Tailoring CSA interventions to national and local contexts: The CSA country profiles in South and Southeast Asia

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CIAT in the Consultative Group for International Agriculture Research (CGIAR System Organization)

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CIAT Global Research: commodities, systems & futures

Agrobiodiversity

- Bean
- Tropical Forages
- Cassava
- Rice
- Genetic Resources

Soils & Landscapes

- Soils Data/Info
- Landscape Management
- Soil Health

Decision & Policy Analysis

- Climate Change
- Linking Farmers to Markets
- Ecosystem Services

Lead CGIAR Center for **Climate Change, Agriculture & Food Security (CCAFS)**

What is CSA…

…is agriculture that sustainably…

Productivity

…increases the **productivity** and agricultural **incomes**

Mitigation

…reduces/removes GHGs emissions where possible **(Mitigation)**

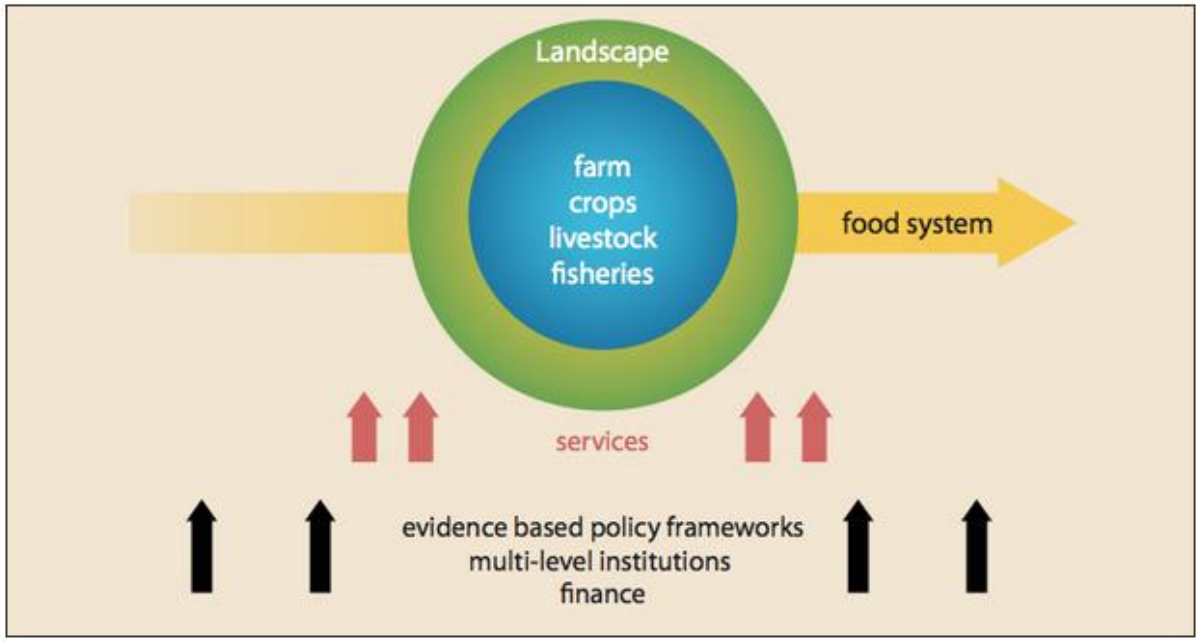
Adaptation

…enhances resilience (Climate change **Adaptation**)

CSA pillars

Climate Smart Agriculture: Strategies for implementation

- Successful CSA implementation needs **integrated actions at various levels and scales**:
  - Farm, landscape, county/subnational, national
  - Technologies, policies, institutions, investments



Source: CGIAR CCAFS

CSA Country Profiles

Objective

Takes stock of CSA activities at national level, identifies promising practices and offers cutting edge information on enabling environments and barriers for mainstreaming CSA.

Users

National and sub-national planners, decision-makers, and implementers are the primary target, along with donors, NGOs, and other investing in mainstreaming CSA

Information and data gathering

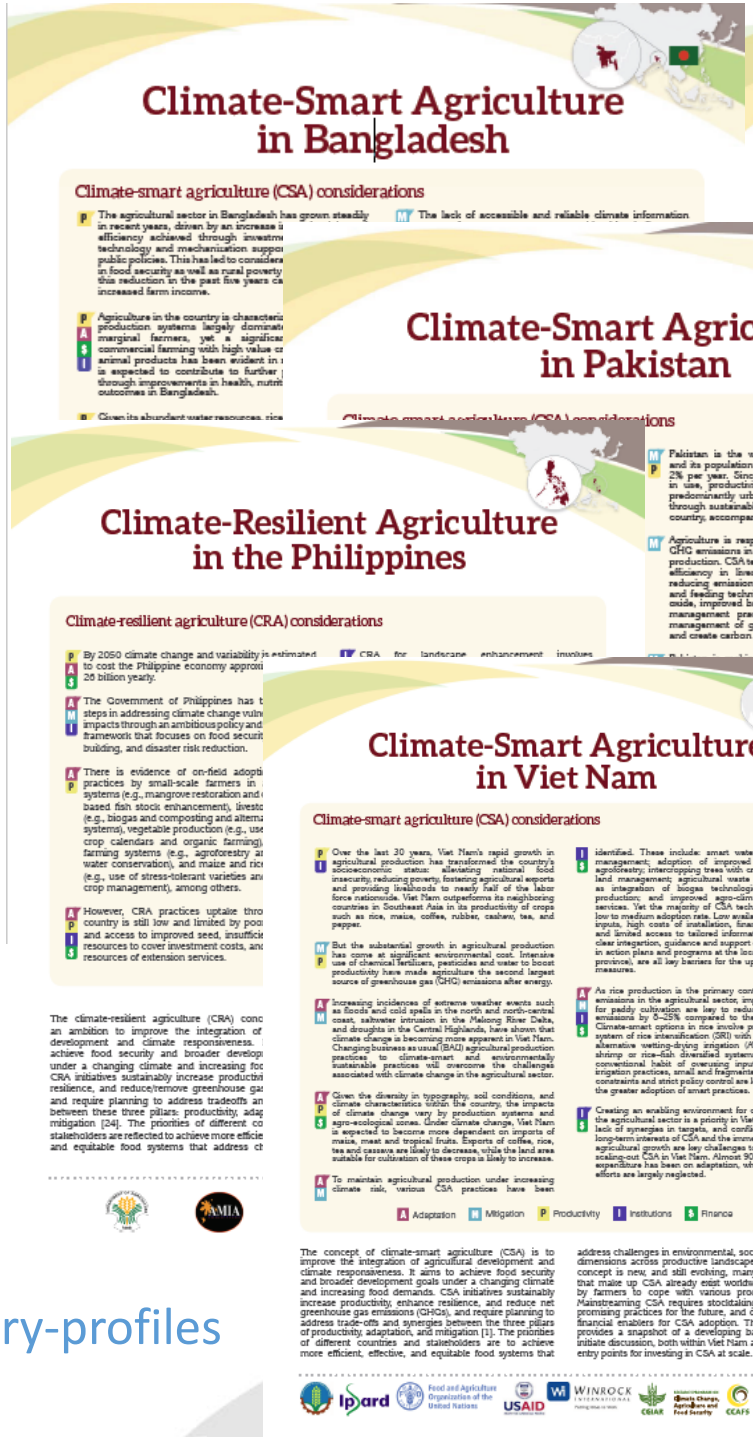
Analyses based on existing literature and databases **combined** with expert interviews and surveys and/or focus group discussions

National stakeholders document review

Outline and contents verified by main climate change and agriculture stakeholders throughout profile development to ensure applicability to key national CSA decisions

