



BEFS

Bioenergy and Food Security

FAO BEFS ASEAN Project Inception Meeting

Session 2

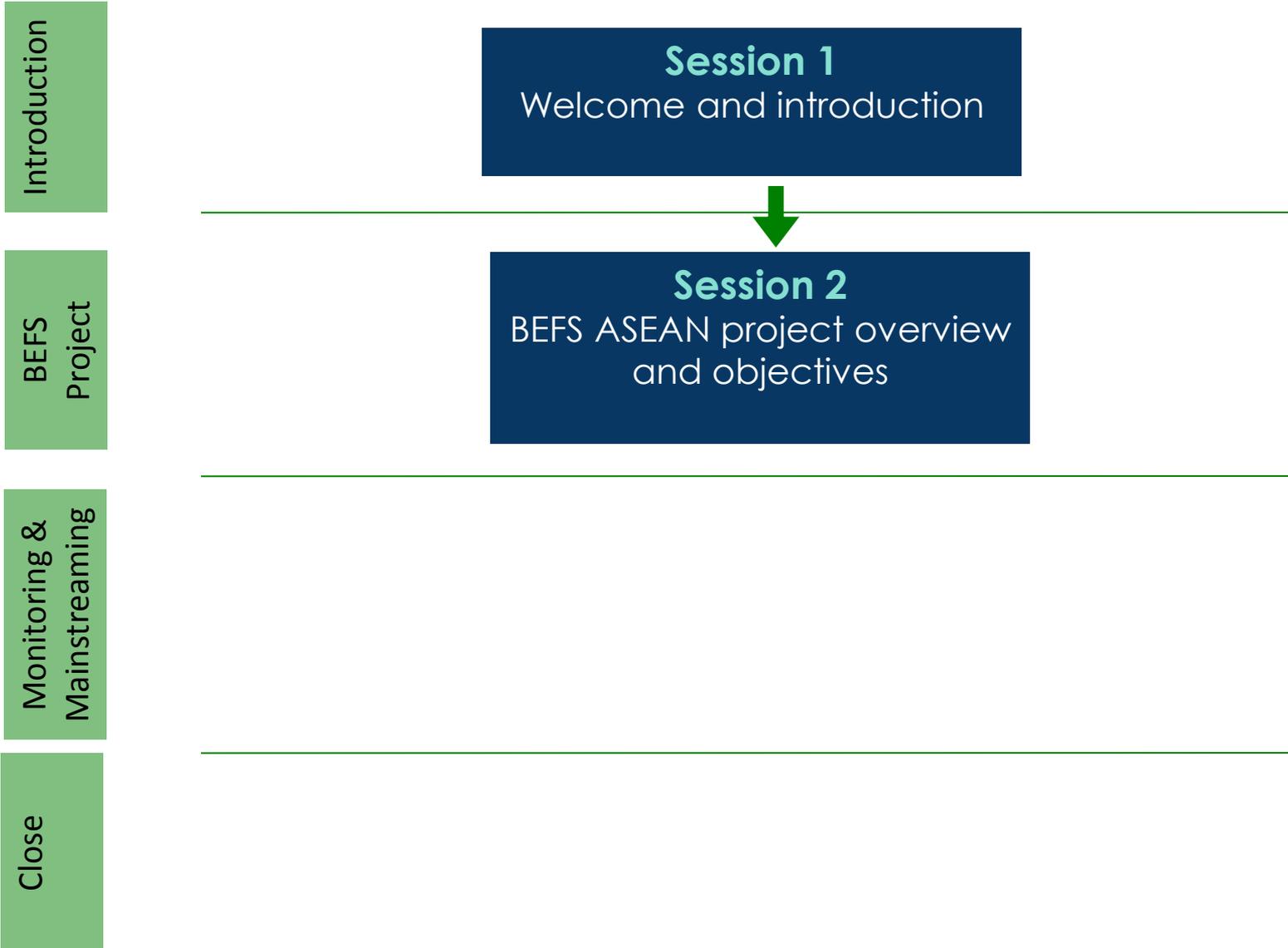
TCP/RAS/3402: BEFS in ASEAN

FAO Regional Office for Asia and the Pacific





Meeting Roadmap





Session overview

1. Bioenergy and food security in ASEAN recap
2. FAO BEFS Approach recap
3. TCP/RAS/3204: BEFS in ASEAN project
4. Feedback and discussion
Discussion session

