5. ウェブサイト

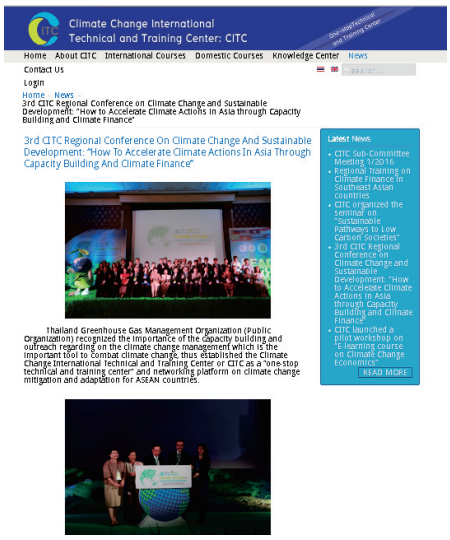
添付資料 5　ウェブサイト

研修やイベントに関する情報発信、タイ国内、ASEAN 諸国をはじめとする気候変動関係者との情報共有、ネットワーク構築の手段、気候変動緩和策・適応策に関する情報プラットフォームとして、CITC ポータルサイト（http://citc.in.th/）が開設された。

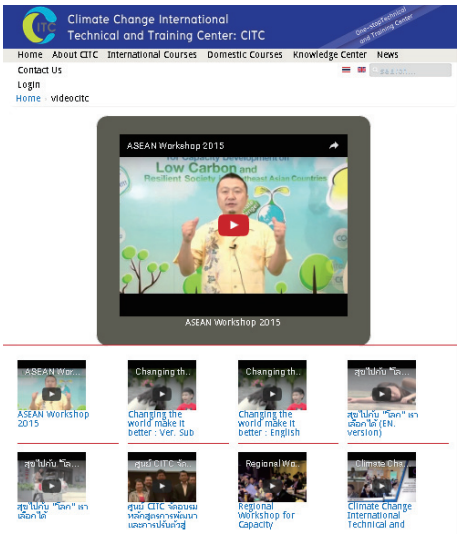
以下にポータルサイトの概要を示す。技術移転の内容等は 2.1.5 に記載の通り。

CITC ポータルサイト

CITC 実施フレームワークの説明

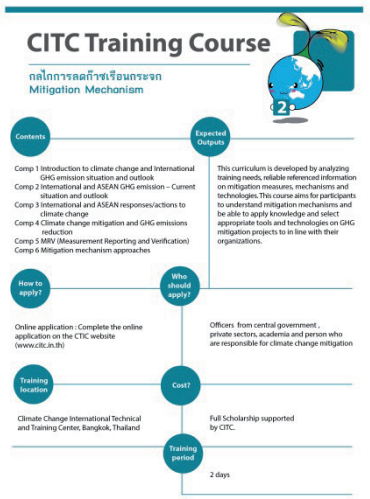


CITC 活動報告

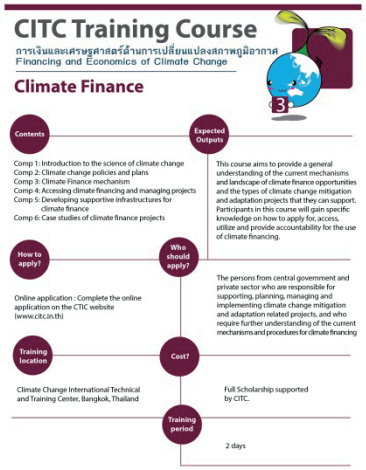


ビデオストリーミング配信

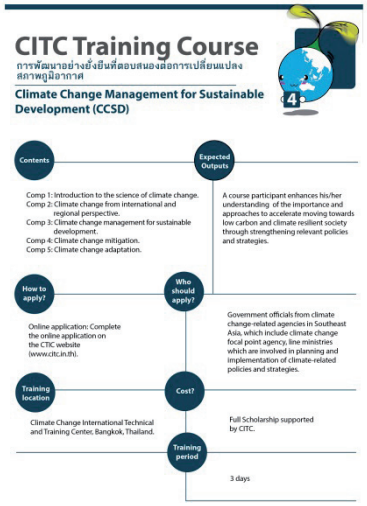
CITC コース紹介　GHG インベントリ管理



CITC コース紹介　緩和メカニズム



CITC コース紹介　気候ファイナンス



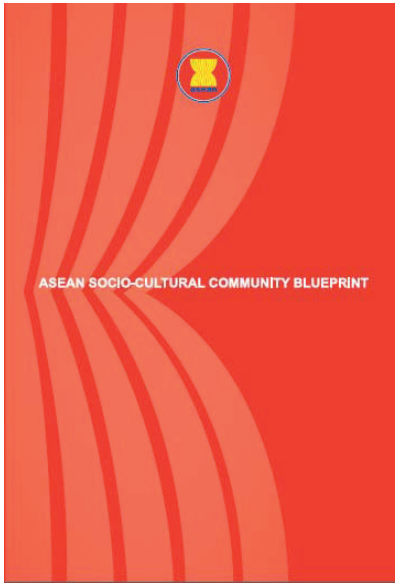
CITC コース紹介 持続可能な開発のための気候変動管理

6. ワークショップ等での発表資料

- 6.1　第 1 回 ASEAN ワークショップ資料（2014 年 5 月 8 日～9 日）

ASEAN REGIONAL COOPERATION ON CLIMATE CHANGE

Presented at:
The Launching of Climate Change International Technical and Training Center (CITC), 8th May 2014 in Pattaya, Thailand