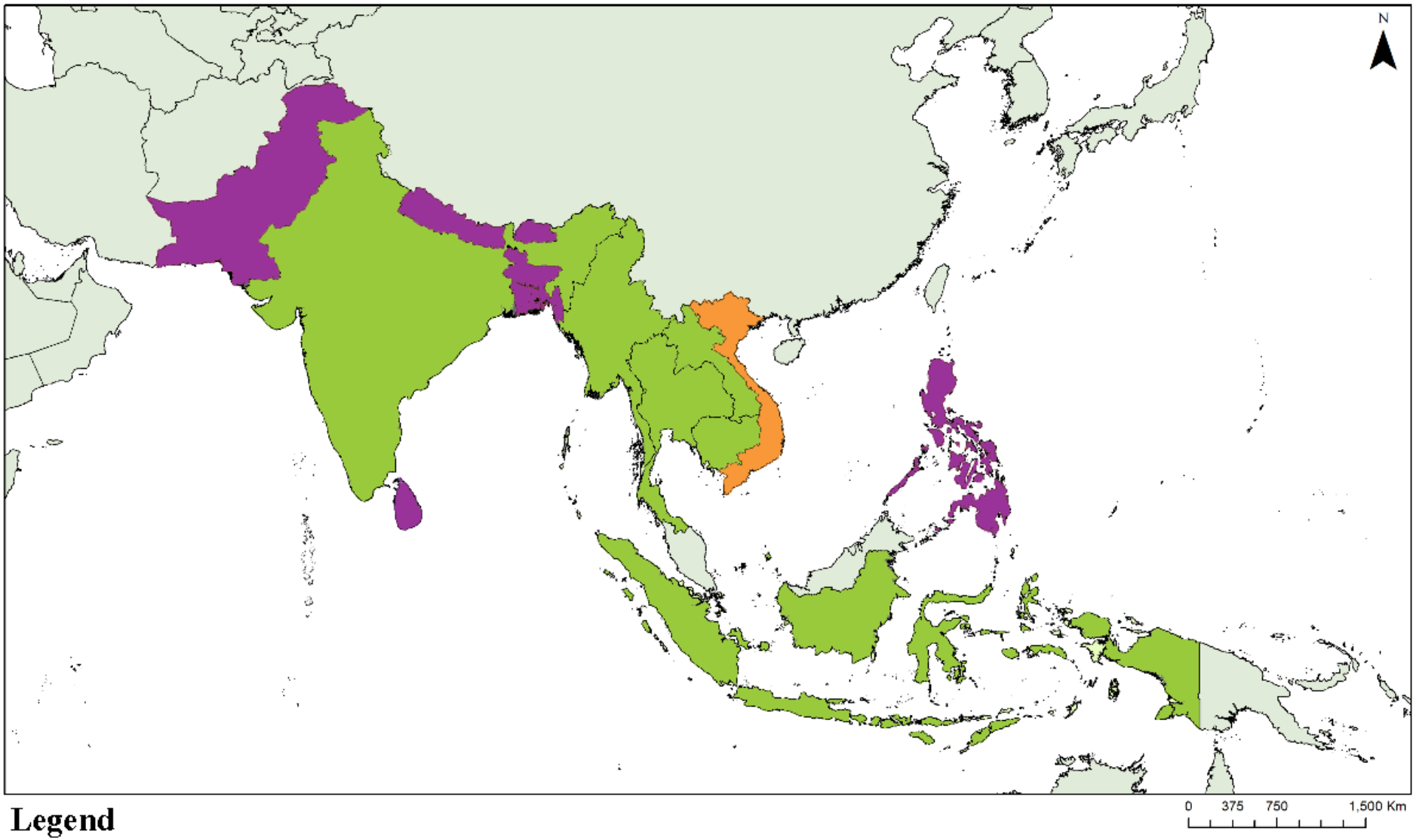
Design and dissemination

Profiles are created as short (15-20 pages) easy to read documents with key data highlighted in infographics. Profiles and supplemental information available online.



https://ccafs.cgiar.org/publications/csa-country-profiles

CSA Country Profiles in Asia

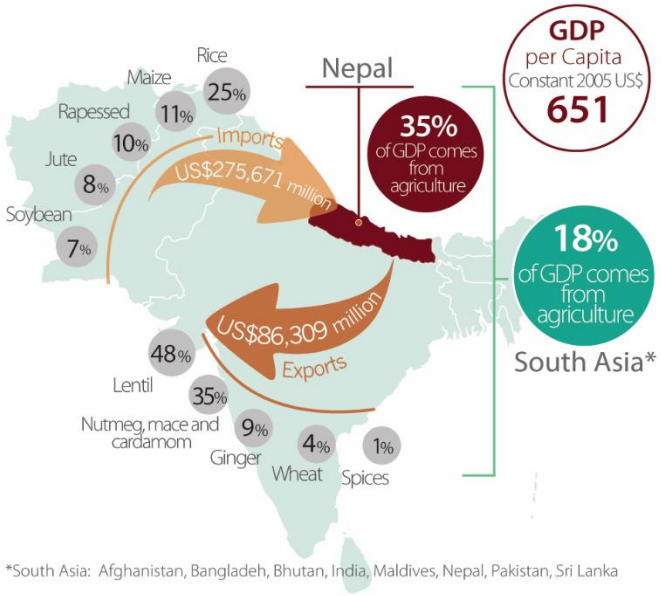


CSA Country Profiles: Key Areas of Focus

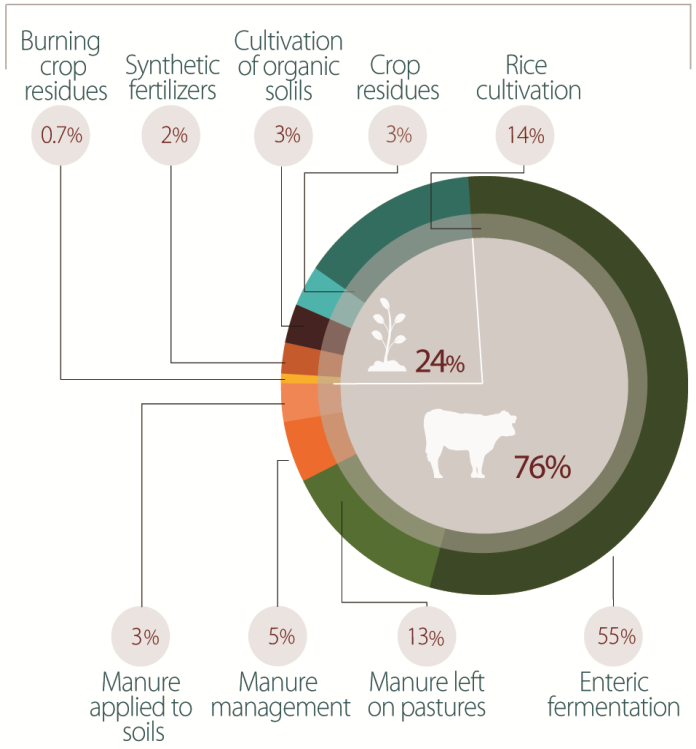
Stocktaking: National Context of Agriculture

