Crop Insurance Issues and Way Forward

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Agenda

• Technical Issues related to Crop Insurance in general and PMFBY in Particular
  Product design
  Loss estimation
  Use of technology

• Administrative Issues in general and PMFBY in Particular
  Hand Holding
  Financial

• Way Forward in the Indian Context
USEFULNESS OF AGRICULTURE INSURANCE

• Insurance is basically a risk-transfer tool that offers indemnity against pure risks, losses arising out of which is measurable, fortuitous and repetitive in nature that allows for costing
• It is ideal for handling risks that rarely occur but carry a big financial impact
• Risks in agriculture such as weather, biological are insurable
• Since farmers face a portfolio of risks, it is all the more important to reduce their exposure by insuring them against insurable risks
• A mix of parametric and indemnity covers can significantly transfer the risks, increase ability to access and repay credit, help increase incomes
• Objective of Indian Crop Insurance Program Prime Minister Fasal Bima Yojana is to deliver a mix of parametric and indemnity cover
INDIAN CONTEXT OF AGRICULTURE INSURANCE

• Multi-peril crop insurance (MPCI), as a comprehensive cover, offers almost full indemnity in the event of losses and hence is offered in most middle-income countries which requires farm-level underwriting and loss assessment, making it costly to administer, scaling up is difficult up in a country like India

• Risk-cost of MPCI cover is relatively high since it covers a wide range of agricultural risks

• Global experience shows that it is more vulnerable to adverse selection and moral hazard on part of the insured

• More and more countries are therefore moving from multi-peril crop insurance to index-based covers

• By contrast, named-peril covers are less costly and easy to administer as they cover a narrow range of risk. For the same reason, however, they are less attractive to farmers
• India having tried a few individual farm based named peril insurance in the past, ultimately settled for Index-based insurance format and practicing the same format, constantly improving it for last three decades

• The Index-based product design ensures minimum claims administration costs and almost eliminates the moral hazard on insured’s part

• But the crucial limitation is operation of basis risk which often lead to pay outs not aligned with actual losses resulting in dissension amongst farmers

• With expanding coverage and enhanced experience Index-based is evolving and expected to do better in future

• The present Indian insurance program PMFBY is in fact a blend of MPCI and Index based insurance
PMFBY – A Blend of MPCI & Index

• Basically an Area Yield Index Based – good for systemic/parametric/covariate risks but not very effective for farm based idiosyncratic risks

• However though farm based damage assessment for named localised perils viz, hail, landslide and inundation and for on-field post harvest losses due to cyclonic/unseasonal rains are provided, there are issues in real implementation

• Unit Area of Insurance is reduced to village/cluster of villages at least for major to reduce the basis risk arising out of indexation

• Given the agrarian challenges of huge number of small holders, non-availability of farm based data, remote locations, huge administration cost, PMFBY perhaps the best solution as on date
PMFBY—Government Intervention

• Globally, in many instances, subsidies have not been able to significantly increase agriculture insurance uptake.

• Since a large part of the area under cultivation remains uninsured, governments still have to come out with huge doles of relief to farmers after catastrophes, adding to the public cost of agricultural risks.

• Climate change is expected to aggravate these costs even though governments are spending substantially to support agriculture, the business remains unattractive for farmers, especially for smallholders.

• **PMFBY** offers one of the cheapest premium rate for farmers for an All Risk Insurance increasing the affordability and inducing the pull effect.

• Indian government offers one of highest rate of premium subsidy @ 85% of the total premium as against global average of 68%.

• Indian government also offering constant administrative support by issuing Guidelines on Operating Procedure, by regular engagement with Insurers / Reinsurers through Video Conferencing, proactive dispute resolution etc.
CHALLENGES for EXPANDING the OUTREACH of AGRICULTURE INSURANCE

• Progress of agriculture insurance remained limited, despite the urgent need to protect agriculture from ever-increasing risk exposure despite financial and technical support from Government especially in developing countries

• By and large, agriculture insurance remains restricted to subsidy and credit-linked initiatives and has not gained credence as an insurance product that should be voluntarily purchased

• This is a problem with all insurance products in general, but it is more so for agriculture insurance because of the following additional challenges

• However Indian Government’s continuous thrust for expansion i.e., to cover 40% and 50% of gross cropped area by 2017-18 and 2018-19 respectively is a big effort
A. Products

(i) A diverse set of agriculture insurance products do exist, but each of them suffers constraints and do not provide reliable protection to farmers.

