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Low Emissions Asian Development (LEAD) Program: National GHG Inventory Capacity Building in Asia

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(ICF/LEAD)
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LEAD Program

Goal

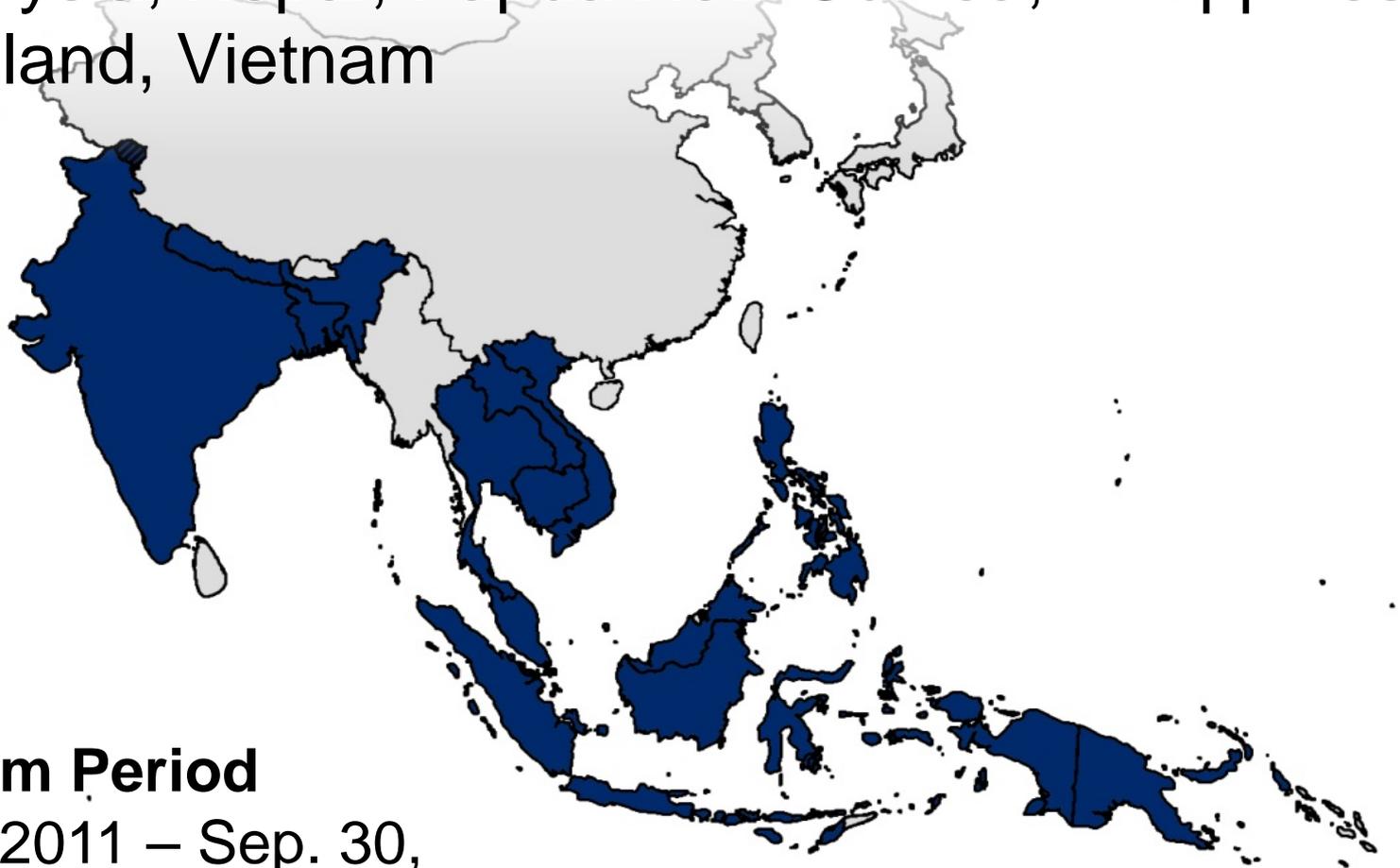
- To establish the **enabling conditions** for achieving sustained low emissions development in Asia's developing countries.

LEAD builds capacity for low emission development strategies (LEDS) in four areas:

- Analysis and modeling of economic development pathways, emissions trajectories, and technology options
- Greenhouse gas (GHG) inventories and accounting
- GHG market readiness
- Regional cooperation

LEAD Program Countries

Bangladesh, Cambodia, India, Indonesia, Laos, Malaysia, Nepal, Papua New Guinea, Philippines, Thailand, Vietnam



Program Period

Oct. 1, 2011 – Sep. 30, 2016

LEAD Strategy

- For each country we develop a customized activity plan based on detailed discussions on their capacity and their needs.
- We have a core team of experts in Bangkok that we supplement with a country coordinator and international experts, who are both in-house and from specialized subcontractors.
- We are willing to collaborate with other capacity building programs.

