



CLIMATE SMART AGRICULTURE

INCLUSIVE RICE LANDSCAPES

THEMATIC SESSION UNDER TEM-M 2017:

PRIVATE SECTOR ENGAGEMENT

ATTRACTING PRIVATE SECTOR INVESTORS AND BUSINESS

SOLUTIONS FOR AMBITIOUS MITIGATION ACTIONS IN LAND USE

Bonn, 11 May 2017

WHAT IS CLIMATE-SMART AGRICULTURE?

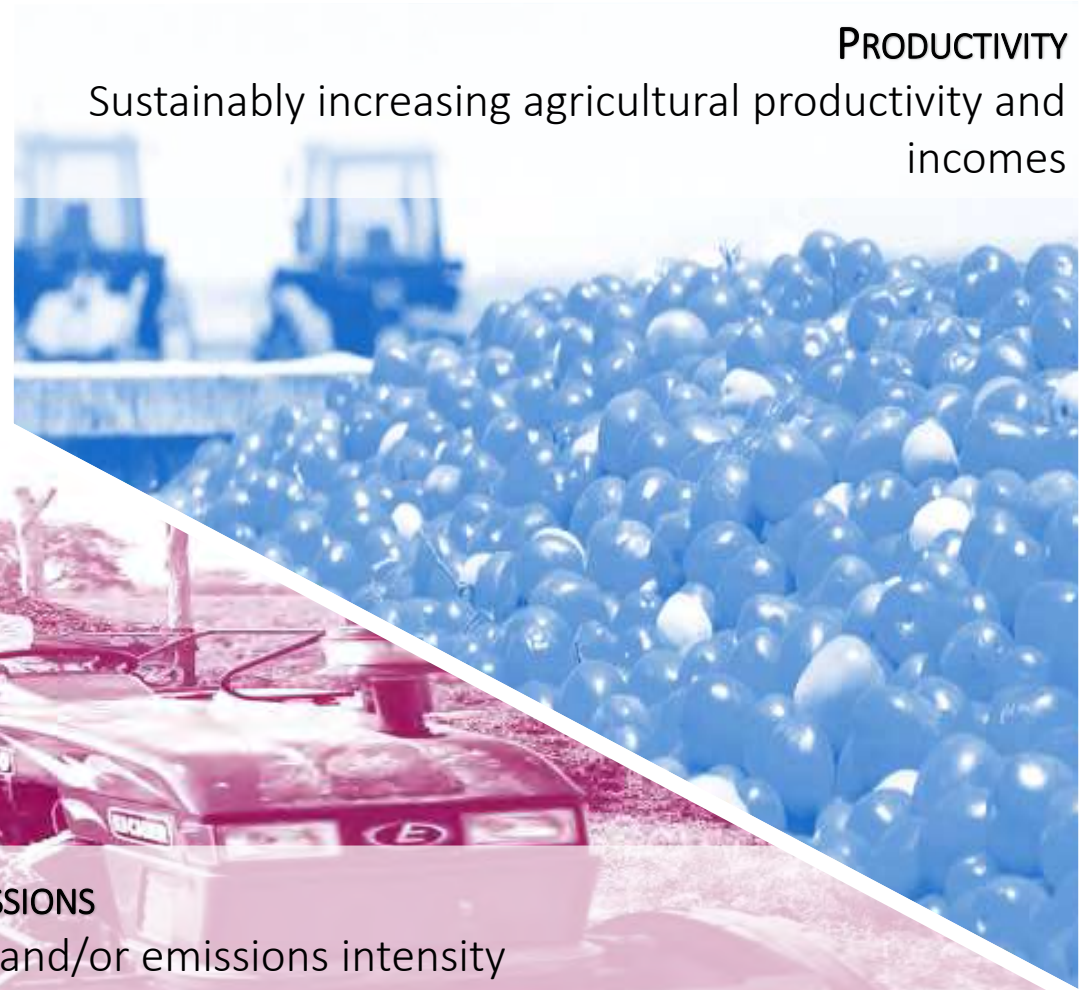
RESILIENCE

Adapting and building resilience to climate change



PRODUCTIVITY

Sustainably increasing agricultural productivity and incomes



EMISSIONS

Lowering GHG emissions and/or emissions intensity



Source: FAO (2013) *Climate Smart Agriculture Sourcebook*



OUR STATEMENT OF AMBITION



Make 50% more food available
and strengthen the climate
resilience of farming
communities



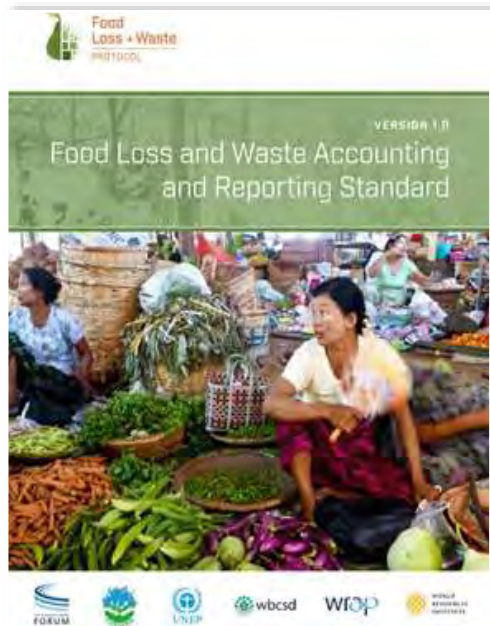
**Reduce agricultural and land-use
change emissions from commercial
agriculture**

- By at least 3.7 Gt CO₂ eq/yr by 2030 (50%).
- By 2050: achieve a 65% emissions reduction.