(ii) Experience from weather index insurance in India reveals that products should be designed based on sound agronomic principles.

(iii) Investments are needed for reducing the level of basis by increasing density of Weather Stations.

(iv) Typical insurance products only cover low-frequency, high-severity risks and hence inherently less attractive to clients.

(v) However, offering coverage against high frequency risks can make the product disproportionately costlier. The product development challenge leaves big scope for innovative design and testing of many more types of indemnity and index-based products.

(vi) Regulations for index insurance products should address the issues related to product design, product standardization, longer-term contracts, and consumer awareness and protection.
B. Residual risks

(i) Agriculture is exposed to a variety of pure and speculative, idiosyncratic and covariate, as well as catastrophic and non-catastrophic risks

(ii) Insurance addresses only a part of these and leaves farmers to manage the residual risks

(iii) Uninsurable residual risks which are more conspicuous for farmers, viz. price risk, supply chain risk, and institutional and political risk, are serious enough to inflict regular losses on farmers

(iv) Farmers looking for a total risk management solution may even be ready to pay a higher price for that

(v) Crop-revenue insurance products that cover the decline in price that occurs during the crop’s growing season, is available in the United States and elsewhere. But India is not yet ready for this form of cover due to lack of support services.

(vi) However the US revenue insurance does not cover declines that may occur from one growing season to another which is a serious risk Indian farmers face
C. Pricing

i. Due to the relatively higher frequency and severity of risks and limited availability of proper actuarial data, the premium for agriculture insurance products is mostly on the higher side.

ii. If the premiums are to be reduced, deductibles have to be imposed, which, again, makes the product all the more unattractive.

iii. Consumers weigh the cost of a product against the expected value or benefit it offers and insurance products, in general, often fail this litmus test and agriculture insurance is no exception.

iv. If the cost-benefit equation can be made favorable in the eyes of consumers, affordability may become a fringe issue.

v. PMFBY pricing is done based on the past yield data and other evaluation parameters supplied by the State Government.
D. Behavioral Issues

(i) Consumers suffer several behavioral anomalies that prevent them from buying insurance as the sacrifice (payment of premium) is real and immediate, while the benefits (claim pay outs) are distant and contingent. Due to this, the mental math often considers premium as a “loss” and not as “cost”

(ii) When a certain but small loss (premium) is pitted against a large loss, however big, that is less likely, loss aversion attitude provokes avoidance of the almost certain loss (premium), preventing purchase of insurance

(iii) It requires sustained effort in consumer education and product design. That’s why the adage is “insurance is always sold and never bought”

(iv) The complexities of risk in agriculture aggravates loss-aversion tendencies. Moreover, relief measures from governments after calamity are almost assured, further jeopardizing the prospects for ex-ante mechanisms like insurance

(v) These behavioural issues are not only confined to end-consumers but Government and Policy makers too suffer from such anomalies

(vi) For PMFBY, however, Government is playing a very active roll in pushing the Scheme
Behavioral Issues of Client

• Insurance is a long-term business for insurers and the actuarial assumptions behind pricing are tested only over time in light of claims experience

• Similarly, from a client’s viewpoint, the real benefits of insurance should be viewed in the long term as there is uncertainty about the timing of an insured event

• For attaining sustainability, an insurance product has to achieve scale and client value. But often one comes at the cost of the other

• Social insurance schemes subsidized by governments can achieve scale, but their client value remains uncertain. By contrast, voluntary insurance products involve active selling and hence are often high on client value, but generally take time to attain scale

• Attaining scale and client value is thus the biggest challenge in insurance, especially insurance for the low-income segment

• In agriculture insurance, apart from the People’s Republic of China and India, hardly any country has been able to achieve scale relative to potential

• As far PMFBY is concerned the client includes the most important stakeholder i.e, the State Governments
ATTAINING SCALE AND CLIENT VALUE

Bundling parametric covers with comprehensive indemnity-based covers through a Mutual-cum-Commercial System

(i) It may not be economical for commercial insurers to underwrite the entire spectrum of risks in agriculture, as many of them are high-frequency.

