



# ***Transforming rice value chains: The Sustainable Rice Platform***

**Dr. Wyn Ellis**  
**Coordinator, Sustainable Rice Platform**  
**UN Environment Asia Pacific**



# Applying an Integrated Approach: THE SUSTAINABLE RICE PLATFORM

	Activities	Multi-disciplinary partners	Cross-cutting issues GENDER, HUMAN RIGHTS AND PRIVATE SECTOR
SDG 1 POVERTY	Promoting adoption of pro-poor innovative technologies among rice smallholders to enhance livelihoods	<ul style="list-style-type: none"> <li>• 61 institutional members</li> <li>• 10 public sector/research</li> <li>• Inter-governmental</li> <li>• 30 private sector supply chain actors</li> <li>• CSO/CBOs</li> </ul>	<ul style="list-style-type: none"> <li>• Technologies and Standard development (SDG17)</li> <li>• Multi-stakeholder partnerships (SDG17)</li> <li>• Sustainable business practices and reporting” (SDG12)</li> <li>• Hunger (SDG 2.1; 2.2)</li> <li>• Gender equality among rice farmers (SDG 5.1)</li> <li>• Enhance food security and nutrition, focused on smallholders, women farmers (SDG 2.3, 5.1), and agricultural coops/farmers’ networks (2.1,2.2)</li> </ul>
SDG 2 HUNGER/FOOD SECURITY	Introducing climate-smart best practice for rice production for food security		
	Ensuring gender empowerment through Rice Sustainability Standard	<ul style="list-style-type: none"> <li>• Ministry of Agriculture and Cooperatives, Thailand (MOA)</li> </ul>	
SDG 5 GENDER	Collaborating with financial sector to introduce Standards-based financial services for smallholders	<ul style="list-style-type: none"> <li>• FairTrade (EU)</li> </ul>	
SDG 12 SCP	Promoting resource-efficient rice production, sustainable procurement and consumer awareness	<ul style="list-style-type: none"> <li>• Mars Food</li> <li>• Olam International</li> </ul>	
SDG 13 CLIMATE	Introduce innovative technologies to mitigate rice sector emissions, while promoting farm-level resilience to CC impacts	<ul style="list-style-type: none"> <li>• Prime Agri Technologies (Myanmar)</li> </ul>	
SDG 15 BIODIVERSITY	Protecting biodiversity through a systems/landscape approach and through adoption of integrated approaches to pest and nutrient management	<ul style="list-style-type: none"> <li>• WWF, Helvetas (Pakistan)</li> <li>• FAO, IFC, UN Environment</li> </ul>	



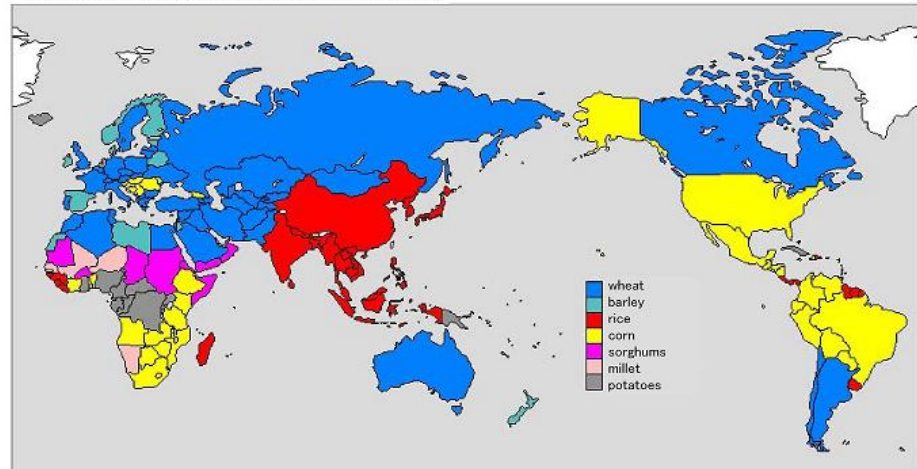
# The world eats rice: about 480 m MT per year



- 19% of global per capita caloric intake
- 47% of SE Asia per cap caloric intake
- 29% for all Asia
- Staple diet for 50% of the world
- Asia dominates global population: Africa accounts for 30% of rice export growth since 1990 and is expected to be the next source of pop growth
- Due to its size and cultural appeal rice is not substitutable on a large scale

Source: Olam Rice

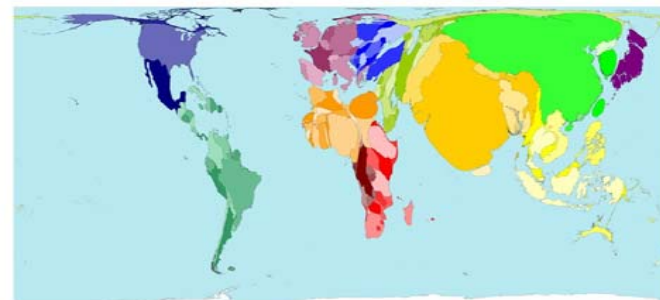
The main crops in every country in the world



(note) Grain with the maximum harvested area in every country in the world was shown. (2004)  
The United States etc. are the one even if corn is 1st place for export. Barley is the main for fodder.  
The staple food of the country is not necessarily shown.