- D1. Global Environmental Issues
- D2. Transboundary Environmental Pollution
- D3. Environmental Education
- D4. Environmentally Sound Technology
- D5. Environmentally Sustainable Cities
- D6. Harmonisation of Environmental Policies & Databases
- D7. Coastal & Marine Environment
- D8. Natural Resources & Biodiversity
- D9. Freshwater Resources
- D10. Climate Change
- D11. Forestry

SECTION D10 (CLIMATE CHANGE)

D10. Responding to Climate Change and addressing its impacts

Strategic Objective: Enhance regional and international cooperation to address the issue of climate change and its impacts on socio-economic development, health and the environment, in ASEAN Member States through implementation of mitigation and adaptation measures, based on the principles of equity, flexibility, effectiveness, common but differentiated responsibilities, respective capabilities, as well as reflecting on different social and economic conditions.

Actions:

i. Encourage ASEAN common understanding on climate change issues and where possible, engage in joint efforts and common positions in addressing these issues;
ii. Encourage the efforts to develop an ASEAN Climate Change Initiative (ACCI);
iii. Promote and facilitate exchange of information/knowledge on scientific research and development (R&D), deployment and transfer of technology and best practices on adaptation and mitigation measures, and enhance human resource development;
iv. Encourage the international community to participate in and contribute to ASEAN's efforts in afforestation and reforestation, as well as to reduce deforestation and forest degradation;

SECTION D10 (CLIMATE CHANGE) (CONTINUED)

Actions:

v. Develop regional strategies to enhance capacity for adaptation, low carbon economy, and promote public awareness to address effects of climate change;

vi. Enhance collaboration among ASEAN Member States and relevant partners to address climate related hazards, and scenarios for climate change;

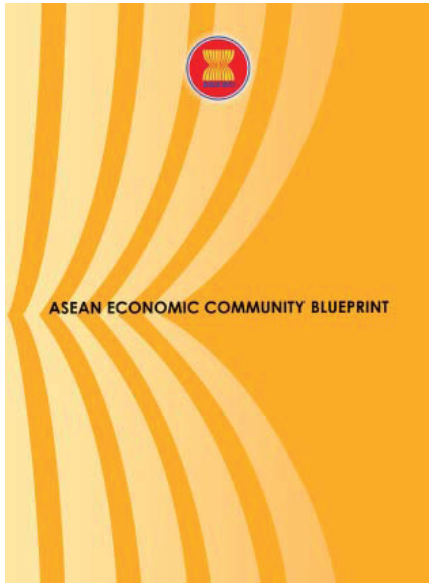
vii. Develop regional systematic observation system to monitor impact of climate change on vulnerable ecosystems in ASEAN;

viii. Conduct regional policy, scientific and related studies, to facilitate the implementation of climate change convention and related conventions;

ix. Promote public awareness and advocacy to raise community participation on protecting human health from the potential impact of climate change;

x. Encourage the participation of local government, private sector, non-governmental organisations, and community to address the impacts of climate change; and

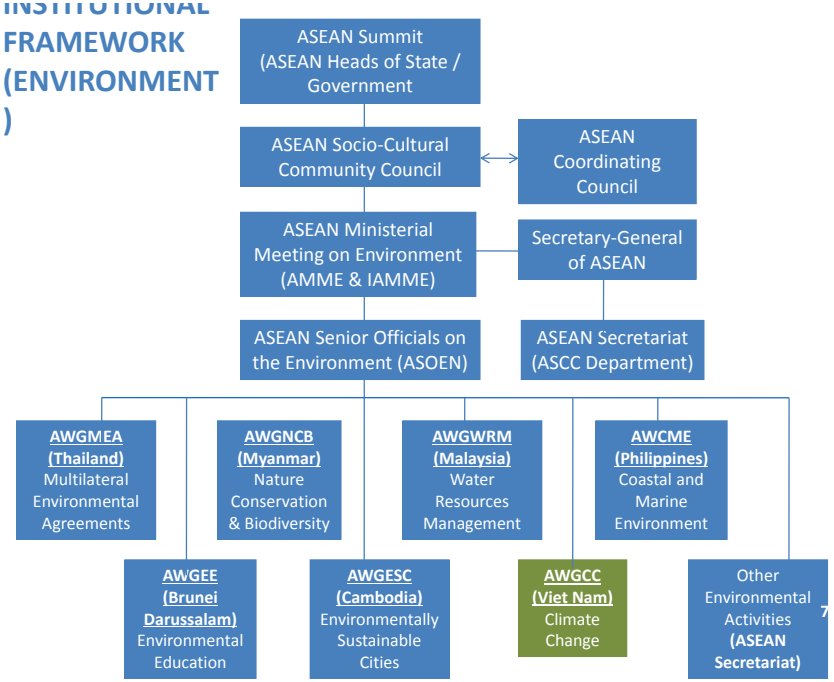
xi. Promote strategies to ensure that climate change initiatives lead to economically vibrant and environment friendly ASEAN Community taking into account win-win synergy between climate change and the economic development.



