



Food and Agriculture
Organization of the
United Nations



Empowered lives.
Resilient nations.



Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety

Adaptation Sector Integration

Perspectives from the agriculture and land-use sectors in Asia

Beau Damen

FAO Regional Office for Asia and the Pacific

Session Overview

- Context
- Sector integration – an agriculture perspective
- Identifying entry points for integration:
 - Planning of adaptation
 - Implementation of adaptation options
 - Monitoring and evaluation
- Group exercise
- Take home messages

Session Objectives

- To foster improved understanding of why integration of the agriculture sector is important for the NAP process
- To reflect upon experiences and lessons learned with efforts to integrate agriculture into adaptation planning processes to date - largely from Asia
- To provoke thought and discussion about how to better integrate sectors like agriculture into NAP processes

Global Goals

1. The **eradication of hunger**, food insecurity and malnutrition;
2. The **elimination of poverty** and the driving forward of economic and social progress for all; and
3. The **sustainable management and utilization of natural resources**, including land, water, air, climate and genetic resources for the benefit of present and future generation



Food and Agriculture Organization
of the United Nations

Context

UN-wide support for NAP and NAP integration

Integrating Agriculture in NAPs (NAP-Ag)

Objective

To **integrate** climate change **risks and opportunities** as they relate to **agriculture sector**-related livelihood options within **existing** national **planning** and **budgeting processes**

Key Features

- Funded by the German Government (BMUB ICI)
- FAO and UNDP Joint Programme
- **Duration:** 4 years (2015 to 2018)
- **Global Programme Budget:** €15 Million



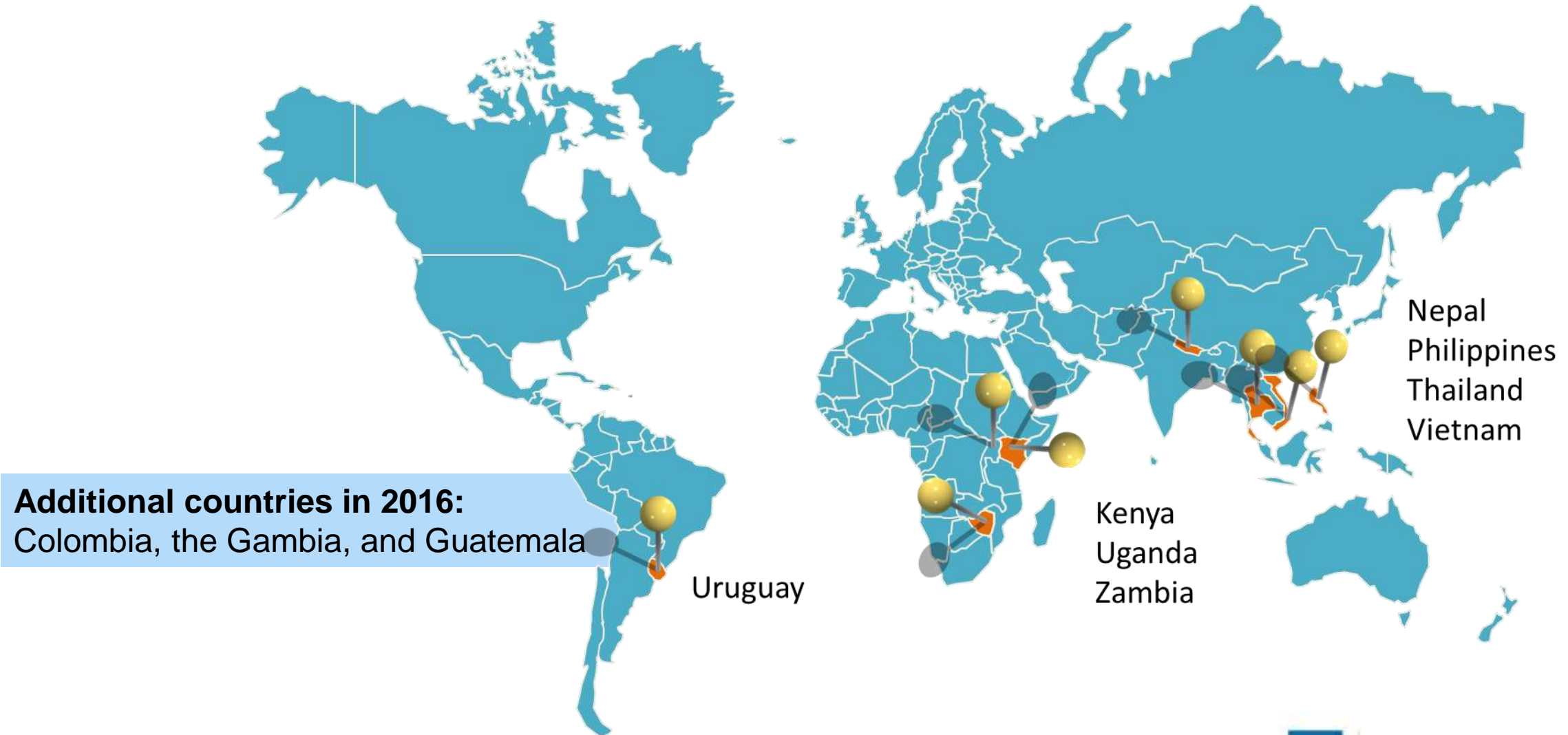
Empowered lives. Resilient nations.

Supported by:

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety

based on a decision of the German Bundestag

Partner Countries



Food and Agriculture
Organization of the
United Nations



50
YEARS

Empowered lives. Resilient nations.

Supported by:



Federal Ministry for the
Environment, Nature Conservation,
Building and Nuclear Safety

based on a decision of the German Bundestag

NAP-Ag Programme Outcomes

Global Level

Outcome 1:

Technical capacity and institutions on NAPs strengthened

Outcome 2:

Integrated roadmaps for NAPs developed

Outcome 3:

Evidence-based results for NAPs improved

Outcome 4:

Advocacy and knowledge-sharing on NAPs promoted

National Level

Strengthening the Capacity & Knowledge of Agricultural Sector Staff on CCA

Integration of Adaptation into the SPA & Budgeting Cycle

Evidence-Base for CCA Improved through Enhanced M&E Frameworks

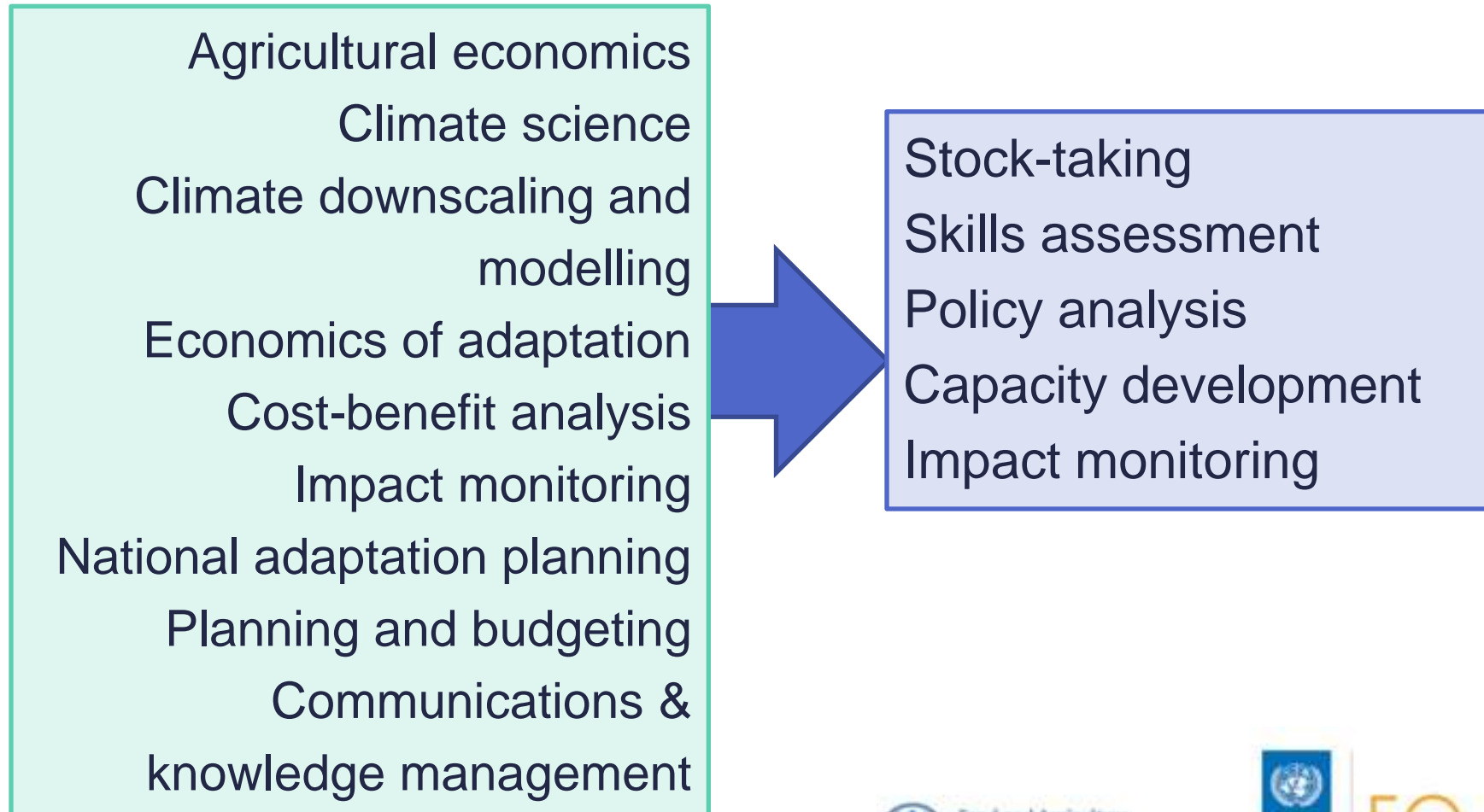
Lessons learned feeds into National NAP development process