(source) FAOSTAT

## Total Population



The size of each territory shows the relative proportion of the world's population living there.



[www.worldmapper.org](http://www.worldmapper.org)

UNIVERSITY OF SHEFFIELD



## Rice: meeting future demand



“For every 1 billion people added to the global population, an additional 100 million tons of rice needs to be produced every year.”

*Source: IRRI*





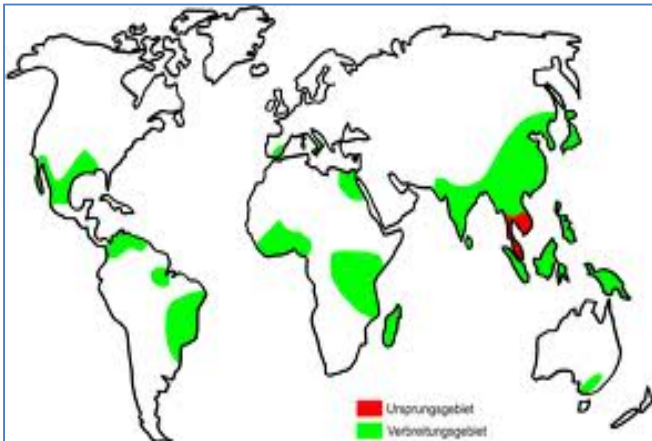
## Production challenges: Rising demand, falling productivity



- Slowing growth in production
- Diminishing marginal returns to inputs such as N and P
- Loss of agricultural land (degradation, conversion, urbanization)
- Competition for production factors
- Rising energy and fertilizer prices
- Climate change - 2050 rice yields will decline up to 20% compared with 2000 (IFPRI/ADB, 2009).