Topics for discussion



BEFS

Bioenergy and Food Security

Bioenergy in ASEAN recap

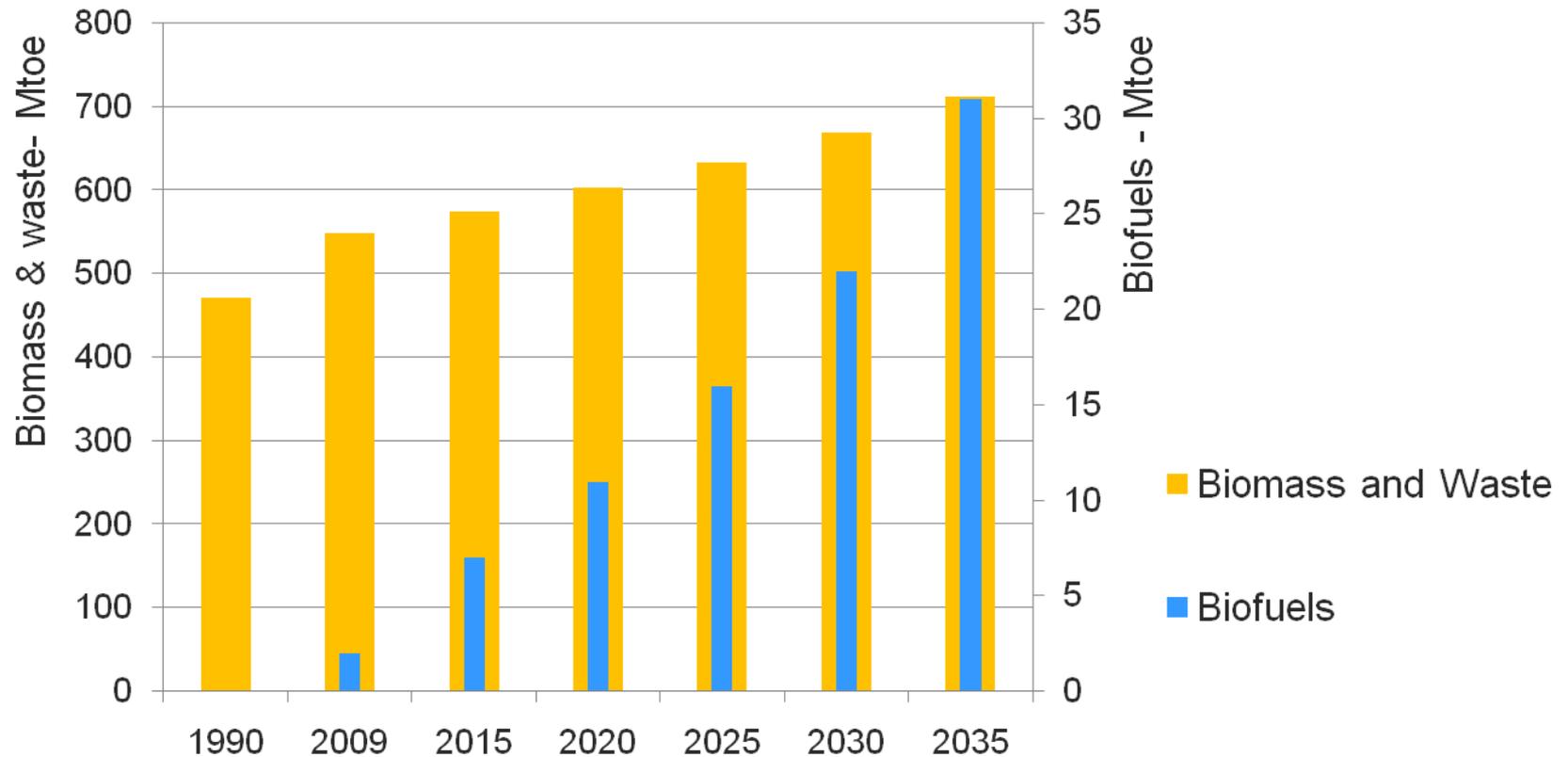
FAO Regional Office for Asia and the Pacific