“MAKING 50% MORE FOOD AVAILABLE” ≠ “PRODUCING 50% MORE FOOD”

Food Loss and Waste Accounting and Reporting Standard

WBCSD contributed to the creation of the Food Loss and Waste Accounting and Reporting Standard



<http://flwprotocol.org/>

Champions 12.3

Peter Bakker, President & CEO of WBCSD is a Champion 12.3, a unique coalition of executives from governments, businesses, international organizations, research institutions, and civil society dedicated to inspiring ambition, mobilizing action, and accelerating progress toward achieving SDG Target 12.3 –

“By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses”



<https://champions123.org/>

CLIMATE SMART AGRICULTURE WORKING GROUP AROUND THE WORLD



PARTNERSHIPS

Our current partners
in CSA



WORLD BANK GROUP



GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

CSA PRIORITY ACTION AREAS



AA1:
BUILDING SMALLHOLDER/FAMILY FARMERS' RESILIENCE



AA2:
SCALING-UP INVESTMENT IN CSA



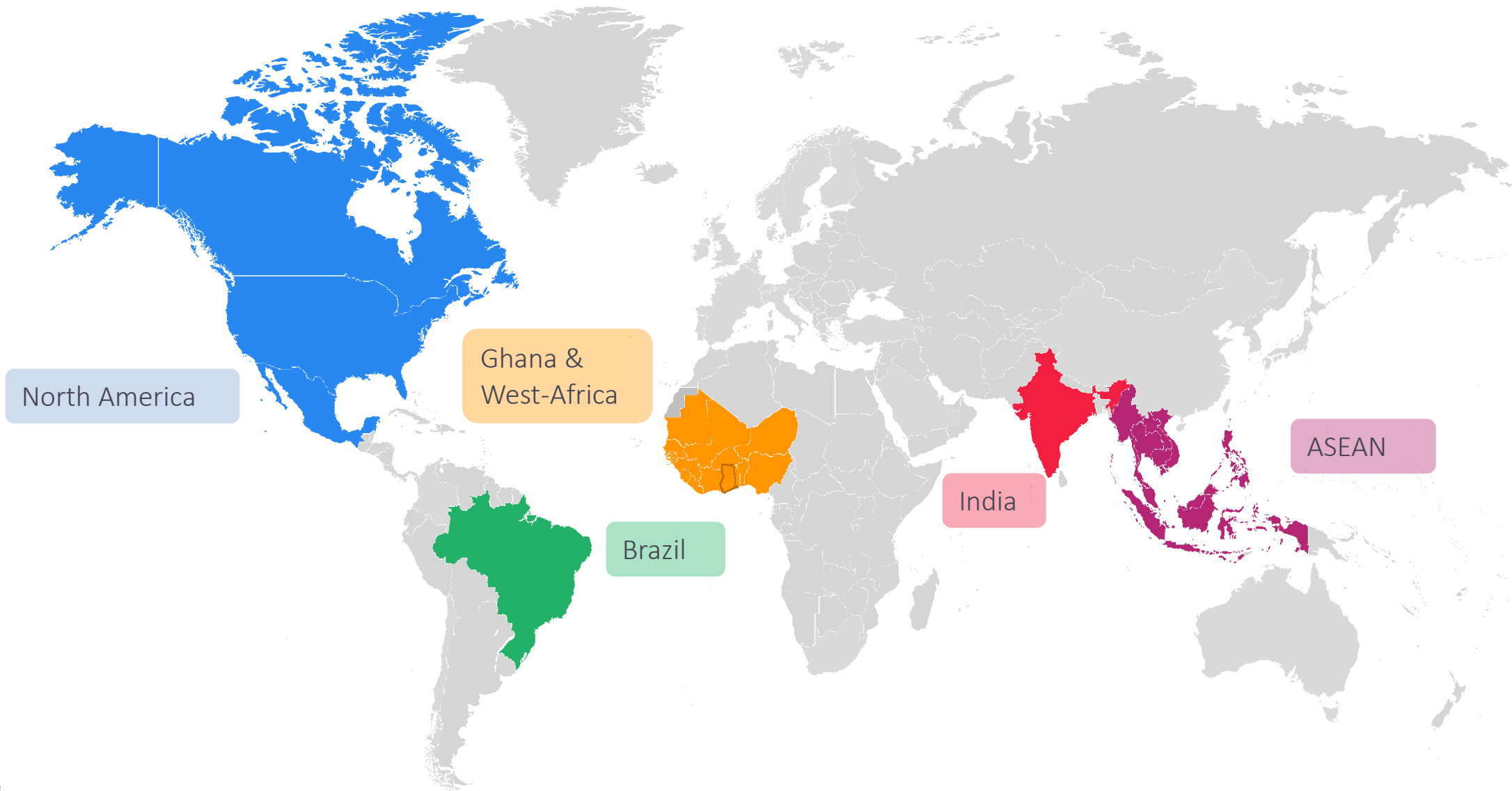
AA3:
IMPROVING BUSINESSES' ABILITY TO TRACE, MEASURE AND MONITOR CSA
PROGRESS



AA4:
IMPLEMENTING AGRICULTURE-DRIVEN ZERO DEFORESTATION AND
SUSTAINABLE LAND-USE COMMITMENTS



CSA ROAD TEST REGIONS



The first economic sector impacted by climate change

Crop yields drop by 2050 under BAU:

- Maize 16%
- Rice 21%
- Wheat 42%
- Coffee 50%

Effects of Climate Change on Global Food Production



Projected Maize Yield Change in %
1970-2000 Baseline to 2050, SRES A1F Scenario



Copyright 2010, The Trustees of Columbia University in the City of New York
Susan Solomon, A., and C. Pringle, 2010. Effects of Climate Change
on Global Food Production. Data version 2.0
<http://media.ciesin.columbia.edu/nyuimages/usa/>
Revision Date: March 2010.