A7. Food, Agriculture and Forestry

B4. Infrastructure Development (Transport & Energy)

INSTITUTIONAL FRAMEWORK (ENVIRONMENT)



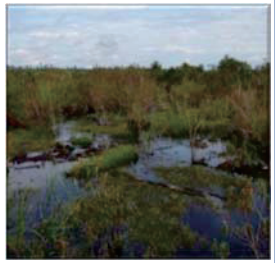
HIGHLIGHTS OF ASEAN ACTIVITIES RELATED TO CLIMATE CHANGE

IFAD-GEF Project on Rehabilitation and Sustainable Use of Peatland Forests in Southeast Asia

Riau,
Sumatera

Lake Sentarum,
West Kalimantan

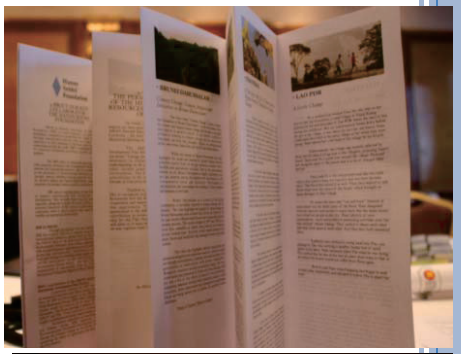
North Selangor
Peat Swamp Forest,
Malaysia

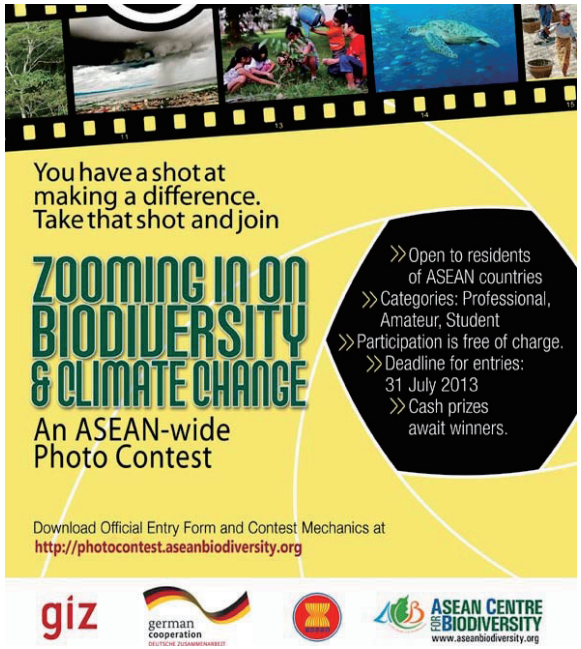


Annual ASEAN+3 Leadership Programme on Sustainable Production and Consumption

ASEAN Plus Three Youth Environment Forum (AYEF) 2010: Creating a Climate for Change

ASEAN ESD Film Festival 2011: Change the Climate Change (Phnom Penh, Cambodia)





Using the power of photos in explaining the complex topic of biodiversity and its relation to climate change

Over 1,000 photos have been received

ASEAN – German Programme on Response to Climate Change: Agriculture, Forestry and Related Sectors (GAP-CC)

Component 1: Forest Issues of the AFCC

Forest Certification / Sustainable Forest Management
Forest Governance and Finance
REDD+

Component 2: Climate Response Strategies and Climate Proofing

Adaptation and Mitigation in Key Agricultural / Forestry Value Chains
Climate Proofing
National Adaptation Plans
Climate Finance
Knowledge Management

Biodiversity and Climate Change Project (BCCP)

ASEAN CENTRE FOR BIODIVERSITY

giz

The overall objective of BCCP is to support ASEAN Member States (AMS) develop and enhance their strategies to appropriately address the interface between biodiversity and climate change.

Other Activities

Environmentally Sustainable Cities

- ASEAN ESC Model Cities Programme
  - Year 1: April 2011 - March 2012, 14 cities
  - Year 2: Inception Meeting in June 2014
- Citylinks Pilot Partnership
- ASEAN ESC Award (2008 and 2014)

Environmental Education

- ASEAN Eco-schools Award
- ASEAN Guidelines on Eco-schools
- ASEAN Environment Year

Coastal and Marine Environment

•Climate Change and ASEAN Coastal Areas: Vulnerability, Impacts and Adaptation (Phase I) (Proposed)

Biodiversity

•Biodiversity & Climate Change Project

•ASEAN Heritage Parks Programme

Water Resources Management

•Development of Integrated Water Resources Management Guidelines

Relevant Declarations / Statements

- ASEAN Declaration on Environmental Sustainability (13th ASEAN Summit, 2007)
- ASEAN Declaration on COP-13 to the UNFCCC and CMP-3 to the Kyoto Protocol (13th ASEAN Summit, 2007)
- Singapore Declaration on Climate Change, Energy and the Environment (3rd EAS Summit, 2007)
- Joint Ministerial Statement of the First EAS Energy Ministers Meeting (2007)
- Ministerial Statement of the Inaugural EAS Environment Ministers Meeting (2008)
- ASEAN Joint Statement on Climate Change to COP-15 to the UNFCCC and CMP-5 to the Kyoto Protocol (15th ASEAN Summit, 2009)
- Singapore Resolution on Environmental Sustainability and Climate Change (11th AMME, 2009)
- ASEAN Leaders' Statement on Joint Response to Climate Change (16th ASEAN Summit, 2010)
- **ASEAN Leaders' Statement on Climate Change to UNFCCC COP17/CMP7 (19th ASEAN Summit, 2011)**

