

Piloting Deficit Rainfall Insurance



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Concept of Risk management in Rainfed Farming in DHAN

- ❑ Risk management is an integral part in rainfed farming development.
- ❑ Insurance will be effective only in combination with other physical, biological and diversification risk management measures.

Physical: Bunding, Silt application

Biological: Quality seeds, Seed hardening

- ❑ Building upon farmers' own experience

Piloting Deficit Rainfall Insurance (DRFI) – WHY ?

- ❑ Deficit rainfall, a major risk affecting more than 60 to 80 % of the yield
- ❑ It is recurrent
- ❑ The traditional coping mechanisms, are not sufficient and not available to all farmers
- ❑ Government's answer through crop insurance and drought relief were a failure
- ❑ So far, negligible private sector participation

What is DRFI?

“An index based insurance, which uses weighted and capped rainfall during different stages of the crop period, as a proxy for assessing the rainfed crop yield loss.”

To whom ?

“To those influenced by rainfed farming within the 30 km radius of an Indian Meteorological Dept. station, which has minimum 20 – 30 years of historical data.”

Our experience – First Year

Crops: groundnut & cotton in Vellore & blackgram and cotton in Madurai.

No. of farmers: 272

Sum Insured: Rs. 6,36,000/- (\$14100)

Results

Deficit and damage for all the crops in two locations and but payout in one location

Mixed results - Basis risk

Design improvements made in the second year over the first year

- ❑ **Dynamic startup date**
- ❑ **Eliminating non- water requiring crop period from coverage**
- ❑ **Introducing cap on maximum and minimum rainfall per day**
- ❑ **More segmentation of crop period**
- ❑ **Increase in accuracy of water requirement**

Our experience – Second year

Crops: groundnut & cotton in Vellore district & cotton in Madurai district.

No. of farmers: 604

Sum Insured: Rs. 21,34,700/- (\$47440)

Results

Deficit in the early period & later excess rainfall in both the locations; Damage in one location; No payout in both the locations

Basis risk & Unexpected excess rainfall risk

Major advantages- From Client side

- Transparent product
- Quick payment of compensation
- Customized product to each location, crop and community
- Independently verifiable

Major advantages- From Insurer side

- Low administration and transaction costs.
 - **Assessment is easy and cost on assessment is very less**
- Decreased moral hazards and adverse selection
- Broad base of potential clients: farmers, banks, input suppliers, local governments.
- Not amenable for political interference

Limitations

- ❑ **Basis risk due to -**
 - Inadequate bio-actuarial design-Inherent problems in Single phase policy
 - Rainfall variations bet. Field & station
- ❑ **Restricted to areas around IMD stations with historical data**
- ❑ **Costly - premium ranging from 15% to 38% of Sum Insured**
- ❑ **Suitable to moderate risks**
- ❑ **Service tax - 12.24 % on premium**
- ❑ **Inadequate Client comprehension**

Third year ...

- The season has just started
- Moved from Single Phase policy to Multiple Phase Policy
 - Water requirement as the reference rather than historical average
 - Coverage only for 65 days (35 + 30)
 - Reducing max. rainfall per day from 60 mm to 40mm

In essence...

DRFI is a potential means of managing losses due to long dry spell/drought

But this instrument is in the early stage of development and is in need of evolution and promotion to make it effective

Way forward.....

Improving the product *per se*

- ❑ Using local weather station data
- ❑ Precise bio-actuarial modeling
- ❑ Insuring for specific rainfall events
- ❑ Pooling risk across regions to reduce premium along with Historical burn method
- ❑ Including excess rainfall damage
- ❑ Trying multiple phase policy
- ❑ Combining DRFI with other Insurance

Improving the enabling environment

- ❑ Installation of secure rain gauges as a close network - **Effort of Karnataka govt.**
- ❑ Underwriting arrangement till this emerging market is sufficiently developed
- ❑ Appropriate legal and regulatory framework
- ❑ Support in precise bio-actuarial modeling
- ❑ Covering catastrophe risk layer

Promotional Support for participation of farmers

- Educating them on value & use of WI
- Vernacular communication
- Until the product becomes effective -
Removing service tax
- Support to unaffordable farmers- like Rajasthan Govt.

□ Thank You