Weather Index Insurance for Agriculture (WIIA)
- A market base solution -

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Climate Change Impact on Water Cycle: Precipitation

Germany

Source: Wetterstation Hohenpeißenberg

Japan

Changing Pattern of Annual Rainfall in Japan

Source: Prof. Koike, Tokyo Univ.
At JBIC seminar
Climate Change Impact on Water Cycle: Water level of River Amazon

Source: Agencia Nacional del Aguas (Brazil)
WIIA : Weather Index Insurance for Agriculture

Agriculture is the most vulnerable sector by Climate Change

Negative Spiral

- Extreme weather
- Economic turbulence
- Social instability
- Decrease of income
- Decrease of production

Risk mitigation
- Infrastructure
- Weather forecast
- Breed improvement
- Economic loss cover
- Insurance (WIIA)

Please see at “Potential of Weather Index Insurance for Agriculture in developing countries”, T Hongo
http://www.ubraintv.com/docs/Weather_Index_Insurance_for_Agriculture_FIN.pdf
Case Study: WIIA in Thailand by Sonpo Japan Insurance

Why Khon Kaen?
✓ Highly dependence on agriculture
✓ Depend on natural water supply
✓ Availability of weather and agriculture data
✓ Local partnership

Trigger

Source: JBIC report
Case Study: WIIA in Thailand by Sonpo Japan Insurance
Case Study: WIIA in Thailand by Sonpo Japan Insurance

Measurement of precipitation

Source: JBIC report

Insurance payment briefing

Source: Sompo Japan Insurance
Lessons learned

● Date gathering
  - Production, income, decrease of income and weather data such as daily precipitation data, flooded area, flooded period are crucial

● Reliability of index
  - Farmers shall share co-relationship between decrease of production/income and extreme weather.

● Local partner for development and marketing
  - It can not be realized without local partner. Thank you for BAAC!

● Varieties of insurance products and scale up to nation wide scheme
  - Now only rice is covered but demand for agriculture products is appeared.

● Flood insurance
  - Combination of drought insurance and insurance is needed because of the serious drought in 2011 in Thailand.

● Reduce the burden of insurance holder
  - Incentive to purchaser of insurance products by government
NOSAI: Agricultural Insurance scheme of Japan

(AMR: Agricultural Mutual Relief Associations)

<Insurance products>
- Rice, wheat and Barley Insurance
- Livestock Insurance
- Fruit and Fruit-tree Insurance
- Potato, beans etc. Insurance
- Greenhouse Insurance

Government → Subsidies → 50% paid by government → Nosai (AMR) → Premium Insurance → Farmers (insurance holders)

- Subsidies for insured and uninsured cases
- 50% paid by government
- Covered and Un-Covered cases
- Decrease of income due to Extreme weather

Agricultural Income

Covered  Un-Covered

Decrease of income

Extreme weather
Flood insurance by GIZ: Jakarta

Trigger of 9.50m not reached
No claim payout

Water level reaches or goes above the trigger level of 9.50m
Claim payout

Source: GTZ
Natural Disaster Insurance: PCRAFI

- Pacific Island countries
- PCRAFI (program)
- WB, ADB, SPC
- Japan, EU, GFDRR
- Insurance companies
- AIR World

- Natural Disaster
- Extreme weather, Earthquake, Tsunami etc.

- Payment
- Re-Insurance
- Insurance Model

- Cost is funded by donors.
- Payment will be made by triggers and no investigation.
- Insurance companies buy derivatives.
- Model is made by private companies and multilateral is intermediary.
Data gathering : Satellite Technology

- Remote sensing technology is improving year by year.
- Use the satellite technology system for data gathering and estimation of the situation timely.
- It may be a cheap option in the future.

Source: JAXA
International Development of Weather Insurance

1st Step
Limited area, limited products

2nd Step
Expansion to other area
Risk cannot be borne by a single company and overflowed risk will be shared by the market

3rd Step
New framework will be prepared to share the risk and provide T/A

Farmer/Corporate
Insurance Company
Insurance
Risk Transfer
Re-Insurance Market
Risk Transfer
Risk Mitigation (Last Resorts)
T/A

Government
T/A for Insurance Model
T/A for Weather Data Gathering
Development of Insurance Companies
T/A

Source: Study on Market-based Adaptation –Weather Index Insurance- [JBIC]
Conclusion

- Market base approach for Adaptation is needed and available.
- Weather Insurance could be an option however,
  incentive for reducing premium is effective
  data gathering for modeling is crucial
- For the scale up the scheme,
  combination with science and technology international framework are recommended.

Photo by JAXA – “Hayabusa”