Example from Nepal

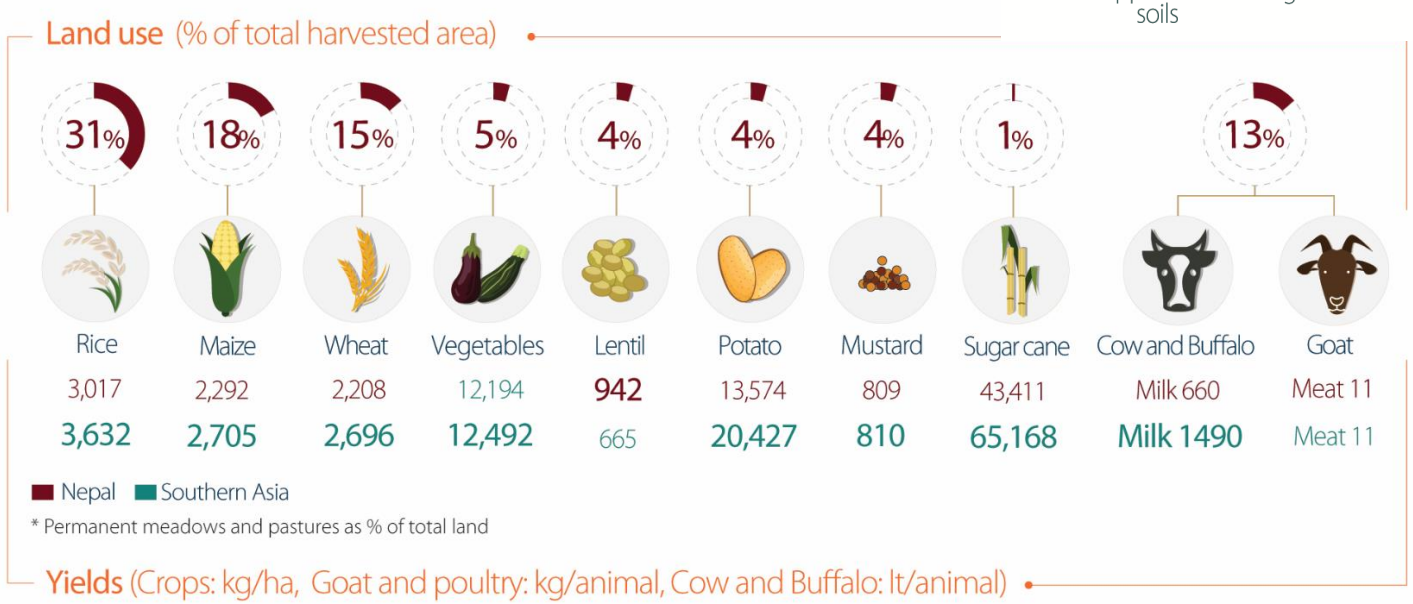
Economic importance of agriculture



Total emissions from agriculture in Nepal



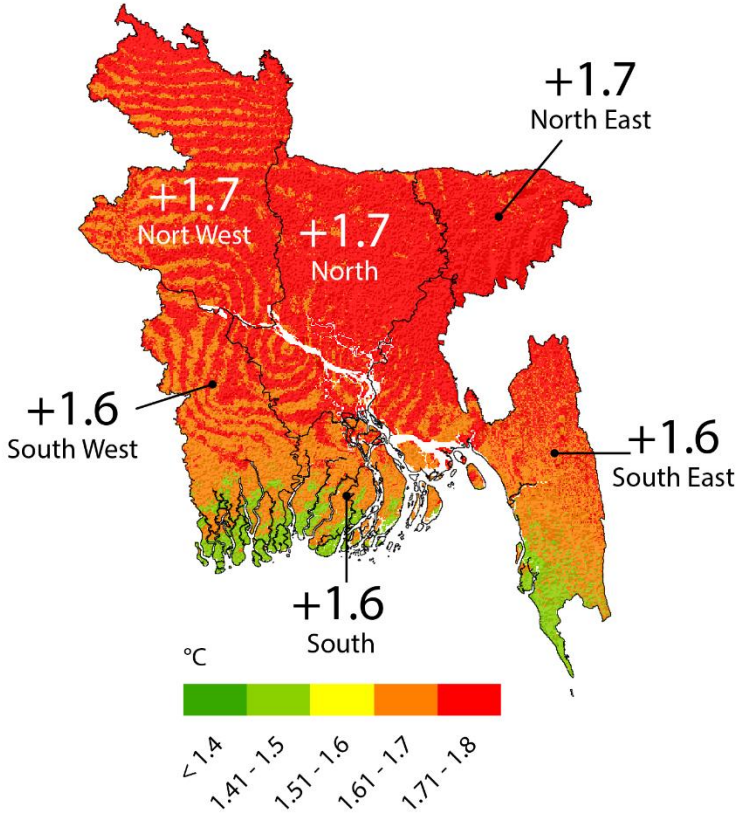
Key production systems in Nepal



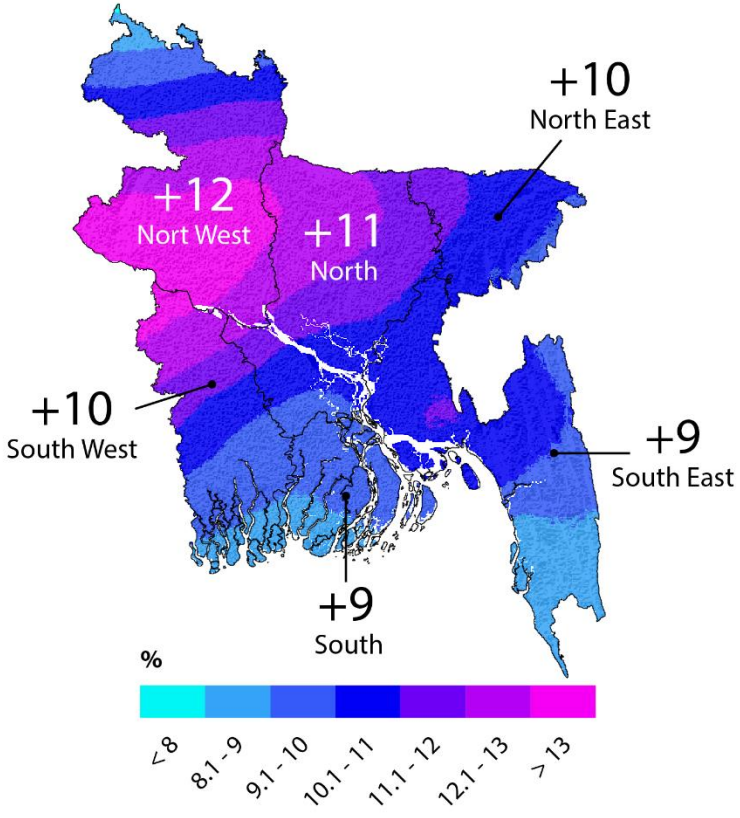
National Context: Exposure to climate change

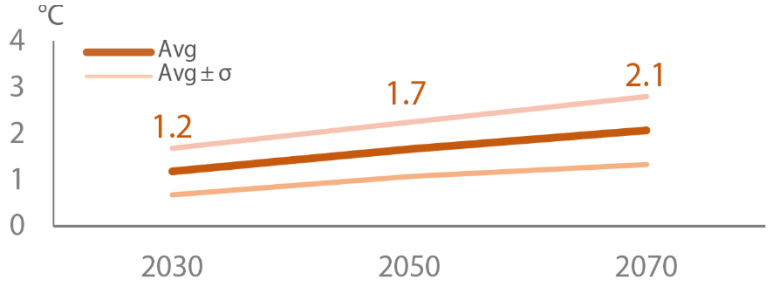
Projected changes in temperature and precipitation in Bangladesh by 2050

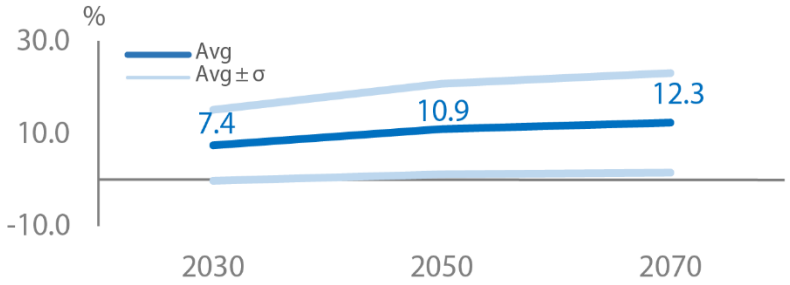
Changes in annual mean temperature (°C)



Changes in total precipitation (%)



