



**Increasing food security by using
satellite-enhanced crop insurance
and disaster management**



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Project Set-up



Satellite data procurement & processing



Ground validation & yield modelling



Funding and in-country support in two countries



In-country support in three countries; implementation, access to policy-makers,



Insurance product development

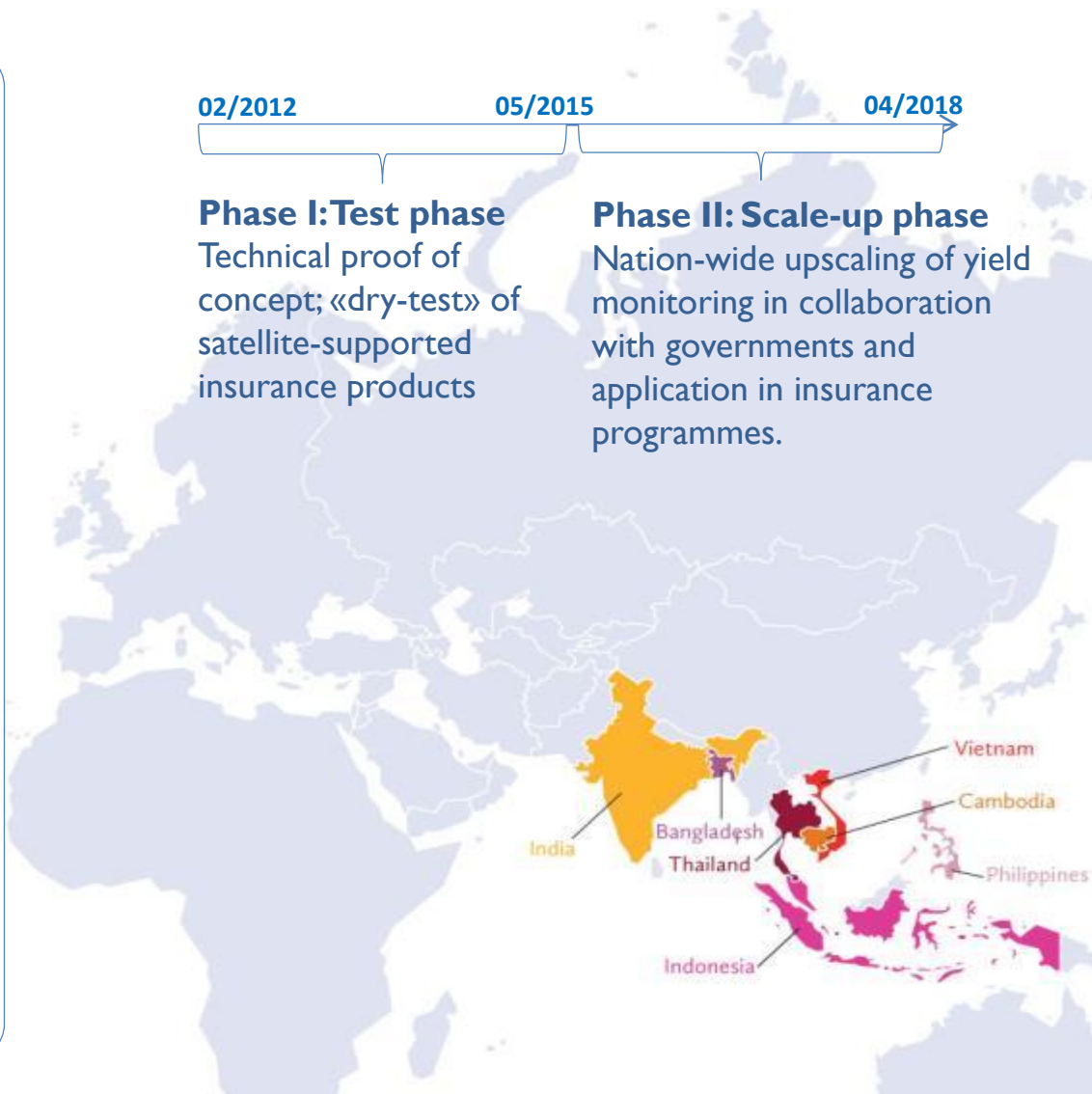
02/2012

05/2015

04/2018

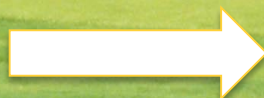
Phase I: Test phase
 Technical proof of concept; «dry-test» of satellite-supported insurance products

Phase II: Scale-up phase
 Nation-wide upscaling of yield monitoring in collaboration with governments and application in insurance programmes.