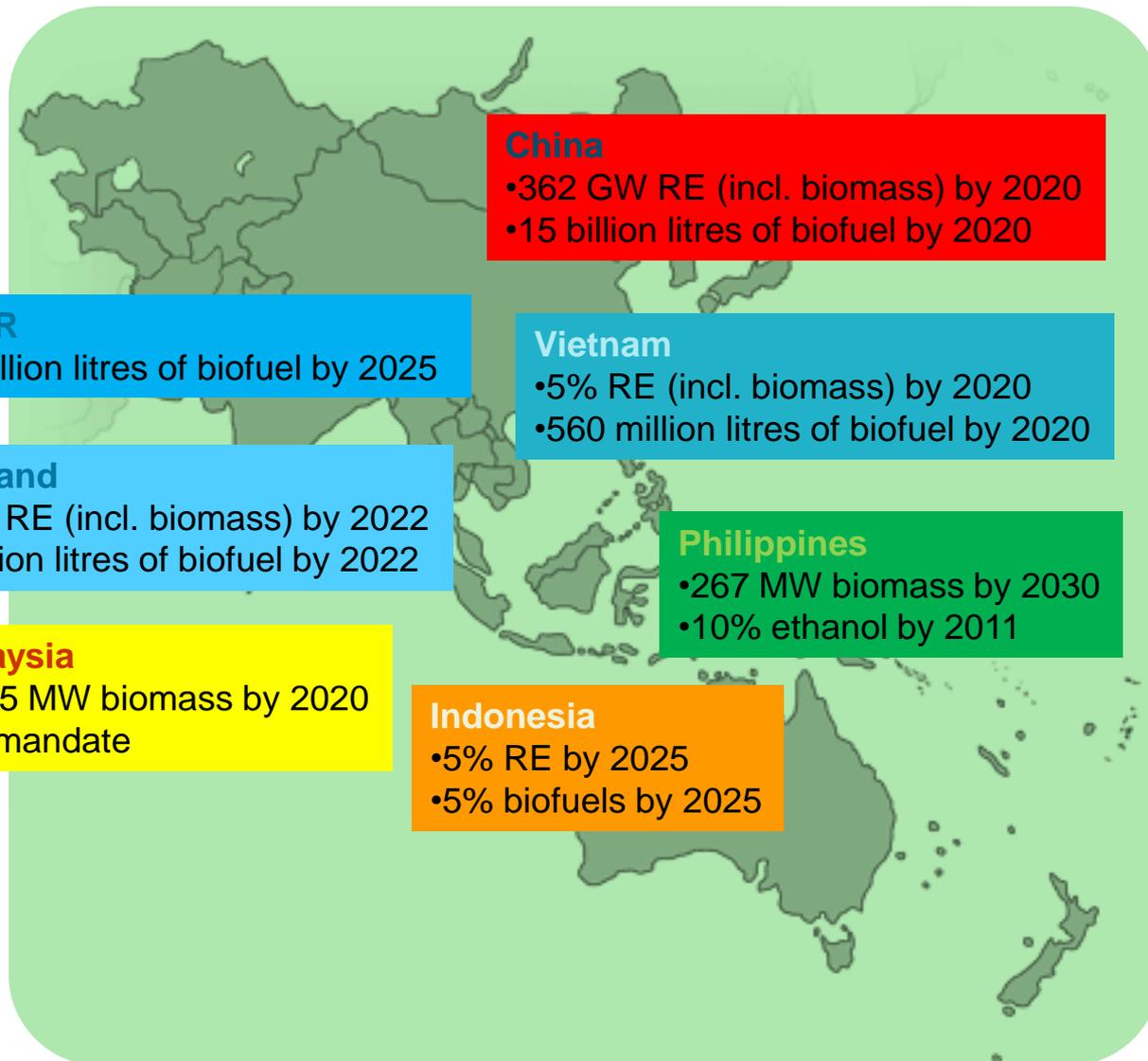




Modern Bioenergy Outlook - Asia

Actual and Projected Bioenergy Demand in Non-OECD Asia, 1990 - 2035





Bioenergy development driven by government



Why Bioenergy?

Net Energy Imports of Selected Countries in ASEAN + 3, 2009

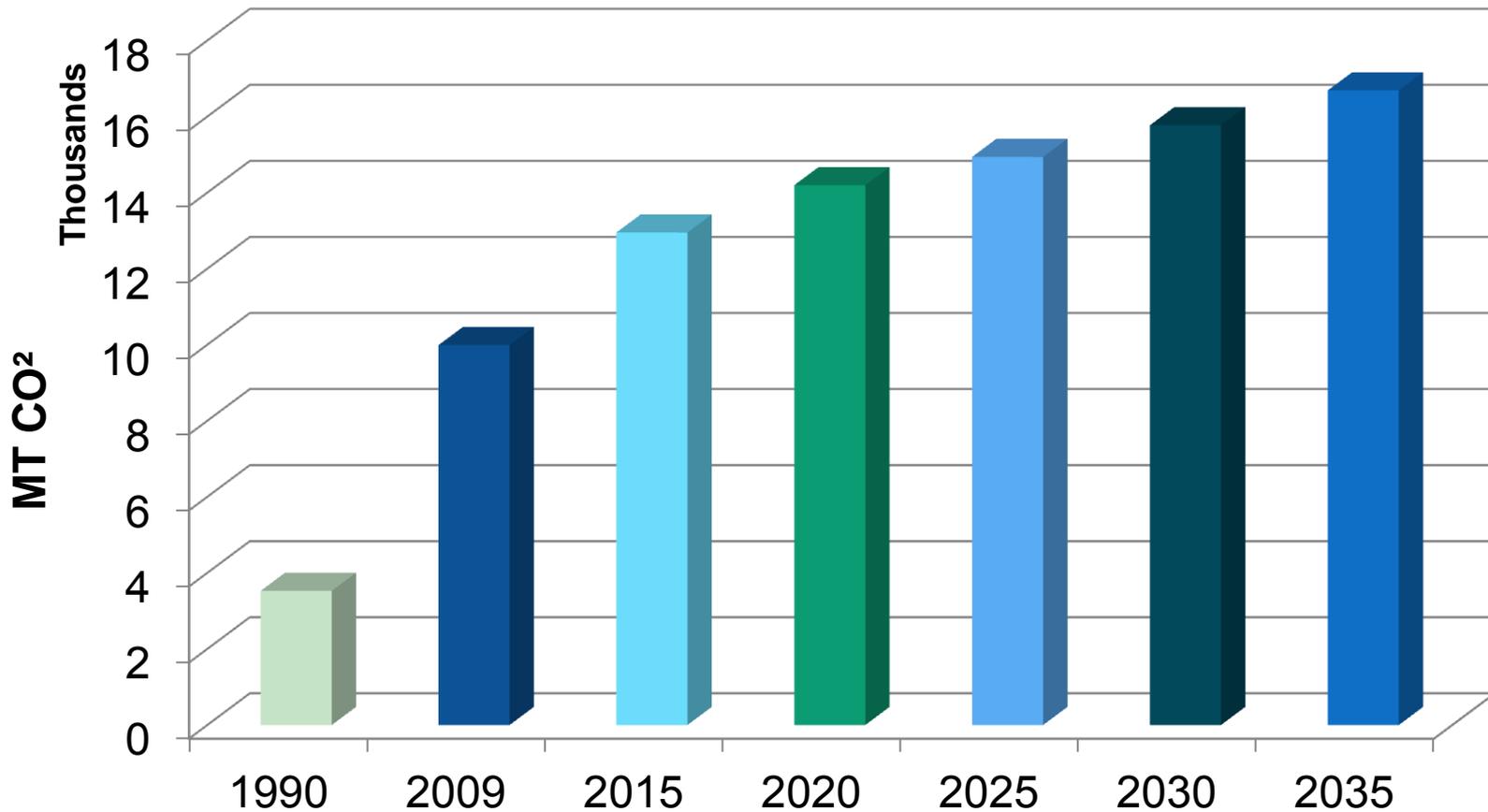
Country	Net energy imports	Net energy imports as a share of TPES
Brunei	-15577	-498.8%
Cambodia	1545	29.8%
Indonesia	-153635	-76.1%
Lao PDR	n/a	n/a
Malaysia	-21712	-32.5%
Myanmar	-7172	-47.6%
Philippines	16336	42.1%
Singapore	58916	118.9%
Thailand	47369	45.8%
Vietnam	-13830	-21.6%
China	274916	12.2%
Japan	384459	81.5%
Republic of Korea	198096	86.4%