(ii) Farmers do want protection against high-frequency risks such as localized damage caused by pests or non-catastrophic weather formations as well.

(iii) To address this, a hybrid model comprising commercial and mutual insurance can be worked out, where the low-severity idiosyncratic risks are carried by community structures like self-help groups and larger risks viz. floods, severe drought, cyclone, and so on, can be included as index-based covers are transferred to commercial insurers.

(iv) This kind of model will not only enable coverage of risks that are otherwise uneconomical for insurers, but will also entail other benefits such as reduced scope for moral hazard due to peer pressure and lower costs of enrolments and loss assessments.

(v) The mutual component of the product will create a new layer of risk sharing by the community that is positioned between the individual farmer and the commercial insurer, which can act as a cushion for both.
Bundling parametric covers with comprehensive indemnity-based covers through a Mutual-cum-Commercial System

(i) The mutual character of the product will also inculcate a sense of ownership among the insured farmers that will help in overcoming their dissonance toward insurance. If the surpluses generated by the mutual component of the product can be shared with the insured farmers, it would also address some of the loss-aversion tendencies among farmers.

(ii) If pilots can be rolled out in different geographies, it could bring lessons that can be incorporated before scaling up.

(iii) Indemnity and index-based coverage should operate on a mutually exclusive basis, which means that claims are possible only under one of the two covers. This will curtail the maximum probable loss under acceptable limits and therefore restrict the premium loading.

(iv) The loading for loss assessment will also be restricted since the indemnity cover will not apply in case of covariate risks. Such a product can again be positioned as a total risk management solution.

(v) The premium worked out for such a product may still be higher than stand-alone multi-peril crop insurance or index-based insurance, and thus may have to be subsidized.
Mobile and satellite technology to improve efficiency:

• Mobile and satellite technology can be widely used in agriculture insurance to offer value-added services, reduce moral hazard, build a credible database of farm-level behavior, and reduce transaction costs. Customized mobile applications can be provided to insured farmers, to transmit information and inputs to insurers on farm-level data such as date of sowing or various stages of crop growth. Geo-tagging of insured farms can also be done.

• Such use of technology can reduce risks and enhance value for the farmers. As volumes pick up, the data collected can be used for policy, regulatory, and market interventions. The data can also be
ATTAINING SCALE AND CLIENT VALUE

• De-risking agriculture and making it a viable activity requires comprehensive effort from multiple stakeholders, including the private sector.

• Governments and development agencies have to play a bigger role in partnering with re/insurers, technology providers, input suppliers, and financial institutions.

• They need to do this in initiating sustainable risk sharing and transfer schemes and products that increase the financial resilience of farmers, as part of their broader agricultural risk management strategy.
PMFBY – Government Intervention

- **Cheapest Premium Rate ever** for farmers for an All Risk Insurance – increased affordability for predominant Small/Marginal Farmers a penetration booster

- **Government Support:**
  - **Financially** – One of highest rate of premium subsidy @ 85% of the total premium
  - **Administratively:** Comprehensive Guidelines as Standard Operating Procedure
    - Closest monitoring ever from Central Government, regular engagement with Insurers / Reinsurers through Video Conferencing, proactive dispute resolution
  - **Use of Technology:** Centralised Crop Insurance Portal for ease of administration / information system
    - Use of Remote Sensing, UAVs for acreage and loss estimation and Mobile App for recording yield estimation process
Government’s continuous thrust for growth: to reach 40% and 50% penetration in 2017-18 and 2018-19 respectively

Government is engaging with Banking industry, creating awareness about positive aspects of compulsory insurance of eligible loans and risk of non-compliance thereof

Government’s focus on non-loanee coverage has enthused insurance intermediaries, particularly Brokers are getting increasingly attracted due to aggregation advantage