Thank You

ASEAN COOPERATION ON ENVIRONMENT

http://environment.asean.org/

ASEAN Training Needs Assessment Workshop of
Climate Change International Training Centre (CITC)
8 May 2014

JICA's Cooperation with ASEAN Countries and Expectations for CITC

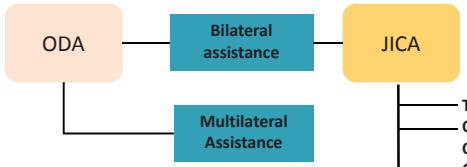
Yukichi USUI (Mr.), Deputy Director, Office for Climate Change / Environmental Management Group,
Global Environment Department
Japan International Cooperation Agency (JICA)

1. JICA's Cooperation with ASEAN Countries

Japan's Role for Climate Change and Development

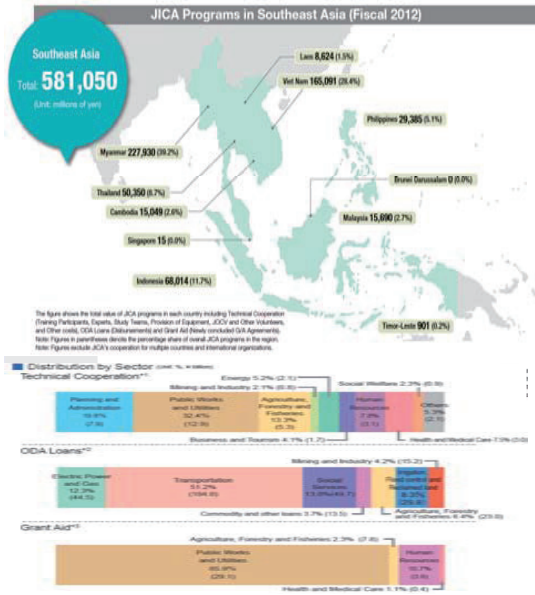
◆JICA and Japan's ODA

- Since 1954, Japan has been providing financial and technical assistance to developing countries through ODA (Official Development Assistance). JICA (Japan International Cooperation Agency) is in charge of administering all ODA except contributions to international organizations.
- JICA, taking advantage of accumulated experiences, the results of assisting of developing countries and Japan's technology, conducts multi-benefit assistance, which contributes to sustainable developments in developing countries and simultaneously contributes to resolve various development subjects. JICA assists by mixing organically financial and technical assistance for mitigation measures, which contribute to reduce greenhouse gas (GHG) emission and for adaptation measures to the negative effects caused by climate change in various sectors .



*This excludes Grant Aid which the Ministry of Foreign Affairs will continue to directly implement for the necessity of diplomatic policy.

JICA's Cooperation with ASEAN Countries



- **1954** •Japan joins the Colombo Plan; Program to Receive Trainees in Japan is launched
- **1965** •The Japan Overseas Cooperation Volunteers (JOCV) dispatch program is launched, with its first set of young volunteers going to Laos
- **1967** •ASEAN is founded with its five original members; the number will double over the next 32 years.
- **1977** •In 1973, ASEAN and Japan's cooperative partnership began with the establishment of ASEAN-Japan forum on synthetic rubber
- **1982** •In 1977, Japanese PM, Fukuda announces the Fukuda Doctrine, defining Japan and ASEAN as equal partners working toward a shared future.
- **1994** •JICA program launched to build capacity development training centers in ASEAN countries
- **2004** •For security dialogue, the ASEAN Regional Forum (ARF) is launched, bringing together foreign ministers from ASEAN and other participants around the world.
- •After the Sumatra quake and Indian Ocean tsunami, JICA dispatches Japan Disaster Relief teams to the affected region.

JICA's Support for the Establishment of ASEAN Community

Support for the Establishment of ASEAN Community

JICA is fully committed to support the establishment of ASEAN Community and the "Master Plan on ASEAN Connectivity," which consists of physical, institutional, and people-to-people connectivity, as a vital process to realize ASEAN Community in year 2015.

Physical Connectivity	Institutional Connectivity	People to People Connectivity
· Development of East-West and Southern Economic Corridors · Development of Maritime ASEAN Economic Corridor	· Asia Cargo Highway · International Standardization · Intellectual Property Right	· AUN/SEED-NET · Japan Centers

JICA's Regional Operation Strategy on Southeast Asia

3 Pillars

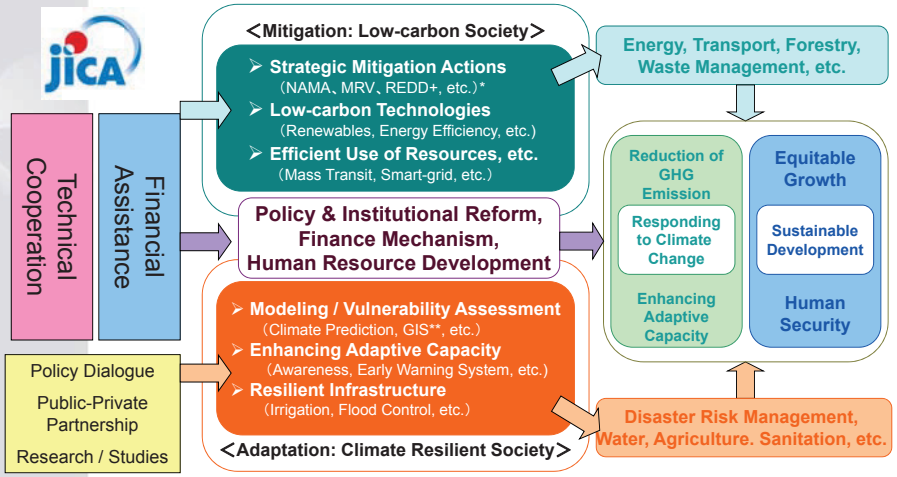
1. Prioritizing Target Sector & Redressing Income Disparity
2. Addressing Region's Common Issues to Accelerate Growth
   - (1) Development of Intra-Regional Infrastructure & Urban Infrastructure
   - (2) Improvement of Business Environment
   - (3) Safe and Secure Society
   - (4) Human Resource Development & Networking
3. Addressing Global Issues
   - (1) Climate Change Measures
   - (2) Resources (Food, Water, Energy)
   - (3) Assistance to New Donors & South-South Cooperation

