Crop Insurance Performance in Japan: Some Preliminary Observations

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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

Indemnities

I. AMRs [Insurers]

- 8 thousands staff

II. Prefectural Federation of AMRs [Reinsures]

- 1 thousand staff

III. The Ministry of Agriculture, Forestry and Fisheries of Japan [Re-reinsures]

- 100 staff

IV. National Agricultural Insurance Association

- 60 staff

Agricultural, Forestry and Fisheries Credit Foundation

- 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 paddy or 10-30 acres 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

Paddy Rice | Wheat | Upland rice

Number of Farmers insured for Crop insurance:

- Number of Farmers insured: 0
- 500,000
- 1,000,000
- 1,500,000
- 2,000,000
- 2,500,000
- 3,000,000

Year:
- 1993
- 1994
- 1995
- 1996
- 1997
- 1998
- 1999
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
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)
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

1. 前年度の保険の保険額を教えてください。
   □1年度保険 □2年度保険 □3年度保険 □4年度保険以上

2. 同様に保険が適用されている（それらの保険内容）年度を教えてください。（保険受付口）
   □保険内容保険内容 □保険内容保険内容

3. 保険内容と保険内容を教えてください。（保険受付口）
   □保険内容保険内容 □保険内容保険内容

4. 同様に保険が適用されている（それらの保険内容）年度を教えてください。（保険受付口）
   □保険内容保険内容 □保険内容保険内容

日本の農作物保険（水稲栽培）を取り扱い際の課題について

4. 日本の農業が、水稲栽培について、どのように考えられていますか？
   □全部重要 □一部重要 □とても重要

5. 4の質問について、その実施などを願います。（保険受付口）
   □水稲栽培が無駄になるため □日本の農業が無駄になるため □日本の水稲栽培が無駄になるため □日本の農業が無駄になるため

6. また、4の答えが“全く重要ではない”であった場合、リスク管理のための任意的な事前調整
   □あり □なし □その他

7. 保険の水稲栽培の状況について、どう思われますか？
   □もっと多く補助してほしい □とても助かった □とても不十分 □その他

8. 水稲栽培に関する意見がございましたら、以下を記入してください。
   □持続的な展開 □水稲栽培をはっきりと反映するため □水稲栽培を助けるため □水稲栽培を助けるため

9. 水稲栽培に関する課題を改善するため □持続的な展開 □水稲栽培を助けるため □水稲栽培を助けるため

10. 保険の水稲栽培の状況について、どう思われますか？
    □持続的な展開 □水稲栽培を助けるため □水稲栽培を助けるため

11. 保険の水稲栽培の状況について、どう思われますか？
    □持続的な展開 □水稲栽培を助けるため □水稲栽培を助けるため
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!
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