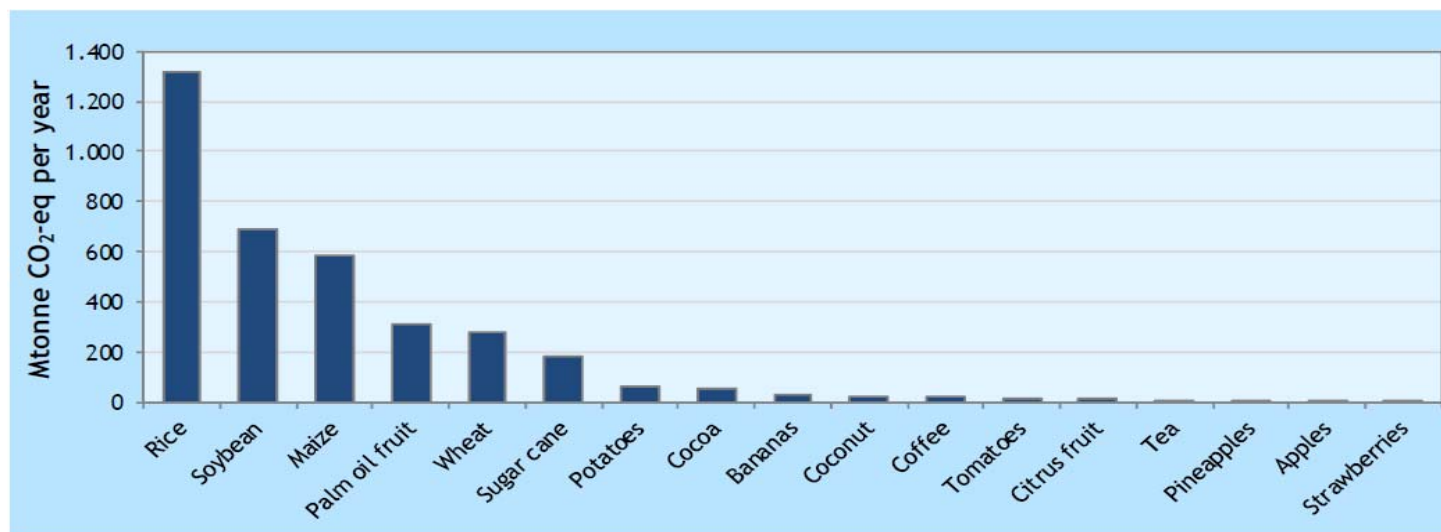
# Rice sustainability challenges



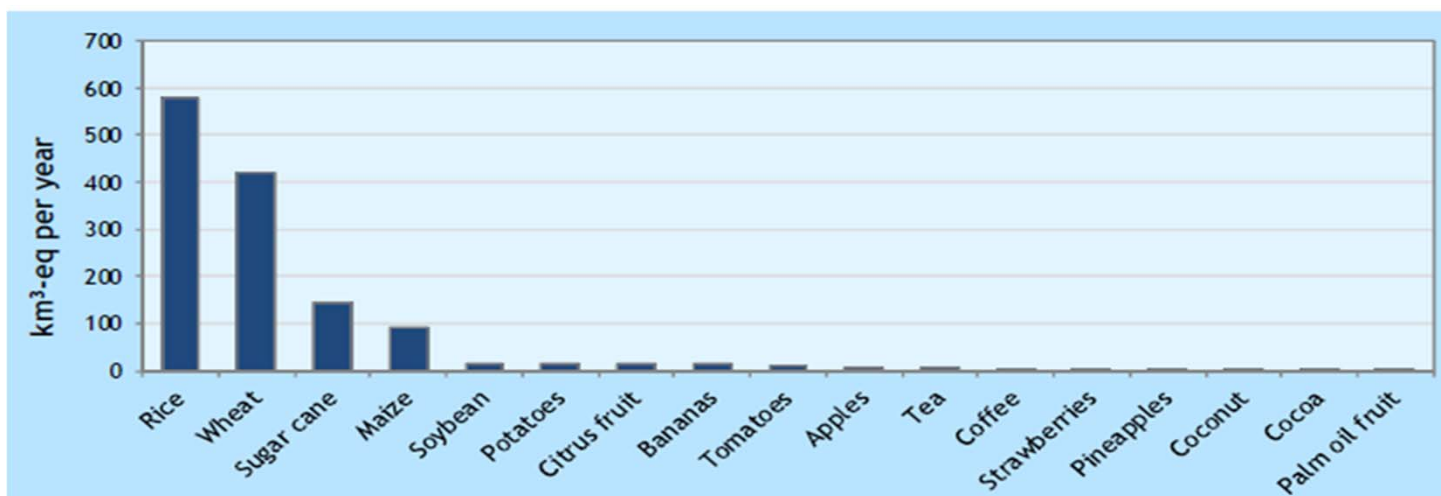
- Resource use efficiency (land, water, agrochemicals, labour);
- GHG emissions ( $\text{CH}_4$ ,  $\text{N}_2\text{O}$ ,  $\text{CO}_2$ );
- Impacts on ecosystem services;
- Soil impacts (e.g. salinization, arsenic, organic matter);
- Disease impacts (e.g. water-borne pathogens);
- Climate change impacts



## Annual global GHG footprint per commodity:



## Annual global water scarcity footprint per commodity:



Source: Oxfam, 2016





Pesticide use: 0.4-3.8 kg a.i./ha



Ecological breakdown



BPH outbreaks



Virus diseases



Hopper burn

*China, Thailand, Vietnam, Korea, Japan,...*





## Fertilizer N use: from 25 to >250 kg/ha/season



Too little...



Too much...



The background of the slide is an aerial photograph of a lush green landscape featuring a patchwork of rectangular rice paddy fields, some of which are flooded. In the center of the slide, there is a rectangular inset photograph showing two Black-necked Stilts standing in tall green grass. These birds have long, dark bills, white bodies with black wings, and long, red legs. The text "Rice fields represent 15% of the world's wetlands" is written in yellow on a black background in the upper right corner.

**Rice fields represent 15%  
of the world's wetlands**

**Irrigated rice fields are the richest agro-ecosystems for  
waterbirds (*van der Weiden et al., 2010*)**



## Proven climate-smart technologies



- Site-specific nutrient management (SSNM)
- Alternate wetting and drying (AWD)
- Integrated Crop Management (ICM)
- Integrated Pest Management (IPM)
- Resource-Conserving Technologies (RCT)
- ICT- GIS applications



## Mobilizing the rice value chain



**We need.....**

A credible, robust and feasible  
'standard' or 'sustainability toolkit'  
available for farmers, that serves to  
define sustainability in rice and  
provide a normative framework for  
policymaking

A mechanism for passing benefits  
through the value chain and drive  
widespread adoption