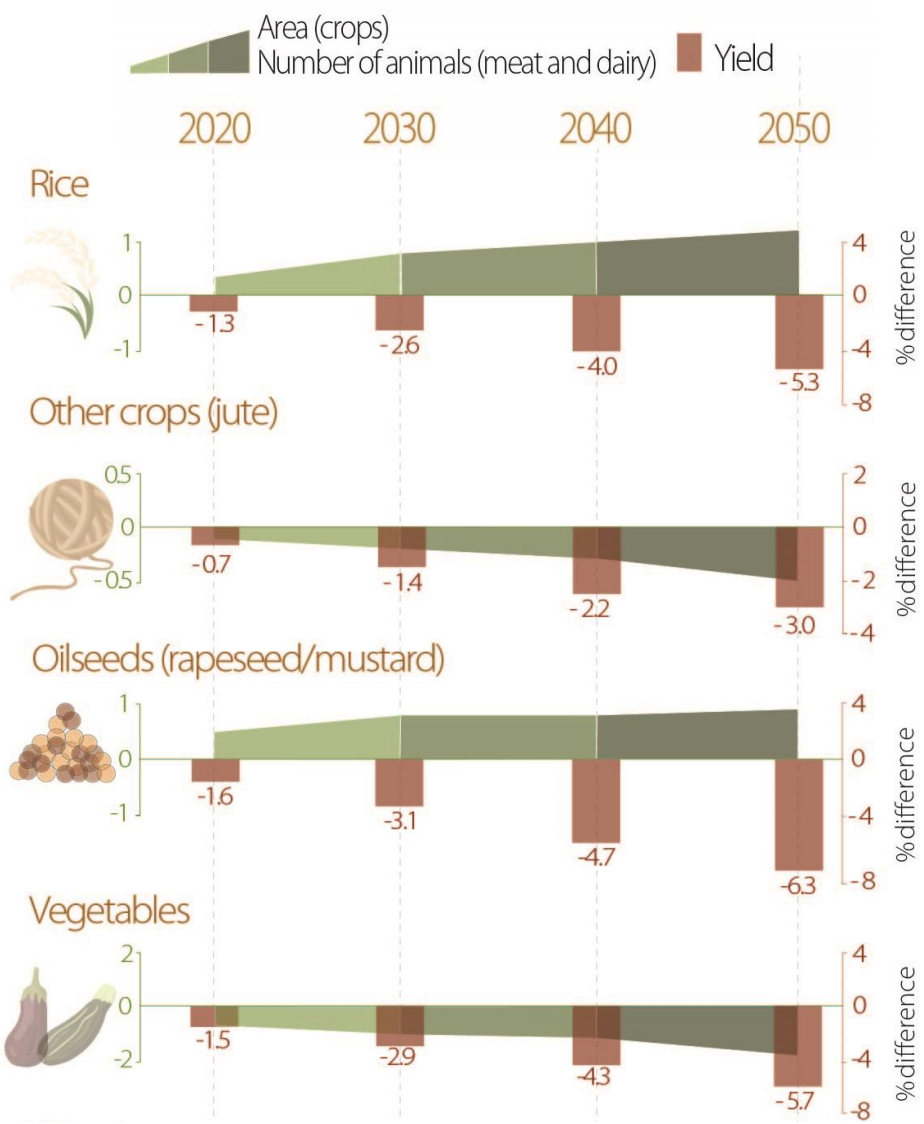


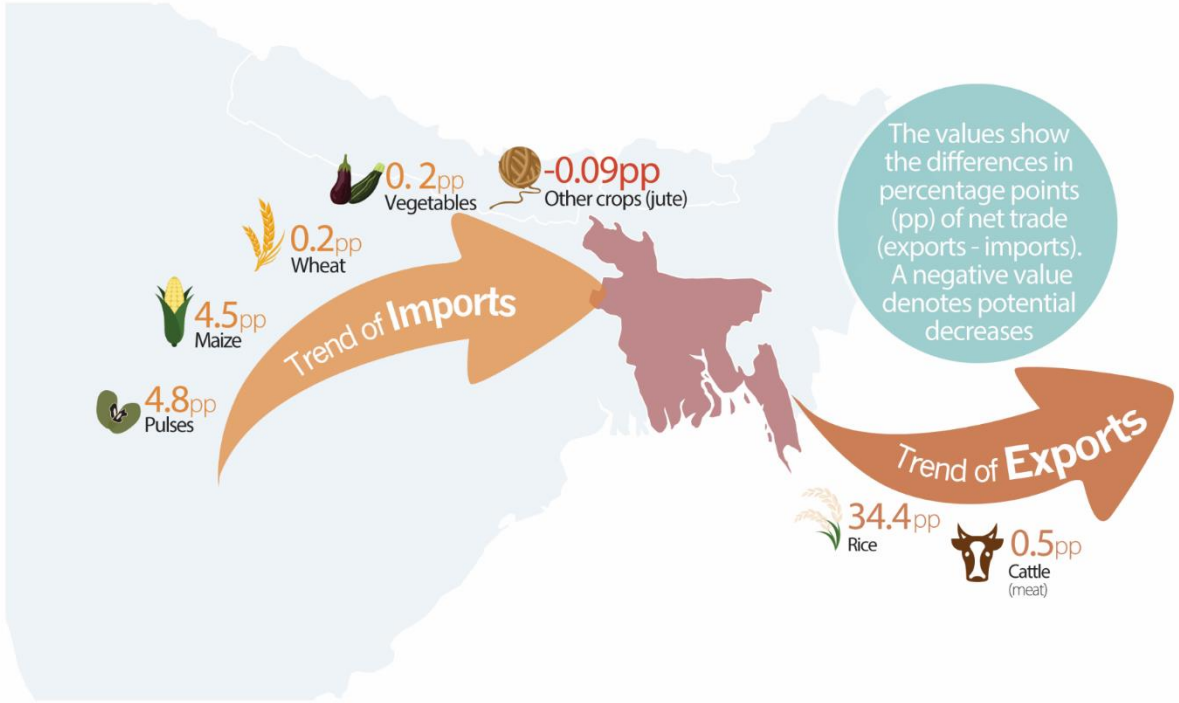


IMPACT Modelling:

Climate change impact on net trade, yield and area

Example from Bangladesh





Our vision, a sustainable food future

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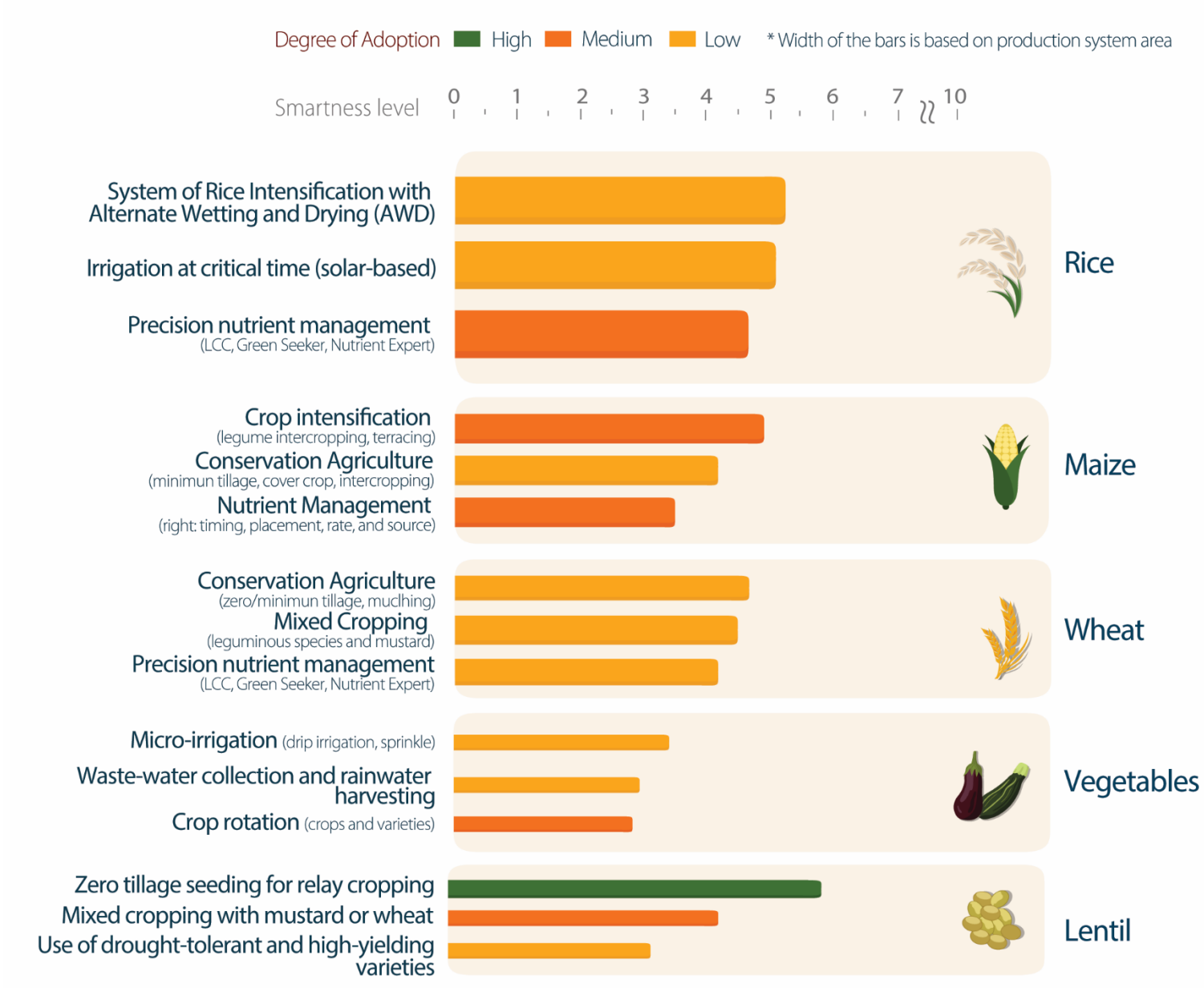
Selection of CSA practices

Example from Nepal



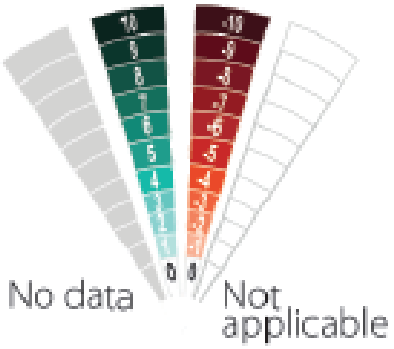
Climate Smart Agriculture: technologies

What makes a technology climate-smart?

Example: Conservation Agriculture

- Principles: Minimal soil disturbance (i.e. no-tillage), permanent soil cover (mulching), crop rotation

Climate-smartness	Productivity	Adaptation	Mitigation
Example: Maize 	Potential increases in profits due to increased crop yield and reduced production costs.	Increases moisture retention due to mulching and cover crops, reduced soil erosion caused by heavy rains, and soil tillage.	Reduces fossil fuel requirements for tillage. Mulching and cover crops increase soil carbon capture and soil organic matter content.

