	26
Total	87	13	100

73 % of the growers are not only willing to purchase the product in the next season but keen to recommend it to their family and friends. This is an important outcome of the intervention given that there are challenges faced during claim settlement. In fact, 60% of the total sample of growers thought that the crop insurance would be able to secure their income from the possible crop losses

79% of the respondents were satisfied when asked about the coverage of the number of crops they wanted to be insured. 46% of interviewed respondents expressed satisfaction with the premium rate while 29% did not wish to comment. 61% of growers agreed that crop insurance provides protection to their crop yields while one-third (44%) of the total sample considered the product to be fairly different from previous products. 48% expressed their satisfaction with the present insurance product and more than half of the total sample (55%) acknowledged that the ability to insure different acreages sizes individually is important. 44% expressed happiness with the insurance coverage while more than one-third of growers (37%) disagreed on this point. When growers were questioned about their grievance settlement experience, it evoked a mixed response. 31% agreed to on time settlement, while 32% felt they were delays in settlements, and 36% of the growers chose to be neutral...

Understanding of Risk

Figure 5: Understanding of Risk



The growers seemed aware of the risks involved in farming and were open to new innovations to protect their crops. A majority of growers agreed that there exists a production even after applying the insurance coverage (86.2%) while (84.4%) admitted that new technologies can help in reducing risk and ensure yield protection. In order to experience higher yields, 41.3% of growers were willing to adopt riskier farming practices while 37.6% of the total samples choose to remain neutral on this statement. 70% of growers were in agreement that crop insurance is an important risk management tool. Interestingly, despite the above responses, 65.2% of the total sample of growers did not want to insure any crop in the future unless supported by a premium subsidy. The state government supported premium subsidy helped the growers in deciding to opt for the insurance product without any hesitation.

Claim Settlement

Interviewers were unable to dig deep and extract respondent feedback on the topic of claim settlement as the process of settlement is still underway and respondents are yet to receive claims. In total 39% reported that they incurred losses during this season while 15% intimated these losses at the call center, out this 31% informed loss assessment was done after their intimation. A total of 40% across growers that intimated claims found the settlement procedure to be difficult.

Financial Impact

A majority of respondents agreed to the importance of per hectare costs while making their crop insurance decision (72.5%) and the importance of availability of high coverage levels (60.5%). More than half of the growers said that crop insurance is important because they can do away with the debt and rent payment

obligations from the local money lending systems. Of the sample respondents 41% in total agreed that the income turns better after an assured insurance.

Sustainability:

Stakeholder's Viewpoint:

Agricultural Insurance Corporation of India (AICI)

H. Jeyanthi, Assistant Manager, AICI, Bengaluru

AICI is working in all the districts of Karnataka for varied crops including mango and grape. Except in the last year it only worked in Chikkaballapur and Kolar for mango and grape. This was opted for to address the ridge between area approach and individual approach. They did not pursue this insurance merely because the government notified it but they pursued it to evaluate the success of individual approach.

The problem with government schemes has been that they are not consistent, and that evaluation of their success becomes difficult. Any scheme takes a while to understand the benefit and it has not been possible to do so up until now. For instance, before 2007 there was no WBCIS, so horticulture crops were not covered. Only after 2013, the government brought all the vegetables and fruits under its yield based scheme. Now, only the field based crops are under the weather based schemes. Under the PMFBY all vegetables were also brought under the yield based scheme and horticulture was brought under the weather based scheme.