Priorities in country workplans

- **Strengthen capacities** to link climate policy and public finance
- **Mainstream** climate change adaptation and disaster risk reduction into agriculture sector plans, policies, budgets (both national and provincial)
- **Improve impact monitoring** frameworks
- **Understand climate benefits** of adaptation options and their planning/budgeting implications
- **Improve evidence** base for adaptation plans for the agricultural sector
- **Improve evidence base** for agricultural sector inputs into National Climate Change strategy/policy

Additional support

Global technical specialists



Technical Assistance

One-on-One Support

16 countries between 2013-2016

- Angola, Bangladesh, Burkina Faso, Cambodia, Comoros, DRC, Djibouti, Gambia, Guinea, Liberia, Madagascar, Malawi, Mauritania, Niger, Senegal, and Tanzania

Assistance with:

- Stock-taking exercises
- NAP consultation and development of road-maps
- Training at the country level (interactive modules developed by UNDP, UNEP, UNITAR and GIZ)



Capacity Development

Risk informed Planning and Budgeting



Climate Change Budgeting & Financing Frameworks:

- Supports development of integrated financing frameworks and public expenditure and institutional reviews targeting climate finance through:
 - *Climate Change Financing Frameworks (CCFF) and*
 - *Climate Public Expenditure and Institutional Reviews (CPEIRs).*

LDCs Supported: *Bangladesh, Cambodia, Nepal*

Non-LDCs: Indonesia, Pakistan and Thailand

- Expenditure Review using the CPEIRs methodology in Bangladesh, Cambodia, Nepal, and Samoa as well as in China, Indonesia, Pakistan, Thailand Vietnam, Fiji, Kiribati, Tonga, Vanuatu, Uzbekistan, Uganda, Tanzania, Rwanda, Ethiopia, Morocco and Ghana
- In process in Benin, Mozambique, Kenya, Zambia and Namibia
- Review also conducted in five district governments in Bhutan and published in 2014



Capacity Development

Risk informed Planning and Budgeting



Capacity Building Programme on the Economics of Climate Change Adaptation (ECCA)

- Skill development in economic appraisal methods for climate change impacts on key sectors, including cost benefit analysis of investment options
- 10 countries in Asia, Maldives. Bangladesh, Cambodia, Indonesia, Lao PDR, Mongolia, Nepal, Sri Lanka, Thailand, and Viet Nam
- Together with USAID's Adapt Asia-Pacific Project, the Global Water Partnership (GWP), the Asian Development Bank (ADB), GIZ and Yale University

Boots on the Ground Programme

- Network of 26 national climate change specialists and 4 regional advisors:
 - Aims to provide sustained institutional support and capacity development services to LDC governments in the area of climate change
 - Is supporting 26 low-income countries, including 23 LDCs, in the climate change arena



Capacity Development

Risk informed Planning and Budgeting



Guidelines for Integrating Disaster Risk Reduction into National Adaptation Planning

- UNISDR and UNDP are collaborating in the production of guidelines for Integrating Disaster Risk Reduction into national adaptation planning; updated draft is available as of mid-2016.

Climate Finance Readiness Programme

- To prepare developing countries to effectively and efficiently plan for, access, manage, deploy and monitor financing for climate change actions through the Green Climate Fund.
- The target countries include two LDCs – Benin and Nepal – and seven non-LDCs - El Salvador, Colombia, Ghana, Fiji, Kenya, Philippines, and Uzbekistan.
- GCF's own Readiness Programme (Delivery Partner for approx 10 countries)





Food and Agriculture Organization
of the United Nations

Sector Integration

Why focus on agriculture?

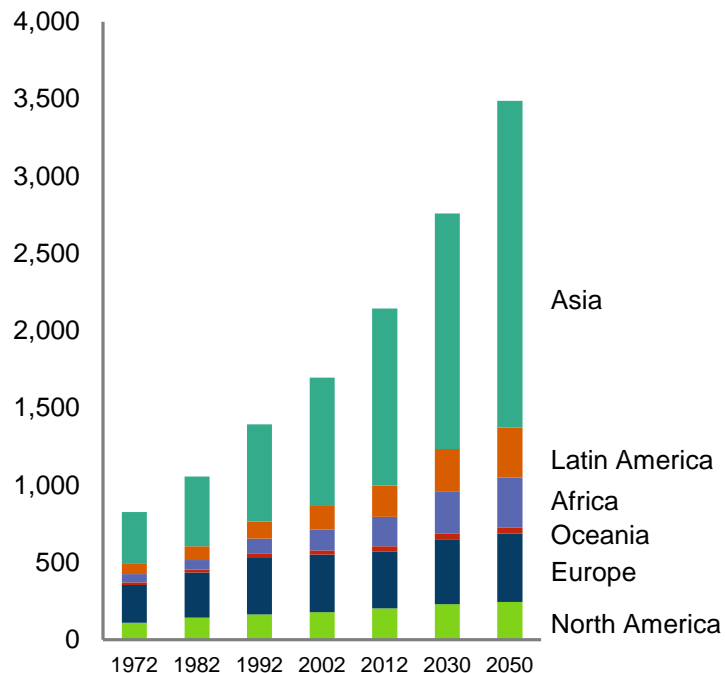
The Challenge – An Asia Perspective

Food production needs to grow..

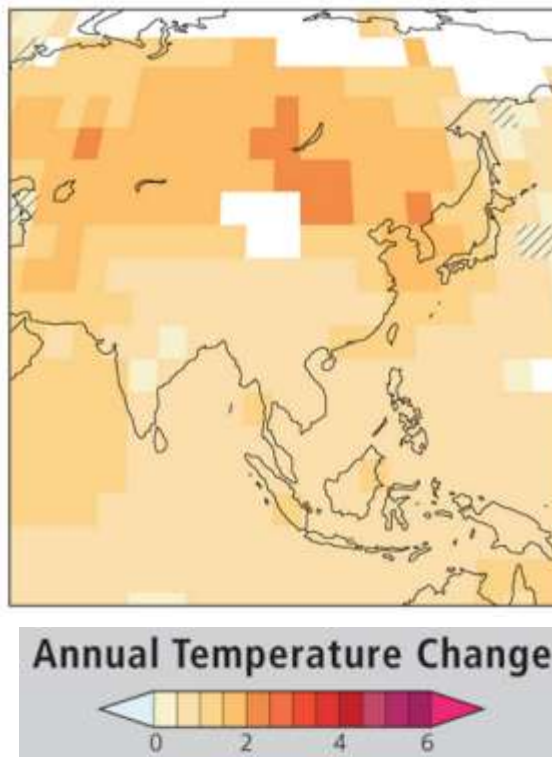
..in the face of a changing climate..

..while addressing GHG emissions.