Source: IEA, 2012



Why Bioenergy?

Projected CO² Emissions in Non-OECD Asia (MT) 1990-2035





Bioenergy and food security: opportunities

Potential contribution to **agricultural** and **rural development** in a **climate-smart** way, with positive effects on *food* and energy *security*, through:

- Creation of new **income-generating opportunities**, with positive effects on people's access to food
- Potential **diversification** of the **energy supply** and **reduced dependence** on (imported) **fossil fuels**, with positive effects for food *stability*



Bioenergy and food security: opportunities

- Potential improvement in **access to modern energy services**, for businesses and households with positive effects on food *availability and utilization*
- Stimulation of **investments in agriculture**, with positive effects on food *availability*



Bioenergy and food security: risks

- Potential **land-use changes**, with loss or deterioration of biodiversity and ecosystems, which provide essential resources and services for *food security*
- Potential decrease in **soil quality** and **water availability and quality**, with negative repercussions on food *availability, stability* and *utilization*
- Potential **displacement of local communities**, with negative repercussions on their livelihoods and *food security*



Bioenergy and food security: potential competition

- If agricultural intensification and expansion not sufficient to meet the growing demand for bioenergy feedstocks, **food crops** may be **displaced** or **diverted** to the energy market
 - Plus, bioenergy feedstock production **competes** for the same **resources** (e.g. land, water and fertilizers) that are used in the production of food crops.
Bioenergy co-products can lessen this competition.
- potential contribution to **changes** in **food prices**



Welfare impacts of food price increases

In the **short run**:

- Negative impact on *net-importing countries* and *net-consuming households*
- Positive impact on *net-exporting countries* and *net-producing households*

In the **medium/long run**:

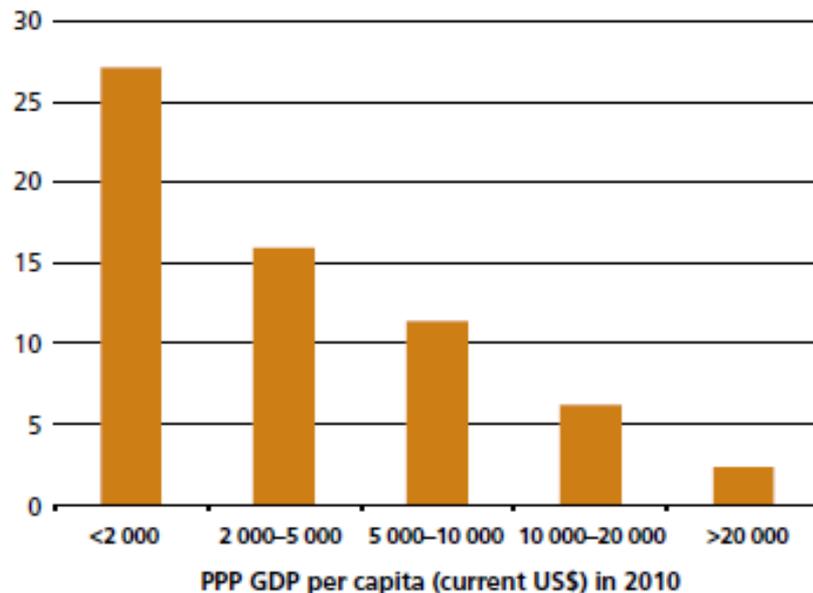
- Potential *behavioural responses* by consumers, e.g. switch to less costly foods
- Potential agricultural *supply response*



