

RISP IN ACTION

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH



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GIZ Rural Insurance Services Programme in India works with a wide range of stakeholders in fields that include crop insurance development, integrated risk management solutions in the context of agricultural value chains, Microinsurance knowledge management and lastly capacity development of institutions and beneficiaries in insurance awareness and education. We aspire to enable low income households and marginal farmers to better understand risks and empower them to use risk management solutions such as insurance for securing their lives and livelihoods. For achieving optimal impact we also envisage substantial level of engagement with state agricultural departments, agricultural marketing boards as well as community level organizations such as Farmer Producer Organizations whilst synergizing our activities at the national level in association with marquee Indian partner institutions. This first edition of our newsletter presents an insight into some of our ongoing initiatives and activities. We hope that our efforts further close co-operation and collaboration between a wide range of stakeholders to address existing challenges across the sector. We hope that you enjoy reading this issue and look forward to your support in developing innovative solutions for securing and improving livelihoods across India's poor and vulnerable population.

-Aniruddha Shanbhag,
Programme Manager



RAINFALL INSURANCE AND BASIS RISK

Insights from Field Study in Rajasthan



GIZ-RISP, in association with the Agriculture Insurance Company of India (AICI), conducted a study in the state of Rajasthan during the Kharif 2013 (main monsoon season) to investigate the physical manifestation of basis risk in weather index based crop insurance. This study entailed farmer interactions and audio-visual recording of crop condition in 148 farms from 5 districts across the state. Besides throwing up interesting observations on how farm-level idiosyncratic factors underlie the variations in yield across farms¹, the study not only establishes a working model to assess design effect basis risk but also highlights the need to bring this issue to the centrestage in policy

THE CHALLENGES IN DEALING WITH THE ISSUE OF BASIS RISK ARISE FROM THE DIFFICULTIES IN ITS OBJECTIVE MEASUREMENT (QUANTIFICATION) AND ALSO IN ITS OPERATIONALIZATION THAT LENDS ITSELF WELL TO PRACTICAL UNDERSTANDING AND GROUND OBSERVATIONS.

¹ Reasonably controlled for spatial differences in weather conditions **Continued on page 3 »**

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discussions on weather index insurance. Basis risk is an integral element of index insurance. In the context of index insurance, basis risk signifies “the possibility that the insurance may not pay out even though the customer has experienced a loss (or an alternative possibility that the insurance pays out when the customer does not experience any loss)”. Two main types of basis risk influence the performance of weather index insurance: Spatial (Geographical) basis risk and Design Effect (Product) basis risk. These together explain the mismatches between the crop losses experienced by farmers and the payouts received by them. The challenges in dealing with the issue of basis risk arise from the difficulties in its objective measurement (quantification) and also in its operationalization that lends itself well to practical understanding and ground observations.

Methodology

The study comprised of field interactions with farmer-respondents and was accompanied by an audio-visual recording of their crop condition at two stages during the crop production cycle:

2 *Idiosyncratic factors are factors that account for differences in crop condition / yield experience across farms after controlling for spatial (geographical) basis risk*

3 *AWS Zone: The circular zone closest to the reference AWS selected in each of the 5 study locations*

one midway during the crop season and the other one around the time of harvest. In each of 5 districts selected for the study, one AWS (Automated Weather Station) was identified as the reference (pivot) location. For the purpose of analysis, the area served by each AWS was divided into 4 concentric circular zones. Each zone was defined on the basis of distance of its inner and outer boundaries (circular) from the reference AWS. The farms lying within a zone were treated as spatially homogeneous (equidistant) from the reference AWS. Farms were sampled from each circular zone to ensure spatial (geographical) diversity. For each of these farms, the study team conducted semi-structured interactions with the respective landowners in addition to capturing crop condition through audio-visual recording. The crop condition information of all farms under a reference AWS was collated and analyzed according to the following structure:

- Crop condition of the same crop within the same zone: As spatial basis risk is controlled in this analysis, an understanding of the effects of idiosyncratic factors² on crop condition can be gained

from this analysis

- Crop condition of different crops in the same zone: As spatial basis risk is controlled in this analysis and by further controlling for other idiosyncratic factors, an understanding of the effects of crop nature on crop condition can be gained from this analysis
- Crop condition of the same crop across different zones: As spatial basis risk also comes into play in addition to the idiosyncratic factors, this analysis becomes highly complicated to clearly isolate the effects of different types of influencing factors (including basis risk)
- Crop condition in AWS-zone³ versus the corresponding payout under WBCIS: As AWS-zone is treated as a homogeneous zone that completely reflects the effects of weather index, this analysis can help us in isolating the effect of design effect basis risk. Whereas actual crop condition is an indicator of loss from the reference (threshold) yield, adverse deviation in actual weather index value from the strike (reference / threshold) values represents the equivalent of yield. For bringing yield and weather index to a common denominator, analysis can be made in percentage negative deviation from the reference / threshold values of each.

Summary of Key Findings

1. Severe or high intensity weather events are likely to homogenize the effects of spatial basis risk. However idiosyncratic factors such as irrigation facilities, management practices etc. which characterize an individual farm have the potential of significantly offsetting the effects of some high intensity weather events.



Illustrative Case: In Baran, one of the five study locations, a high intensity event occurred in the form of a spell of heavy rainfall spell. This event led to almost complete loss of soybean crop across all spatial zones thus manifesting itself as a homogenizing phenomenon.

2. In case of weather events that are not very severe, the effect of idiosyncratic factors can potentially neutralize the impact of the weather event.

Illustrative Case: In Churu and Jodhpur, the two districts of Rajasthan with frequent occurrence of low rainfall seasons once again witnessed poor rainfall. However, the farms with assured or supplementary irrigation facilities were able to neutralize the adverse impact of the low rainfall highlighting the role of irrigation as a high impact idiosyncratic factor.

3. Same rainfall pattern can result in starkly different outcomes for different crops. While the need for specificity in weather index insurance contracts is well-accepted, the products offered to farmer may neglect the distinctive requirements of different crops. Such a situation leads to erosion of the credibility of the product as there is lack of clarity on which crop to take as the reference case.

Illustrative Case: In Jaipur, it was observed that the same weather conditions had radically different manifestation on different crops. Continued rainfall for almost a month during Kharif resulted in good yields for Pearl millet whereas the same weather conditions led to considerable losses (to the tune of 50%) in Cluster bean crop. It is ironic to note that the WBCIS products offered for both the crops were identical, thus making it difficult to assess which product corresponded to the actual weather conditions.

4. The absence of yield equivalent of a weather index value precludes the assessment of design effect basis risk. The current designs of weather index insurance product do not lend well to translations in terms of yields so that one is able to clearly assess the strength of relationship between weather index and the corresponding yield.



Mango Marketing Initiative

GIZ-RISP recently concluded a seasonal market support initiative aimed at supporting tribal farmers producing a local variety of mango called “Kesar” across various villages in the Vandsa taluka region of Gujarat. The objective was to ensure a “better than market” price for their produce by going direct to consumer through new distribution channels backed by a number of marketing experiments aimed at better understanding the consumer and ascertaining the potential to scale-up as well as the operational viability of localised initiatives. As part of the institutional framework, capacity development programmes were organised for nearly 100 farmers (within a span of one week) producing Kesar mangoes who were then connected to consumer markets in Gandhinagar & Ahmedabad. An important evaluation criteria as part of this exercise was to address the issue of price risk frequently faced by these farmers. On the post-harvest management front several (mango) collection centres were established where tribal farmers could deposit their produce. This was supplemented with awareness building campaigns on efficient harvesting practices particular to



Mango Marketing Initiative

this variety of mango. A part of the training also focused on techniques to reduce wastage during harvesting and improving market linkages. The process of marketing and distribution of mangoes was managed by Jeevan Tirth, a local organisation specialising in areas of training, capacity building and establishment of market linkages for local producers. Details of initiatives conducted to analyse drivers which facilitate direct purchase of mangoes by consumers were as follows:

Initiative 1 - “Keri Amaari, Bhav Tamaaro!” - Our Mango, Your Price!