Although both schemes have their own benefits and realizations, both growers and insurance companies agree that yield based is the best method since it covers all risks. It was initially thought that weather based insurance would be better due to tamper proof data and quick settlement of claims, however, that has not happened due to the delay in receiving data. Although in Karnataka the scope for obtaining data is far better than IMD but cost acts as a barrier. AICI is required to pay □ 1,200 and □ 500 separately for other weather data on monthly basis. Yield based is better since the cost of data is zero since loss data is free. Also, the quality of data is often a problem since weather based data is a proxy for yield data. The weather based index, therefore, might not capture the actual loss suffered by growers. This is one of the reasons why the government has a pessimistic view about WBCIS. The problems are, therefore, narrowed down to high basis risk, poor quality of data and inefficient product design. All these factors have amounted to the failure of weather based schemes. Besides crop insurance, there are other social insurance products that growers are offered. Usually these come with low premiums that are automatically deducted from their loans. It has been seen that the growers don't have life insurance; while some have motor insurance (again compulsory) and accident insurances.

For mango and grape growers who have opted for this product, the average insured area size is 0.5 hectare per farmer. This region is susceptible to hail which occurs twice on average in a crop season which lasts 6 months. For purchasing the product, the growers usually avail of bank loans of up to 3 lakhs at 0 per cent interest. Usually for renewing the loans, they obtain money from other sources like money lenders since their claims are not settled immediately after the risk period. The average loss seen in this project is □ 4,500 per farmer and □ 7,800 per hectare. The index-base loss was more in grape while the individual-base loss was more in mango.

In order to convince growers all methods ranging from radio to TV advertisements, hoarding, and publicity bands are used. The interested growers go to the banks and follow the rest of the procedures. In case, they approach AICI, they are informed about the whole process and guided through it. After which their bank records are verified and three-day camps are held before the closing date for application. Four such camps were held in case of WBCIS-Plus. Filling of the proposal takes about 15 minutes and the documents that need to be provided are the land document, RTC, a bank account and an identity proof.

The insurance policy is issued after geo-fencing of land is done by SKYMET, an agency hired by AICI and in this project sponsored by GIZ. The land record for two hectare should be produced in the farmer's name.

Once the risk-profiling is done, the policy is issued. After which growers are only required to report loss within 24 hours after the loss. They can call AICI and a team will be sent to verify the loss. The team consists of government people as well. There are also two separate specialized scientists –one for mango and one for grape who will analyse the loss. The settlement begins after 30th of June. In this project, a total of 30 losses have been reported – 20 losses by mango growers and 10 by grape growers. The claims are required to be settles within 45 days after the risk period. Usually it takes about 3 months but since the sample size that is the number of growers is less, it will be done within 45 days. The per hectare premium of mango and grape is 12 per cent gross premium or □ 7200 for grape and □ 4500 for mango. The individual farmer premium depends on the land size insured by the farmer. Six percent of the sum insured is equivalent to farmer premium. The growers are given a 50 percent subsidy by the State and Central government for weather based insurance. The farmer only pays 6 percent premium while AICI collects the remaining amount from the State and Central Governments.

There have been some good developments made by the company during this particular project. Software has been developed particularly for loss assessment in the individual approach. The company is striving to check whether it can scale up and carry out a similar project for a huge number of growers. Although, the project has been re-insured, this venture is not for profit but instead for development. The project will help AICI in pilot testing individual approach for commercial horticulture crops along with testing their own ability to assess individual loss assessment. From the growers point of view the premium is fair that is they are not concerned with the premium cost, they only want their claims to be properly settled.

Ms. Jeyanthi – Assistant Manager (AICI) believes that the product is definitely a great arrangement for the growers since this product has a separate call-centre for immediate reporting. Whether this product is good for the company is yet to be checked. It will only be ascertained once the claims have been settled. The AICI believes that product literacy is required especially in case of weather based insurance because of its complexities. Although it did not separately arrange a training programme, it did participate in the ones that were held. This helped the growers understand the fundamentals of the product. The firm strongly believes that the growers will approach them for a similar product in the future although it can only confirm the same once the growers realize their claims. The same firm might not necessarily be approached by the government for implementing the insurance in the future by the government because the same districts cannot be allotted to two firms at a time. The company believes that in case of highly subsidized crops, the government should focus on compulsory crop insurance.

