Policies Supporting Sustainable Rice Value Chain Upgrading and High Technology Adoption

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Outline

- Science vs. Policy?
- High technology & opportunities for VC upgrading (examples)
  - AutoMon for Alternate Wetting & Drying
  - Post harvest
  - Remote sensing
  - Climate change
- Conclusions

Connecting science and policy: Main bottlenecks

- Lack of data, evidence, scenarios
- Information exists but not accessible to policy makers
- Recommendations outside of national priorities
- Recommendations ignores political complexities/realities

Connecting science and policy: Key questions

- How can science better support policies for rice value chain upgrading?
- How can recommendations from rice science better match the needs of policy makers?
- What are the channels and engagement strategies to influence policy processes?

Upgrading rice value chains inclusively & sustainably

Opportunities for the rice sector in Vietnam

- Impressive progress on exports but
  - Increasing production costs & input market failures
  - Incomplete quality based competitiveness
  - Sustainability (water, climate)
- Value chain upgrading :
  - Vertical integration(contracts): policies to favor inclusiveness
  - Horizontal coordination : policies to upscale and consolidate SFLF model

Entry points for sustainable rice value chain upgrading

2. Rice markets

1. Public governance

Optimal mix

International rice markets

National rice markets

Markets for rice by-products

Rice by-products

Distribution

Processing

Aggregation

Agri-food industry

Production

Core value chain

Finance

Services

Inputs

Extended value chain

National enabling environment

Global enabling environment

4. Intersectoral upgrading

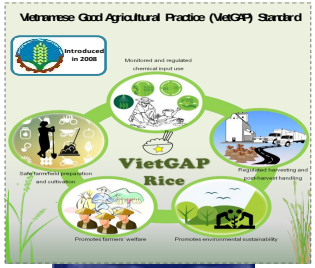
5. Credit markets

3. Private governance

Demont, M. & Rutsaert, P. **217**. "Restructuring the Vietnamese rice sector: Towards increasing sustainability:" *Sustainability*, 9(2):325.

Consumer value of sustainable rice

33%



My, N.H.D., Demont, M., De Guia, A., Tuan, T., Van Loo, E., Rutsaert, P. & Verbeke, W. **2018**. "What is the value of sustainably produced rice? Consumer evidence from experimental auctions in Vietnam." *Food Policy*, second minor revision round.

Who is “sustainable rice consumer”?

1. Trust, know & read labels
2. Health-conscious
3. Environmentally conscious

My, N.H.D., Demont, M., De Guia, A., Tuan, T., Van Loo, E., Rutsaert, P. & Verbeke, W. **2018**. “What is the value of sustainably produced rice? Consumer evidence from experimental auctions in Vietnam.” *Food Policy*, second minor revision round.

Contract preferences

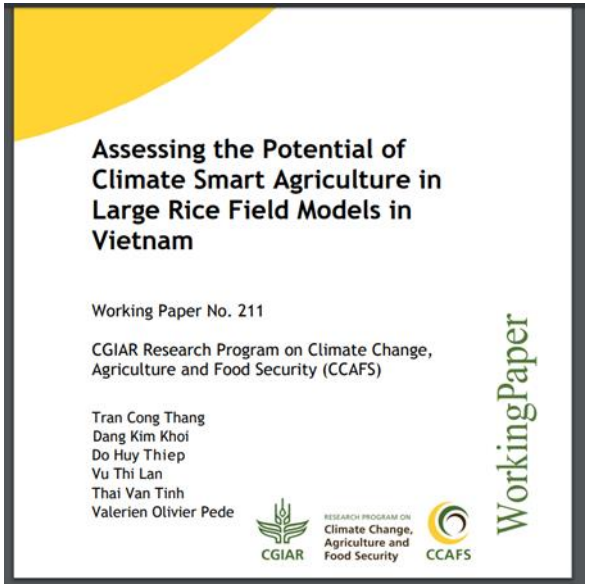
Attribute	Farmers		Exporters	
Season	**WS season**	**SA season**	**WS season**	**SA season**
Premium price	+	+		
Partial prefinancing		–	+	
Total prefinancing		–		–
Some farmer sovereignty	+	+	–	–
Complete farmer sovereignty	+	+	–	–
High quality	+	+		–
Premium quality	+	+	–	–
VietGAP/GlobalGAP	+	+	–	–
Pesticide-free			–	–
Private Extension			–	–
Storage facility	+	+	–	

Ba, H.A., Veettil, P.C., Thoron, S. & Demont, M. "Farmers' and exporters' preferences for sustainable rice contracts in Vietnam." *World Development*, preparing submission.