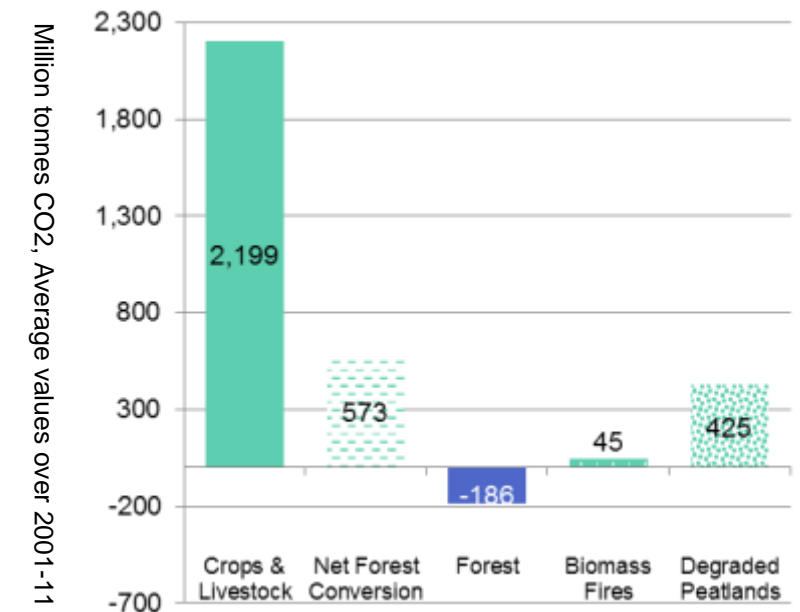
Food Production by Region 1972-2050
(Constant 2004-06 US\$)



Temperature trend, Asia, 1901-2012
(annual trend change in degrees Celsius over period)



Sources of emissions from agriculture and land use in Asia
(average values 2001-2011)



Why discuss agriculture integration

Agriculture an overwhelming priority

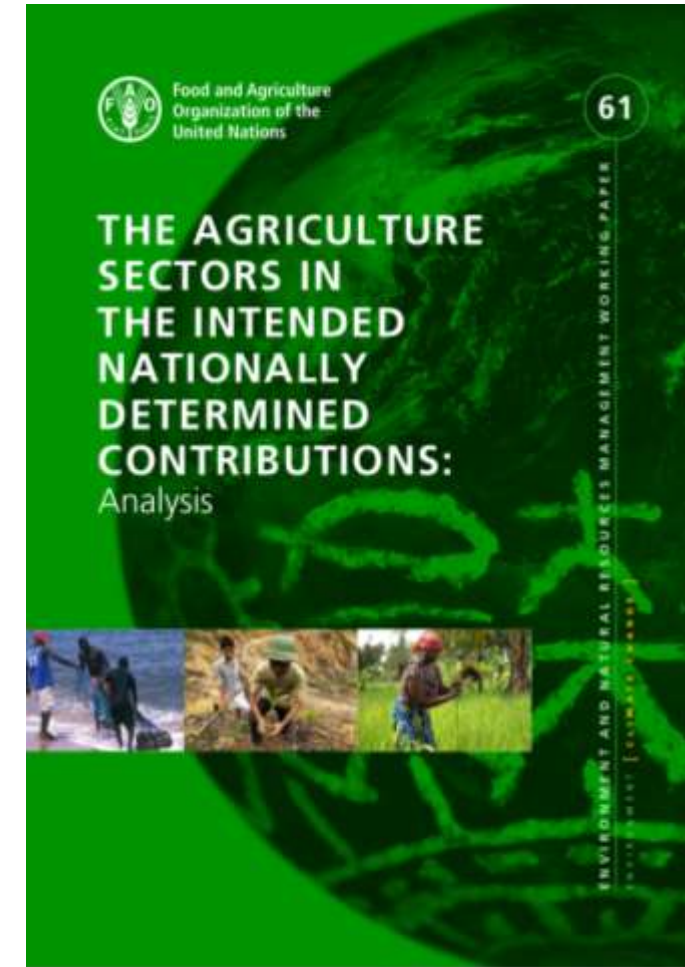
- Adaptation and mitigation actions in agricultural sectors included in 94% of all countries

Ag sectors are the foremost priority for adaptation.

- 130 of 188 countries include an adaptation section.
- 95% refer to crops and livestock
- 83% refer to forests
- 46% refer to fisheries and aquaculture.

Countries highlight the vulnerability of agriculture sectors to CC

- 90% mention ag sector
- 60% mention freshwater resources

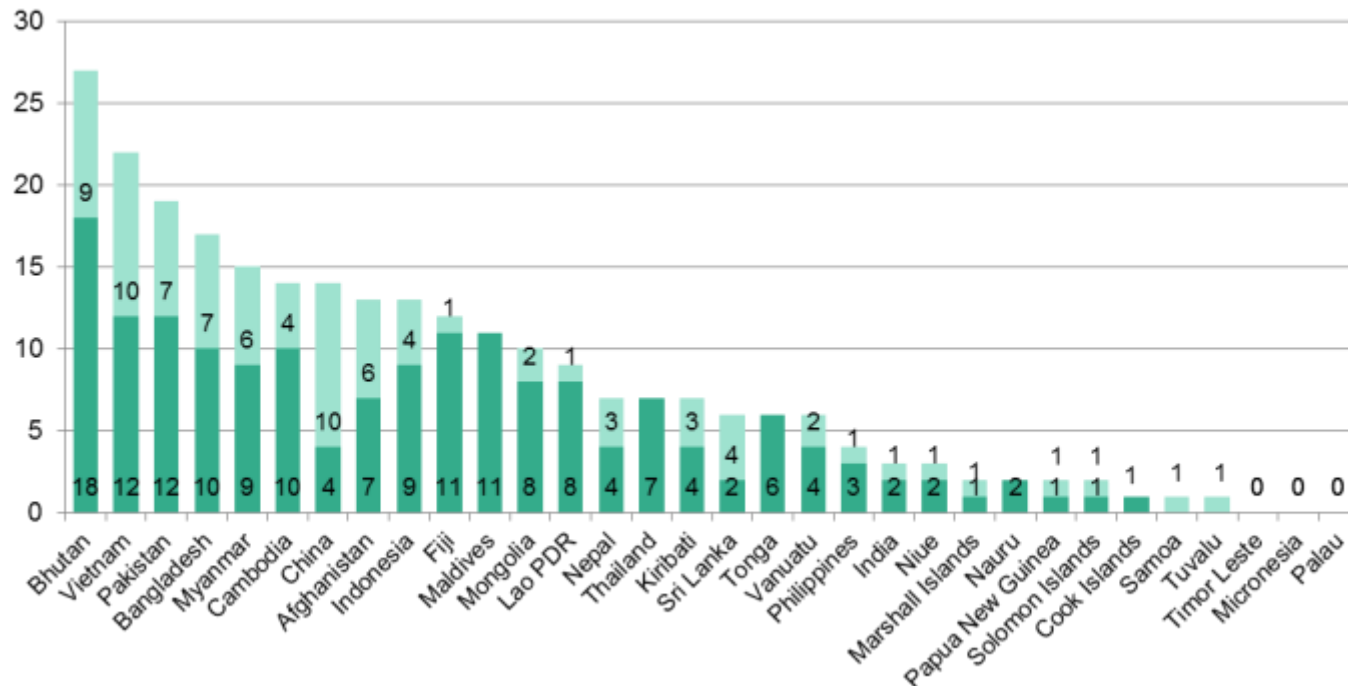


Source: FAO, 2016

Perspectives from Asia and Pacific

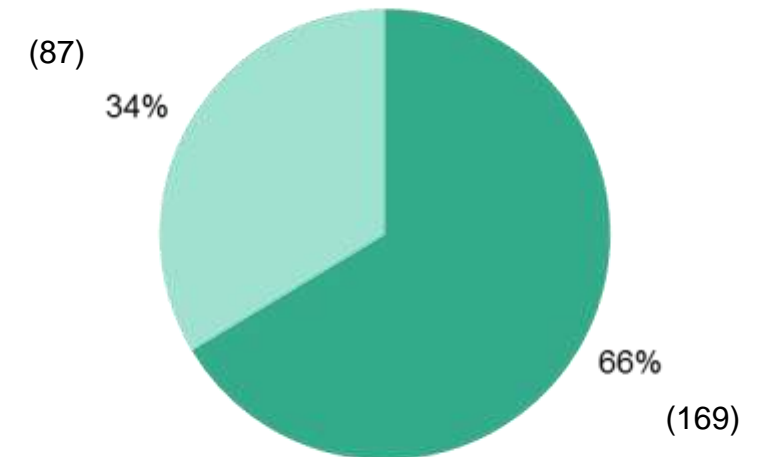
Countries have identified agriculture and land-use as a priority andadaptation is the most pressing concern.

Number of INDC actions for agriculture and land-use sectors in Asia-Pacific
(by country)



Source: FAORAP, 2016

Share of INDC actions identified for the agriculture and land use sectors in Asia-Pacific by type
(percentage - number in brackets)



