



**Improving rice production
monitoring and crop insurance
through satellite technology**





RIICE Project Overview: Digitizing crop information for climate risk insurance

Aim of Regional PPP Partnership

- 1 **Help Governments to better plan for food crises through better crop monitoring.**
- 2 **Increase efficiency and effectiveness of crop insurance solutions.**

Timeline



RIICE Partners



In-country support, implementation and funding (BMZ)



Ground validation & yield modelling



Insurance product development, access to Reinsurance



Satellite data procurement & processing

India



Cambodia



Vietnam



Thailand



Indonesia





Our approach: Leveraging new technologies to turn the value chain of crop information digital



Large scale, high resolution SAR-RS of rice areas



Crop models adjusted by remote sensing



Smartphone based rapid data collection

1 How much area was planted this season in each village?



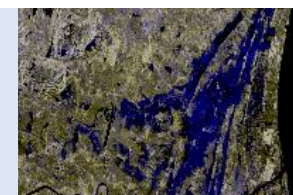
2 When was start of season?



3 How much is the yield?



4 How did an **adverse climatic condition** affect the crop?



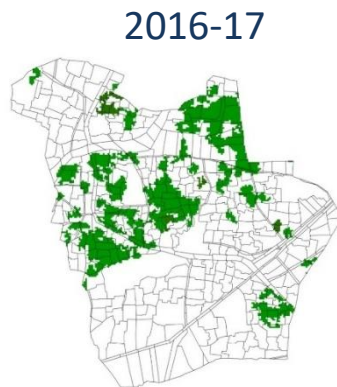


Our approach: Using remote-sensing data for loss assessment and insurance pay-outs

1 How much area was planted this season in each village?



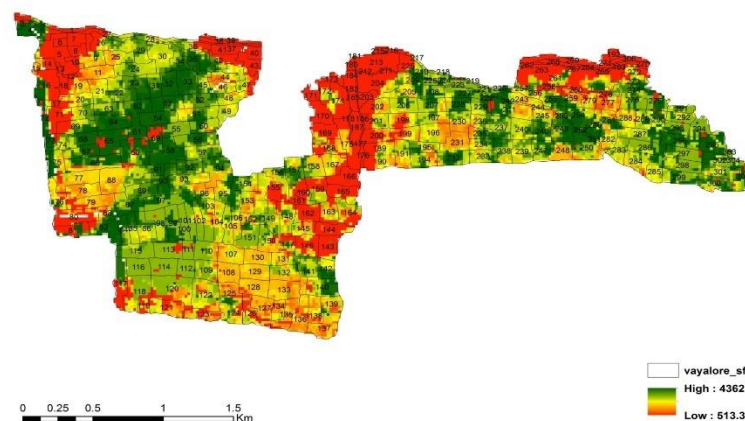
Navalur Kuttapattu village,
Trichy District Tamil Nadu



3 How much is the yield?



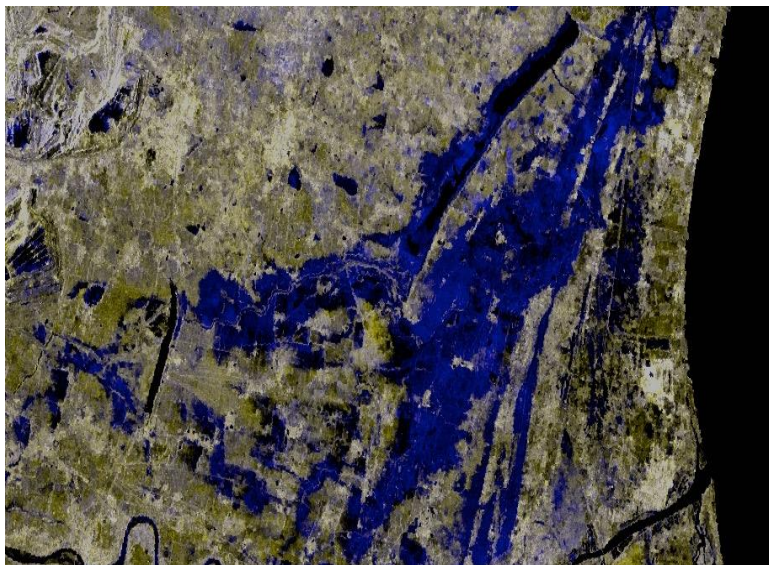
Vayalore Village,
Tiruvallur District, Tamil Nadu



