Crop Insurance Performance in Japan: Some Preliminary Observations

SVRK Prabhakar & N. Ozawa

Institute for Global Environmental Strategies, Hayama, Japan

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Outline

- Agriculture insurance environment in Japan
- Survey of farmers for insurance effectiveness
- Some preliminary conclusions
Objective

- To look at in what way crop insurance is helping farmers
- See whether there is a need for alternative risk insurance strategies such as weather index insurance compared to indemnity based insurance that is being currently offered to farmers
Crop damage by Natural Disasters in Japan (100 million Yen): Important perils

1. Low temperature
2. Typhoon
3. Drought
Types of Agriculture Insurance

- Rice, sugarcane*, wheat, and barley (Nation-wide program, *Okinawa)
- Livestock insurance (Nationwide)
- Fruit and fruit-tree insurance (Optional)
- Sericulture insurance (Optional)
- Greenhouse insurance (Optional)

Source: www.NOSAI.or.jp
Institutional Arrangements: NOSAI

- NOSAI stands for *Nogyo Kosai Saido (Agriculture Mutual Aid System)*
- Established as a result of Agriculture Natural Disaster Compensation Law 1947: to stabilize the agriculture income from disasters leading to the growth of Japanese agriculture
- NOSAI is a mutual aid system operated by the Agriculture Mutual Relief associations (AMRs) in each prefecture and the collection of AMRs is called NOSAI.
- The pool of insurance money generated from insurance premiums is used to pay insurance to farmers upon disaster.
- Multi-peril insurance
Organizational Structure

The Organization of the Agricultural Insurance Scheme

- Farmers
  - 3 million policy holders
  - Premiums: 8,000 staff
  - Indemnities: 100 staff
- AMRs [Insurers]
  - Premiums: 1,000 staff
  - Indemnities: 10 staff
- Prefectural Federation of AMRs [Reinsures]
  - Premiums: 1,000 staff
  - Indemnities: 60 staff
- National Agricultural Insurance Association
  - Premiums: 60 staff
  - Indemnities: 10 staff
- Agricultural, Forestry and Fisheries Credit Foundation
  - Premiums: 10 staff
  - Indemnities: 10 staff

Source: www.NOSAI.or.jp
Paddy Insurance

- Started in 1947 according to Agricultural Natural Disaster Compensation Law

- Conditions:
  - Compulsory participation for all the farmers
  - Subsidized by 50%
  - Covers between planting-harvesting
  - Compensation: By loss assessment
  - Offered throughout the country
  - The insurable land should be 20-40 acres of paddy or 10-30 acres of wheat
Sugarcane Insurance

- Started in 1947 according to Agricultural Natural Disaster Compensation Law
- Conditions:
  - Voluntary participation for all the farmers
  - Subsidized by 55%
  - Covers between sprouting-harvesting
  - Compensation: By loss assessment
  - Offered in Kagoshima and Okinawa
  - The insurable land should be >5 acres in mainland and 10 acres in islands
Premiums for crop insurance (million yen)

Source: NOSAI
Number of Farmers insured for Crop insurance

Number of Farmers insured for Crop insurance:
- Paddy Rice
- Wheat
- Upland rice

The graph shows the number of farmers insured for crop insurance from 1993 to 2011, with a decrease in the number of insured farmers over the years.
Indemnities for crop insurance (Million Yen)

Source: NOSAI
Insurance Performance: Indemnity/producer premium ratio (I/P)

<table>
<thead>
<tr>
<th>Country</th>
<th>Period</th>
<th>I/P (producer loss ratio)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil (Proagro)</td>
<td>75-81</td>
<td>4.29</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>70-89</td>
<td>2.26</td>
</tr>
<tr>
<td>India (CCIS)</td>
<td>85-89</td>
<td>5.11</td>
</tr>
<tr>
<td>Japan</td>
<td>47-77</td>
<td>1.48</td>
</tr>
<tr>
<td></td>
<td>85-89</td>
<td>0.99</td>
</tr>
<tr>
<td>Mexico (Anagsa)</td>
<td>80-89</td>
<td>3.18</td>
</tr>
<tr>
<td>Philippines (PCIC)</td>
<td>81-89</td>
<td>3.94</td>
</tr>
<tr>
<td>United States of America (FCIC)</td>
<td>80-89</td>
<td>1.87</td>
</tr>
</tbody>
</table>