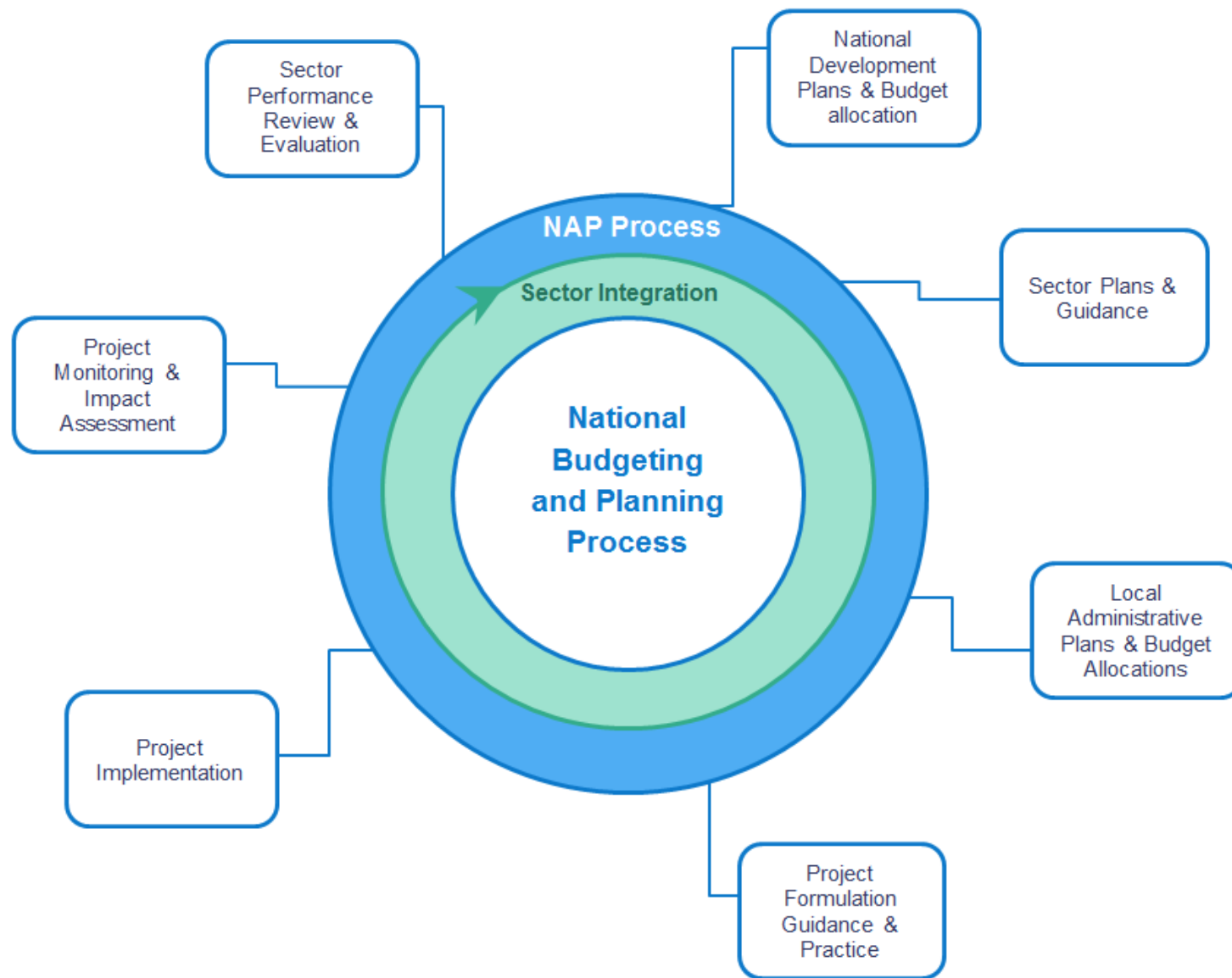
Adaptation Mitigation



Food and Agriculture Organization
of the United Nations

Identifying Entry Points

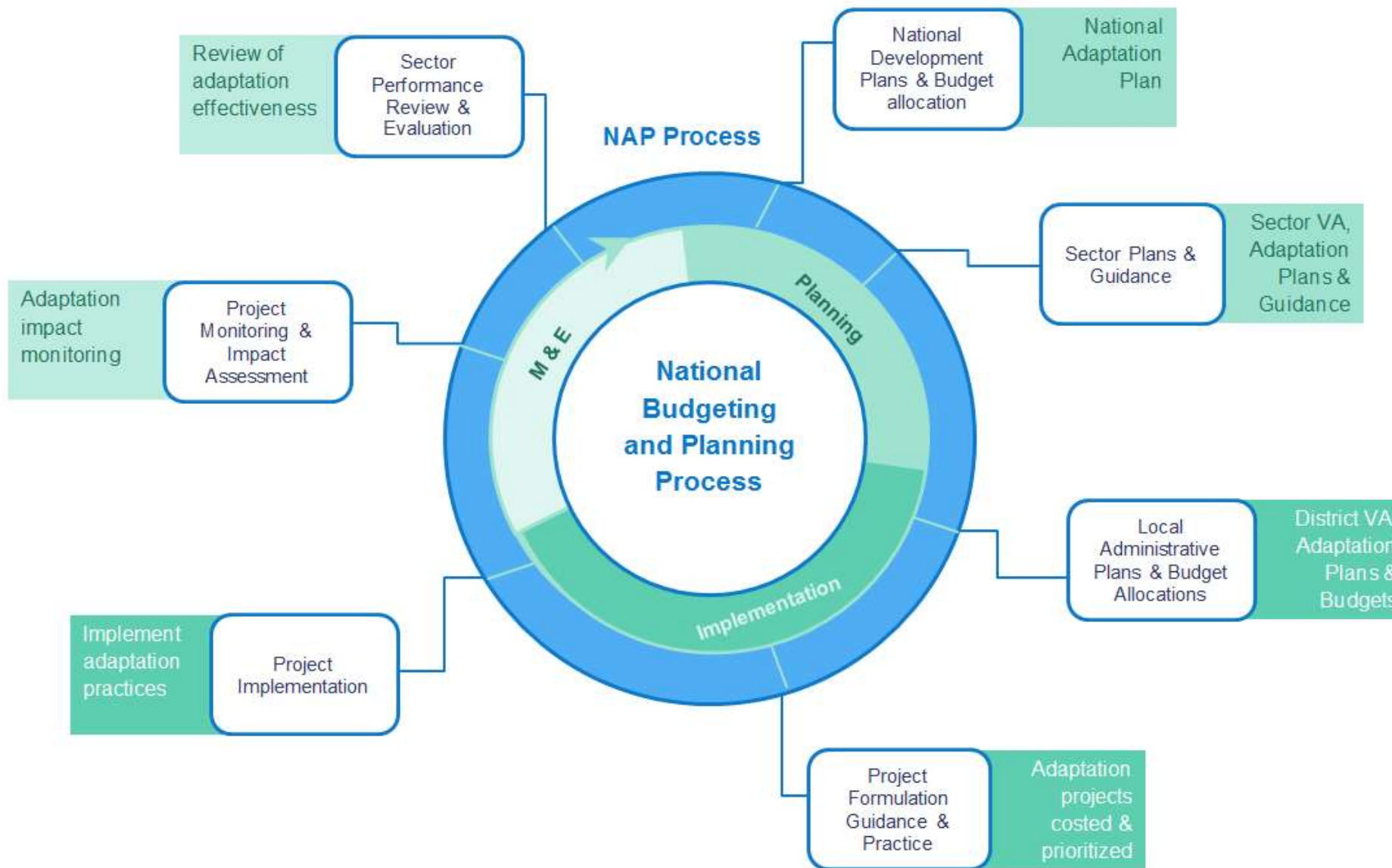
Planning adaptation at the sector level



Overview

- NAP process fits with the broader national development process
- Sector planning processes support national and local actions
- Sector integration is about finding entry points for sector specific adaptation actions

National Planning Process and NAP

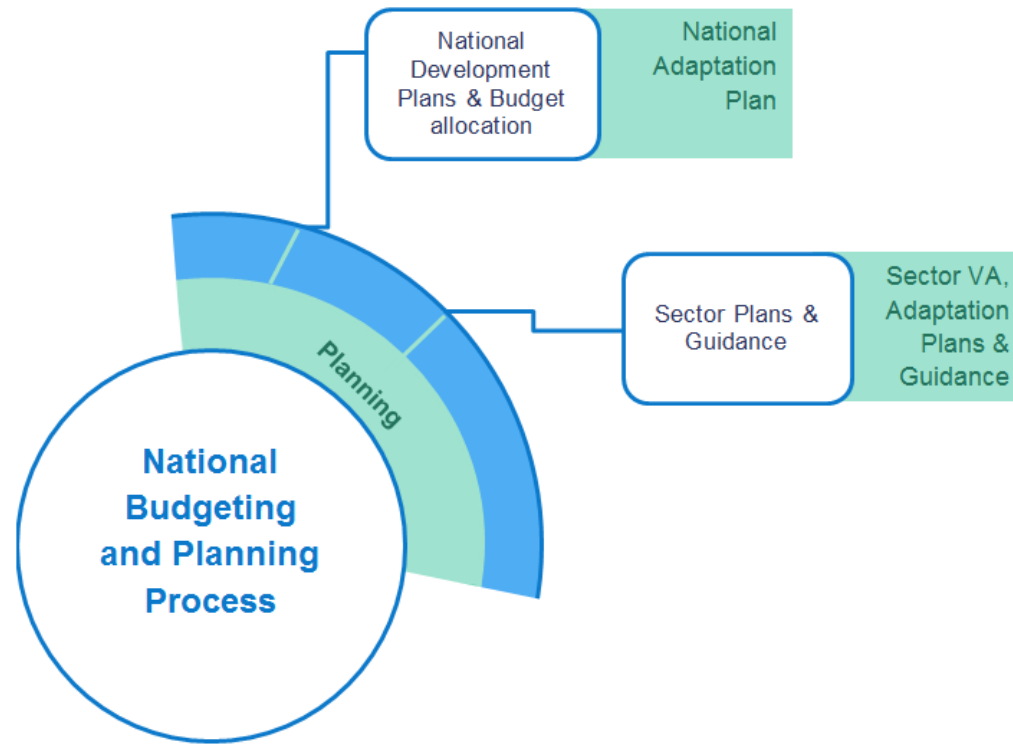


Entry Points

- Policies, plans, procedures, regulations that can may be relevant for adaptation
- Action targeted at entry points encourages a systematic approach to adaptation planning