This map is for illustrative purposes and does not imply the expression of any opinion on the
part of the co-authors, CIESIN, or their sponsors concerning the legal status of any country
or territory or concerning the delimitation of frontiers or boundaries.



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- The most important human food, eaten by more than half of the world's population everyday
- **90% of rice is consumed in Asia**, rice security, is equivalent to food security
- Rice is responsible for up to **10% of global methane emissions** (in country emissions are around 20% of national emissions)

- 
- Rice is the daily **staple for** more than **3.5 billion** people, accounting for **19% of dietary energy** globally
 - Rice provides **livelihoods** for over **1 billion** people
 - Rice is produced on **160 million hectares**, mostly by **144 million smallholders**
 - Rice uses **34-43%** of the world's **irrigation** water for production
 - Rice fields represent **15% of the world's wetlands**

Importance of rice food systems & rice landscapes

- “Rice-producing Asia” - 91% of world rice production and a net exporter of rice to the rest of the world

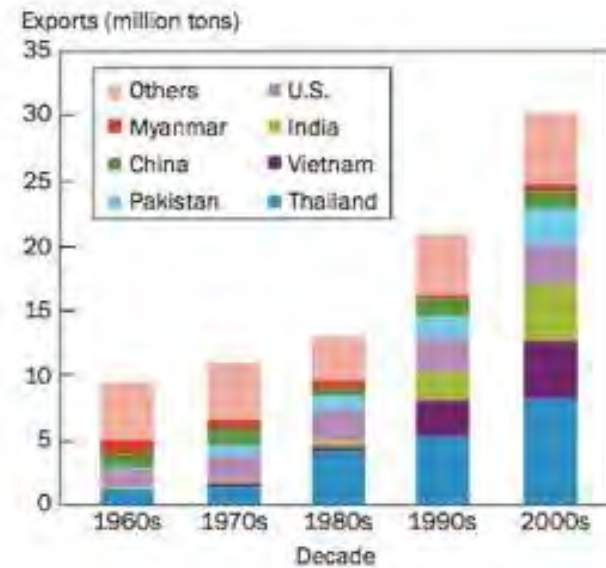


Fig. 3.7. Rice exports (million tons) by country, 1960 to 2009. Source: USDA data.

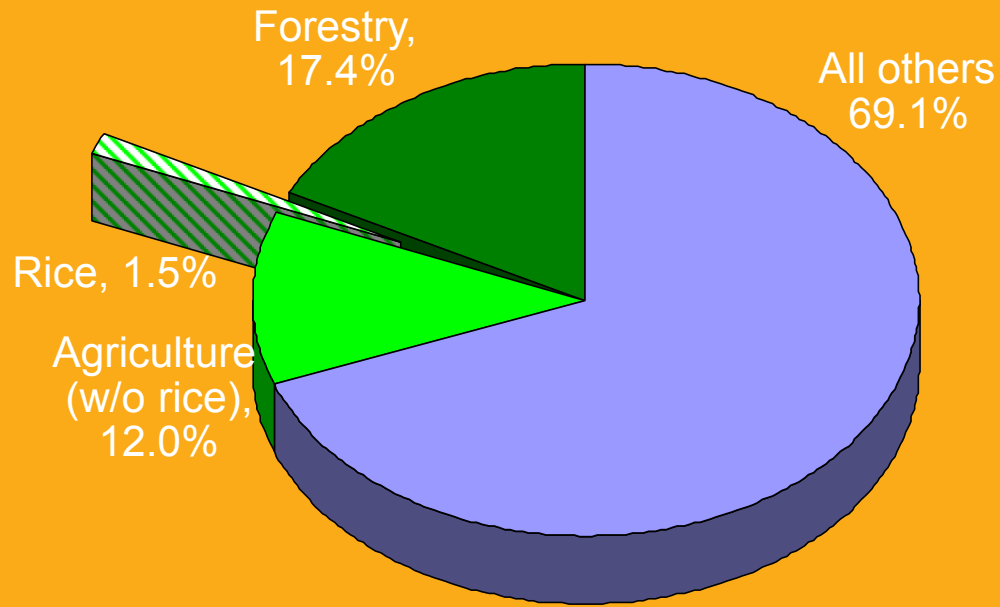
- Rice research has provided 75% of the rice varieties now grown and increased potential yields from 4 to 10+ t/ha/crop