Source: FAO, 2011
Farmers Survey: Methodology

- **Interviews In Tokyo:** MAFF, NOSAI HQ, SONPO, Japan
- **Interviews In Okinawa:** Prefectural government, 4 NOSAI branches, Group discussion in Irabu island (12 Farmers)
- **Questionnaire survey**
  - Consist of 35 multiple choice & open questions
  - Farmers in 6 Prefectures (Oita, Saga, Fukui, Hokkaido, Aomori, Okinawa) (38 respondents)
  - Prefectural government (1 respondent)
  - NOSAI staff (16 respondents)
  - Private insurance company (1 respondent)
Prefecture

Field office NOSAI

Farmers
日本の農作物保険に関するアンケート（実施者向け）

回答者様から

1. 保険推進の担当者文員（職種）を教えてください。
   - 1名平均
   - 2名～3名
   - 3名～5名
   - 5名以上

2. 既に保険されている（またはとのことのある）保険の種類を教えてください。
   - 高期保険
   - 低期保険
   - 早生保険
   - 早熟保険
   - 合格保険
   - その他の

3. 既に保険されている（またはとのことのある）保険の数を教えてください。
   - 保険推進プロジェクトの企画・設計
   - 保険推進プロジェクトの実施・管理
   - その他の

日本の農作物保険（水稲・かき）を取り巻く課題について

4. 日本の農業が、水稲・かきについて、どのように考えているか思いますか？
   - 全く重要でない
   - 重要ではない
   - 重要でない
   - 重要でない

5. 4.の回答について、その理由などを教えてください。
   - 水稲・かきの保険が無能に発生するため
   - 日本の農業が無能に発生するため
   - 水稲の保険が無能に発生するため
   - 水稲の保険が無能に発生するため

6. また、4の答えが“全く重要でない”であった場合、リスク管理のための政策的な推進が
   何方がありますか？
Paddy insurance Survey: Demographics

- 100% male!
- 53% are in the age group of 60-70 years and the rest are between 40-60 years.
- Mostly full time farmers (67%)
- 47% of them owned agriculture land of 4 ha and the rest between 1-3 ha.
- 37% earned an annual income of >10 million JPY (100,000 USD) and 27% didn’t want to disclose their income.
- 94% of farmers received some kind of farm subsidy (other than subsidy in insurance).
- All respondents have been participating in insurance for several years.
Preliminary Observations

- 90% felt insurance is necessary for recovering from crop loss (highest among all the study countries) and the rest thought it is a good policy for the government to implement.
- 57% didn’t find any loopholes in the system while 30% felt that the damage assessment was not up to their satisfaction.
- 57% received the compensation within 3 months of damage assessment while others received even sooner.
- Payment was timely for 83% and helped them to recover from the disaster. Majority felt that the damage assessment process was ‘fair’.
- 43% felt that they recovered ‘mostly’ from the disaster with the help of insurance while the rest felt either recovered fully (30%) or didn’t recover at all (10%).
- On the subsidy issue, most farmers felt the current level of subsidy is sufficient while 37% felt that it should be increased to 70%. None favored the removal of subsidy.
Sugarcane Insurance

- **Farmer 1**: Okinawa mainland, has <100 acres
  - Premiums: ¥9,000 × 7 years = ¥63,000
  - Indemnities: ¥83,000 (last year) = **NET BENEFIT**!

- **Farmer 2**: Okinawa mainland, has area of 338a
  - Premiums: ¥70,000 × 10 years = ¥700,000
  - Indemnities: ¥1,470,000 (last year) = **NET BENEFIT**!

- **Farmer 3**: Irab island
  - Premiums for 24 years = ¥3,000,000
  - Indemnities: ¥5,000,000 (last year) = **NET BENEFIT**!

**What are the DRR and CCA benefits of this payoff?**
Preliminary Conclusions

 Farmers have reported the net benefit from crop insurance in questionnaire surveys (paddy) and in terms of indemnities received (Sugarcane)

 Subsidy played a major role in farmers finding the insurance profitable/useful (the net positive indemnities was after 55% insurance)

 Insurance helped in recovery from disaster according to 73% of respondents

 No major issues were reported in terms of moral hazard and hence both the insurance company and the farmers prefer indemnity based insurance (corroborated by the least I/P ratio)

 There is a considerable resistance from farmers for changing from indemnity based insurance to index based insurance (why fix that is not broken)
Thank you!
prabhadar@iges.or.jp