Identifying Entry Points for Sector Integration

National Sector Planning



Key Questions

- What is the policy context?
- Is there a sector climate change or adaptation policy?
- Is there a sector focal point agency for climate change adaptation planning?
- Which government Ministries and Departments should be consulted?
- Is there a national budget allocation at the sector level for adaptation?
- What are the key sector vulnerabilities?
- Where should adaptation efforts be targeted?
- Are there sector quality standards or guidelines e.g. SEA, EIA, etc

Identifying Entry Points for Sector Integration

Example – Coordination

Adaptation Technical Working Groups for Agriculture

- Cross agency Team involving working-level technical specialists
- Team is engaged for key implementation activities
- Team acts as a focus group for national and field-level training activities
- Team members act as champions for adaptation within their respective agencies/departments
- Established in Thailand, Nepal and Vietnam



Examples

Stock-taking & Sector Adaptation Plans

National Policy Context

- Agriculture Strategic Plan on Climate Change
- Agricultural Development Plan
- Thailand Climate Change Master Plan
- Thailand NAP (led by ONEP)
- Thailand INDC – Adaptation Objectives
- Inter-agency Task Force on Climate Change and Budget/Planning Guidance

Sector Policy

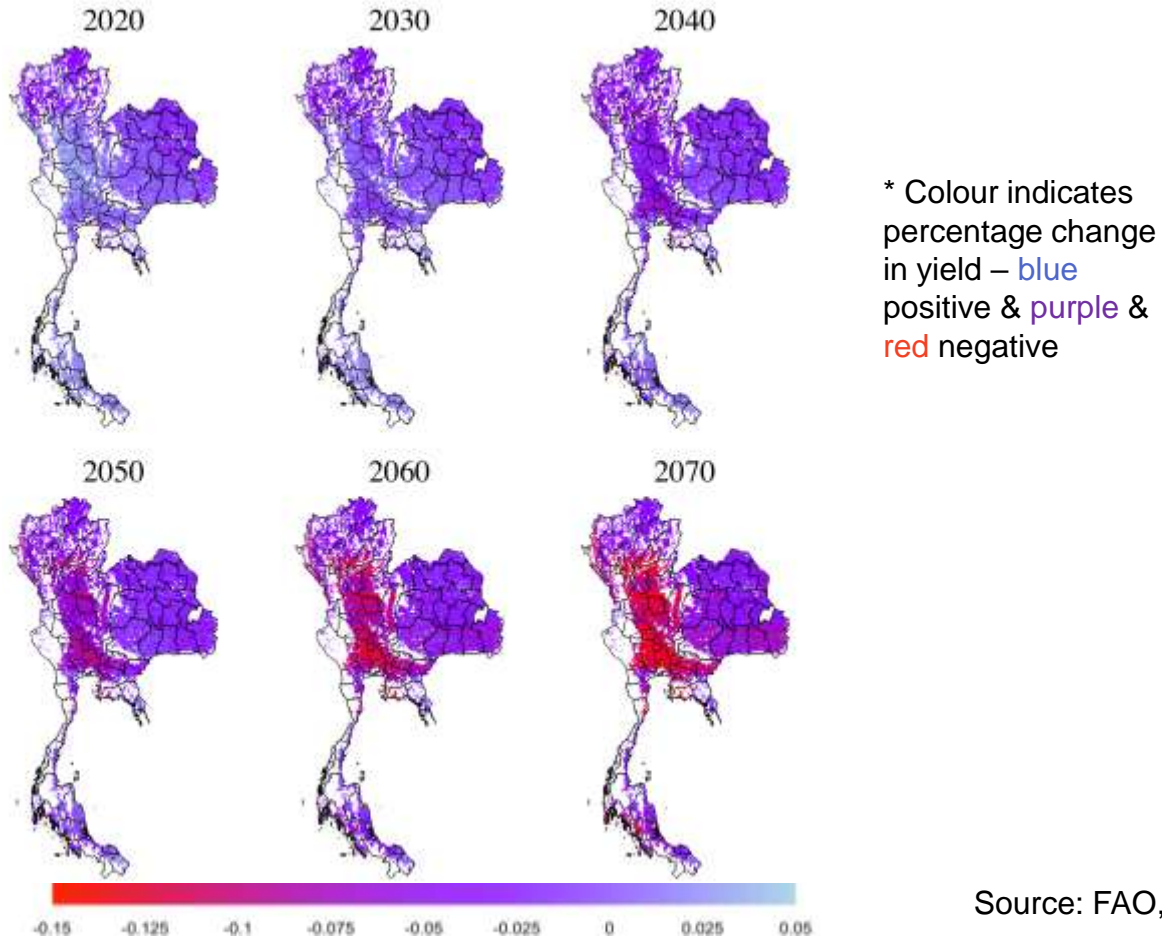
- Agriculture Strategic Plan on Climate Change 2017-2020
- Process involves reviewing existing priorities to address climate risks:
 - Early warning systems
 - Basic infrastructure for agriculture
 - Conservation of agricultural resources
 - Build capacity of farmers

Example - Thailand

Assessing where action is needed most

Projected changes in rice yields with A1B Scenario, Thailand

Average for 14 GCMs, 2020 - 2070



- Projected rice yields to decline in most locations by between 5% and 15%
- Decline in yield will worsen over the long-term
- Simple statistical methodology
- Relatively high resolution
- Good coverage of weather stations

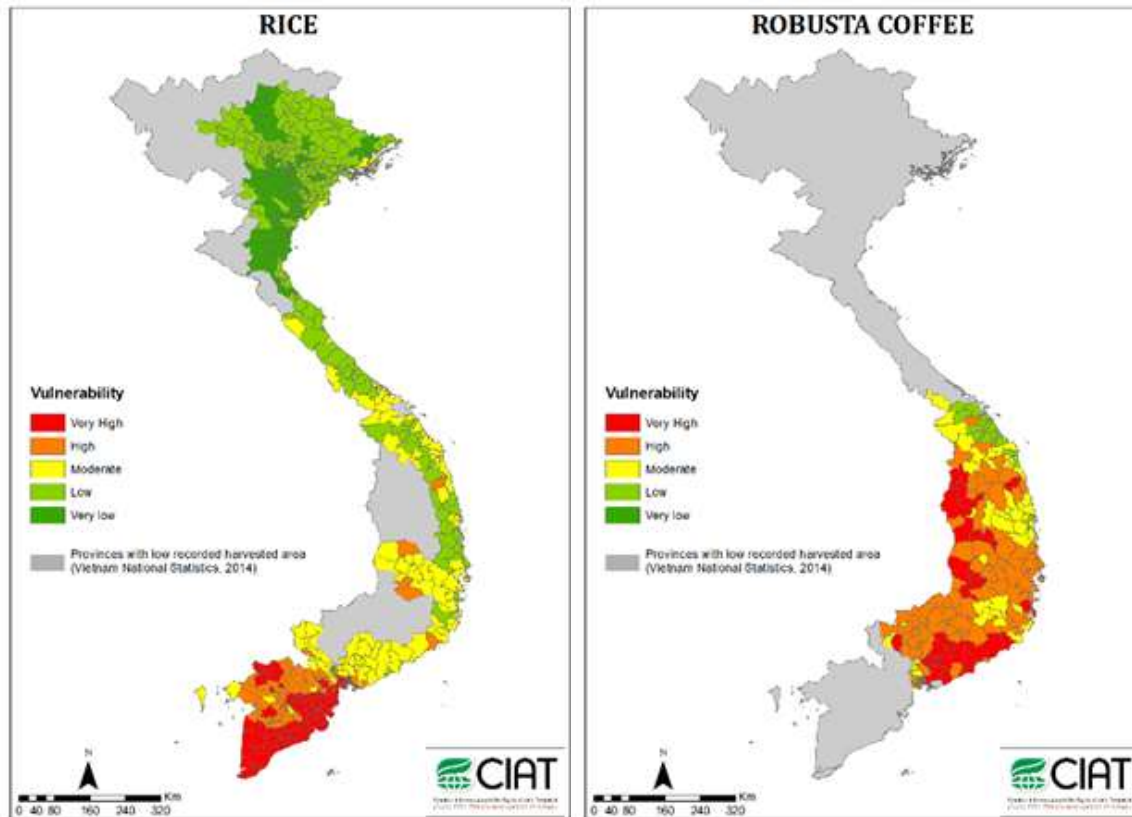
Source: FAO, 2013

Example - Vietnam

Assessing where action is needed most

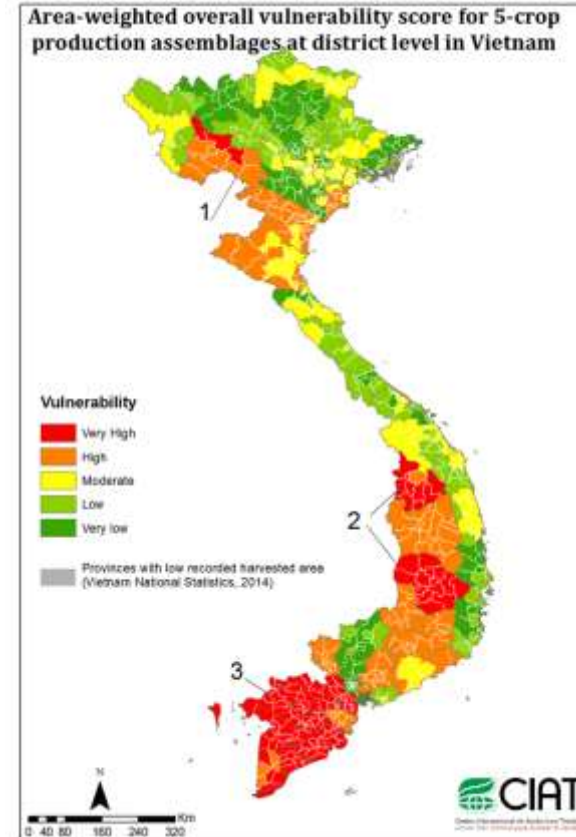
Vulnerability of rice and Robusta coffee, Vietnam

