

# Crop insurance: Challenges and considerations in pricing and underwriting

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# Crop Insurance Markets: Top 3 (2016)

| USA                  |       |         | SI/ha      | Ave. Rate    |
|----------------------|-------|---------|------------|--------------|
| Area Insured (Ha):   | 121.0 | million | (USD)      |              |
| Sum Insured (US \$): | 103.0 | billion | <b>851</b> | <b>9.5%</b>  |
| Premium (US \$):     | 9.80  | billion |            |              |
|                      |       |         |            |              |
|                      |       |         |            |              |
| CHINA                |       |         |            |              |
| Area Insured (Ha):   | 114.0 | million |            |              |
| Sum Insured (US \$): | 80.0  | billion | <b>702</b> | <b>5.1%</b>  |
| Premium (US \$):     | 4.06  | billion |            |              |
|                      |       |         |            |              |
|                      |       |         |            |              |
| INDIA                |       |         |            |              |
| Area Insured (Ha):   | 57.11 | million |            |              |
| Sum Insured (US \$): | 30.90 | billion | <b>541</b> | <b>10.6%</b> |
| Premium (US \$):     | 3.29  | billion |            |              |

Source: IRICBS / AON Research

# 2016-17: India Crop Insurance Penetration

|        |                    | (Million)    |              |              | (Crore)      |                  |                 |
|--------|--------------------|--------------|--------------|--------------|--------------|------------------|-----------------|
|        |                    | Farmers      |              |              |              |                  |                 |
| Scheme |                    | Loanee       | Non-Loanee   | Total        | Hectares     | Sum Insured      | Gross Prem      |
| PMFBY  | Kharif             | 28.78        | 10.19        | 38.97        | 36.57        | 124309.44        | 15053.67        |
|        | Rabi               | 12.82        | 3.43         | 16.25        | 18.86        | 65852.66         | 4727.89         |
|        | <b>Total</b>       | <b>41.61</b> | <b>13.61</b> | <b>55.22</b> | <b>55.43</b> | <b>190162.09</b> | <b>19781.56</b> |
|        |                    |              |              |              |              |                  |                 |
| rWBCIS | Kharif             | 1.46         | 0.08         | 1.54         | 1.27         | 6876.81          | 852.85          |
|        | Rabi               | 0.52         | 0.04         | 0.56         | 0.41         | 3441.88          | 800.31          |
|        | <b>Total</b>       | <b>1.98</b>  | <b>0.12</b>  | <b>2.10</b>  | <b>1.68</b>  | <b>10318.69</b>  | <b>1653.16</b>  |
| Both   | <b>Grand Total</b> | <b>43.59</b> | <b>13.74</b> | <b>57.32</b> | <b>57.11</b> | <b>200480.78</b> | <b>21434.72</b> |