Regulator giving due importance and introducing innovative interventions to encourage growth through CSCs (Common e-Service Centres in rural areas) and POS (Point of Sales persons attached to licensed Brokers)
PMBFY 2016-17 - Milestones Reached

- Gross Premium 3.75 billion USD – only third to US and China
- Third largest line of business in India in non-life segment
- Sum Insured value for farmer up by 80% as against his cost of premium up by only 18% - more value for less cost for him
- 20% increase in penetration in terms of Insured Area vs Gross Cropped Area
- As many as 16 insurers in the fray – comparable to any developed agri-insurance market
- Reinsured premium - highest in the world (crop business)
PMFBY – Technical Issues

Loss Assessment

• Damage assessment at farm level is a huge administrative challenge – cumbersome, time consuming and cost ineffective

• Protocols (relative weightage for various variables) for Failed Sowing risks and Mid-season adversity risks are yet to be standardised

• Assessment of area yield through millions of crop cutting experiment (CCE) is becoming physically impossible, prescription of Mobile App etc is not working

• Conflict of Interest: Insured States influencing the outcome - lack of professional/ Licensed/ Recognised independent agency to conduct CCEs
PMFBY – Technical Issues

- Many Implementational issues are left in the hands of State Government viz.
  - Clustering – size and composition leaves room for improvement
  - Benchmarking of prices/quotes
  - Standardization of Weather Based Insurance Products/ Term Sheets
  - Standardisation and increasing density of AWSs
  - Standardisation of Tender Document – sometimes terms and conditions of tendering are not in sync with Operational Guidelines – Insurance Companies are being disqualified on flimsy grounds

- States becoming restive about insurance companies making profit – not being able to appreciate what would happen to them in a bad year which may not be far off - a syndrome of generic allergy to insurance industry
PMFBY – Administrative Issues

- **Multiplicity of Crop Insurance Portals**: GOI Portal vs State Portals
- **Multiple tendering / delayed tendering/ delayed notification** by States leaving short windows for marketing
- **Compulsory Provision and its Compliance**: Non-compliance, a case of adverse selection by loanee farmers and banks flouting scheme norms
- **Extension of Cut-off date** encouraging adverse selection by the farmers
- **Crop yield estimation** susceptible to local influence
  - Crop Insurance perceived as a money back policy
- **No freedom from political influence**
Standardisation of protocols for prevented sowing, midseason/on–account payment using proxy-indicators viz. remote sensed data and other indicators like weather data

Use of technology to curb moral hazard is being challenged by some States on some pretext or other which is blocking the transparency and upsetting the initiatives taken by insurance industry

Moral Hazard in yield estimation remained not only unaddressed but accentuated – mobile app hardly used, insurers rarely informed about the CCE planning. Overall, no improvement in sight
PMFBY—what is needed for Sustainability

• A long term vision in the true sense overcoming all adhocism
• Appreciation of the fact that PMFBY’s is not restricted in India, it is a global programme now supported by as many as two and half dozen international Reinsurers and therefore the support services (CCEs, technology intervention) have to be of global standard
• Tightening and standardisation of many loose ends, adoption of rule based best practices
• To provide more comfort to the States, some measures are needed by the insurance industry to correct the States’ perception about insurers behaving with short-term-profit-seeking-motive rather than a long term responsible partner
• Adherence to the compulsory insurance provision by banks duly following relevant RBI/NABARD Circulars is of paramount importance
PMFBY - Way Forward

- Multi-year contract with price review within a band of ± 20% variation may be a better idea to reduce volatility in business for insurers and for ensuring better service accountability for the State Government.

- Insurers may adopt a practice of Capping / Cupping to avoid extreme variance in quotes which leads to discomfort for the States triggering multiple bidding.

- Develop agriculture intelligence information system.

- Accessibility to the crop insurance portal be strengthened.

- Insurance Industry must work on standardisation of protocols for prevented sowing, on-account payment and moderation of doubtful claims using auxiliary variables like RS data, Ground Weather Station data, market arrivals / prices data etc.

- Capacity building for technology usage at Ste level.

- Capacity building of all the stake holders.
Thank You

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