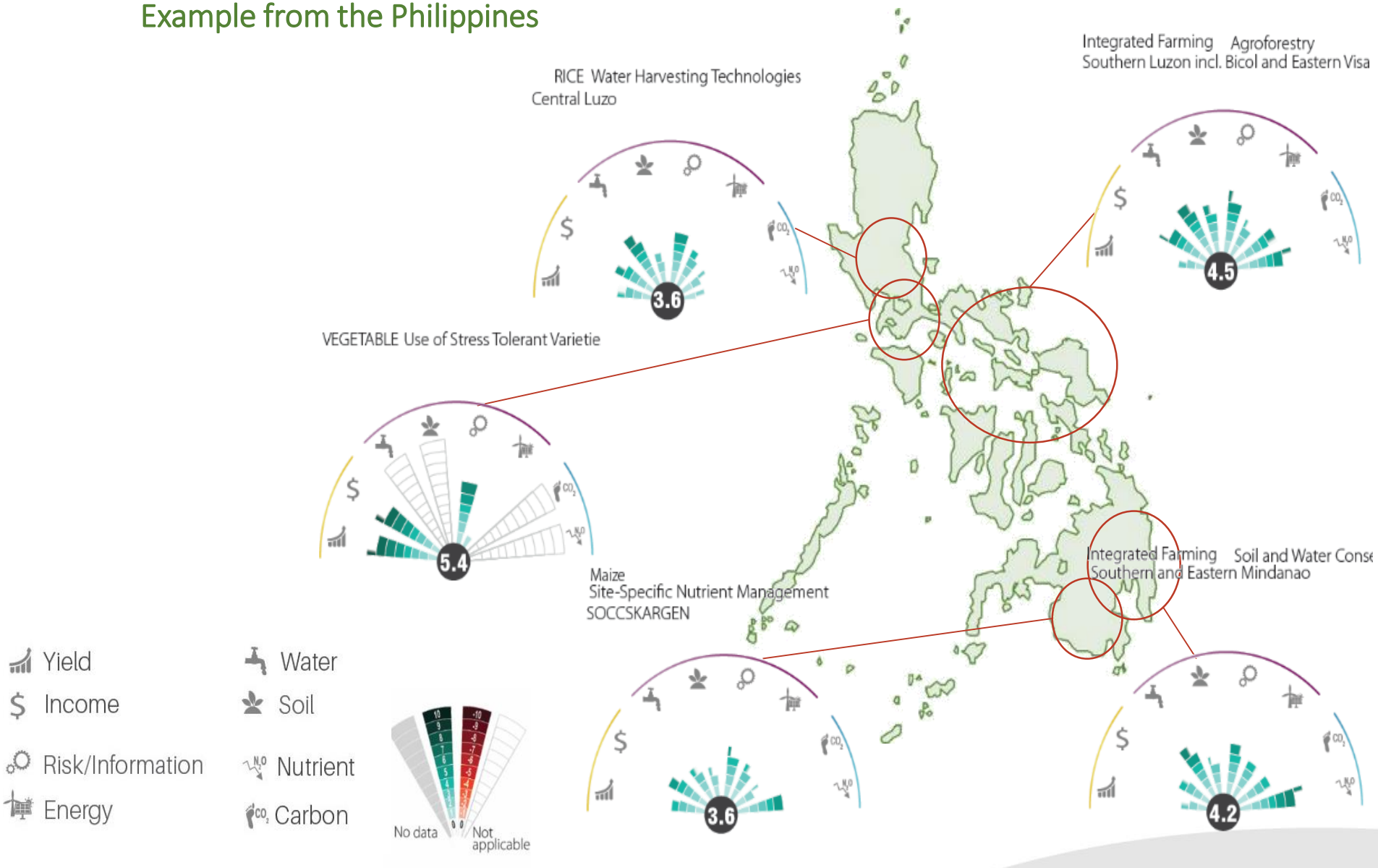


Yield Income Water Soil

Risk/Information Energy CO_2 Carbon N_2O Nutrient

Smartness assessment of CSA practices

Example from the Philippines



Our vision, a sustainable food future

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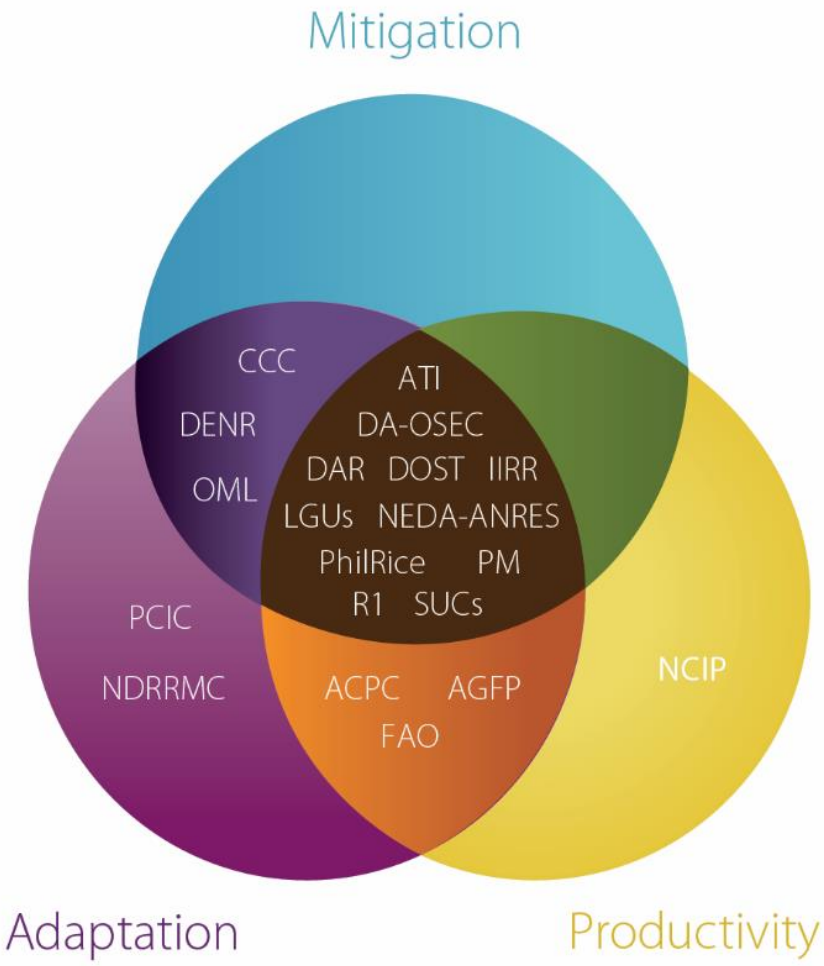
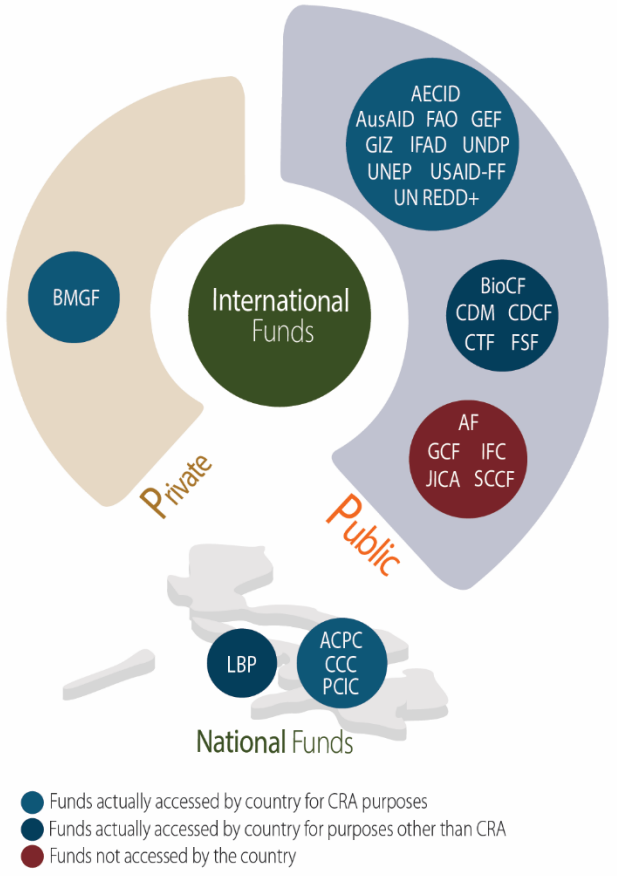
Policy, institutional and financial environment for CSA/CRA