GHG Inventory Capacity Building Activities

Key Activities to build capacity to prepare accurate, verifiable national GHG inventories:

- Technical Assistance on developing national inventory systems, and improving inventory methods, activity data (AD) collection and documentation.
- Training on accounting protocols and tools:
 - Regional training center e-learning
 - Other regional courses
- Assistance for improved, source-specific emission factors.

Approach to GHG Inventory Capacity Building

Work alongside country experts to develop an improved GHG inventory (focusing on key sectors, such as Agriculture, LULUCF, and energy):

- Preparing a transparent, accurate, complete, consistent and comparable inventory is capacity building.
- Builds a solid foundation for more regular reporting and improving inventory quality (ongoing input to other analyses).



Approach to GHG Inventory Capacity Building



Scoping Sessions

Select team members based on country objectives; National Coordinator selection is key



Initial Planning Session

Country(s) present current inventories; review inventory system and estimation methodologies; and identify AD gaps



Working Sessions

Assist with cross-cutting inventory management tasks, assembling AD; produce inventory and document the

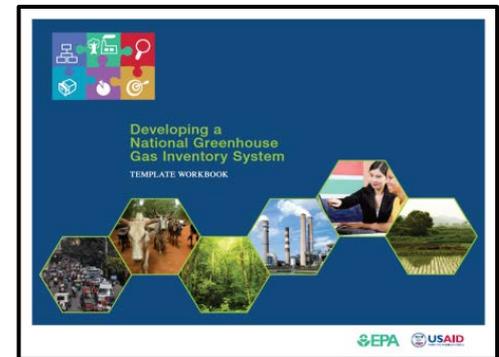


Wrap-up Session

Country(s) present improved inventories and discuss next steps

Technical Assistance: National Inventory Systems

- Tools to support Capacity Building Efforts for National Inventory Systems.
 - EPA Template Workbook
 - Institutional arrangements, methods and data documentation, QA/QC, archiving system, key category analysis, national inventory improvement plan.
 - Key Category Analysis tool



Instructions:

1. Verify that the current year remains in column C correctly correspond to the categories in column B.
2. Click the **Set Key Categories** button to the right.

The resulting key categories are those categories shaded in green.

Key Category Tier 1 Level Assessment for the Current Year

CATEGORY	Current Year Estimate	Total Estimated	Contribution Percentage
1.3.2 - Fuel Combustion - Automobile - Energy Subsector (Road Fuel) - CO ₂	14,202	6,217	36%
2.0 - Chemical Industry - Processional Production - PFCs	122,028	6,218	5%
1.4.1 - Fuel Combustion - Automobile - Energy Subsector (Gasoline Fuel) - CO ₂	113,843	6,187	40%
2.2 - Other Industry - Sewer and Wastewater Treatment - CH ₄	11,846	6,182	73%
1.4.2 - Fuel Combustion - Automobile - Energy Subsector (Diesel Fuel) - CO ₂	84,009	6,172	7%
2.01 - Chemical Industry - Petrochemical and Carbon Black Production - CO ₂	84,009	6,172	86%
1.4.3 - Fuel Combustion - Automobile - Energy Subsector (LPG Fuel) - CO ₂	62,323	6,162	92%
2.02 - Chemical Industry - Processional Production - HFCs	61,128	6,019	98%
1.4.0 - Fuel Combustion - Automobile - Energy Subsector (Waste Heat Recovery) - CO ₂	58,127	6,014	99%
2.1 - Product Use as Substitute for Chlorine Depleting Substances - Gas Production - HFCs, PFCs	58,127	6,014	100%
1.0.3 - Land Conversion to Wetlands - Methane - CO ₂	58,127	6,014	100%
2.03 - Chemical Industry - Processional Production - CO ₂	58,078	6,010	100%
1.0 - Carbon Dioxide Transport and Storage - CO ₂	33,922	6,008	182%
1.4.0 - Fuel Combustion - Chemical Production - CO ₂	14,222	6,007	146%
1.0.2 - Fugitive Emissions from Fuels - CO and Volatile Gas - Natural Gas - CO ₂	7,971	6,007	187%
1.4.0 - Fuel Combustion - Chemical Production - CO ₂	1,164	6,004	187%
1.4.2 - Fuel Combustion - Automobile - Manufacturing Industries and Construction - CO ₂	1,111	6,002	189%
2.02 - Chemical Industry - Processional Production - PFCs	1,111	6,002	189%
1.4.3 - Fuel Combustion - Automobile - Energy Subsector - Fuel - CO ₂	1,041	6,002	189%
2.1 - Product Use as Substitute for Chlorine Depleting Substances - Refrigeration and Air Conditioning - HFCs, PFCs	1,041	6,002	189%
1.0.4 - Land Conversion to Wetlands - Methane - CO ₂	1,041	6,002	189%
1.4.2 - Fuel Combustion - Automobile - Energy Subsector (Liquid Fuel) - CO ₂	4,943	6,004	117%
2.04 - Chemical Industry - Processional Production - SF ₆	4,943	6,004	117%
1.0 - Chemical Industry - CO ₂	1,772	6,002	117%
1.4.2 - Fuel Combustion - Automobile - Energy Subsector (Liquid Fuel) - CO ₂	1,748	6,002	112%
2.2 - Other Industry - Sewer and Wastewater Treatment - CO ₂	1,748	6,002	112%