Mr. B. Prabhakar, Deputy Manager, AICI, Bengaluru

Mr B. Prabhakar, Deputy Manager at the AICI has been instrumental since the inception of the project. Informing us about the decision making process for the product based crop insurance, he told us that the schemes government launches are in the line of political commitments of the incumbent governments.

Most of AICI's insurance schemes are yield-based area approach insurances. AICI implements different schemes in different states according to their respective needs. Earlier AICI had implemented weather-based scheme for mango and grape through area approach in the State. This time they chose to implement weather based scheme for mango and grape growers through individual approach when GIZ approached them to test this approach. Mango and grape were specifically chosen because they are more sensitive to hailstorms than other crops. This is the only individual approach based scheme that AIC offers in the region.

According to Mr. Prabhakar, key challenges lie in the implementation and success of individual farm insurance schemes. Convincing growers, educating them about the costs and benefits of insurance. Crop insurance basically supports the growers financially so that they can continue their work while mitigating their risks.

This particular scheme offered by AICI and GIZ works for growers because they want their individual farms to be assessed depending upon their personalized requirements. One, limitation of this insurance product is that this insurance isn't offered to sharecroppers and the main reason is that the State of Karnataka doesn't have any specific tenancy law for sharecroppers. Growers on an average own 1-2 acres of land. The marginal farmer in this region owns about1-2 acres of land while the less than marginal farmer owns 0-1 acres.

The main problem in the region is drought. The benchmark for the area-based approach is rainfall since Karnataka is exposed mostly to deficit rainfall. It also experiences excess rainfall and hailstorms at times. Hailstorms occur two to three times in a year usually in April and May. It happens every year, however, the severe ones occur once in three years. Growers don't follow any mechanism as such to deal with it. They can only adjust their pruning period. They usually prune earlier to avoid hailstorms. However, their pruning period is also determined by the market rate. Growers would preferably prune when the market rate is high. During hailstorms in case of grape there is total loss. Once part of a bunch is spoilt, they can't sell the bunch at all. Out of all grape growers about 90 percent of growers had to take loans since it is a high value crop.

In terms of awareness about the crop insurance, the education and awareness is moderate. Awareness is more in those areas where there is very good claim experience. Therefore, convincing the growers through experiences of others in the region is the main strategy. GIZ, State Banks and AICI have carried out many awareness activities such as group approach, individual approach, pictures and boards.

Mr. Prabhakar informed us that AICI along with the GIZ had also organized training programs with the involvement of state government agencies. The program was one day long and lasted for three to four hours. They were told about how the insurance would work, what the concept of the insurance is, and what they should expect from the policy and why should they insure. Four to five batches of approximately 40-50 growers were present at these training programs.

Even after participation, it was noticed that growers made excuses to escape getting insured. However, in case of this project, the Government of Karnataka played a major role in convincing the growers. The Government department is constantly in touch with the growers and so the growers have faith in them.

The project has not been a burden on AICI since GIZ has handled all the major financial burden of the project. Although AICI will not derive any direct benefits from the project, it strives to learn and experience from the project. AICI has achieved its objective of learning from the project. The policyholder too learns from the training program. On top of the initial training, the insured growers are given separate training.

Sustainability of the project remains a question. At the end of the day, the insurance company is a business unit and such projects should be able to meet the costs. In this case, they meet their part expenses through premiums and rest through other operations of the AICI and government support. But in longer, to run it more as a business and survive the market competition and cycles, they have to get it out from the premiums. Thus, sustainability of such a program depends upon the policies of the incumbent governments and the market cycles. Overall, the program is good; growers are happy and ready to avail more such insurance policies but the cost of premium are the biggest factors. How they will deal with it, is a larger policy matter.