Agriculture, growth & food security

Prevalence of undernourishment declines as GDP per capita increases

Prevalence of undernourishment (percentage) in 2010



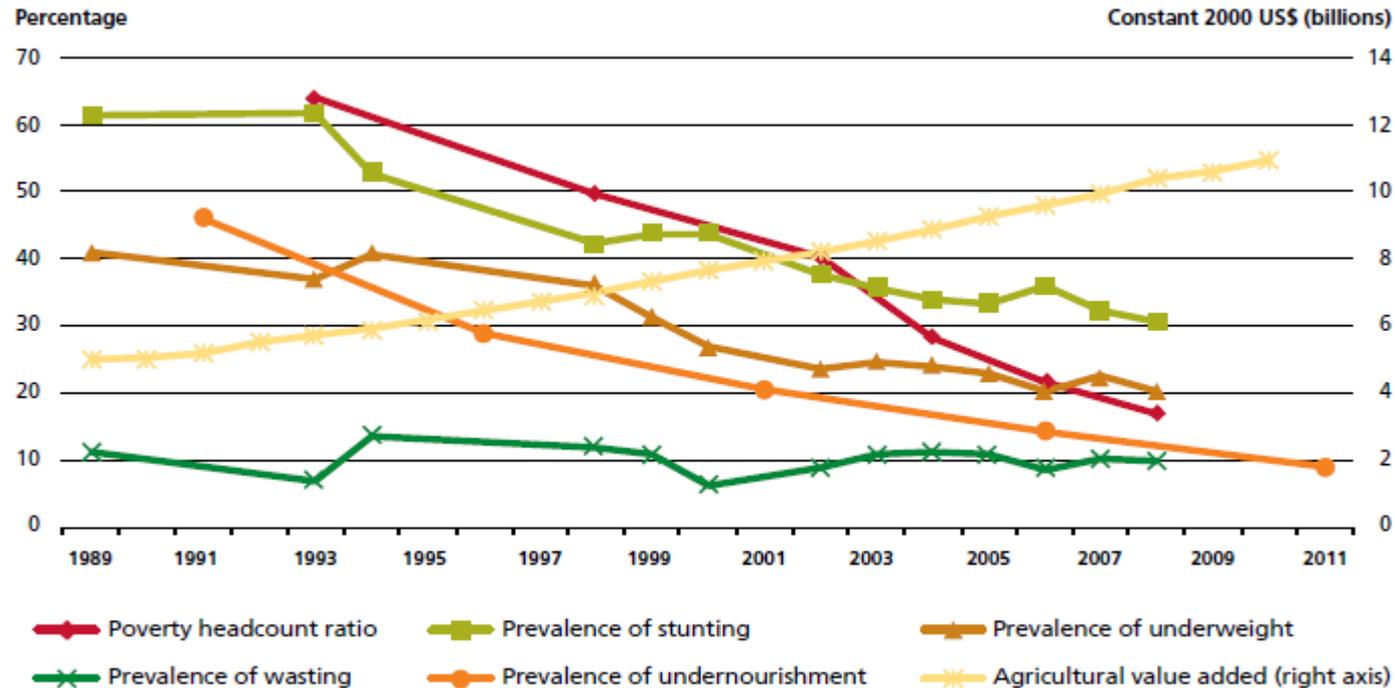
Note: PPP = purchasing power parity
Source of raw data: FAO and World Bank.

Source: FAO, 2012

Benefits need to reach the poorest groups

Agriculture, growth & food security

Indicators of agricultural GDP, poverty and malnutrition in Viet Nam, 1989–2011



Note: Data on prevalence of stunting, underweight and wasting refer to children under five years of age.
 Source of raw data: FAO and World Bank.

Source: FAO, 2012

Agricultural growth can reduce hunger



BEFS

Bioenergy and Food Security

Case Study

FAO Regional Office for Asia and the Pacific





Greater Mekong Sub-Region Case study

Case study

Cassava



Thailand

- Exports opportunities growing
- Domestic demand for ethanol feedstock to grow

China - Policy Action

- Ethanol tariff reduction & feedstock restrictions
- 650 million litres of cassava ethanol in 2010

Vietnam

- Record harvests
- Production facilities proposed

Lao PDR

- Cassava expansion
- Production facilities proposed

Cambodia

- Strong growth in cassava production



Case Study: Key questions to consider

- What share of production increase comes from agricultural expansion, intensification and/or crop shift?
- How could this expansion affect natural resource use, agricultural producers and the economy?
- Which production pathways are most competitive?
- Are there other potential impacts, for example GHG emissions reductions?



BEFS

Bioenergy and Food Security

FAO BEFS Approach recap

FAO Regional Office for Asia and the Pacific





FAO's BEFS Approach: the why

- **Modern bioenergy development** can create both risks and opportunities for food security
- In order to help countries **assess** and **manage** these **risks** and **opportunities**, FAO has developed the **Bioenergy and Food Security (BEFS) Approach**



FAO's BEFS Approach: the what

A **multidisciplinary** and **integrated** set of **tools** and **guidance** that support:

- **Establishment of an institutionalized dialogue** among relevant national stakeholders
- **Assessment of the sustainable bioenergy potential**
- **Risk prevention and management**
- **Investment Screening and Appraisal**
- **Impact monitoring, evaluation and response**
- **Capacity building** at *technical* and *policy* level