Our approach: Remote-sensing data for flood / draught monitoring provides guidance to policy makers

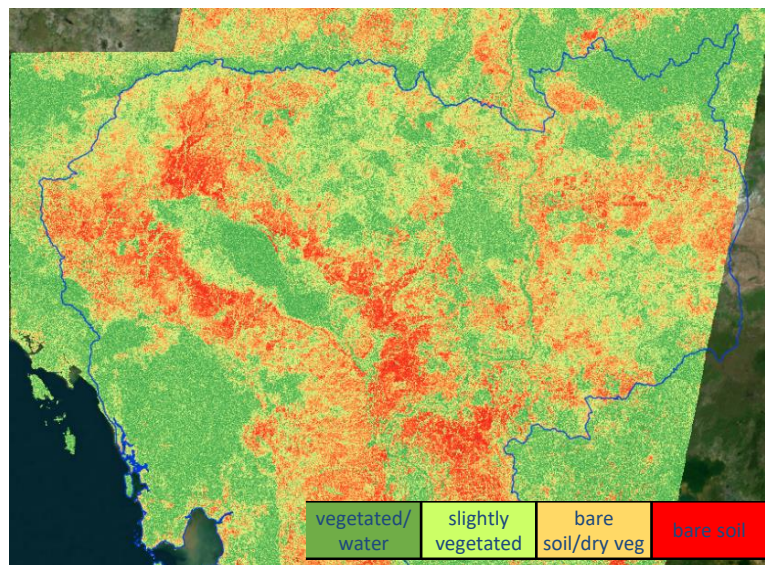
4 How does an **adverse climatic condition** affect the crop?

Tamil Nadu floods in Nov 2015



Distribution of seeds in Tamil Nadu flood affected areas, after satellite data had been delivered to the state level emergency authorities.

Cambodia April Drought 2016



Mid-April data showed a delay of the start of the Early Wet season due to a drought. Impact on yield is likely to be minor.



RIICE achievements: Technical proof of concept and successful application cases of remote-sensing data



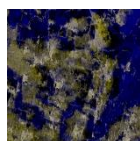
Technological proof of concept (remote sensing, crop modeling, webGIS, smartphone data collection) with promising results in all countries.



Around **15 million ha rice area monitored** since 2013.



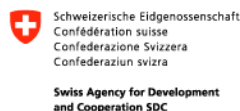
Crop insurance payouts in the state of Tamil Nadu to around 22,500 rice farmers in 2017 using **remote-sensing data**.



Highly visible outputs, related to **flood and drought damage assessments** in Cambodia, Thailand, Tamil Nadu (India) and Vietnam.

RIICE offers a **feasible, scalable, replicable** and sustainable **financial risk management product** improving **adaptive capacity of small-holder farmers** in collaboration with the public and **private sector**.

Contact: <https://www.asean-agrifood.org/projects/riice/>



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RIICE Technology value proposition in crop insurance

1. Improve risk exposure management for insurers through...

- > Information on rice area to verify insurable interest and avoid underinsurance
- > Regular crop portfolio monitoring in target areas allows early identification of losses - adjustment of loss reserves
- > Targeted field-based monitoring based on early stress detection
- > Flood / draught maps to establish scope of damage

2. Improve insurance service for smallholder farmers through...

- > Product improvements through early payouts in case of total loss or preventive sowing (additional benefits)
- > Service improvements through more timely payouts after end of season – guidance of loss assessors
- > Higher transparency on loss and yield assessment

3. **Area Yield Index Insurance:** RIICE-based yield estimates to complement and eventually replace the official yield data