This experiment revolved around improving consumer awareness by sharing information about the relevant steps and incurred costs across the Mango value chain. At the end of the information sharing session, the consumer was asked to indicate his own price preference

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depending on his perceived valuation of the producers' efforts. The objective of this exercise was to sensitize consumers towards challenges faced by local tribal farmers and gauge their reactions to market practice such as fair trade.

Initiative 2 - "Bade Miyan, Chote Miyan" – Big Mango versus Small Mango

Size is an important indicator when it comes to purchase of mangoes, with grade (a) produce being preferred to (b) medium and grade (c) produce. The farmer also fetches a lower price for lots with smaller-sized mangoes irrespective of the quality. Hence, this initiative was designed with the objective of sensitizing consumer that not size alone but other factors such as quality, taste, essence etc. are also important. And that smaller-sized mangoes are not always bad mangoes, thereby attempting to stabilise the price equilibrium and avoid market volatility.



Initiative 3- "Aam-ras and Aam-papad"- Mango processing

This initiative was undertaken to understand the incremental value which can be derived by a farmer in case the fresh produce is processed into retail products such as pickles, candy or pulp. The usual trend in these areas indicates that processors prefer cheaper varieties of mangoes for processing. The above initiative was therefore an interesting means



of ascertaining whether consumers are willing to pay higher for a product after being informed that the produce used was a premium variety of Mango.

Initiative 4- "Relevance of packaging & branding"

The objective of this activity was to understand the price differential and the premium consumers are ready to pay for the same product under two different marketing conditions. Un-branded, sold individually in a fruit basket or cart.

- In a Box with a brand name and other marketing elements

Mangoes supported by the requisite branding and packaging measures were sold at a premium over the unbranded ones. It was further observed that consumer preference interestingly was skewed towards the produce which was branded as opposed to that which wasn't.

Overall, these marketing initiatives were able to provide valuable insights into consumer behavioural attributes whilst buying mangoes. It also helped in the development of a business case for tribal farmers in the forthcoming seasons on improving linkages to markets and provided insights on opportunities to enhance price realisation. This initiative highlighted the key aspects of a mango value chain i.e. reduction of wastage, improved price for the farmer, affordable & quality product for consumers through effective market linkages.

MEET AND GREET

Dr Raosaheb Mohite
Post Harvest and Value Chain
Consultant (GIZ - RISP Programme)



Dr Raosaheb Mohite is a PhD in Food Science and Technology from the Institute of Food Science and Technology at Cornell University, Ithaca, NY, USA. He completed his graduate and post graduate studies in Agricultural Sciences from Karnataka. He specialized in the areas of Industrial Processing Technology – freezing and refrigeration, thermal processing or canning technology, drying and dehydration, smoking and other preservation methods and value addition or by-product technology. His major areas of interest are: technology, food safety and quality and projectization.

He started his professional career in 1977 as Senior Research Associate with Indian Council of Agricultural Research (ICAR), Gol. While in US between 1979 and 1988, he was part of the NE-123 Project on functionality of food proteins that studied dispersability, emulsification and foaming. Back in India, he started working out of Bangalore as an Associate Consultant in several Food and Agro-Processing projects. As domain expert, he was responsible for identifying and

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facilitating transfer of indigenously developed and imported new and innovative technologies for new, greenfield and existing projects. Subsequently he setup a firm to provide consultancy and advisory services to food industry.

In 1998 he moved to Pune as Advisor (Projects) to the State Agricultural Marketing Board and actively contributed to the setting up of a number of postharvest facilities, pack houses, cold storages and other projects such as Food Park, Agri Export Zones and Modern Agricultural Markets. He was I/C Director of the National Institute of Post Harvest Technology at Talegaon-Dabhade near Pune for three years and took the lead in carrying out commercial export trails of fresh mangoes in containers to Europe and South Asian Countries, using Controlled Atmosphere (CA) Storage technology and semi-commercial vapour heat treatment facility. He was a key member of the USAID funded, MSAMB-MSU (Michigan State University) Mango Market Development Project between 2004 - 07. He set up and ran successfully the Project Consultancy Cell at the Board as a profit center.