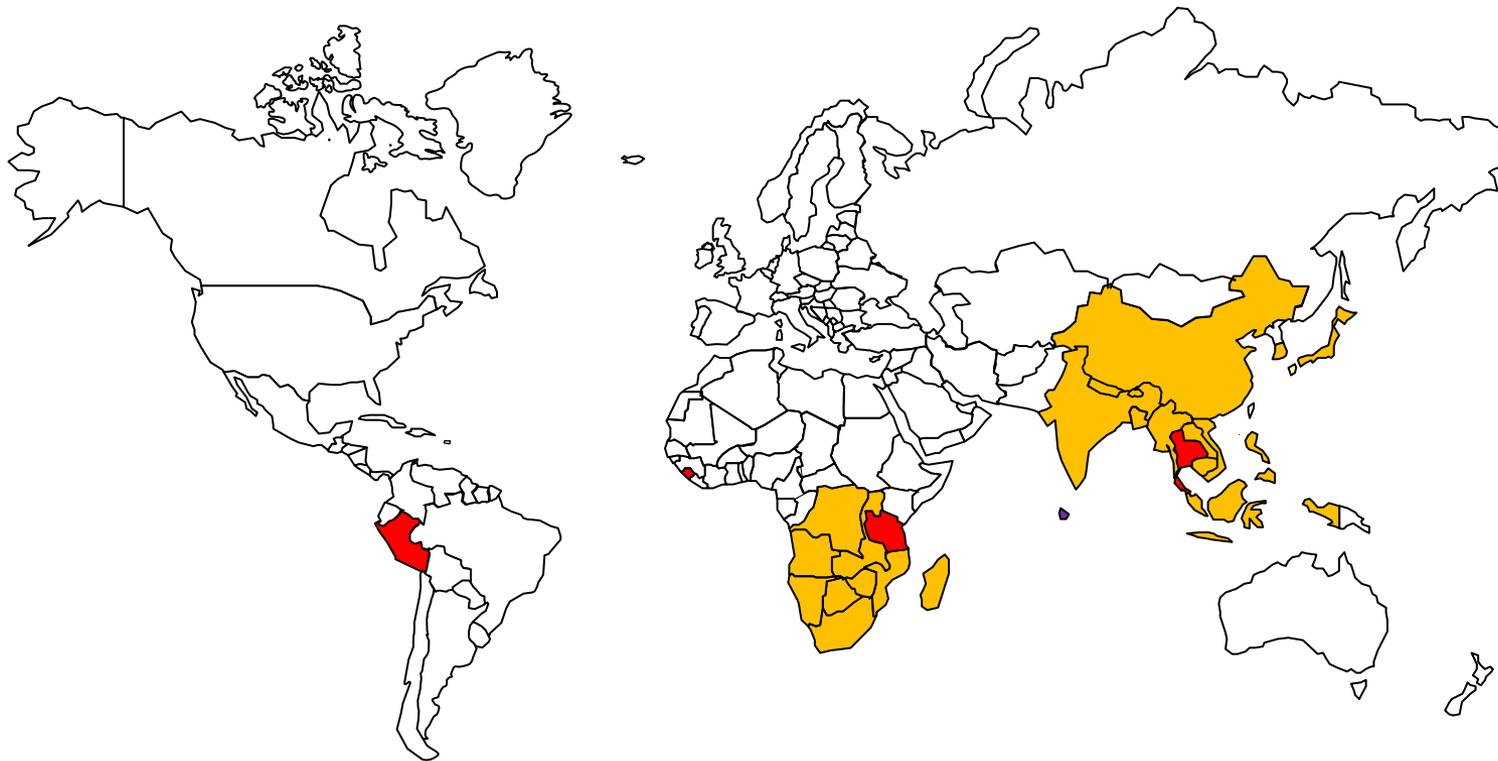
BEFS Approach: supporting sustainable bioenergy development

The BEFS Approach **helps** countries **design** and **implement sustainable bioenergy policies and strategies**, by ensuring that bioenergy development:

- fosters both **food and energy security**, and
- contributes to **agricultural and rural development** in a **climate-smart** way.



BEFS country work to date



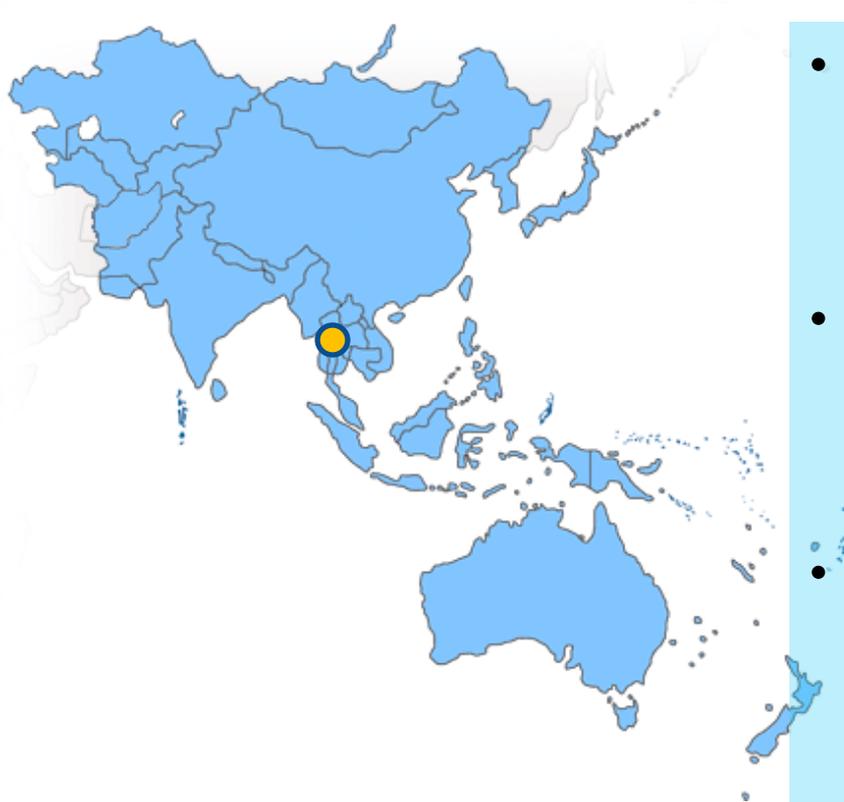
-  regional activities
-  country activities