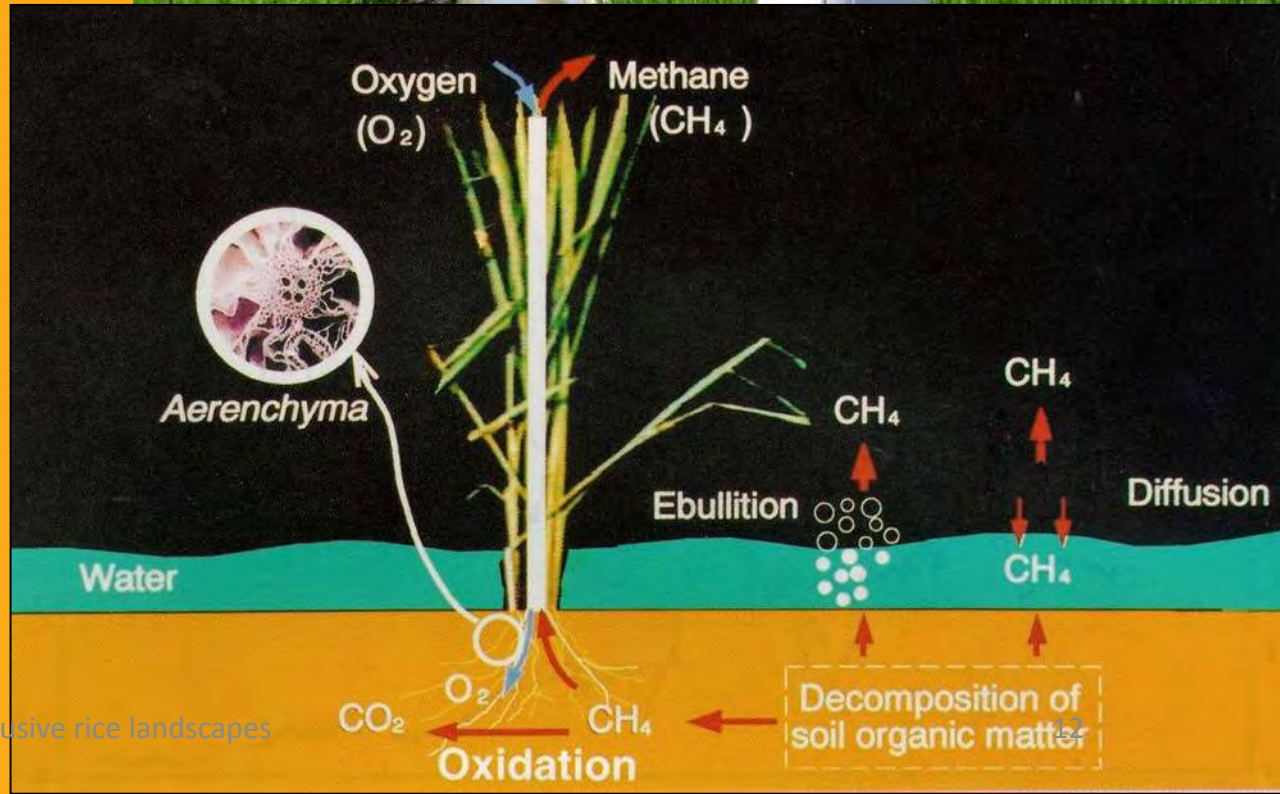
Economic importance of rice food systems