JICA is one of the members of the "Japanese Task Force to support ASEAN Connectivity" which was established by Japanese Government and private sector.

2. JICA's Approach to Climate Change

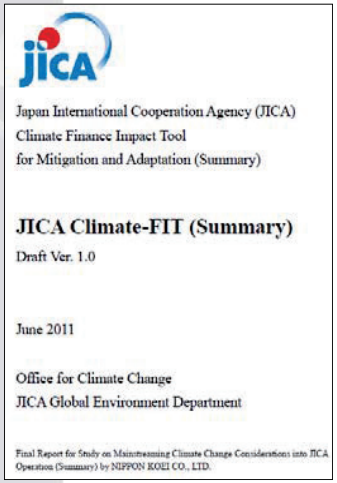
JICA's Approach: Low-Carbon and Climate Resilient Development Cooperation

Comprehensive Assistance → *Climate Change, A Global Agenda* → *Climate Compatible Sustainable Development*



• NAMA (Nationally Appropriate Mitigation Actions)
MRV (measurable, reportable, verifiable)
REDD+ (Reduction of Emission from Deforestation and Degradation)
**GIS (Geographic Information System)

Climate Change Mainstreaming at JICA



Japan International Cooperation Agency (JICA)
Climate Finance Impact Tool
for Mitigation and Adaptation (Summary)

JICA Climate-FIT (Summary)

Draft Ver. 1.0

June 2011

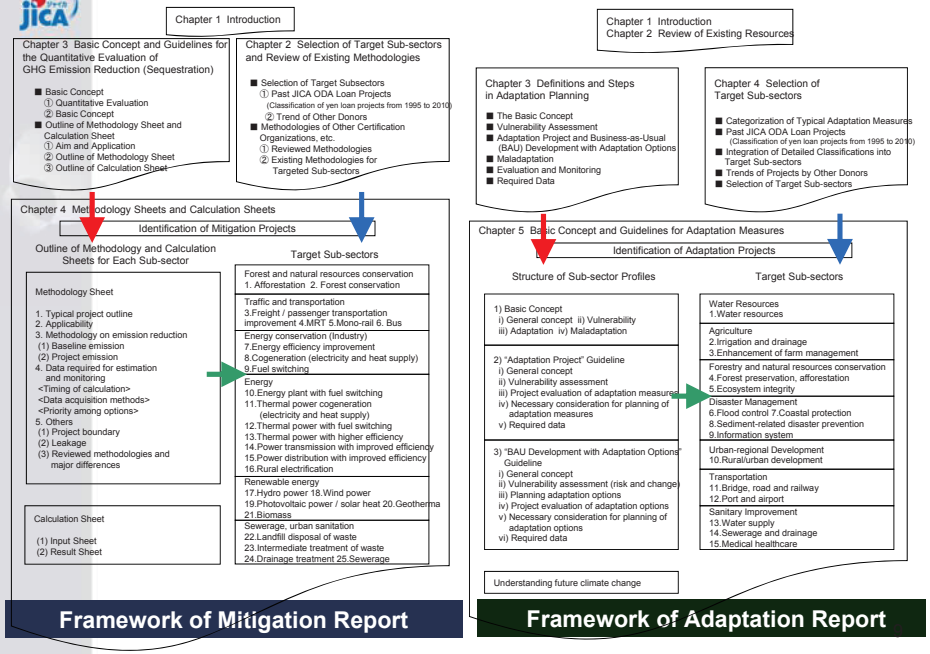
Office for Climate Change
JICA Global Environment Department

Final Report for Study on Mainstreaming Climate Change Considerations into JICA Operation (Summary) by NIPPON KOEI CO., LTD.

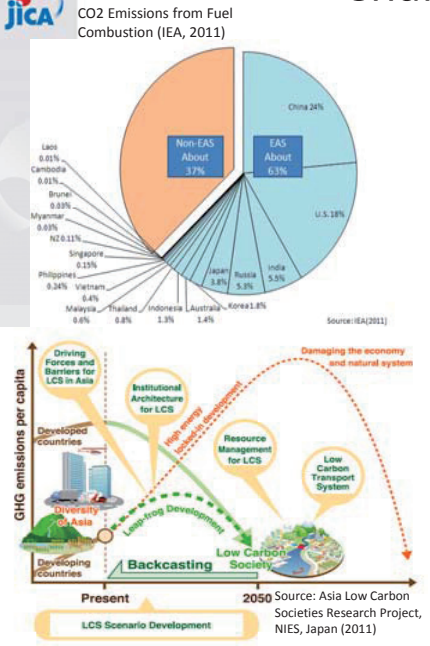
JICA has prepared Climate Finance Impact Tool (JICA Climate-FIT) , in order to facilitate consideration of policies and formulation of projects for assisting climate change related measures in developing countries. It includes the following contents:

1. *Methodologies for implementing measurement, reporting and verification (MRV) related to quantitative evaluation of mitigation projects that contribute to reduction or sequestration of greenhouse gases (GHG) (25 sub-sectors)*
2. *Concepts and guidelines for mainstreaming adaptation considerations into projects that contribute to reduction of vulnerability against climate change, and sustaining and increasing adaptive capacity and resilience (15 sub-sectors)*

Framework of JICA Climate-FIT



Challenges for Low-Carbon Development



Source: Asia Low Carbon Societies Research Project, NIES, Japan (2011)

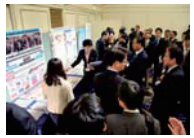
- GHG emissions (from Fuel Consumption) in EAS countries account for 63% of global emission in 2009 (IEA, 2011), and is projected to rapidly increase.
- Early Shift to 'Low-Carbon Development' is Essential.
- Possible Factors for Low-Carbon Development:
  - -Improvement of Energy Efficiency and Promotion of Renewable Energy
  - -Development of Public Transportation Systems
  - -Improved Environmental Management through Renovating People's Lifestyles and Material Flows

Development — Co-benefit — Mitigation

Necessity of a 'Long-term Low-Carbon Development Visions and Plans'

East Asia Knowledge Platform for Low Carbon Growth

(1) Development of low-carbon growth strategies in each country,
(2) Development and dissemination of low-carbon technology, and efficient utilization of market and non-market mechanisms,
(3) Cooperation among various stakeholders (central/local governments, international organizations, universities, research institutes, private companies, NGOs etc.)



Photos at the Second East Asia Low Carbon Growth Partnership Dialogue (Ministry of Foreign Affairs, Japan)

Japan International Cooperation Agency

Increased vulnerability to Flood Risks in Urban Areas - Major Adaptation Challenge for Asian Cities

Increased vulnerability to Flood Risks in Urban Areas

- Heavy Rainfall Events
- Rise in Groundwater Level
- Multiple factors Related to Rapid Urbanization and Deficient Urban Planning

-Decreased Permeability of the Ground
-Habitation in Depressed zones
-Lack in Rainfall Drainage and Sanitary Management ,etc.

Adaptation measures

- Structural Measures

Construction of Dikes, Improvement of Rainwater Drainage, etc.

- Non-Structural Measures

-Risk Mitigation Measures at Household/Community Levels
-Early Warning and Evacuation System

- Appropriate City Planning
- Environmental Management

-Sewage System
-Waste and Sanitary Management

Mitigation Co-benefit

Necessity of a 'Long-term Resilient Urban Development Plan'

3. Case Studies from Ongoing JICA Projects

Japan International Cooperation Agency

<Case Study> Bangkok Master Plan on Climate Change 2013 – 2023 (Project Period: 2013-2015)

<Background>
- Total GHG emission of Thailand is ranked 23th in the world (IEA, 2009)
- GHG emission of Bangkok accounts for 24% of total emission in Thailand, and per capita emission is as high as that of NY
- High potential of GHG reduction, especially in Energy and Transport Sector

Project Purpose: The Bangkok Master Plan on Climate Change 2013-2023 is prepared with strengthened capacity for implementation.

Bangkok Metropolitan Administration (BMA)

Steering Committee chaired by Deputy-Governor of BMA
Participants: Representatives from the participating departments of BMA, TGO, OTP, PCD, NESDB, ONEP, DEDE, etc.

Secretariat (Department of Environment, BMA)

Inter-Organizational Coordination

5 Working Groups
- Environmentally Sustainable Transport
- Energy Efficiency and Alternative Energy
- Efficient Solid Waste Management and Wastewater Treatment
- Green Urban Planning
- **Adaptation Initiatives**

Output 1: Preparation of Bangkok Master Plan on Climate Change
- Assessment of the Bangkok Action Plan on Global Warming Mitigation 2007 – 2012
- Improvement of Data Collection, Methodologies for Estimation and Monitoring of GHG Emission
- Development of Sectoral Strategies
- Public consultation, Workshops and Seminars
- Dissemination of the Master Plan

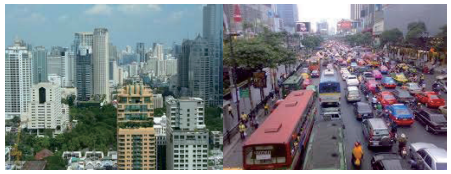
Output 2: Strengthened Capacity of BMA officials
- Training Programs for BMA officials
- Seminars/Workshops for Related Stakeholders
- Development of Educational Materials

Yokohama-City ('Future City Initiative')

Japanese Expert Team

Experiences of Low-Carbon Policy-Planning and Implementation in JAPAN

Local Consultants



"Project of Capacity Development for Climate Change Strategies in Indonesia (2010-2015)"

PROJECT OUTLINE
(1) Counterpart Organizations: National Development Planning Agency (BAPPENAS), The Agency for Meteorology Climatology and Geophysics (BMKG), Ministry of Agriculture (MOA), Ministry of Environment (KLH), and others
(2) Area: Indonesia at the national level and pilot areas
(3) Duration: 5years from October 2010