In 2007 he joined FT Knowledge Management Company, Mumbai responsible for research, training and consultancy activities. In 2011 -12, he was part of a team to study volatility in maize prices and food security in East and South Eastern Africa that resulted in authoring (jointly) of a report for FAO. He has undertaken extensive visits and documented the impact of commodity exchanges on local economy.

Dr Mohite has travelled widely within the country and abroad in connection with his work. His visits abroad included: USA, Netherlands, France, Israel, Kenya, Tanzania and Uganda. He has made presentations at National and International for a and authored several publications.



LOCATION: SINNAR, NASHIK, MAHARASHTRA
DATE: 8th JUNE 2014

FOCUS GROUP DISCUSSION ON 'REVITALIZATION OF FARMER PRODUCER ORGANIZATIONS'

Organizing smallholders into farmer producer organizations (FPOs) is an essential first step towards their integration into agricultural value chains. The need for collectivization of producers is based on the quintessential perspective of transaction cost economics. FPOs enable smallholders to carry out economic exchanges with other participants of the value chain in a cost-effective manner and make it possible to take advantage of economies of scale and scope. From the socio-political viewpoint, FPOs equip farmers not only with bargaining power against more resourceful stakeholders but also create social safety nets based on community ethos.

During the recent years, there has been an increased policy thrust on formation of FPOs especially under the leadership of SFAC (Small Farmers Agribusiness Consortium) – a parastatal agency. Significant financial and institutional sup-

port has been provided for the formation of FPOs which has resulted in a proliferation in the number of FPOs across India. As per the latest figures¹, more than 275 FPOs with a membership exceeding 550 thousand farmer-producers have been formed under the initiatives led by SFAC. While a few FPOs have demonstrated traction and have been able to move ahead towards their integration in the value chain, a large proportion of these FPOs are in the need for strategic direction and management support to take advantage of their latent institutional capacities.

To examine opportunities of cooperation with FPOs faced with dwindling interest of their farmer-members, a Focus Group Discussion on 'Revitalization of FPOs' was organized by GIZ-RISP in collaboration with 'Yuva Mitra', an NGO working towards training, capacity development and market linkage of farmers. This

¹ Source: http://sfacindia.com/Krishidoot_State_FPOs-details.html

workshop held at Sinnar, Nashik on 8th June 2014 witnessed the participation of Directors from seven (7) existing FPOs in Nasik district.

During the discussion, it emerged that most of the FPOs are finding it hard to sustain operations because of the lack of a business-oriented outlook. In spite of their institutional existence, they are lacking member engagement as they are not able to sub-serve their core objective of generating economic advantages for their producer members. In order to gain a deeper understanding of internal dynamics of FPOs, a number of issues were examined: expectations of members from FPO, responsibilities of members towards FPO, collaboration among FPOs, difference between FPO management & governance etc. The discussion also looked at aspects like risk pooling and sharing through FPOs, key performance indicators of an FPO, value enhancement opportunities, scope for aggregation of agricultural

DURING THE DISCUSSION, IT EMERGED THAT MOST OF THE FPOS ARE FINDING IT HARD TO SUSTAIN OPERATIONS BECAUSE OF THE LACK OF A BUSINESS-ORIENTED OUTLOOK.

inputs by FPO, possibility of collective / partnership farming, setting up of farmer information bureau, ways of increasing member and incentivizing member engagement with FPOs.

The discussion brought out a clear realization that despite an inherent community bonding, the inability of the FPO to deliver incremental economic benefits or to give impetus to value addition of produce of members is the major stumbling block to effective member engagement. A consensus emerged on the understanding that FPOs should be able to facilitate their member-producers with good quality inputs, technical know-how for value addition, robust marketing linkages and timely market information.