Projected for 2050, RCP 8.5 Scenario



Vulnerability, 5 Key Crops, Vietnam

Projected for 2050, RCP 8.5 Scenario



- Slightly more complex assessment
- 5 crops assessed – Rice, Maize, Robusta coffee, Cassava,
- Based on spatial aggregation of key data on exposure, sensitivity and adaptive capacity

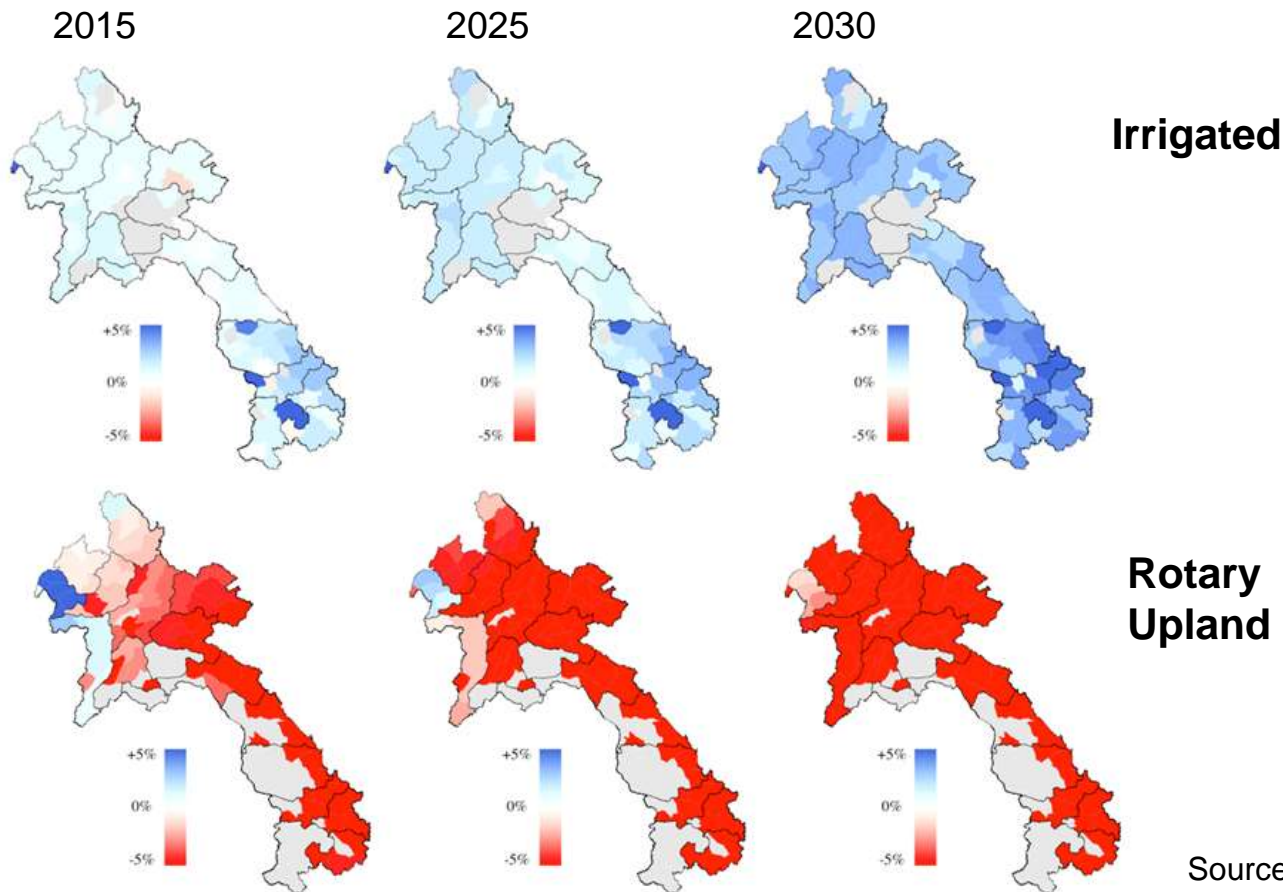
Source: CIAT, 2016

Example – Lao PDR

Assessing where action is needed most

Projected changes in rice yields with A1B Scenario, Lao PDR

Average for 14 GCMs, 2015 – 2030



- Coarse resolution
- Data availability weak
- Limited number of functioning weather stations
- But, provides guidance...
- Upward yield changes for irrigated and low land rice, but downward yield changes in non-irrigated upland rice are projected