Customer's Feedback

Interaction with Mr. K. G. Srinivas

Mr. K.G Srinivas, mango grower who had purchased the product discussed his experience as an insurance policy holder. His landholding was 7 acres in size and he grew only mangoes on his entire piece of land. In his twenty years of farming, he said that he hadn't seen crops for 10 years due to absence of rains, thereby insinuating that crop insurance was important for him. Due to the rain deficiency in the area which was immensely affecting his income, apart from farming he also owned a small shop in the nearby town as another source of income. He recalled that the first time some crop insurance product sellers visited the farm, he had looked at them with distrust. He said that they had come without sign boards and did not tell them anything specific about the product. However, when the GIZ RISP/AICI supported insurance product sellers came, they had sign boards and the growers were told about the product in detail. It was then that he gained some faith in the product. Notwithstanding the good rain this year, he was satisfied with the product, thus suggesting that he would buy the product in the future as well. He was also certain that he will benefit from this insurance. Even then he could only muster courage to insure 4 out of 7 acres of his farm. They surveyed his land as part of the insurance policy. This particular insurance protected four tonnes per acre of his land. He mentioned that this year was different since it had rained after 10 years and that the land bore him good mangoes. The farmer's faith in the product could be assessed from the fact that he presented the ownership papers of his sister's land which he had kept to insure this year.

Interaction with Mr. N P Ramchandrappa

N P Ramchandrappa is a small farmer in Nandi. He has a small piece of land of about 0.33 acres which he has put under grapes crop and earns about 1-2 lakhs per year from the grape crops. He has a nuclear family where his wife and other family members also support him in the fields. He had suffered crop losses in the past due to hailstorms and deficit rainfalls. Such losses meant his whole family's livelihood and furture gettign jeopardised. In an earlier such year, he couldnt afford to send his children to a good school, which he had planned. Grapes is a high value-high investment crop and if there is a loss, it means a difficult year for the family. He had heard of crop insurance earlier also but he lacked knowledge and access any such to these services. When he heard of such a program and was contacted by the AICI and GIZ program teams, he thought its a chance worth taking. He is happy that he didnt suffer big loss and generally he was happy with the insurance but he wanted that because he has paid the insurance premium, he shoud be paid for his losses, whatever they are, even if they are minimum. Although he is not unhappy with the product but he want that the insurance should be all encompassing and the premium should be less. He attended the training program and consulted with other members of his fraternity. For him, the premium was little on the higher side but he actually took some money from local people. His land holding is small and the premium was just 2400 rupees but he took the risk against the risk. He has suffered little loss but he has not made any claims yet The farmer is not unhappy but he want more from the product. It shows that the product is viable and has chances of becoming popular if costs are lowered and processes are simplified.

Conclusion

With the emergent climate and weather related risks in agriculture, undoubtedly, there is a need for crop insurance to sustain agriculture as an economic activity. The need has been well recognized in the policy domain, leading to the development of a national crop insurance scheme, i.e. PMFBY. However, the scheme has received criticism for not being sensitive to the local economy and climate realities. In that context, it would still be important to have more localised products like the ones developed for the Karnataka pilot, with an integrated approach to agricultural risk management.

Despite its limited scope and focus, the project has seen many positive outcomes. There is overall satisfaction amongst beneficiaries regarding the product design, execution, risks covered and premium charged. A larger share of the beneficiaries expressed satisfaction with awareness training, enrolment process and crops covered under the scheme. More than half of the growers said that crop insurance is important because they can do away with the debt and rent repayment obligations. In the absence of such insurance, growers usually tend to borrow from banks and local money lenders to cover the crop loss.

While there is a consensus on usefulness of the insurance product, one third of the respondents considered products developed under the project fairly different and better from previous similar products they have used. Respondents also pointed out that their grievances have been addressed to a great deal and in a prompt manner. However, some of the respondents found difficulty in claim settlement. Half of the respondents, who have made a claim, found that the insurance disbursement was not as per their expectation, with respect to the amount received by the insured growers. Some respondents also pointed out the delay in the claim settlement process.

However, a large share of the respondents have expressed their interest to purchase the insurance product in coming years, as well as willing to recommend the product to their friends and relatives. In general, most of the respondents are looking forward to continuation of the product or any similar product.

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