SUB-PROJECT1
Mainstreaming of Mitigation and Adaptation In National Development Planning
■Counterpart: National Development Planning Agency (BAPPENAS)
■**Sub-Project Purpose: Capacity development of the key ministries and local governments to formulate mitigation actions in a monitored, evaluated and reported manner and to integrate adaptation into developing planning**
・Support for RAN/GRK secretariat
・Capacity development for Monitoring, Evaluation and Reporting (MER) of mitigation actions (Pilot Sites for RAD/GRK: North and South Sumatera)
・ Support for National Adaptation RAN-API
・ Background study for National Mid-term Development Plan (RPJMN2015-2019)

Mitigation/ Adaptation

SUB-PROJECT2
Climate Change Adaptation Actions in Agriculture and Other Relevant Sectors
■Counterpart: BAPPENAS, The Agency for Meteorology Climatology and Geophysics (BMKG), and Ministry of Agriculture (MOA)
■**Sub-project Purpose: Capacity development for promoting climate change adaptation actions in agriculture and other relevant sectors**
・Analysis on climate variability and change and of its communication
・Climate change adaptation practiced by farmer communities
・Improved comprehension of the importance of crop insurance in agricultural protection

Adaptation

SUB-PROJECT3
Preparation of national GHG Inventories
■Counterpart: Ministry of Environment (KLH)
■ **Sub-project Purpose: Capacity building for preparing national GHG inventories with cooperation among stakeholders**
・Capacity development of inventory office (SIGN Center) inside KLH
・Institutional arrangement of national system for preparing GHG inventories
・Appropriate data collection and compilation, as well as quality assurance
・Pilot project for developing more accurate activity data/emission factors in waste sector

Mitigation

- Holistic Coordination by the National Development Planning Agency (BAPPENAS) and Japanese Experts
- Comprehensive and Flexible Approach to Climate Change Policy Needs, in Collaboration with Various Ministries/Organizations
- Collaboration with Local Organizations/Resource Persons

Project for Capacity Building for National Greenhouse Gas Inventory in Viet Nam (2010-2014)

Capacity Development through Developing Actual GHG Inventories

Project Purpose
Development of Capacities to Prepare Accurate, Reliable and Periodical National GHG Inventories

Outcome 1
Improvement of Institutional Arrangements for Collecting and Compiling Necessary Data for National GHG Inventories Periodically and Systematically

Outcome 2
Promotion of Understanding on National GHG Inventories among Relevant Parties

Outcome 3
Enhancement of Capacities to Manage Quality Assurance/Quality Control (QA/QC) of GHG inventories

Implementing Organization: DMHCC, Ministry of Natural Resources and Environment (MONRE)

Cooperating Agencies:
- ◆Institute of Meteorology, Hydrology and Environment (IMHEN)
- ◆Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE)
- ◆Vietnam Environment Administration (VEA)

GHG Inventory Sectors	Related Ministries/Agencies
Energy	Ministry of Industry and Trade (MOIT), Ministry of Transportation (MOT)
Industrial Process	Ministry of Industry and Trade (MOIT)
Agriculture	Ministry of Agriculture and Rural Development (MARD)
LULUCF	Ministry of Agriculture and Rural Development (MARD)
Waste	MONRE, Hanoi Urban Environment Company (URENCO), etc.

Capacity Development (CD) for GHG Inventories -Concept

Future Visions

- ◆ Baseline Data for Planning/Monitoring of NAMAs
- ◆ Regular Preparation of GHG Inventories to be Included in Biennial Update Reports (BUR) (Engagement under UNFCCC)
- ◆ Improvement of Statistical Data in Related Sectors (Co-benefit)

➢ **CD for Institutional Arrangements**
-Development (and Legalization) of a National Systems for GHG Inventories
-Collaboration among Related Ministries/Agencies

➢ **CD for GHG Inventory Processes**
-Data Collection
-Selection of Emission Factors
-Estimation
-Data Compilation
-Establishment of QA/QC methods, etc.

Regular and Sustainable Preparation/Improvement of National GHG Inventories

Promotion of Evidence-Based Climate Change Policies
(Project Level→Policy Level→National Level)

Thailand: Project for Capacity Development on Climate Change Mitigation/Adaptation in the Southeast Asia Region (2013-2016)

Training for Various Stakeholders

Climate Change International Technical and Training Center (CITC)
Technical Cooperation Project with
Thailand Greenhouse Gas Management Organization (TGO)

Output 1
Preparation / Setting up of CITC
Development of
- ➢ Training curriculums
- ➢ ASEAN expert list

Output 2
Training Course Implementation
Capacity development of
- ➢ TGO staff
- ➢ Thailand participants
- ➢ ASEAN participants

Output 3
Exchange with ASEAN Countries
Sharing knowledge and experiences with ASEAN countries

GHG Inventory | Low Carbon Society (Mitigation&Adaptation) | Mitigation Mechanisms | Sustainable GHG Management

Collaboration with various organizations for development/implementation of training

East Asia Knowledge Platform for Low Carbon Growth
-Experiences and knowledge on low-carbon policy and technologies
(National/local government, private sector, civil society, etc.)