Key objectives and targets of insurance operations

2 ZERO HUNGER

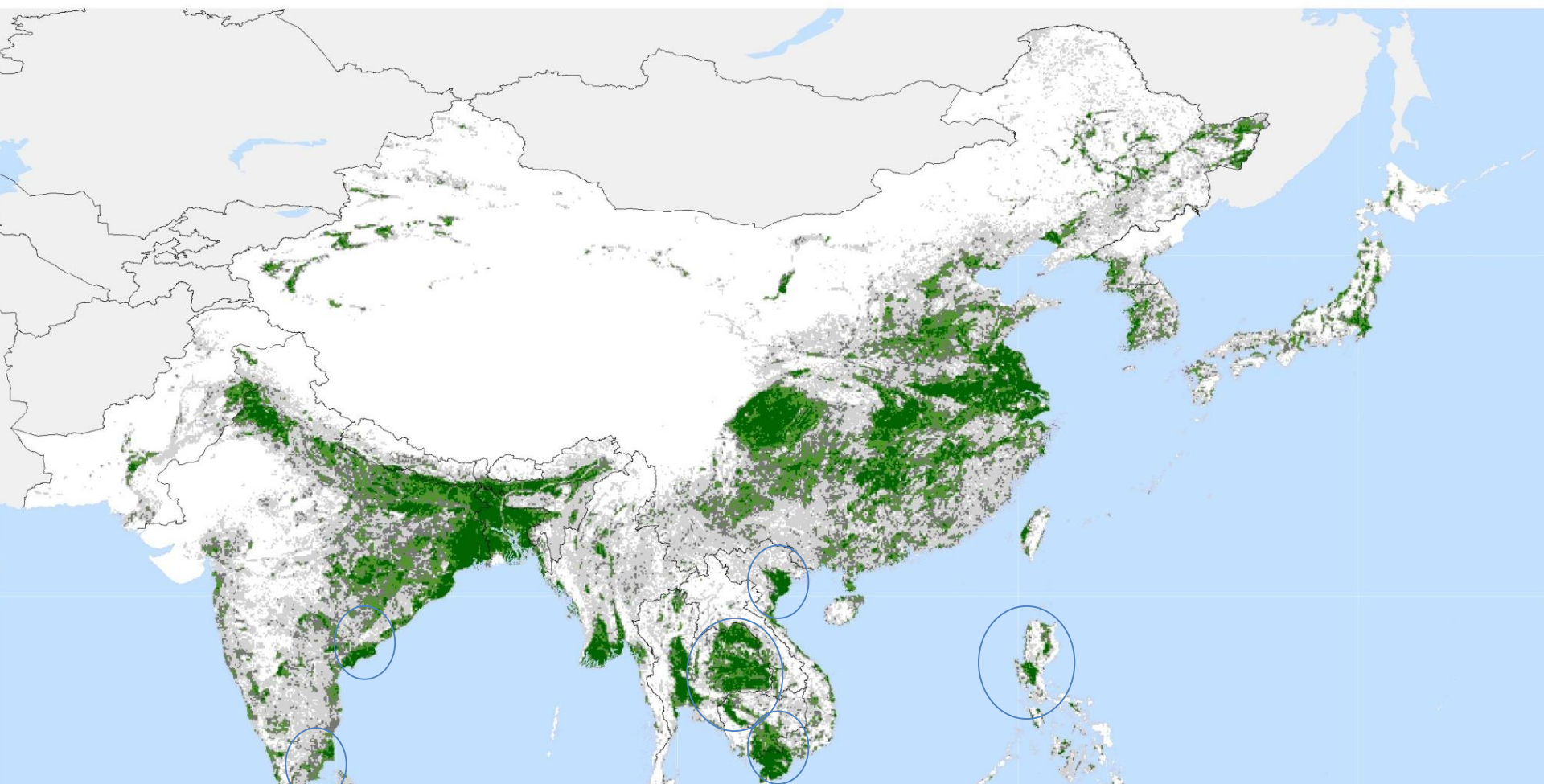


RIICE supports governments in Asian countries to upgrade their agricultural risk management toolbox by helping them to built rice information systems that can measure and forecast rice area and rice yields.