Wide range of support materials available



Regional information sharing



- BEFS Regional Policy Dialogue, June 2010
- Development Partners, Bangkok, February 2011
- Sustainable Bioenergy Symposium & Regional Policy Dialogue, June 2011



BEFS

Bioenergy and Food Security

TCP/RAS/3204: BEFS in ASEAN project

FAO Regional Office for Asia and the Pacific



TCP/RAS/3204

FAO support:

- National capacity building
- Regional cooperation
- Regional technical capacity for ASEAN Secretariat (Ag Industries & NR Division)
- Formation/reinvigoration of national bioenergy policy bodies directed by SOM AMAF & SOME
- National and regional BEFS mainstreaming strategies where requested
- Targeted technical assessments – natural resources, technologies and trade & economic

Two year, \$0.5 million program





BEFS in ASEAN

Cha-am Hua Hin Statement on ASEAN Plus Three Cooperation on Food Security and Bio-Energy Development - 2009

5. Develop a comprehensive strategy on sustainable and integrated food and biofuels production and consumption
9. Promote bio-energy trade and technology innovation to ensure longterm viability of bioenergy
10. Enhance the partnership with regional and international organizations



Supporting Frameworks

ASEAN Plus Three Comprehensive Strategy on Food Security and Bioenergy Development Framework

Goal

To foster multi-sectoral cooperation among APT countries in ensuring long-term food security and bioenergy development

Objectives

- a) Clarify potentials, implications and interlinkages of biofuel to food and energy security
- b) Promote bioenergy development for sustainable agricultural development and livelihoods
- c) Strengthen national policy on sustainable bioenergy development

Needs to be advanced



Supporting Frameworks

ASEAN Plan of Action for Energy Cooperation 2010 – 2015: Renewable Energy Program

Selected goals

- Strengthen regional cooperation on development of renewable energy including biofuels
- Promote open trade, facilitation and cooperation in the renewable energy sector and related industries

Selected actions

- Enhancing awareness and information sharing and strengthening networks
- Promoting commercial development and utilization of biofuels



Complimentary Initiatives

- ASEAN Integrated Food Security Framework (AIFS)
- APT Emergency Rice Reserve (APTERR)
- ASEAN Food Security Information System (AFSIS)
- Asia Biomass Energy Principles
- ASEAN Plan of Action on Science and Technology
Flagship Programme on Biofuels

Regional framework

TCP/RAS/3204

Development Impact

Sustainable, food secure, climate-friendly bioenergy contributes to economic development in AMS

Project Outcome

Bioenergy provides more effective energy services in AMS with minimal or no impact on food security and the environment.

Desired impact





Planned implementation

Project Phase	June – December 2012	January – June 2013	June – December 2013	January – June 2014
Phase 1: The status and progress of bioenergy development in AMS and establishment of the ASEAN framework for BEFS is assessed.				
Phase 2: Sustainable, food secure and climate friendly bioenergy systems and technologies are promoted for adoption in AMS.				
Phase 3: AMS capacity to assess trade-offs between bioenergy development and food security is strengthened.				
Phase 4: National and regional mainstreaming strategies for managing trade-offs between BEFS in AMS are developed.				



Phase 1

The status and progress of bioenergy development in AMS and establishment of the ASEAN framework for BEFS is assessed.

Activities

Activity 1.1: Collect baseline data.

Activity 1.2: Review current policies and progress against ASEAN Plus Three (AP3) Strategy on BEFS.

Activity 1.3: Organize senior officials meeting of AP3 agriculture and energy ministries.

Activity 1.4: Establish national bioenergy policy networks.

Activity 1.5: Identify areas for priority action at the regional and national level to further implementation of the AP3 Strategy on BEFS.



Phase 2

Sustainable, food secure and climate friendly bioenergy systems and technologies are promoted for adoption in AMS.

Activities

Activity 2.1: Conduct a regional agricultural outlook taking special account of AMS (& APT) bioenergy policies.

Activity 2.2: Conduct regional assessment of natural resources for bioenergy production.

Activity 2.3: Conduct detailed regional assessment of bioenergy systems and technologies suitable for AMS (incl. APT).

Activity 2.4: Conduct regional assessment on the macroeconomic impact of regional bioenergy developments and household food security in ASEAN.

Activity 2.5: Organize AP3 Forum on Biomass Energy (AP3FBE).



Phase 3

AMS capacity to assess trade-offs between bioenergy development and food security is strengthened.

Activities

Activity 3.1: Develop regional and country-level BEFS profiles for each AMS.

Activity 3.2: Carry out TNA for ASEC and relevant AMS agencies on managing trade-offs between BEFS.

Activity 3.3: Develop and implement training workshops in AMS on FAO BEFS analytical framework.



Phase 4

National and regional mainstreaming strategies for managing trade-offs between BEFS in AMS are developed.