Technical Assistance: Methods, AD Collection and Documentation

- Tools to support technical assistance on inventory methods, activity data collection and documentation:
 - Activity Data Assessment Questionnaires for Energy, Agriculture/LULUCF, Waste.
 - Agriculture, Land-Use (ALU) Data Workbooks and Software.

Technical Assistance: Emission Factors

- Report on current regional challenges and priorities for emission factor (EF) development:
 - Identify 6 emission factors to be improved.
 - Regional consultation process.
 - Draft report completed.

Training in accounting protocols and tools

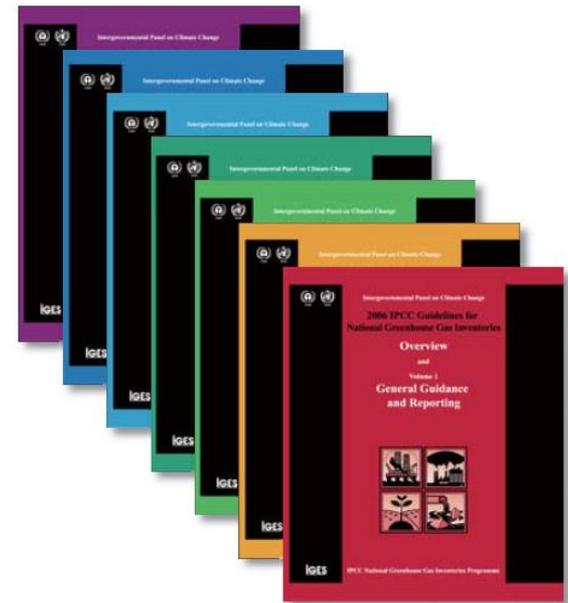
- 2006 IPCC Guidelines Modified blended E-Learning Curriculum
 - Overview course + sector course + 3 day “capstone” course.
- Mangrove Carbon Protocol Training
 - Training on carbon stock assessment for wetlands: Policy makers, government officials, and practitioners (April-May 2013 in Thailand).
- Other related courses through the regional training center.

2006 IPCC Guidelines Courses: Overview

- Blended e-learning courses covering GHG inventories using the 2006 IPCC Guidelines and other state-of-the-art practices.
- Courses delivered using Learning Management System (LMS).
 - ♦ Courses will be interactive, and include examples, exercises, and quizzes.
- Allows trainees to take the courses from anywhere in the world and anytime.
- Courses will meet the needs of individuals with no or little experience on GHG inventories.

2006 IPCC Guidelines Courses: Course content

- The content of the courses is based on the 2006 IPCC Guidelines for National GHG Inventories:
 - ♦ These guidelines are world's most rigorous and comprehensive technical methods on GHG emission and removal estimation.
 - ♦ The methods are the foundation for all GHG policies and programs, from carbon markets, to corporate reporting, to international treaty compliance.
 - ♦ The elite few with deep expertise in the "IPCC guidelines" are recognized as globally leading environmental professionals.



2006 IPCC Guidelines Courses: Curriculum

- The Diploma program entails successfully completing two of the following online courses and passing exams:
 - ♦ 501 Introduction and cross-cutting issues (mandatory)
 - ♦ 511 Energy (fuel combustion and fugitive emissions)
 - ♦ 521 Industrial processes and other product use
 - ♦ 531 Agriculture
 - ♦ 541 Forestry and other land uses
 - ♦ 551 Waste
- Courses contain examples, case studies, and interactive exercises using real case studies from national inventories, CDM methodologies, and software tools.
- After completing the online coursework, the program concludes with a 3 day hands-on capstone workshop.

Monitoring and Evaluation of the Capacity Building Activities

- ❑ Inventory Project Progress Indicator (IPPI)
 - ◆ To assist in evaluating the effectiveness of GHG inventory capacity building.
 - ◆ To identify potential improvements for non-Annex I country GHG inventories and inventory systems.
- ❑ Basis of IPPI
 - ◆ 5 UNFCCC criteria associated with inventory technical quality, “TACCC”: Transparency, Accuracy, Consistency, Completeness, Comparability.
 - ◆ 2 Additional elements for IPPI assessment criteria: Institutional Arrangements, Improvements.
- ❑ We deliver IPPI using a collaborative approach

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