GHG emissions from rice fields

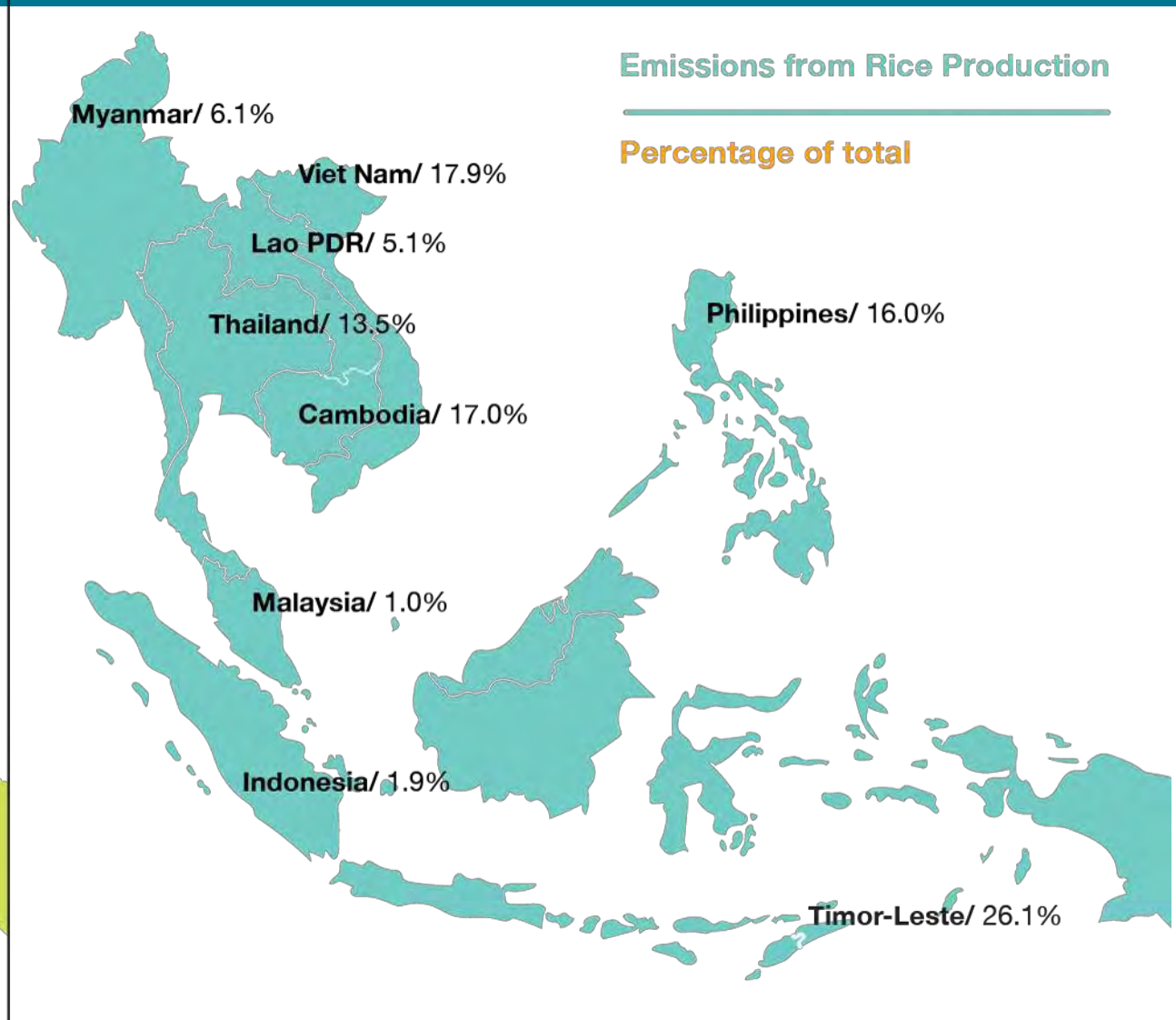
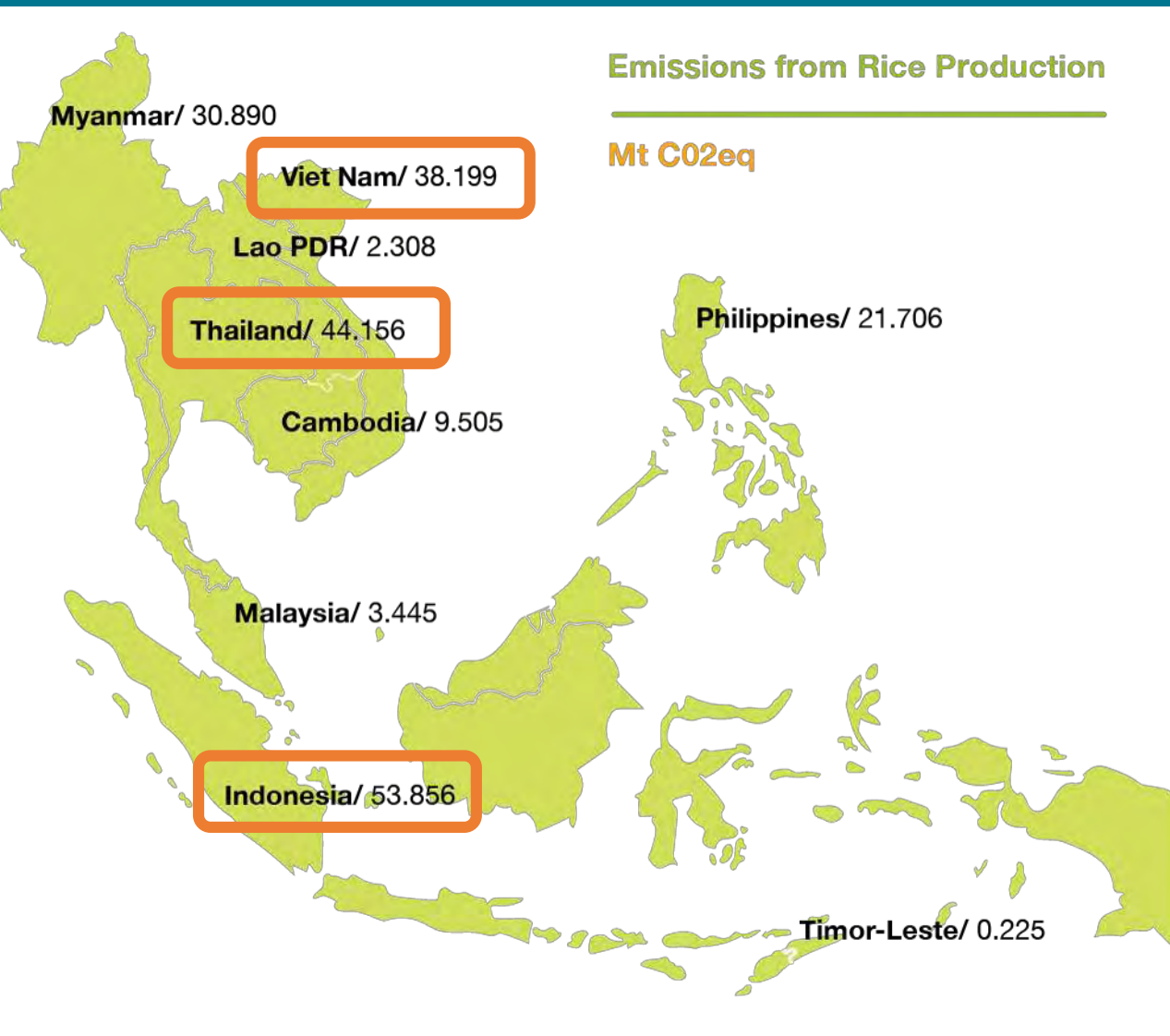
Mostly methane - 21 CO₂eq