Example from the Philippines

Institutions for CSA/CRA

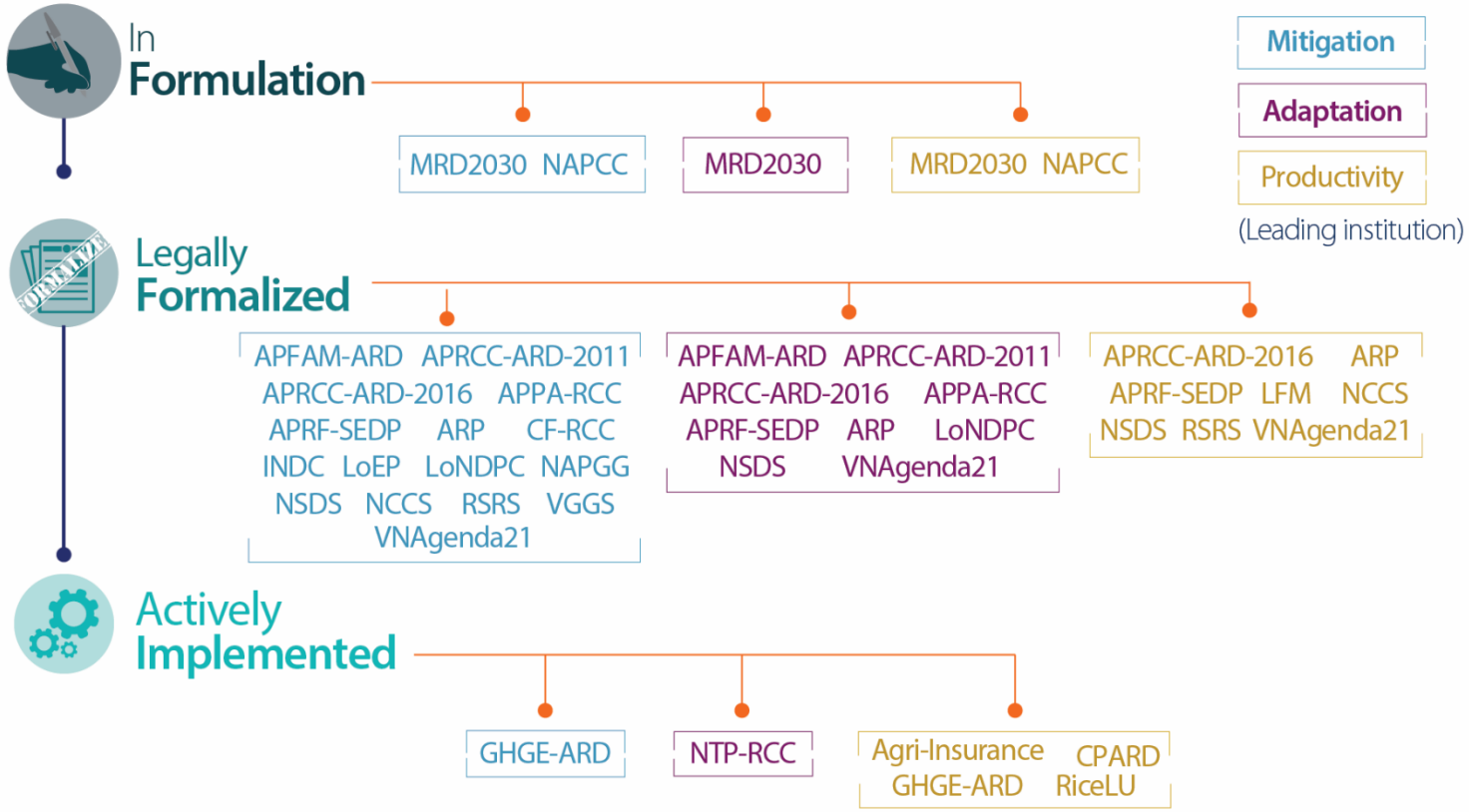


Financing opportunities for CSA/CRA

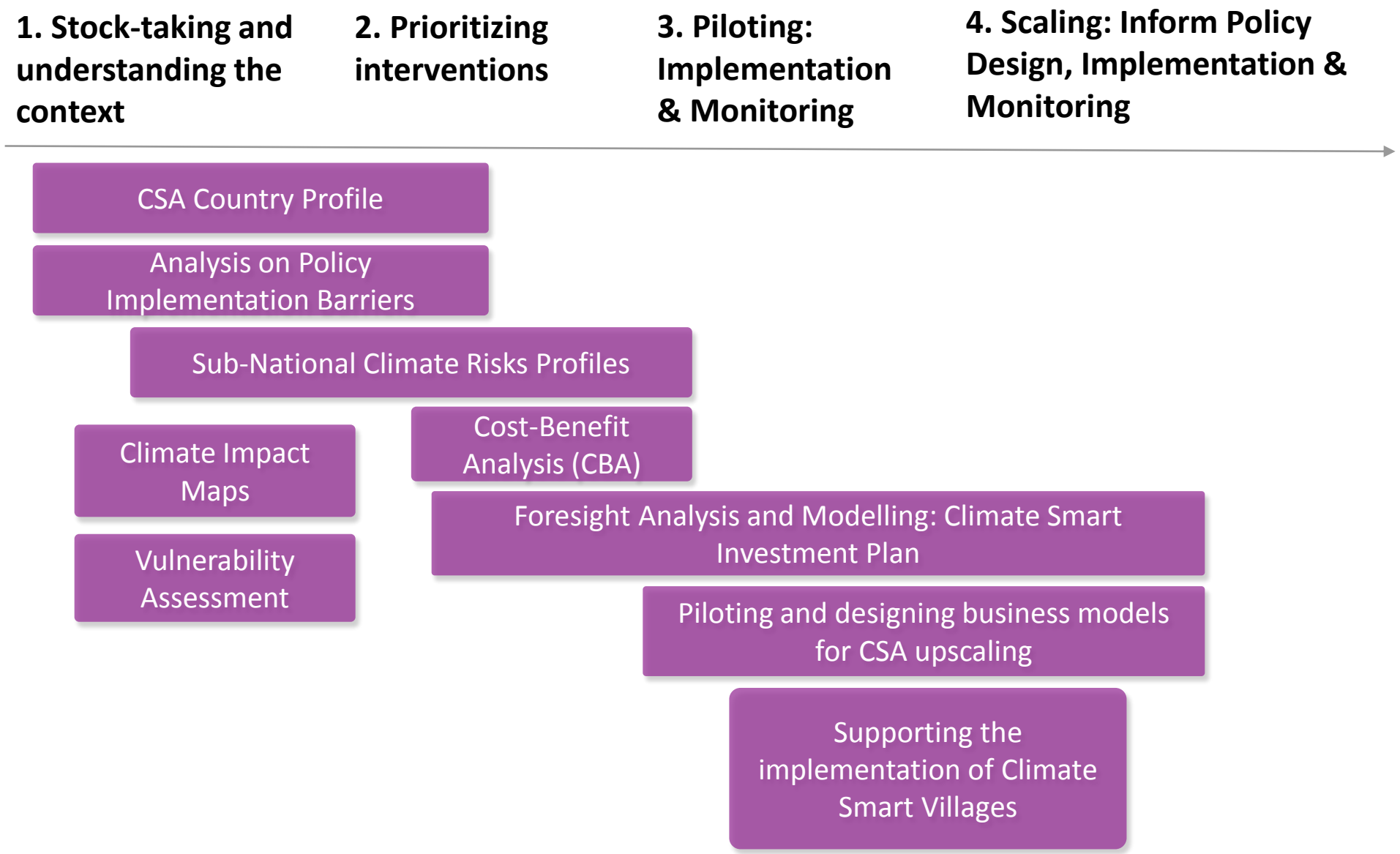


Policy, institutional and financial environment for CSA

Example from Vietnam



CSA Country Profiles as an Entry Point for CSA



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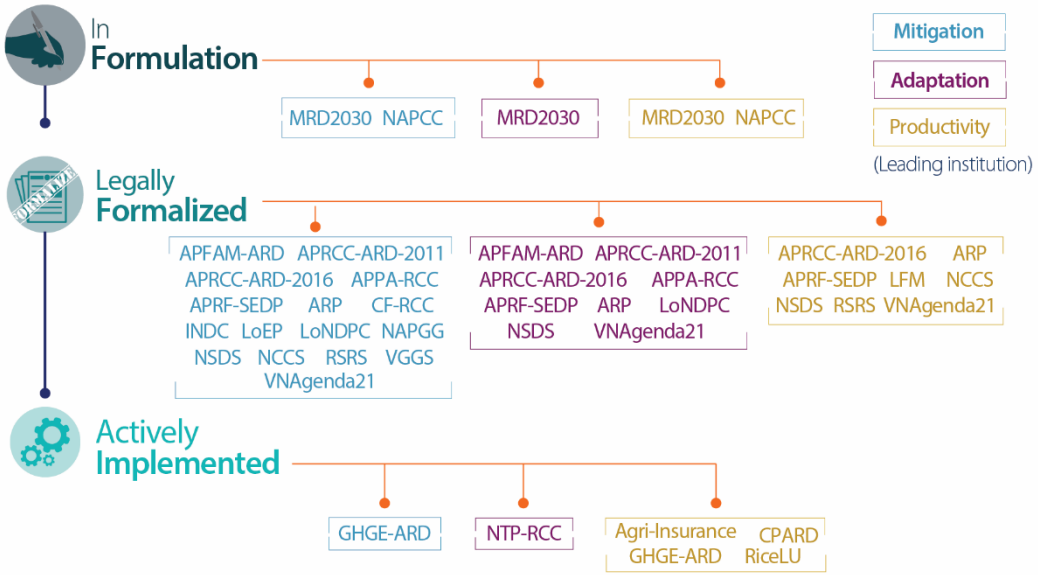
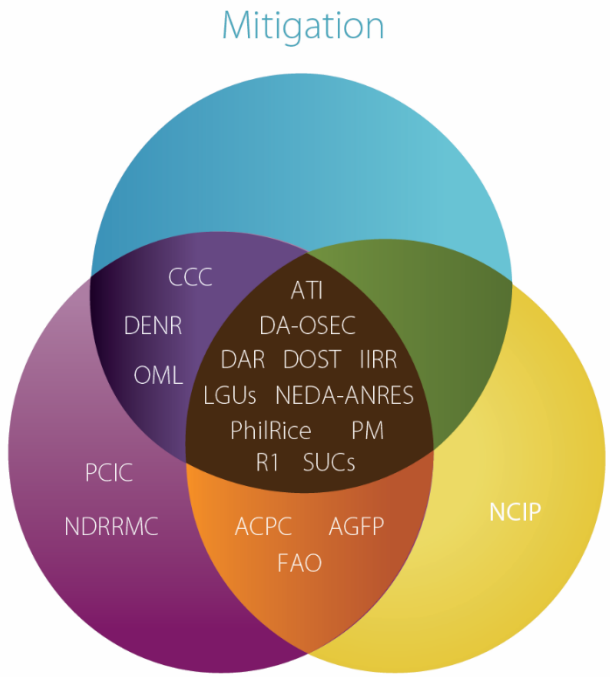
What actions are needed to implement climate-smart agriculture?

CSA approaches include four major types of actions:

- **Expanding the evidence base** and assessment tools to identify agricultural growth strategies for food security that integrate necessary adaptation and potential mitigation
- **Building policy frameworks** and consensus to support implementation at scale
- **Strengthening national and local institutions** to enable farmer management of climate risks and adoption of context-suitable agricultural practices, technologies and systems
- **Enhancing financing options** to support implementation, linking climate and agricultural finance



Agri-Insurance The pilot provision of agriculture during 2011-2013 (2011) (GOV) **APFAM-ARD** Action Plan Framework for Adaptation and Mitigation in the Agriculture and Rural Development sector for the period 2008-2020 (2008) (MARD) **APPA-RCC** Action Plan to Implement Paris Agreement in Response to Climate Change (2016) (GOV) **APRCC-ARD-2011** Action Plan on Response to CC in Agriculture and Rural Development period 2011-2015 and vision to 2050 (2011) (MARD) **APRCC-ARD-2016** Action Plan to Response to CC in Agriculture and Rural Development, period 2016-2020, vision 2050 (2016) (MARD) **APRF-SEDP** Adaptation prioritization Framework for Socio-Economic Development Planning (2013) (MPI) **ARP** Agricultural Restructring Plan towards raising added values and sustainable development (2013) (GOV) **CF-RCC** Proptection and Management of Coastal Forest in response to climate change for the period from 2015-2020 (2015) (GOV) **CPARD** Credit Policies for Agricultural and Rural Development (2010) (GOV) **GHGE-ARD** Reduction of GHG Emissions in Agriculture and Rural Areas by 2020 (2011) (MARD) **INDC** Intended Nationally Determined