# The Sustainable Rice Platform



**Goal: 1 million farmers adopt climate-smart sustainable best practices within 5 years (2016-2021)**

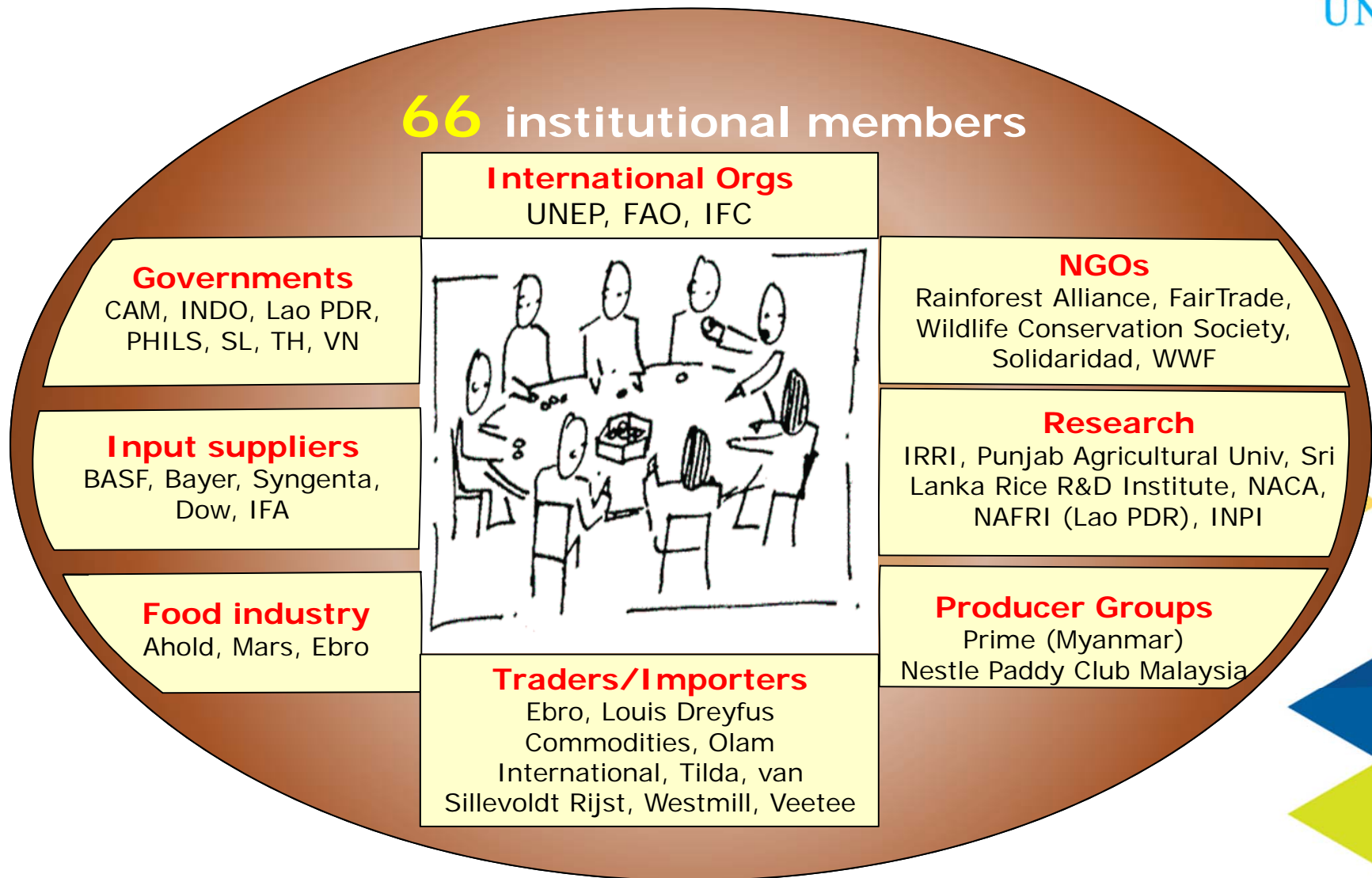




# A global multi-stakeholder partnership to drive impact



## 66 institutional members

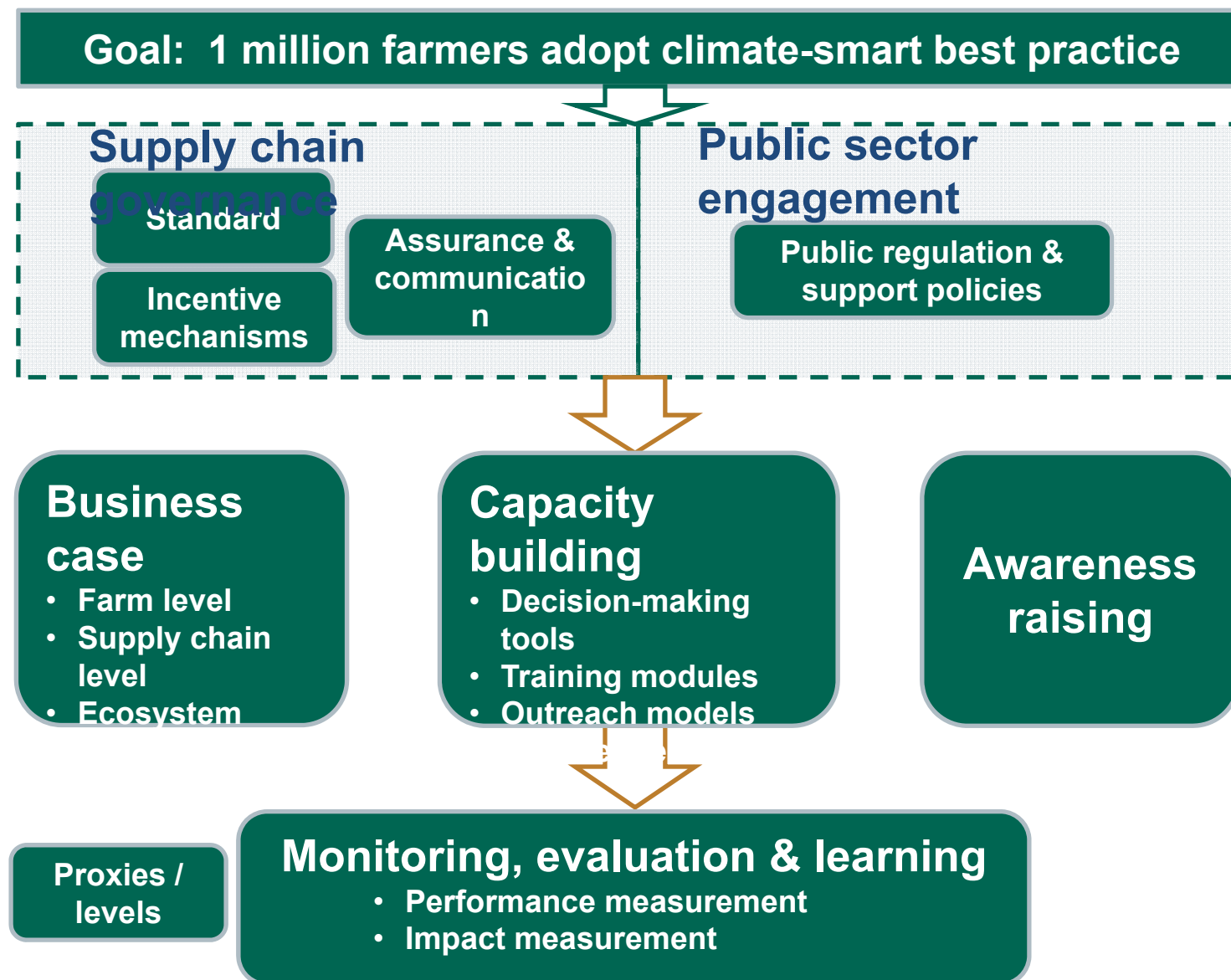


# SRP institutional members





## The building blocks...



# Driving best practice: the SRP Standard and Performance Indicators



**Distribution:** Members' Area of SRP website (brochure format also available)

**Translation:** Vietnamese, Thai, Khmer, French

**Supported by SRP data collection and aggregation tools**

**Communication and Assurance Guidelines for Pilot Phase**

**Training materials**



# SRP: World's first rice sustainability standard



The Standard covers the following 8 themes:



Water use



Nutrient management



Pre-planting



Health & safety



Harvest & post-harvest



Farm management



Labour rights

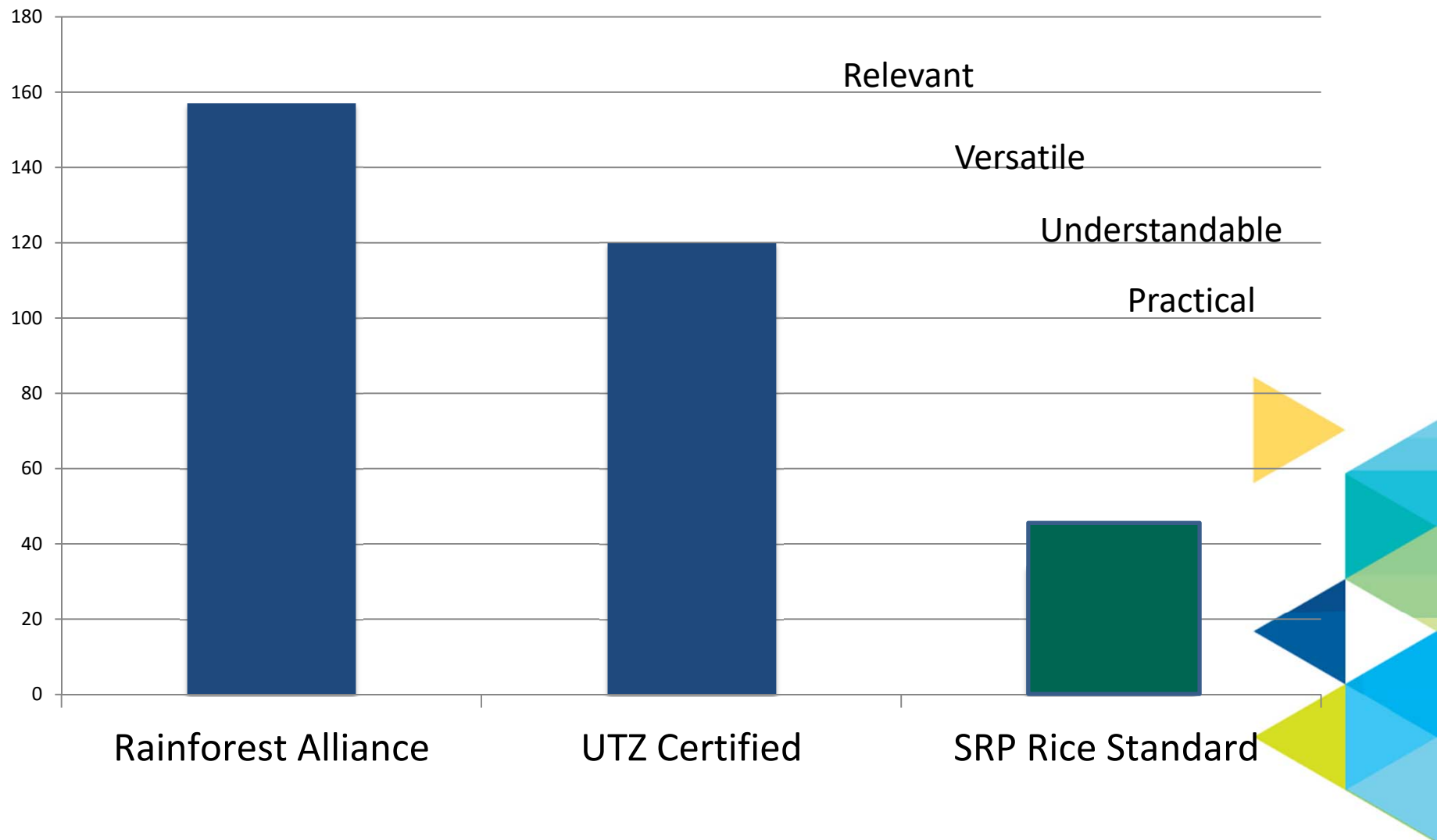


Pest management

Photos: image collection of the International Rice Research Institute (IRRI)



## A compact standard





# SRP Standard and Indicators:

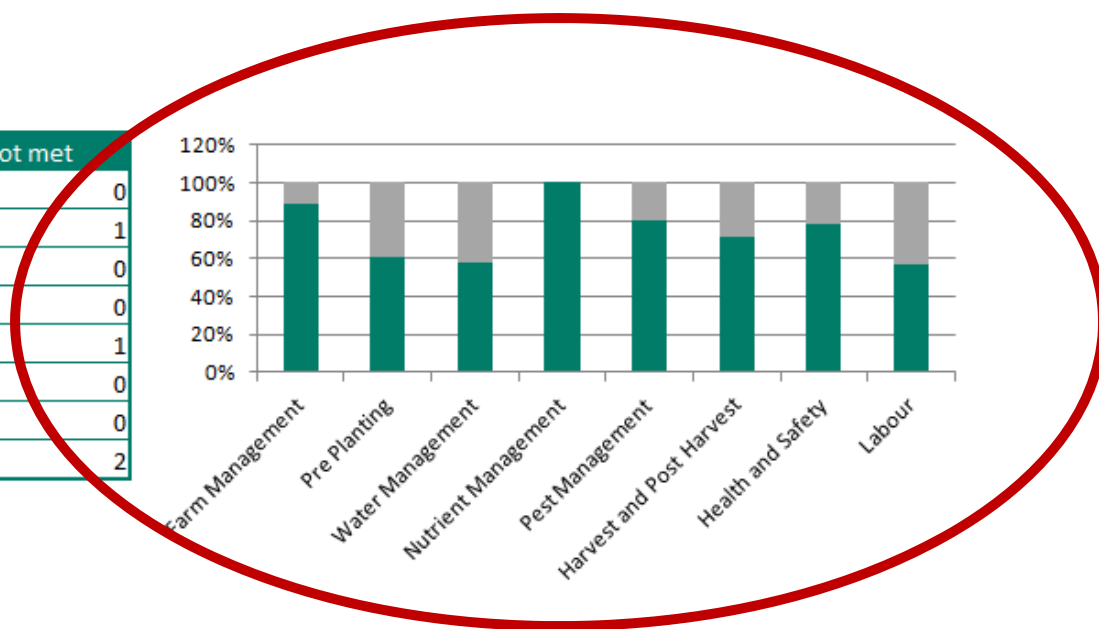
## Measure the sustainability of any rice system