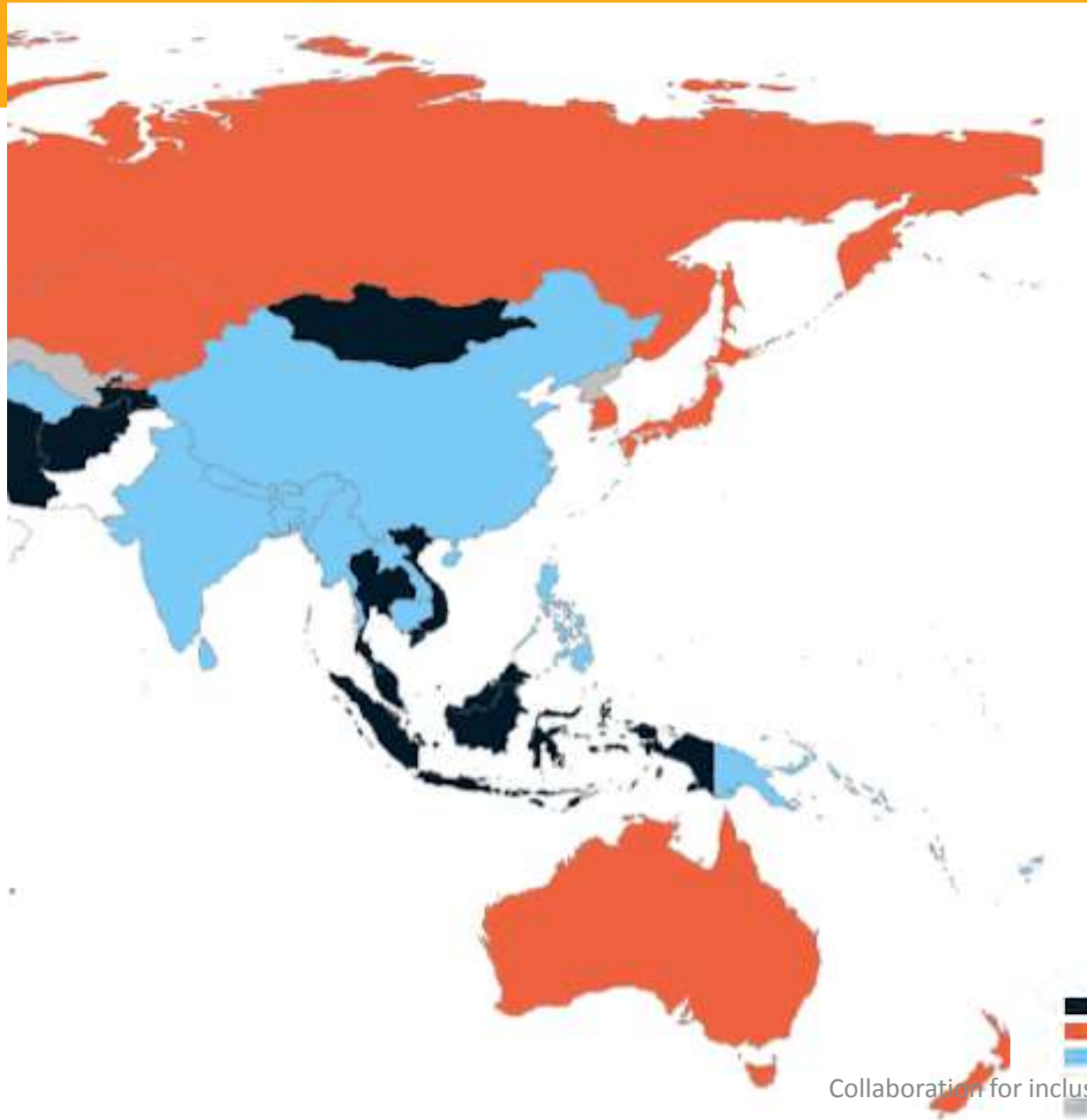
(IPCC 4th AR, 2007)



GHG emissions from rice in South East Asia



Mitigation from and adaptation of agriculture reflected in INDCs



Discussing INDCs improvement with country representatives at SBSTA44 in Bonn

Collaboration for inclusive rice landscapes

Agriculture in the INDCs

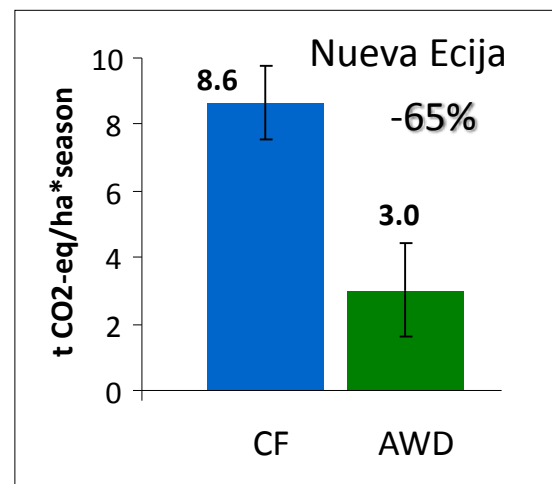
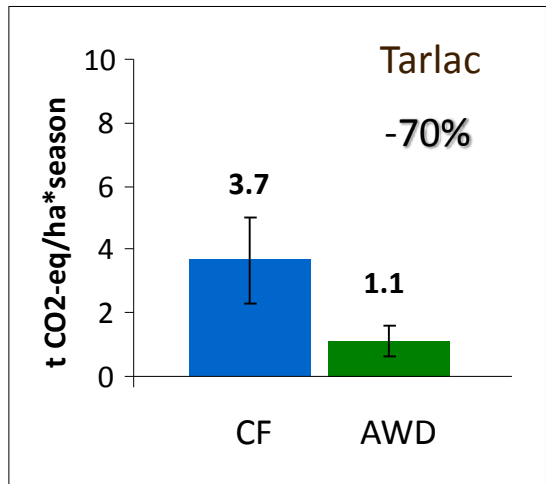
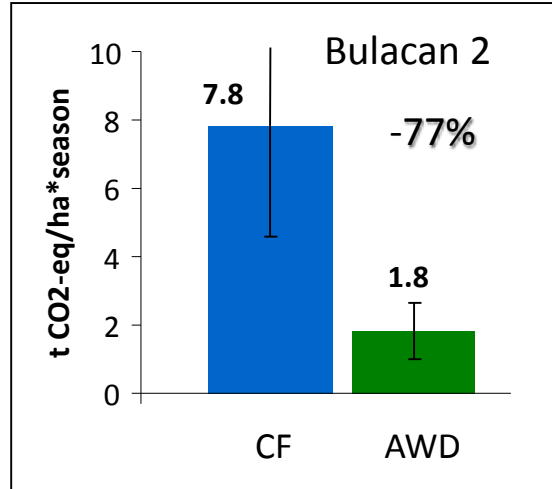
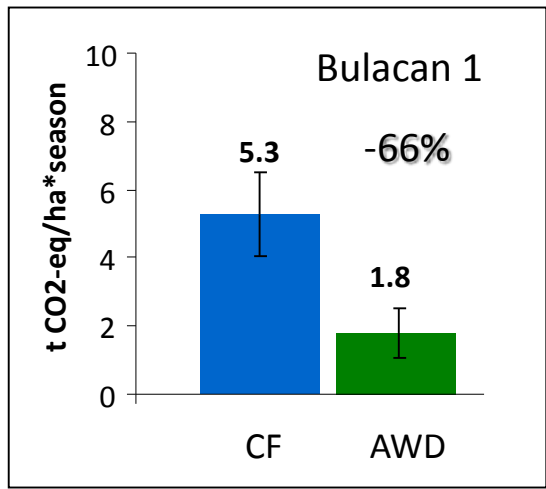
- Mitigation target and adaptation priorities include agriculture
- Mitigation target includes agriculture
- Adaptation priorities include agriculture
- No agriculture in INDC
- No INDC