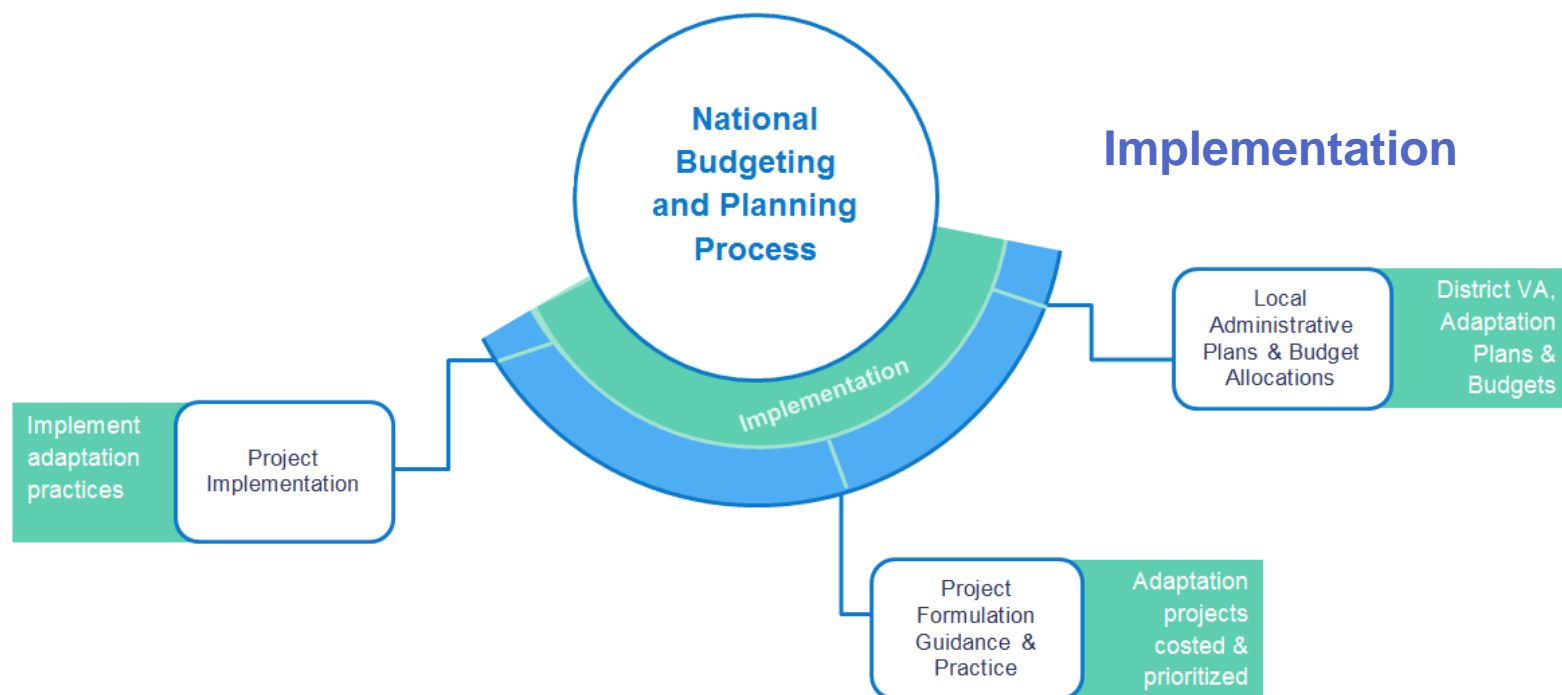
Source: FAO, 2014



Food and Agriculture Organization
of the United Nations

Identifying Entry Points

Implementation of adaptation options



Key Questions

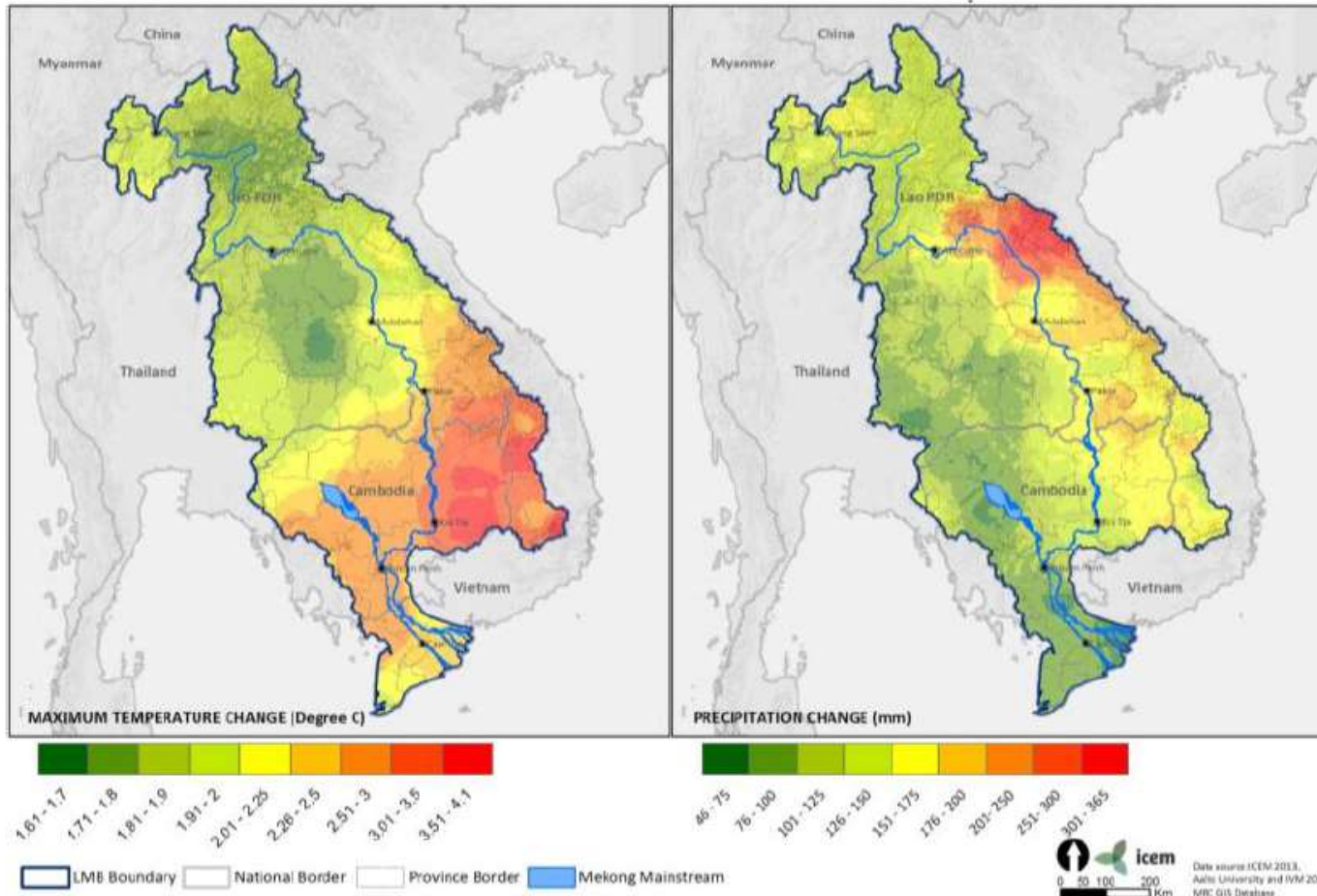
- Which are the key state and local level agencies to be engaged?
- Who provides guidance and implements field level projects for the sector?
- How are sector projects prepared and costed?
- How are projects prioritized?
- How is climate experienced?
- What specific information is available for local spatial scales?
- What are the available sector adaptation options?
- Is there capacity to implement?

Identifying Entry Points for Sector Integration

Example – Lower Mekong Basin

Projected and experienced climate

Projected annual average maximum daily temperature and annual precipitation changes in the Lower Mekong Basin
Average for 6 GCMs, 2050

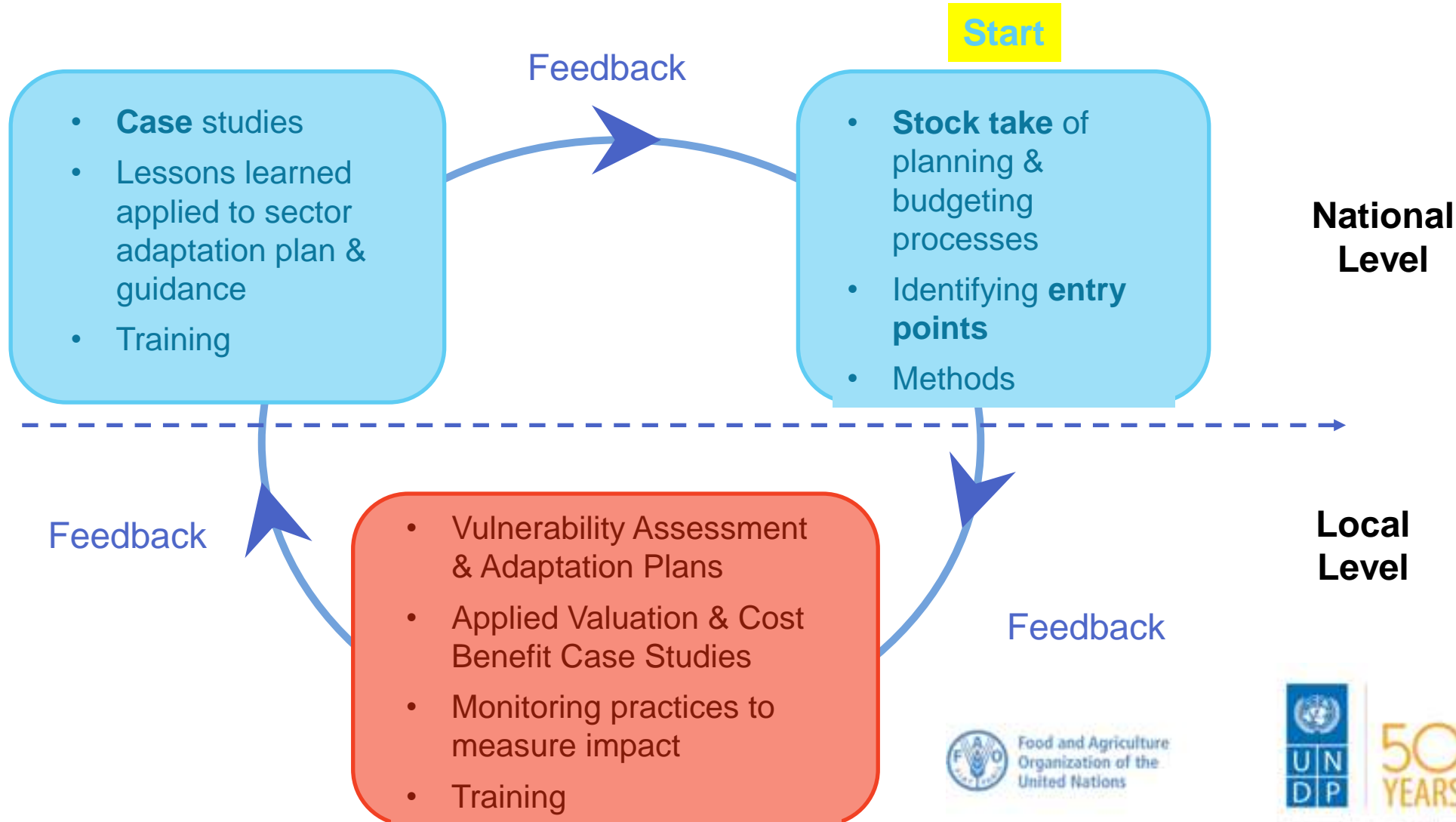


- Projections indicated large increases in average precipitation – particularly around Khammouane in Lao PDR
- Vulnerability assessment indicated action was needed to address flood
- However, the communities were in the midst of a drought

Source: Mekong ARCC 2013

Example – NAP-Ag

Importance of integrating local perspectives



FAO Experience

Adaptation in Agriculture and Land-use Sectors



DRR & Resilience

- Disaster risk assessment and planning
- Vulnerability mapping
- Climate Farmer Field Schools