Recommendations for enhanced contract farming models

- Support consumers awareness on quality labels & GAP & sustainable rice
- Promote production & certification & brand of quality rice
- Internalize sustainable production practices based on consumers' WTP
- Improve level playing field for farmers (bargaining power)
- Increase incentives & reduce trade-offs for contract farming
- Monitor contract violation

Small farms-Large Field Models



SFLFs can help Vietnamese farmers meet rice production challenges :

- offer the opportunity to apply CSA principles
- reduce production costs
- share knowledge
- reduce greenhouse gas (GHG) emissions

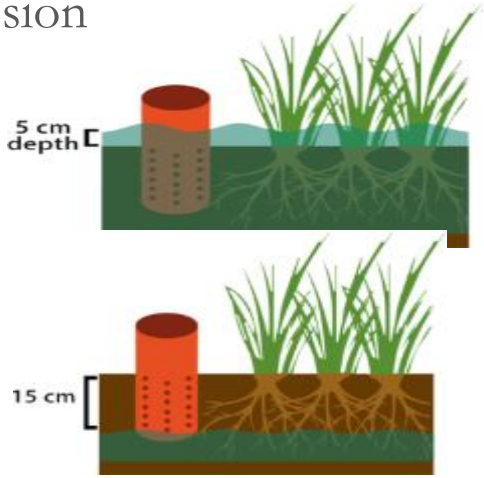
Recommendations for successful adoption of SFLF Models

- Tailoring SFLFs to specific regions
- Branding the SFLF model/certification agency on compliance with production standards
- Strengthening PPPs: farmers, exporters, government
- Promoting agriculture insurance markets and infrastructure investments

Improving water management & reducing climate change impact

Safe alternate wetting and drying

- A mature technology with high potential of irrigation savings and mitigating GHG emission



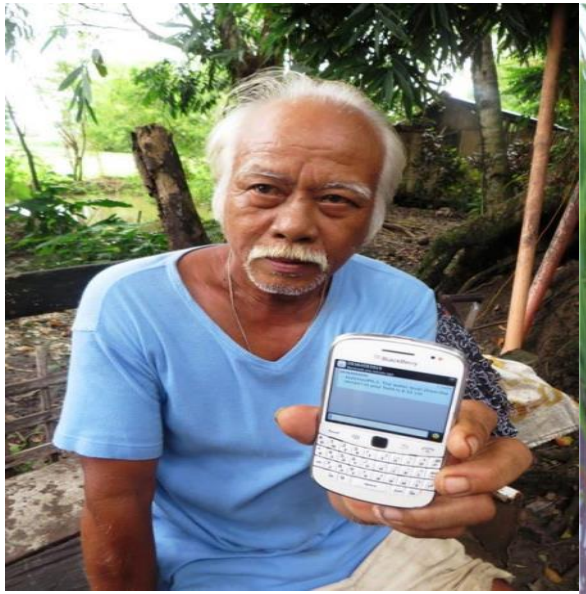
Safe AWD = Irrigate when water depth ~ 15 cm
~30% reduction in water use
no yield reduction

>500 publications but technology adoption has been very slow

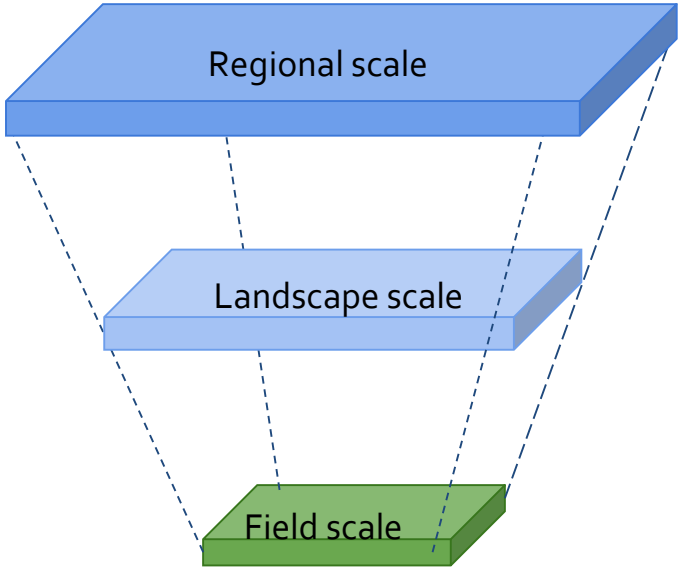
- Complex interaction among stakeholders
- Field-specific technology
- Need an interface to convert data into information for farmers decisions
- Management oversight and farmers' time
- Limited policy incentives

AutoMon: A tool to empower decision makers

- Catalyzing adoption of water-saving technologies by improving access to information, effective stakeholder coordination, and transparent water governance