Activities

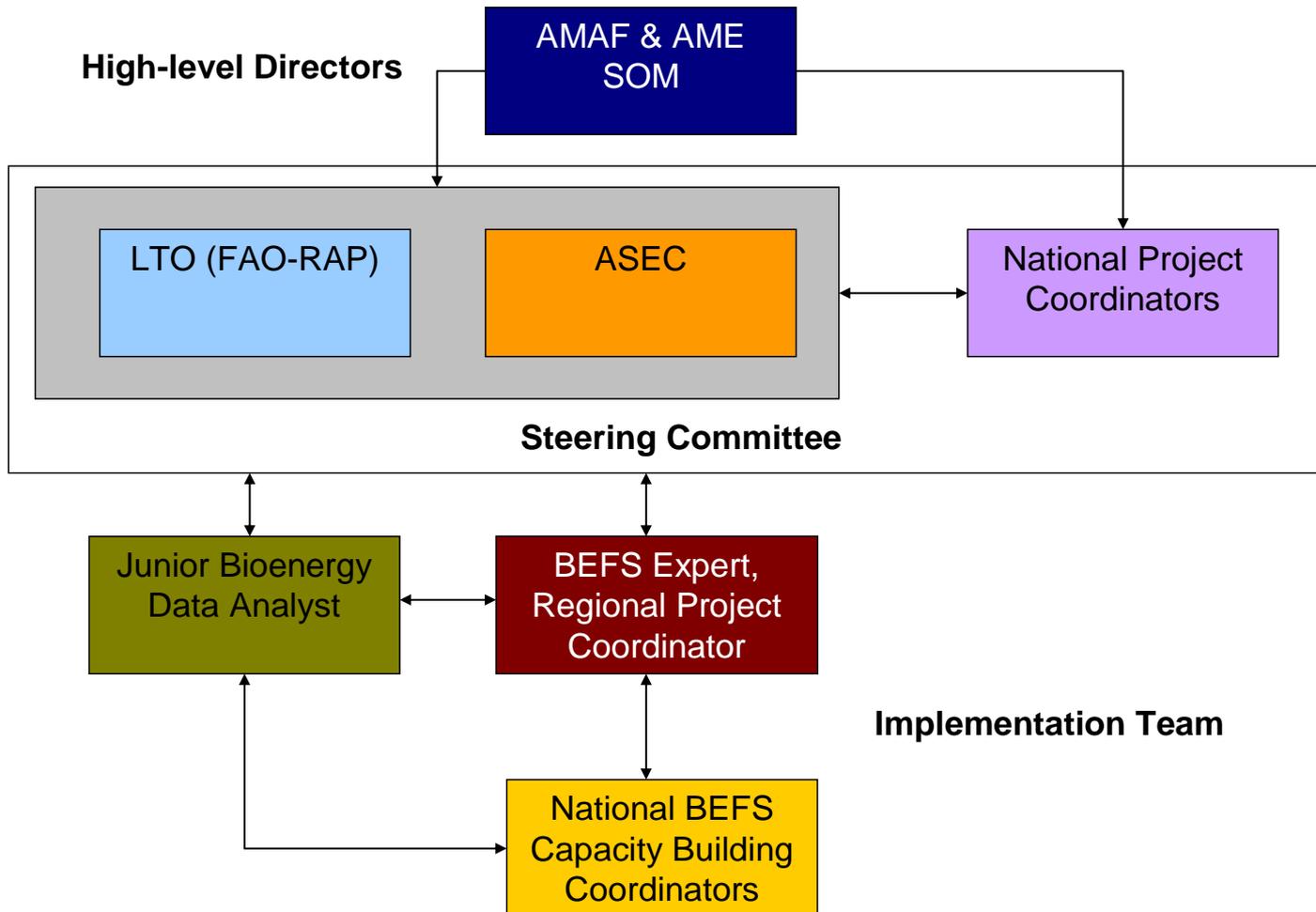
Activity 4.1: Develop regional BEFS mainstreaming strategy in collaboration with the ASEC.

Activity 4.2: Develop national BEFS mainstreaming strategies for AMS.

Activity 4.3: Organize senior officials meeting of AP3 agriculture and energy ministries.

Activity 4.4: Identify funding options to support mainstreaming activities at regional and national levels.

Project Management



Inputs

Input Description	Amount (USD)
Consultants	97,200
Contracts (with technical organizations)	152,800
Travel	81,666
Training	56,000
Expendable Equipment	2,000
Nonexpendable Equipment	3,000
Technical Support Services	44,275
General Operating Expenses	19,134
Support Cost	31,925
Grand Total	488,000

FAO Funding



BEFS





BEFS ASEAN – Proposed next steps



- Regional inception meeting
- Establishing national focal points
- BEFS capacity building with ASEC
- Regional bioenergy development assessments/ modeling
- Identify regional public/private sector partners, research & capacity building partners
- Develop country profiles for BEFS ASEAN website



BEFS

Bioenergy and Food Security

Discussion

FAO Regional Office for Asia and the Pacific





Discussion Session

Instructions:

- The floor is open for discussion regarding TCP/RAS/3402
- Each participant has been provided with a hard copy of the project design summary
- An electronic copy of the full project document is available on your BEFS thumb drive



BEFS

Bioenergy and Food Security

Thank You