Crop Production & Protection

- Integrated plant pest management
- Conservation agriculture
- Stress tolerant crops (genetic management)
- Crop diversification



Livestock

- Pasture management
- Improved feed management
- Livestock health



Forestry

- Assisted Natural Regeneration (ANR)
- Sustainable forest management
- Leasehold forestry & livestock system (Silvopasture)



Water

- Irrigation modernization
- Water harvesting/saving technologies
- Reduced water technologies



Fisheries

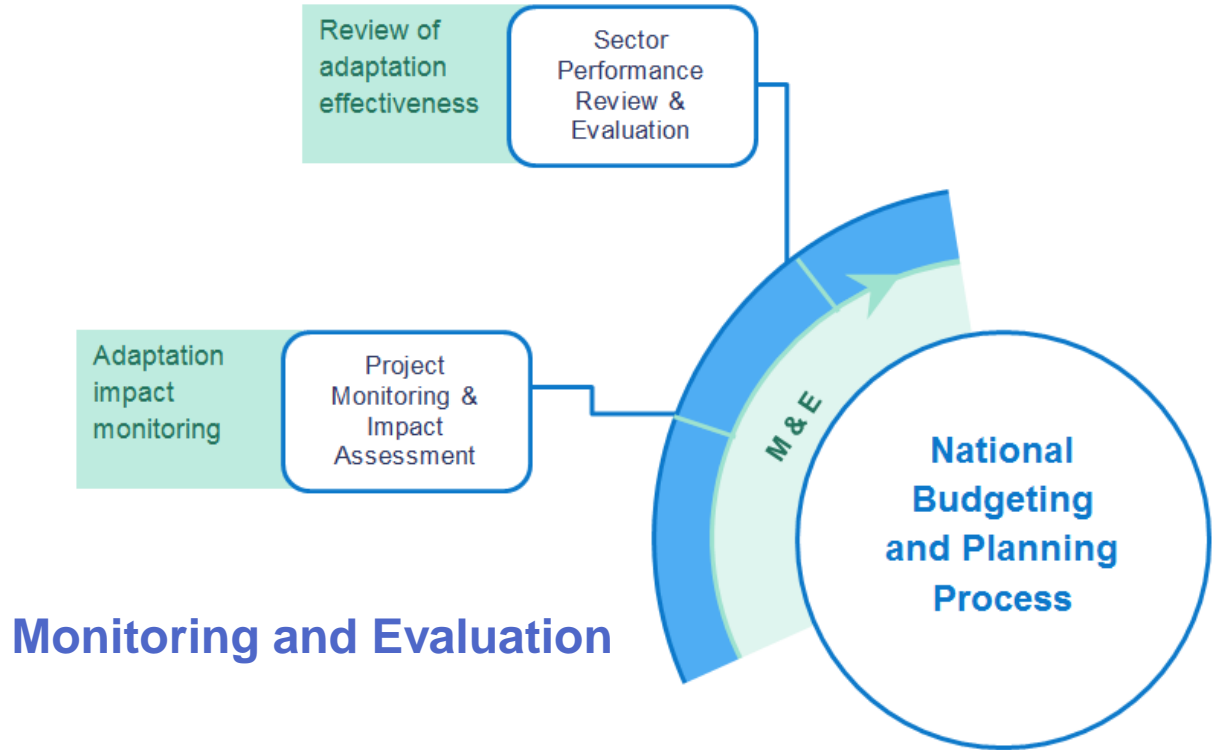
- Coastal management
- Aquaculture infrastructure investments
- Weather-based insurance



Food and Agriculture Organization
of the United Nations

Identifying Entry Points

Monitoring and evaluating adaptation



Key Questions

- How are sector projects monitored?
- What systems are in place to collect sector specific data?
- What types of indicators are relevant for the sector?
- When will progress against national, regional and local plans be assessed?
- How will data be stored?
- How will monitoring and evaluation reports be used?

Identifying Entry Points for Sector Integration

Example

Outcome and Impact Indicators for Agriculture

Example of Potential Impact Indicators for Adaptive Capacity Projects

Adaptation activity: Promote sustainable and efficient agricultural production

Outcome Indicator	Impact Indicator
<ul style="list-style-type: none">• Improved collection and analysis of climatic data• Extent of diversification practices at farm level, based on crop/livestock/horticulture systems suited to local agro-ecological and climate projections conditions• Changes in awareness among farmers of climate change implications and adaptations practices• Improved water management	<ul style="list-style-type: none">• Diversification of farm revenues from adoption of multiple cropping• Stability of yields/productivity over the long term• Regularity of off-farm employment opportunities for women and landless farmers over the long term• Soil and water improvements• Stability of farm-level returns over time• Maintenance of farm-level soil fertility and vegetative cover over time• Maintenance of quality and flow levels of watercourses• Changes in ecological footprint

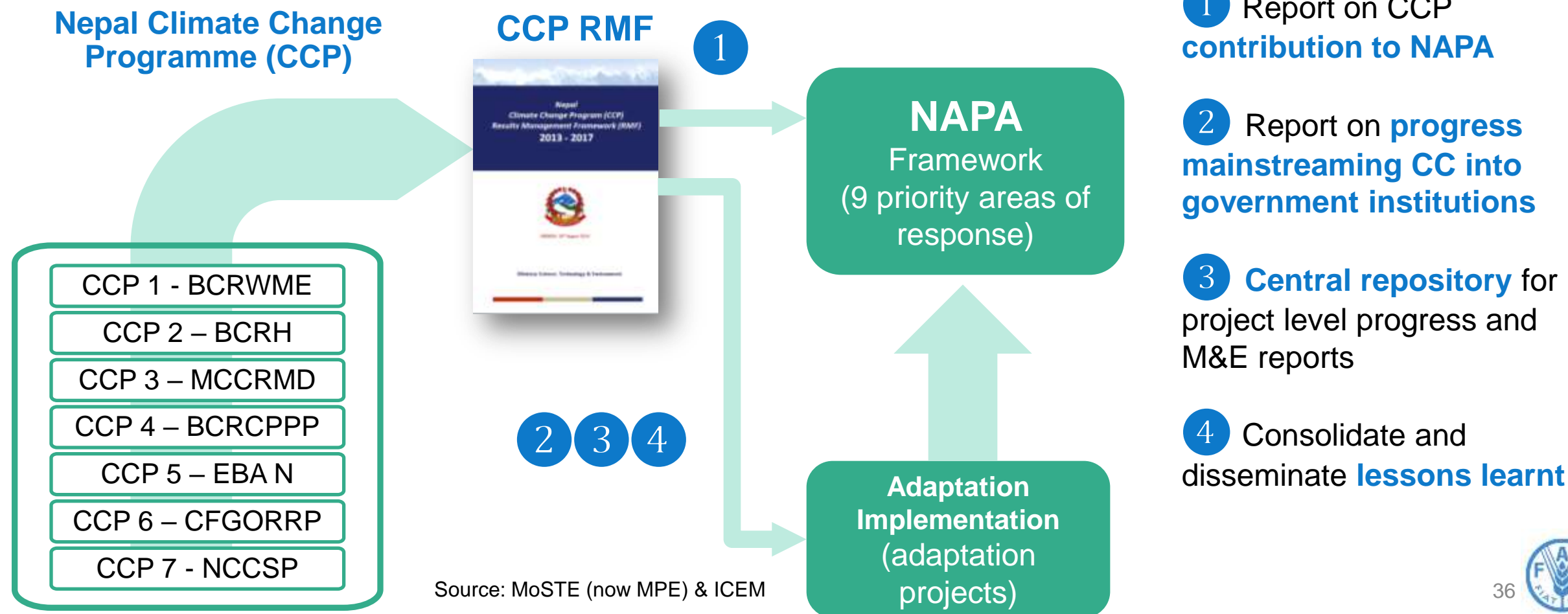
Source: Clim-Eval (2015) adapted from World Bank (2005)

Past Example

Aggregated adaptation M&E in Nepal

Summary reporting arrangements for aggregated Nepal CPCC

Past example supported by CIF Pilot Programme for Climate Resilience (PPCR)





Food and Agriculture Organization
of the United Nations

Group Exercise

Sector integration into the NAP

Questions

1. What are the entry points that could encourage better integration of adaptation into sector planning, implementation and M&E processes?
2. Which agencies within your respective governments at national, regional and local levels should you share the results of this session with to enhance sector integration into the NAP process?



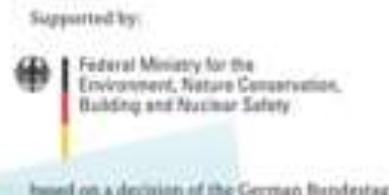
Food and Agriculture Organization
of the United Nations

Take home messages

Sector integration into the NAP

Take away messages

- Sector integration is a crucial element of the NAP process
- Identifying entry points along the planning cycle facilitates effective mainstreaming
- Many experiences and lessons learned
- Wide range of support available to countries from NAP-AG and NAP GSP



Empowered lives. Resilient nations.

Based on a decision of the German Bundestag



Food and Agriculture Organization
of the United Nations

Thank You