CROP INSURANCE WORKSHOP WITH KARNATAKA STATE DEPARTMENT OF AGRICULTURE

GIZ-Rural Insurance Services Programme in association with the Ministry of Agriculture, Govt. of Karnataka and the Agriculture Insurance Company of India (AICI) recently organized a one day workshop on the 12th June, 2014, in Bangalore to discuss development initiatives in the crop insurance sector across the State of Karnataka.

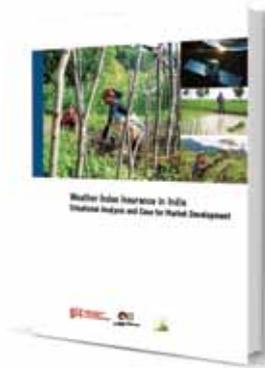
The workshop was presided over by Shri Bharat Lal Meena, Principal Secretary, Ministry of Agriculture, Govt. of Karnataka and Shri Subodh Mishra, Commissioner of Agriculture, Karnataka State. Other dignitaries included Commissioner of Sericulture, Karnataka State, Director of Agriculture, Dr. B.K. Dharmarajan, and Joint Director Agriculture Smt. Deepaja. The other sectoral stakeholders included participants from regional agricultural universities, Indian Meteorological Department (IMD), crop scientists and agro-meteorologists from the state. Key points of discussion at the workshop centered around the improvement of product design approaches for crop insurance, use of automated benchmarking applications, measures to address geographical and design basis risk, and risk profiling of farmers. Improving client value through crop insurance products to beneficiaries across the state was the overarching objective of the workshop. The workshop culminated with the creation of an expert working group, under



the leadership of the Joint Director Smt. Deepaja to steer the implementation of precise action points agreed in unison by all participants. The expert working group presently comprises of 15 institutional participants, including the GIZ Rural Insurance Services Programme. An implementation road-map has been developed in consultation with the working group members towards the development of Weather Index Based Crop Insurance products for Rabi (winter) 2014-15 season.

UPCOMING PUBLICATIONS & PRODUCTS

1. Rainfall Insurance and Basis Risk: Insights from Field Study in Rajasthan
2. A Review of Agricultural Marketing and Post-Harvest Management in India: Scoping an Integrated Framework to Mitigate Price and Income Risks in Agricultural Livelihoods
3. Insights from a Field Study to Examine Basis Risk in Rainfall Insurance



Weather Index Insurance in India

Situational Analysis and Case for Market Development

The study conducts an assessment of the crop insurance sector in India with specific focus on the thematic area of Weather Index Insurance. It examines the state of affairs within the sector across key areas which include market practices, product design issues, feedback from beneficiaries, weather station density and makes recommendations on requirements for future market development which include the rationale for technical support, establishment of a coinsurance pool, technology supported data application, innovative distribution models and information systems.



Micro insurance Market Development: Stakeholders' Assessment & Recommendations

This policy brief presents selected recommendations from a study of the impact of regulations on the development of micro insurance. The study was commissioned by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and supported by Insurance Regulatory and Development Authority (IRDA).

RECENT PUBLICATIONS

Role of Integrated Solutions in Natural Disaster Management

Situational Analysis and Assessment

India is vulnerable to a large number of disasters, on account of its unique geological, geographical and socioeconomic conditions. Disaster financing is an area still dependent largely on ex-post mechanisms, leaving the state and community, at times, financially vulnerable to disasters. This paper discusses the current framework and policies regarding disaster management in general and disaster financing in specific, in place in India. The feasibility of alternative financing mechanisms is explored, and suggestions and recommendations are made for a balanced disaster financing framework with risk management approach at its centre.

ABOUT US

The newsletter series 'RISP in Action' is published by the Rural Insurance Services Programme (RISP), a technical cooperation programme instituted under the supervision of the Department of Financial Services, Ministry of Finance, Government of India and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. The RISP focuses on thematic areas which include

crop insurance, integrated risk management within agricultural value chains and micro insurance market development aimed at ultimately improving the delivery and use of these services by rural beneficiaries. Cross-cutting areas include training and capacity development, insurance awareness and financial literacy.

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