Total score on standard		
Score on standard	73	Points
Missed Thresholds	4	Requirements

### Chapter

= your score

Chapter	Score	Thresholds not met
Farm Management	89%	0
Pre Planting	61%	1
Water Management	58%	0
Nutrient Management	100%	0
Pest Management	80%	1
Harvest and Post Harvest	71%	0
Health and Safety	78%	0
Labour	57%	2



SRP data collection tools

# SRP development trajectory



**START – UP**  
2011- 2014

Standard  
development

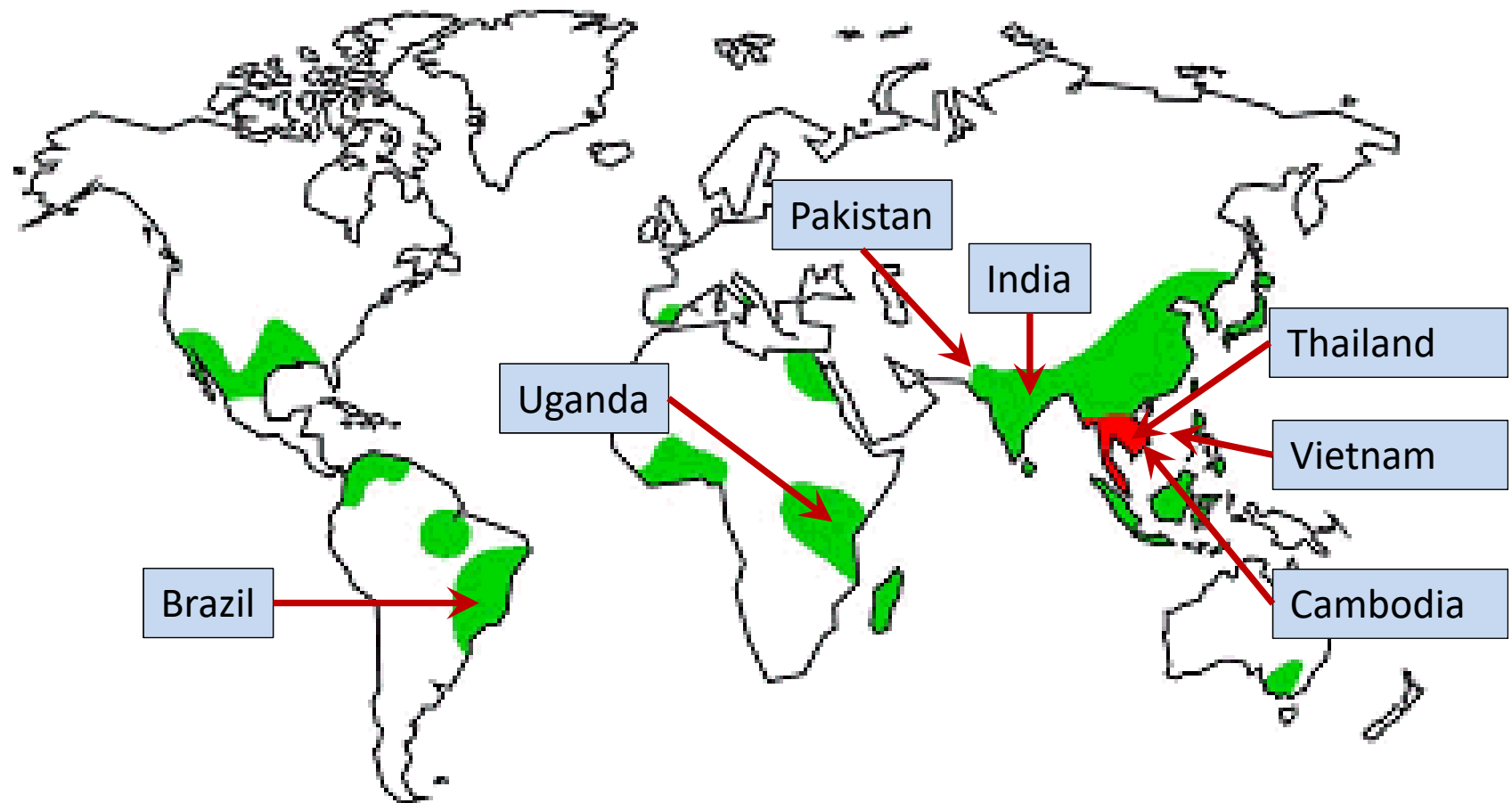
**PROOF OF  
CONCEPT**  
2015-16

Piloting and  
Implementation

**UPSCALING**  
2017 - BEYOND

Roll out-  
**Assurance**  
**Upscaling**  
**Policy dialogue**

# Multi-country field validation programme



Total Y1: <5,000 ha

Total Y2: ~20,000 ha

# Pilot outcomes to date: Pakistan

Pakistan - sustainable farming

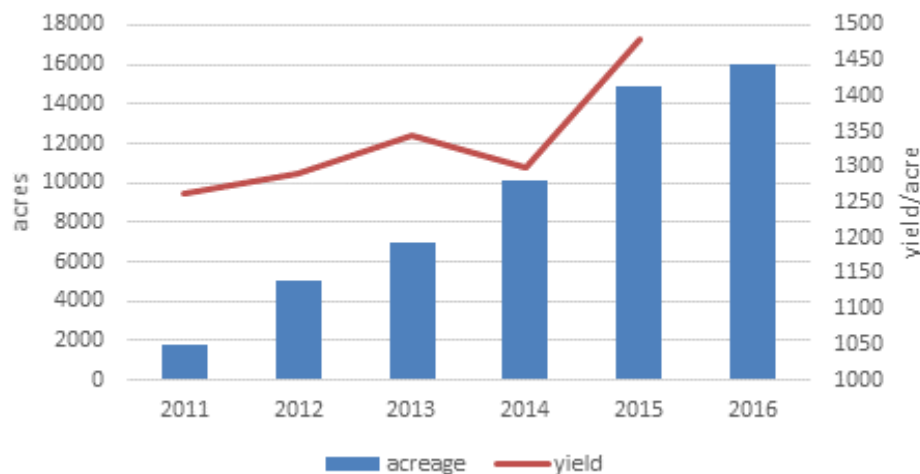


From  
**0% to 92%**  
Quality  
Compliance



RICE PARTNERS

Pakistan - sustainable farming



**17%**  
Yield  
Improvement

**BETTER FOOD  
TODAY.**



**A BETTER WORLD  
TOMORROW.**



# Pilot outcomes to date: Vietnam

Economic efficiency within and outside 2016 Summer-Autumn crop (VND)

Category	SRP	Non-SRP
Total expenses/ha	15,784,347	17,344,850
- Seeding	1,836,524	1,664,707