RIICE also helps governments to use these tools in crop insurance programmes.



Locations of RIICE implementation



Main features of the insurance pilot

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

- a. Mid-season information on expected yield gaps
- b. Flood maps to establish scope of damage
- c. Regular crop portfolio monitoring in target areas
- d. Targeted field-based monitoring based on early stress detection
- e. Generation of satellite-based crop condition reports

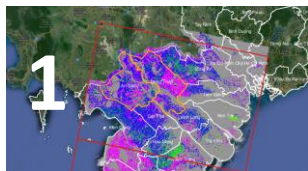
2. Improve insurance service for smallholder farmers through...

- a. More timely payout after end-of-season
- b. Higher transparency on loss and yield assessments
- c. Product improvements through early payouts in case of total loss or pre-emptive sowing

3. RIICE-based yield estimates to complement and eventually replace the official yield data

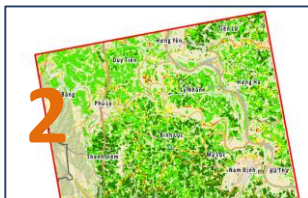
Core insurance product feature upgrades through technology

RIICE and its partners in India plan to introduce either of the following product features:



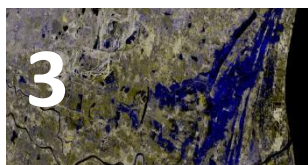
1

Preventive Sowing Cover



2

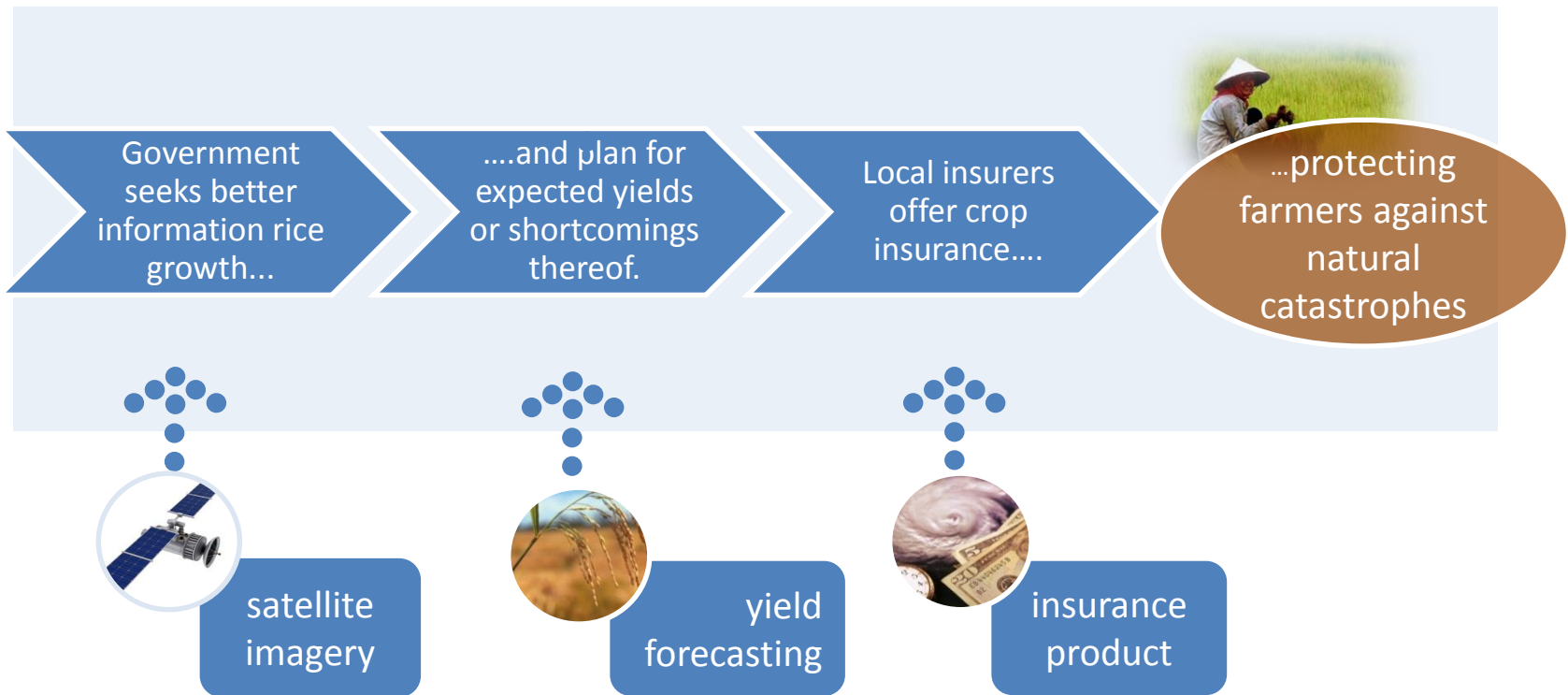
Yield Estimations



3

Cyclone loss maps

Impact logic



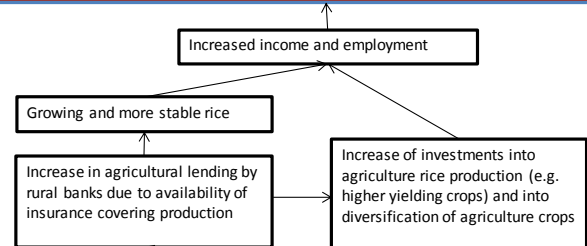
RIICE IMPACT CHAIN

Component 1: Enhanced Risk Management

Component 2: Insurance Solutions

IMPACT
Enhanced food security for population

IMPACT
Reduce vulnerability of smallholders in rice production caused by natural catastrophes



INTERMEDIATE OUTCOME (until 2018)