Policy consideration for adoption of AutoMon



Cross-cutting

Policy change for developing and sustaining infrastructure and operation

Policy change for inter-agency cooperation

- Farmer community-Dept of Agri-Irrigation
- Telecommunication commission
- Environmental Ministry
- Private companies

- **Policy incentive for farmers'** adoption → reducing water and carbon-footprint

Supporting other high technologies: post harvest, remote sensing, climate change

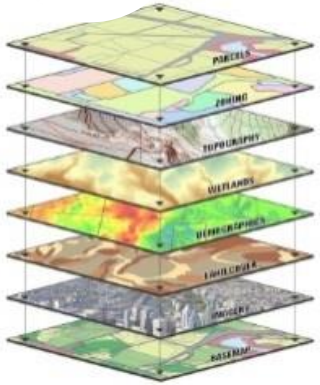
Reduce Post Harvest Losses – solar drier

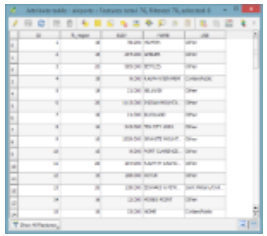
http://www.grainpro.com/?page=grainpro-solar-bubble-dryer

Post Harvest Storage – Super Bag/ "Cocoon"

Hermetic storage of harvested rice grain

Potential use of Remote Sensing Information in Vietnam Rice Sector





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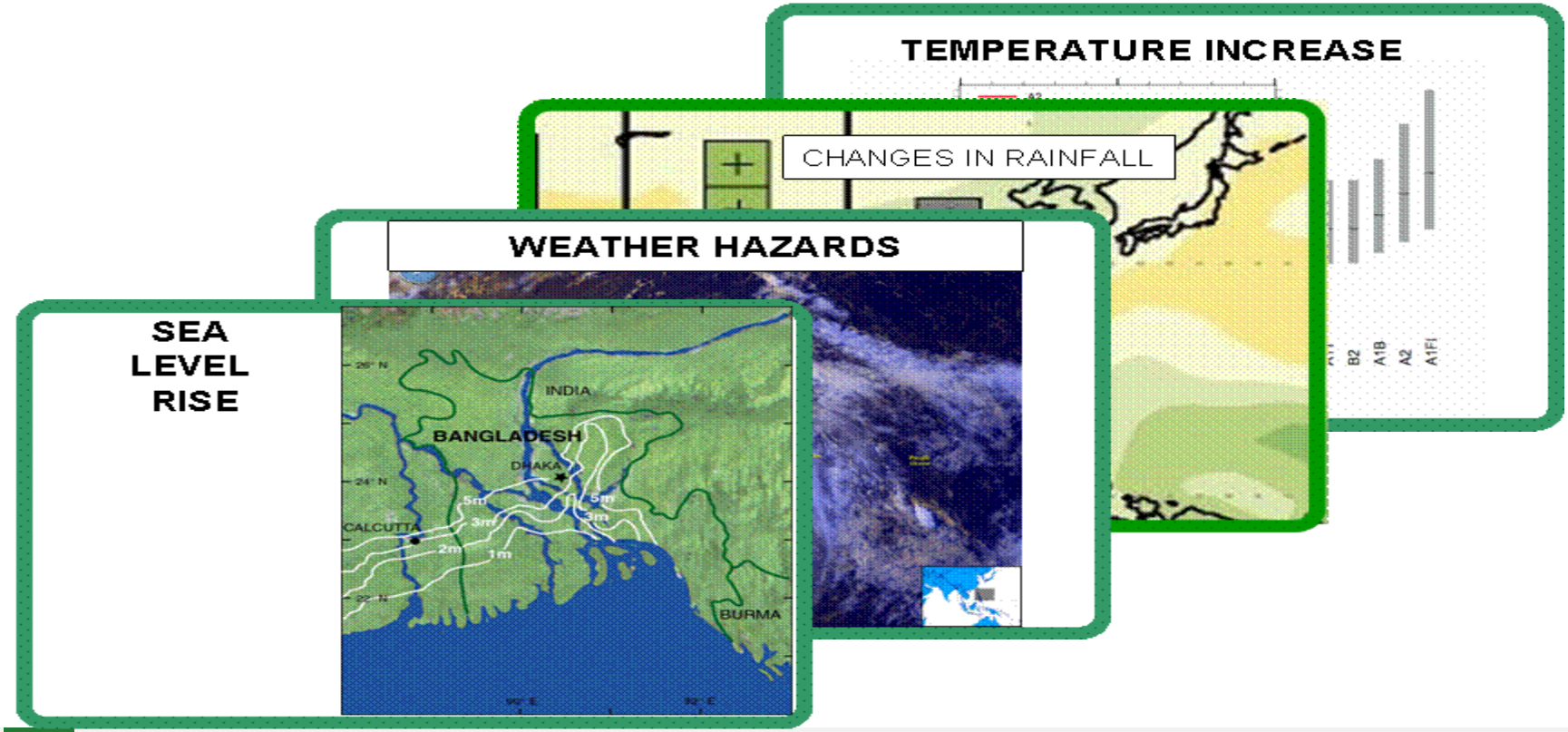
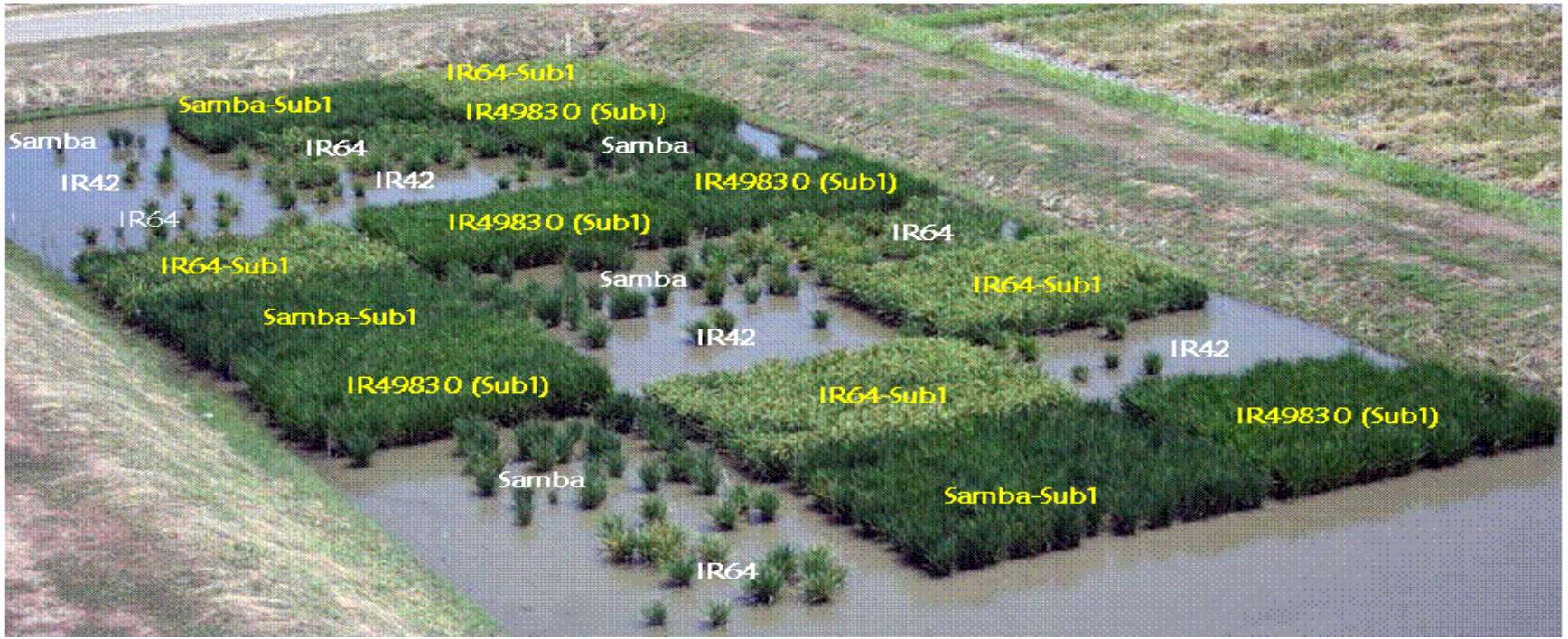
- **National and r**egional governments at frequencies matching national reporting requirements
- **Rice advisory based on integrated remote sensing and other ICTs**
- **Traders and Millers** with sufficient lead time, i.e. 60 or 30 days before harvest
- **Disaster response** : details & frequency as needed
- **Loss assessment** (abiotic and biotic stress)
- **Insurance providers** at local level and timely compensation

Climate change effects relevant for rice production



Stress tolerant varieties: Submergence

New Sub1 varieties after 17 days submergence



Conclusions

- Build on existing policy success : SFLF
  - Spillover to Thailand, Cambodia, Myanmar
- Domestic consumer demand for sustainably-produced rice
  - Mainly driven by food safety concerns
- Transaction costs may hamper adoption of sustainable production standards/ technologies
  - Often institutional bottlenecks not hard ware technology
  - Look at governance structure, coordination, institutional upgrading, empowering others
  - Costing matters, no free good → assess incentive structure

Thank You !