- Soil working	1,571,165	1,500,565
- Water pumping	1,188,360	1,219,327
- Care	1,714,496	1,895,032
- Harvest	1,769,458	1,733,058
- Fertilizer	4,179,950	4,444,967
- Plant protection chemicals	3,524,394	4,887,195
Total revenue/ha	27,255,358	27,103,600
- Productivity (MT/ha)	5,119	5,089
- Selling price (VND/kg)	5,324	5,326
Profit/ha	11,391,009	9,638,506
Cost per kg	3,083	3,408

*N = 150 farmers*

*Source: Loc Troi Group, An Giang, Vietnam*







## Key messages:

- Transformation of rice value chains will be key to developing a sustainable food system, for which the Standard serves as a foundation
- Proven technologies are available to enhance resource use efficiency and mitigate climate impacts in rice
- Effective incentive mechanisms and farmer outreach are key to adoption of sustainable best practices

## However....

- Only a collaborative, scaled-up response can we reach our goal



# Get updated



[Facebook.com/SustainableRicePlatform](https://www.facebook.com/SustainableRicePlatform)



[@UNEPAsiaPacific;](https://twitter.com/UNEPAsiaPacific)  
[#sustainableRice](https://twitter.com/UNEPAsiaPacific)



[www.unep.org/roap](http://www.unep.org/roap)  
[www.sustainableRice.org](http://www.sustainableRice.org)





Thank you!