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Outcome 1.1: Governments and other stakeholders use the crop / yield information system in agricultural and disaster risk management policies, strategies, and action plans to strengthen food security and to transfer risks to the insurance sector

Outcome 2.3: Rice Producers are covered by RIICE insurance

Outcome 2.2: Institutions in the target area offer demand-oriented, effective and efficient insurance solutions to target client segments

Outcome 2.1: Governments have integrated / accepted RIICE-supported insurance solutions in the respective agricultural insurance schemes or guidelines

IMMEDIATE OUTCOME (until 2015)

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Outcome 1.0: Government and other stakeholders are aware and have detailed knowledge about the RIICE crop / yield information system and request information from RIICE for policy support or disaster response

Outcome 2.0: National and local authorities responsible for licensing and subsidizing agricultural insurance products show willingness to introduce RIICE-supported insurance solutions

OUTPUT

OUTPUT

Output 3: Policy dialogue and capacity building in governments (at central and local level) and other partner institutions (multilateral and bilateral donors, research partners) that are supposed to use the crop / yield information system have taken place

Output 4: The RIICE database capturing all RIICE generated key products is updated frequently for RIICE partners. Information on rice production (rice growth area, expected yields and harvests) is extracted from this database and made available frequently to our partners in form of RIICE bulletins.