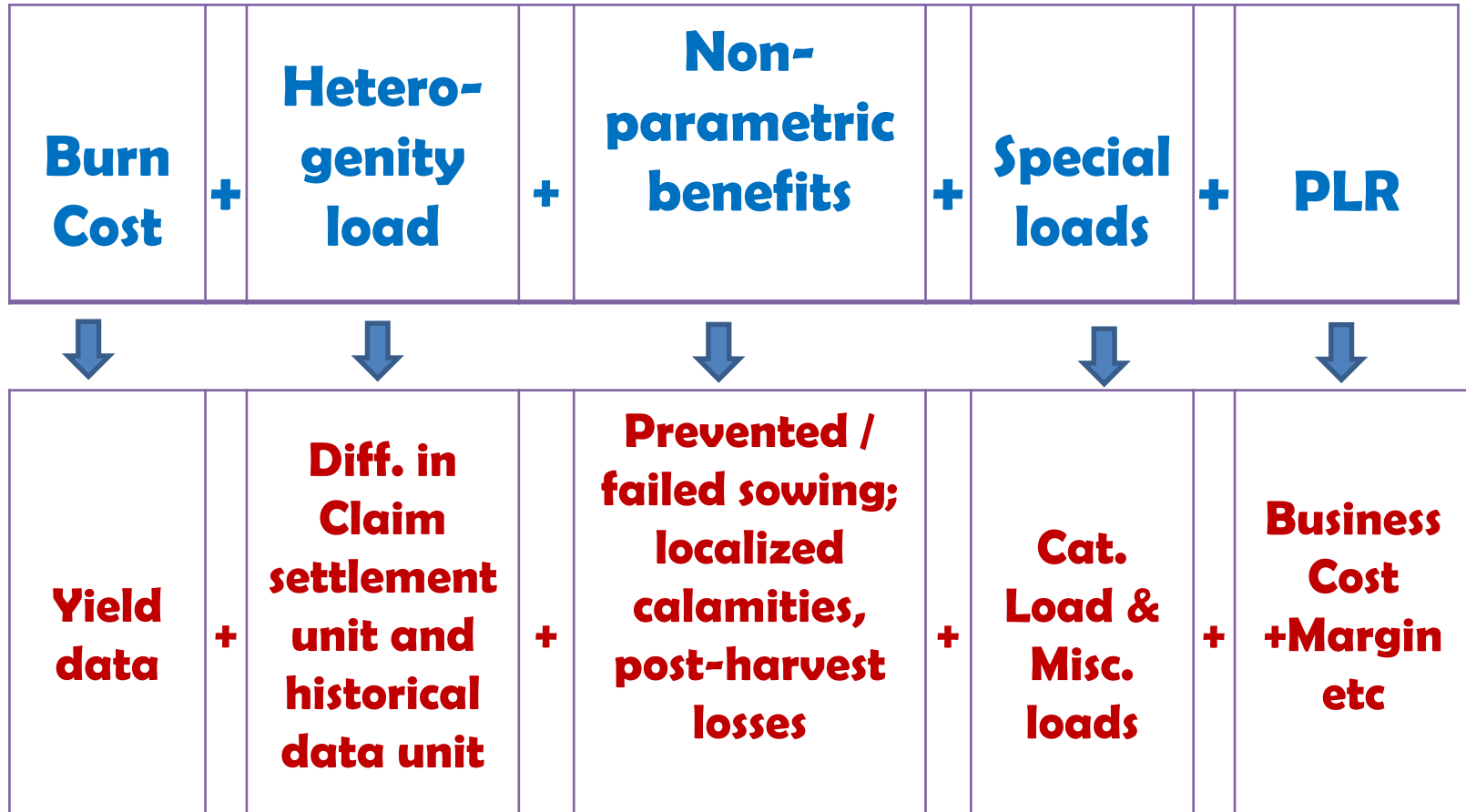
Source: IRICBS / AON Research; Figures (provisional)

# PMFBY: Core Objectives

- Comprehensive Risk Coverage
- Lower Premium Burden on Farmers
- Unified Package Insurance
- Reach 50% penetration by 2019 (focus on non-loanee farmers)
- Technology Use
  - Farmers' enrolment
  - Farmer-wise record
  - Government – Insurer – Aggregator Interface
  - Yield Estimation
  - Yield Estimation Quality Audit
  - Faster and Direct Settlement of Claims

**In the long run should be able to replace 'ad-hoc' relief schemes**

# PMFBY: Premium Rate



# Pricing Considerations & Challenges

- **Why so much difference in Rates among insurers?**
  - Something beyond numbers?
  - Something beyond pricing process?

# Pricing Considerations & Challenges

- **Yield data**
  - **Data series / length**
  - **Latest year's data**
  - **Trend**
  - **Quality**
  - **Data stratum**
  - **How data is interpreted (No Yield vs No Yield Data)**

# Pricing Considerations & Challenges

- **Present process vis-à-vis Past Yield estimation processes**
- **Pricing TY & Settlement TY**
- **Calamity years**
- **Cluster Weights (proposed exposure Vs realistic exposure)**
- **Penetration levels**
- **Multi-year tenders**
- **Multi-picking crops**



# Underwriting Considerations & Challenges

- **Spread**
- **Infrastructure**
- **High 'Risk' districts**
- **CCE transparency**
- **Area Correction factor**
- **Non-Loanee penetration levels**
- **Seasonality & Cut-off Dates**
- **Additional 'subsidy' states / districts**
- **Rice Vs Paddy**
- **Rainfall forecast**
- **Elections**

Thanks