Contribution of Viet Nam (2015) (National Assembly) **LFM** Encouraging cooperation, development of Large-scale Fields Models and linkages between production and consumption of agricultural products (2013) (GOV) **LoEP** Law of Environment Protection (2014) (National Assembly) **LoNDPC** Law of Natural Disaster Prevention and Control (2013) (National Assembly) **MRD2030** Planning on Agriculture and Rural Areas in the Mekong River Delta to 2020, vision to 2030 in the context of climate change (2014) (MARD) **NAPCC** National Action Plan on Climate Change period 2012-2020 (2012) (GOV) **NAPGG** National Action Plan on Green Growth in Vietnam for the period 2014-2020 (2014) (GOV) **NCCS** National Climate Change Strategy (2011) (GOV) **NSDS** Vietnam Sustainable Development Strategy for 2011-2020 (2012) (GOV) **NTP-RCC** National Target Programe on Response to CC (2008) (GOV) **RiceLU** Management and Use of Rice-farming Land (2012) (GOV) **VGGS** Vietnam Green Growth Strategy (2012) (GOV) **RSRS** Restructuring Strategy for Vietnam's Rice Sector up to 2020 and vision to 2030 (2016) (MARD) **VNAgenda21** Promulgating the oriented strategy for sustainable development in Vietnam (2004) (GOV)



ACPC Agricultural Credit Policy Council **AGFP** Agricultural Guarantee Fund Pool **ATI** Agricultural Training Institute **CCC** Climate Change Commission **DA-OSEC** Department of Agriculture - Office of the Secretary **DAR** Department of Agrarian Reform **DENR** Department of Environment and Natural Resources **DOST** Department of Science and Technology **FAO** Food and Agriculture Organization of the United Nations **IIRR** International Institute for Rural Reconstruction **LGUs** Local Government Units **NCIP** National Commission on Indigenous Peoples **NDRRMC** National Disaster Risk Reduction and Management Council **NEDA-ANRES** Agriculture, Natural Resources and Environment Staff - National Economic and Development Authority **OML** Oscar M. Lopez Center for Climate Change Adaptation and Disaster Risk Management Foundation **PCIC** Philippine Crop Insurance Corporation **PhilRice** Philippine Rice Research Institute **PM** Philip Morris Foundation **R1** Rice Watch and Action Network **SUCs** State Universities and Colleges