RESEARCH PROGRAM ON
**Climate Change,
Agriculture and
Food Security** 14



Mitigation potential of AWD: Results from farmers' fields



Sander et al., manuscript in preparation

Assessment of co-benefits of AWD-CCAFS Project

Better root development = Higher nutrient uptake

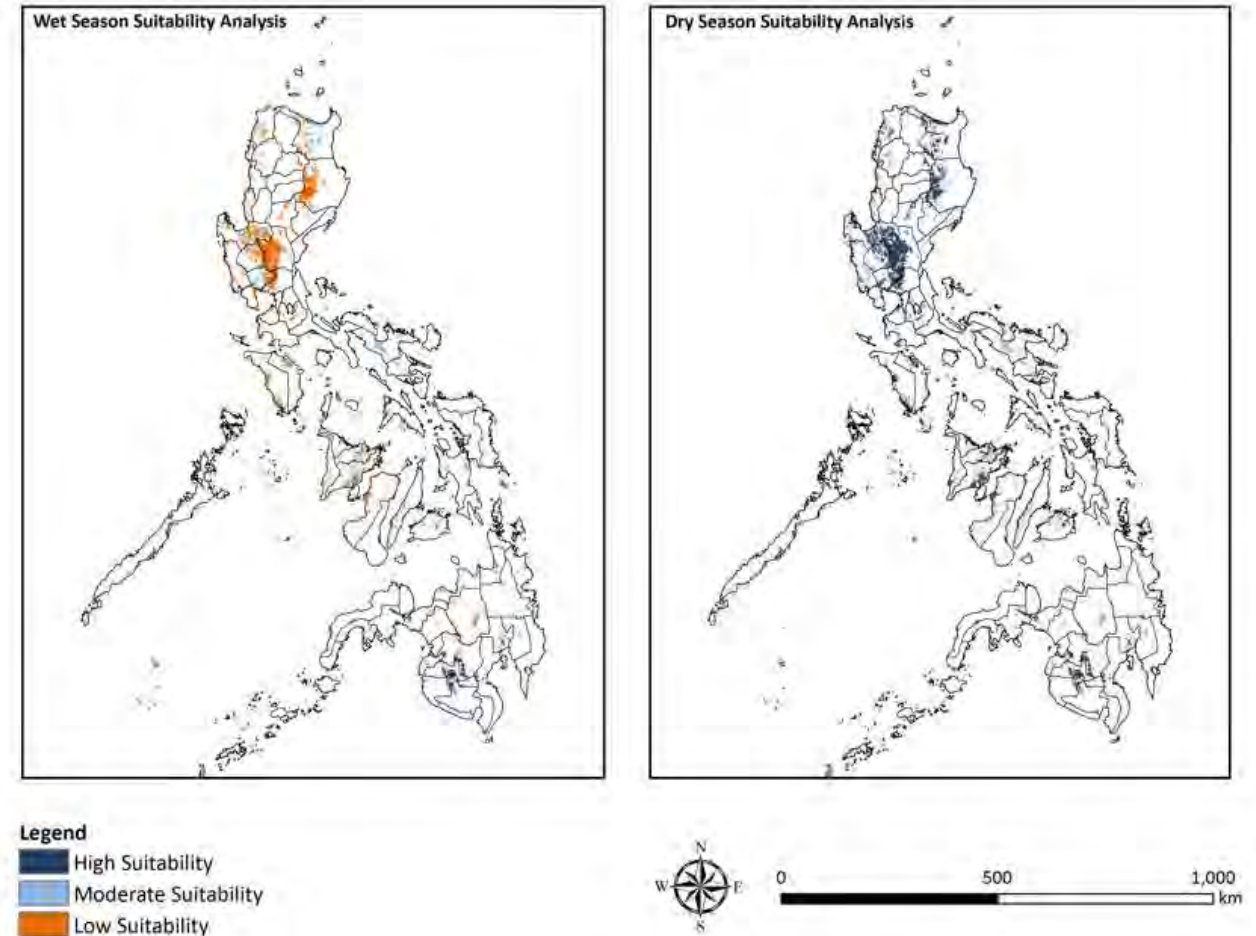
Shorter internodes = Higher lodging resistance