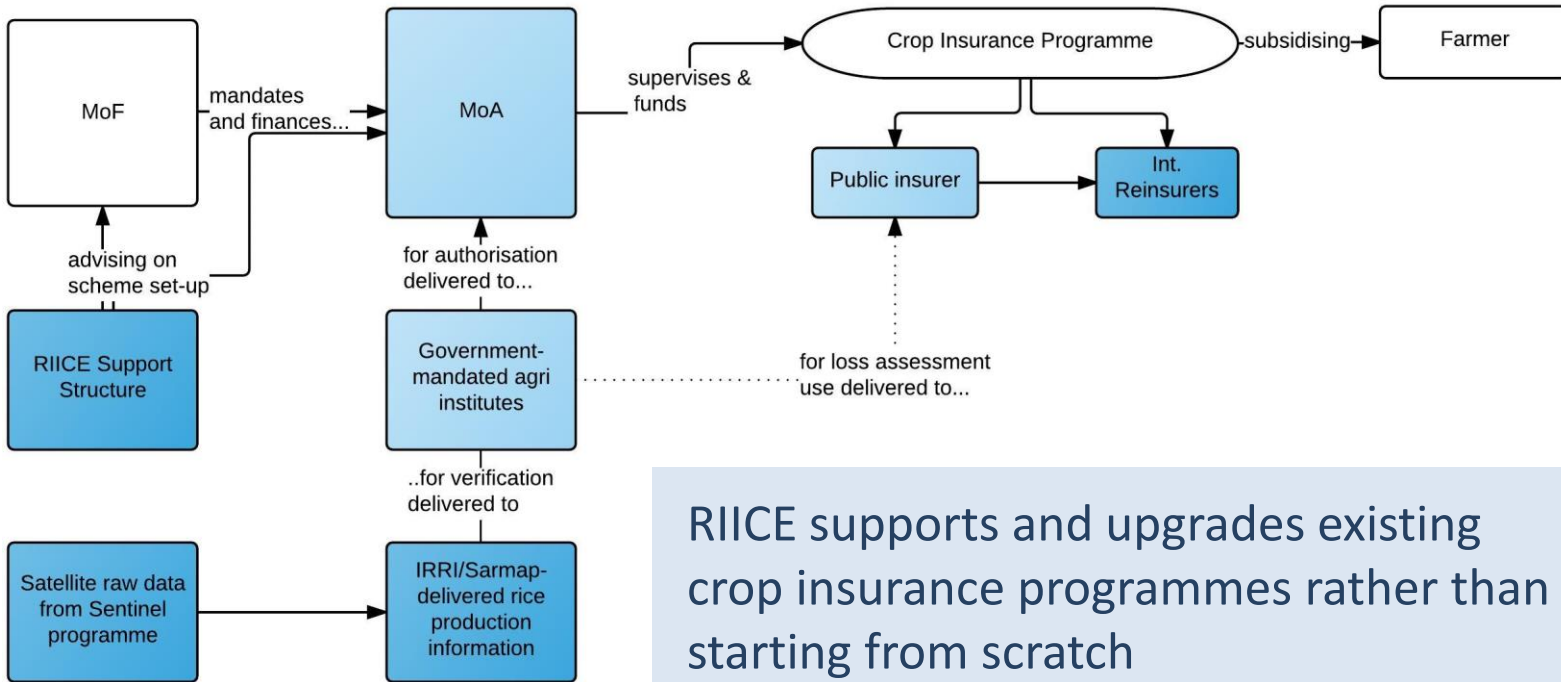
Output 1: A mapping system for the generation of i) a baseline rice extent map and ii) rice production figures (including area, yield, planting time and damages due to flood and drought) for the selected areas has been developed

Output 2: A new crop growth modelling system that is capable of forecasting and estimating rice yields and harvests has been developed

Output 6: Insurance companies and distribution partners are enabled by RIICE to develop insurance solutions which cover production shortfalls (see OP1 - OP3) (e.g. caused by flood and drought)

Output 5: Engagements with national and local authorities responsible for licensing and subsidizing agricultural insurance related to RIICE-supported

Operational set-up



RIICE supports and upgrades existing crop insurance programmes rather than starting from scratch

Commercial viability

	Cambodia	India	Philippines	Thailand	Vietnam
Disaster scheme in place	Yes	Ad-hoc	Ad-hoc	Yes	Yes
Insurance scheme in place	No	Yes	Yes	Small	To be renewed
Amount of subsidies committed	None		30m USD annually		Not decided

Key challenges for systemic change in disaster risk management through insurance

- 1** Government to change paradigm from *post-disaster* to *ex-ante* insurance (-> mitigating their fiscal risk)
- 2** Stakeholders have to agree on a scalable distribution mechanism (-> large and efficient distribution, potentially compulsory insurance)
- 3** Insurance market to choose an efficient product and supporting technology.

...and a need to stay committed!

...and ensure that farmers know they are insured!

...disruptive technology is unpopular

Incremental change over time or a new system all together?



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