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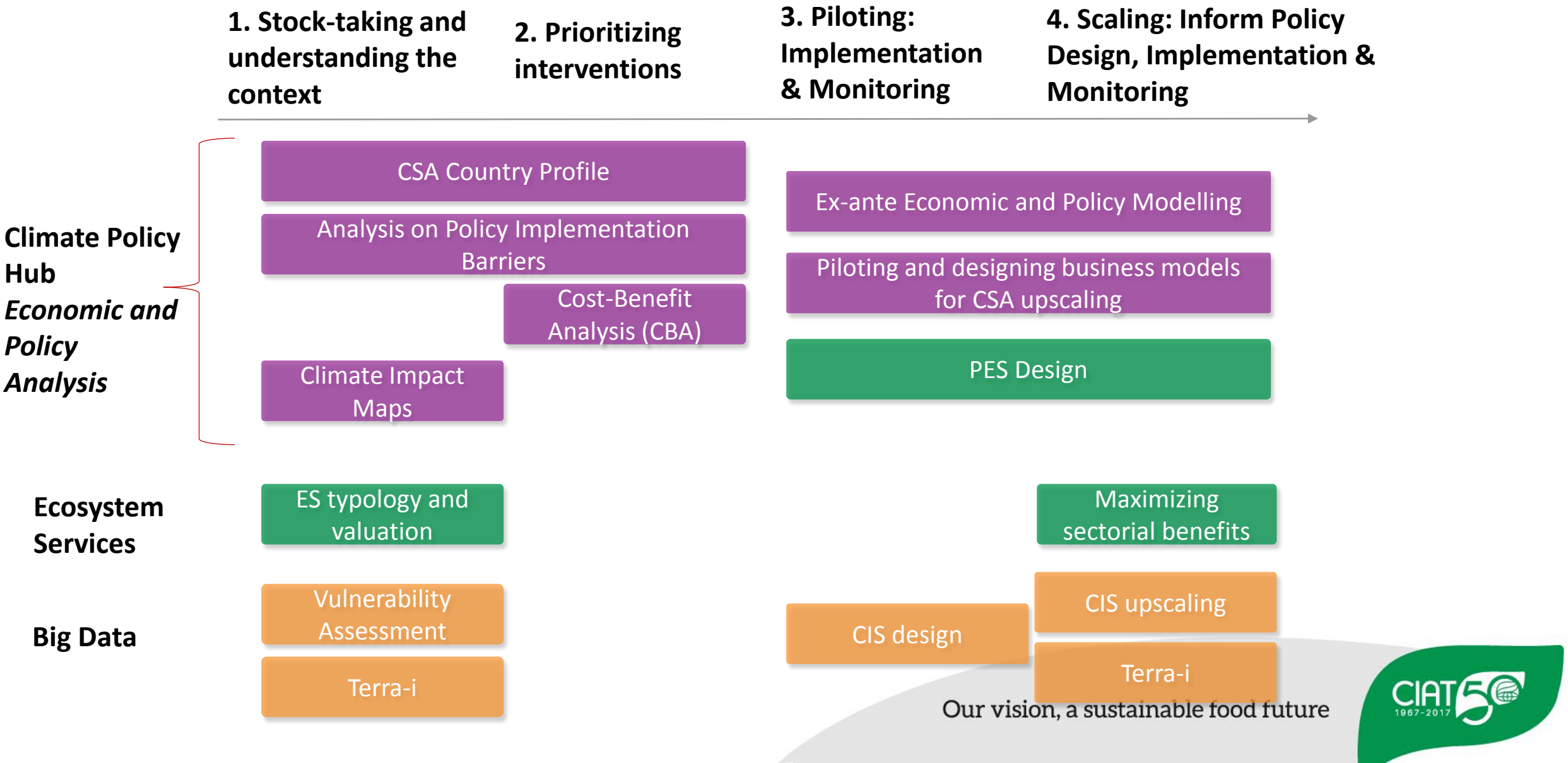
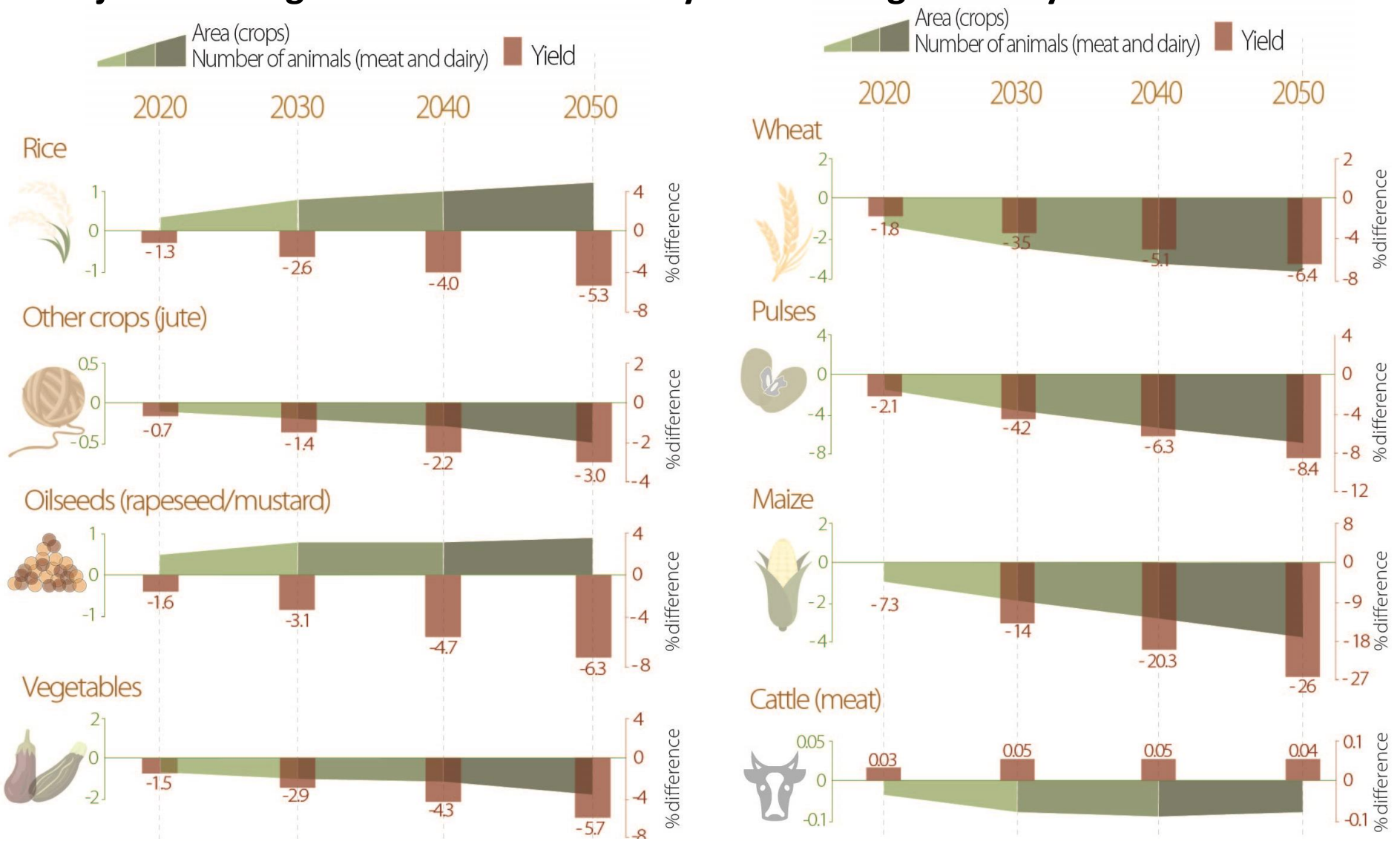
THINK: Updating existing methodologies and developing new research agendas



National Context: Vulnerable to climate change

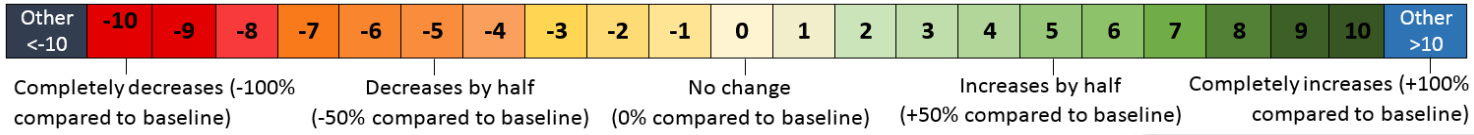
Projected changes in suitable area and yields in Bangladesh by 2050*



*A negative value denotes potential decreases in area and yield expressed as percentage change in a climate change scenario vs. non climate change

Assessing the smartness levels using CRA indicators

	By IMPLEMENTING the practice what are the expected changes in the following indicators?		
	Indicator (Average)	REGION A (-10 to 10 scale)	REGION B (-10 to 10 scale)
1.29	Yield (crop/livestock)	FOOD/YIELD SMART	
1.30	Post-harvest loss		
1.31	Income generated from **crop/livestock** production	INCOME SMART	
1.32	Quantity of water available for **crop/livestock** production		
1.33	Quantity of water used per unit of product (water use efficiency)		
1.34	Quality of water used for **crop/livestock** production	WATER SMART	
1.35	Equilibrium in the water cycle (balance between water inflow and outflow) in the ecosystem		
1.36	Soil's capacity to retain water in areas under crop/livestock production		
1.37	Level of soil disturbance (ploughing)	SOIL SMART	
1.38	Ability of farmers to manage climate risks	RISK/INFO SMART	
1.39	Ability of farmers to limit the system's exposure to climate risks		



Assessing the smartness levels using CRA indicators

	By IMPLEMENTING the practice what are the expected changes in the following indicators?		
	Indicator (Average)	REGION A (-10 to 10 scale)	REGION B (-10 to 10 scale)
1.40	Diversification of income sources on the farm	RISK/INFO SMART	
1.41	Use of local and traditional knowledge to manage crop/livestock		
1.42	Quantity of energy used from fossil fuels for crop/livestock	ENERGY SMART	
1.43	Quantity of energy used from renewable sources for crop/livestock		
1.44	Quantity of above-ground biomass (ABG) available for crop/livestock		
1.45	Quantity of below-ground biomass (BGB) available for crop/livestock		
1.46	Content of soil organic matter (SOM) in soils accumulated in crop/livestock cultivated areas	CARBON SMART	
1.47	Quality of animal diet (including diet diversification, forage quality) *(for livestock systems only)*		
1.48	Quantity of manure produced that is left on pastures/ fields *(for livestock systems only)*		
1.49	Quantity of organic AND/OR inorganic fertilizer used per unit of product? (mention type of fertilizer assessed: organic, inorganic or both)	NITROGEN/NUTRIENT SMART