Reduced pests (eg brown planthopper) = Less pesticide use



Climatic AWD suitability mapping

- Based on cropping calendar, rice extent and water balance
- Considering biophysical factors only
- Further improvement/ongoing research on salinity, flooding, irrigation, pests (rats, leptospirosis)
- Expansion of suitability maps to Vietnam & Bangladesh (under revision by countries)



Assessment Philippines: Sander et al., 2017



RESEARCH PROGRAM ON
Climate Change,
Agriculture and
Food Security



CLIMATE &
CLEAN AIR
COALITION
TO REDUCE SHORT-LIVED
CLIMATE POLLUTANTS



CONCEPT NOTE – PARTNERS AND ROLES

- Members from ASEAN BCSDS : Vietnam, Indonesia, Thailand, Singapore, Philippines
- GACSA member: The [ASEAN CRN](#)
- WBCSD members: Kellogg Company, Olam, Mitsubishi, Rabo Bank, Du Pont, Dow, Yara, Monsanto, BASF, Syngenta, Bunge, Cargill, Louis Dreyfus, CP Foods, PepsiCo, Coca-Cola, Bayer, DSM, ADM, UPL, Tata, Jain, Bunge, Unilever, PwC
- Non-members: Mars
- Research organisations: CCAFS, IRRI and the Global Research Alliance
- Aid and donor agencies: World Bank and Asian Development Bank, IFC, bilateral agencies including JBIC, DFAT, US AID.
- Implementing Agencies: UN Environment, GIZ
- NGOs



CSA ROAD TEST REGIONS - ASEAN



- Focus
 - Key commodities: rice
 - water
 - landscape approaches,
 - deforestation free supply chains
 - women's empowerment and gender equity
 - disaster risk management and climate change adaptation
- Partnership
 - four Global Network Partners in the region
- Working group meeting
 - Singapore, Sept 2016
 - Responsible Business Forum Jakarta 13 March 2017



CSA ROAD TEST REGIONS - BRAZIL



- Focus

- deforestation free supply chains
- linking forests and agriculture
- soil carbon sequestration
- sustainable intensification

- Meetings

- Sustainable Intensification Forum - Oct 26 2016, Rio de Janeiro
- March 2017



cebds

Brazilian Business Council for Sustainable Development (BCSD-Brazil)

CSA ROAD TEST REGIONS – WEST-AFRICA



- Focus:
 - climate change resilience
 - smallholder livelihoods,
 - smallholder training and capacity building
 - trade
 - CSA finance including insurance

- Support from
 - PwC and CCAFS
- Working group meeting
 - Accra, Nov 4

CLIMATE SMART
VALUE CHAINS
INITIATIVE



CSA ROAD TEST REGIONS - INDIA



- Focus:
 - 1. "Water smart agriculture"
 - 2. Smallholder income
- Objectives:
 - 1) To demonstrate collective action in dealing with the pressing challenges of Agriculture in India, with a focus on Water efficiencies and Farmer livelihoods
 - 2) To develop and allow adoption of India Agriculture Tool to help businesses and farming communities make the right decisions on technology application
- Knowledge partner:



India

CSA ROAD TEST REGIONS – NORTH AMERICA



- Working group meetings
 - San Francisco June 2016
 - Phoenix 16 February 2017
- Partnership
 - North American CSA Alliance
 - BSR

• Focus:

- CSA pillar2:
Resilience and farmer income
- Natural resources management
- Continued productivity



Mount Alfred Native Forest Restoration



Mount Alfred Station is a 37,580 ha property located near Wyandra on the west side of the Paroo River, some 750 kilometres west of Brisbane, Australia.



Native forest regeneration from the removal of suppression from grazing.

Native forest restoration projects work to alleviate agricultural suppression such as over grazing or clearing and allow reforestation through balanced stocking:

- well suited to mulga lands of north-western NSW and south-western Qld in Australia
- pastoral properties, currently running cattle or sheep marginal / low value agricultural land
- good potential for carbon sequestration in native mulga forests restoration
- registered under the Emissions Reduction Fund 'human-induced regeneration of a permanent even-aged native forest' method
 - managing timing and extent of grazing
 - feral animal and non-native plant management
 - cessation of mechanical clearing of natural regrowth
- creates Australian Carbon Credit Units (ACCUs) that can be sold into Australian Government Carbon Abatement Contracts

GLOBAL AGRI-BUSINESS ALLIANCE

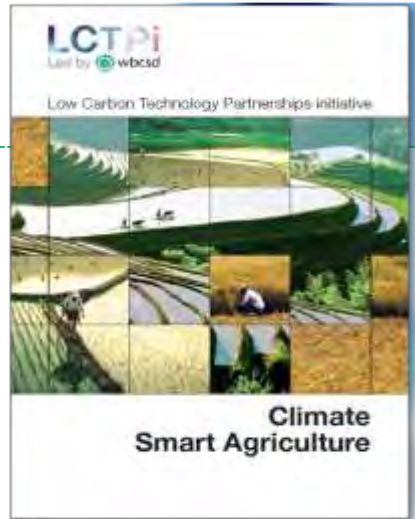
Launched 15th Sept. 2016 at the Building Sustainable Futures Forum in Singapore



PRIVATE SECTOR MEMBERS AT ALL SCALES



CSA LCTPi publications



Action plan



Executive summary



Leadership statement



Working paper

Available at: <http://lctpi.wbcsd.org/reports/>

Other CSA publications - 2016



Available at: <http://wbcsdpublications.org/project/climate-smart-agriculture/>

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FIND OUT MORE

CSA Website

- www.wbcasd.org/Projects/Climate-Smart-Agriculture

CSA Publications

- <http://wbcasdpublications.org/project/climate-smart-agriculture/>

CSA LCTPI

- <http://lctpi.wbcasd.org/reports>

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