4. Expectations for CITC

- ◆Interactive knowledge-sharing on climate change mitigation/adaptation, based on field-based experiences
- ◆Promotion of appropriate climate change measures in ASEAN context
- ◆Encouragement of efforts on climate change mitigation/adaptation in each country

Launching of Climate Change International Technical and Training Center (CITC)
and
Workshop for Capacity Development on Low Carbon Society (LCS) in the Southeast Asia Region: Training Needs Assessment

8 – 9 May 2014 in Pattaya, Thailand




Thailand Greenhouse Gas Management Organization (Public Organization)

Contents

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CITC Background

- **TGO Training program** on CDM and GHG mitigation (2009 - present): **3,000 trainees**
- **JICA supports TGO** to establish CITC **as " One-stop technical and training center on climate change"**
- **Ministry of Natural Resources and Environment, Thailand** recognized **CITC as a Ministry's Flagship project** on capacity development on climate change and GHG management.
- **ASEAN Roadmap 2009- 2015**: "ASEAN shall work towards achievement of sustainable development as well as promotion of clean and green environment for ASEAN region."

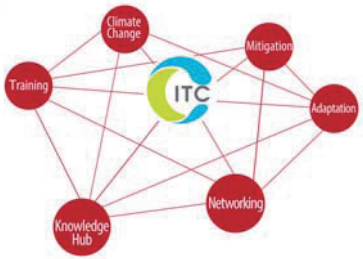
Vision

"One-stop Technical and Training Center on Climate Change in the Region"

Mission

- Capacity development on climate change
- Promote of climate change networking platform
- Develop knowledge hub and information dissemination

- In-depth training and hands-on approach
- Train The Trainers (TTT)
- Climate change Network



Objectives

To establish a Technical and Training Center to enhance the capacity of ASEAN Stakeholders to move towards Low Carbon Society

Target Market

- Government agencies
- Academic institutions
- Private companies
- General public

Training Services	Alumni Networking	Knowledge Dissemination and Awareness Raising
		
- Hands-on trainings - Basic/ Advanced/ Expert Courses - Lessons learned in ASEAN and other successful countries - Site visit - Train The Trainers (TTT) - Scholarship provided - E-Learning	- Alumni network - Share & exchange experiences	- Updated news & knowledge - Climate change Channel - CITC website - CITC e-newsletter - Join regional CSR activities

CITC Services

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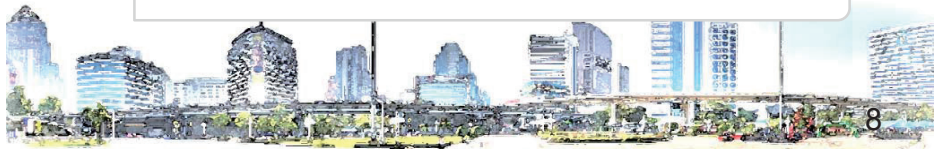


Knowledge Clusters

Central Government Officers/Technical Level (Sectoral Based)
Local Government Officers (Area Based)
Private Companies (Corporate Level)

1. GHG Inventory Management

2. Low Carbon Society Development

Central Government Officers;
- **Director Level**
- **Implementers/ Technical Level**

Local Government Officers;
- **Local Leaders**
- **Local Implementers**

Private Companies

Mitigation course;
- Low Carbon City Program
- Energy Performance Certificate Scheme

Carbon Sequestration and REDD/REDD+

3. Mitigation Mechanism

4. Sustainable GHG Management

Climate Change Economics and Finance for Carbon Business;
- Carbon Footprint for Organization
- Carbon Footprint of Product

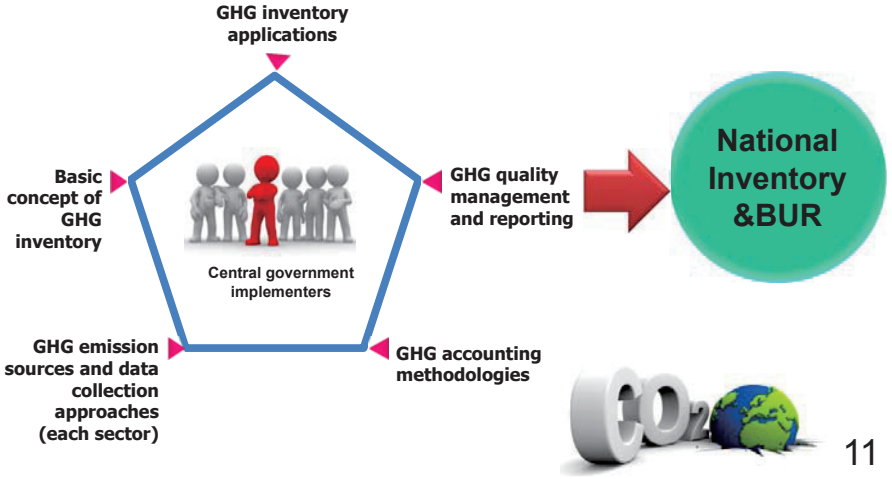
Basic Level Start: 2014 → **Advanced Level** Start: 2016 → **Expert Level** Start: 2017

Knowledge Clusters Workplan

	2014	2015	2016
GHG Inventory Management (GHGIM)	Central Government Officers/Technical Level (Sectoral Based)	Local Government Officers (Area Based) Private Companies (Corporate Level)	-
Low Carbon Society Development (LCSD)	Local Government Officers; • Local Leaders • Local Implementers	Central Government Officers; • Director Level • Implementers/ Technical Level	Private Companies
Mitigation Mechanism	-	*To be designed*	*To be designed*
Sustainable GHG Management	Climate change economics and finance	*To be designed*	*To be designed*

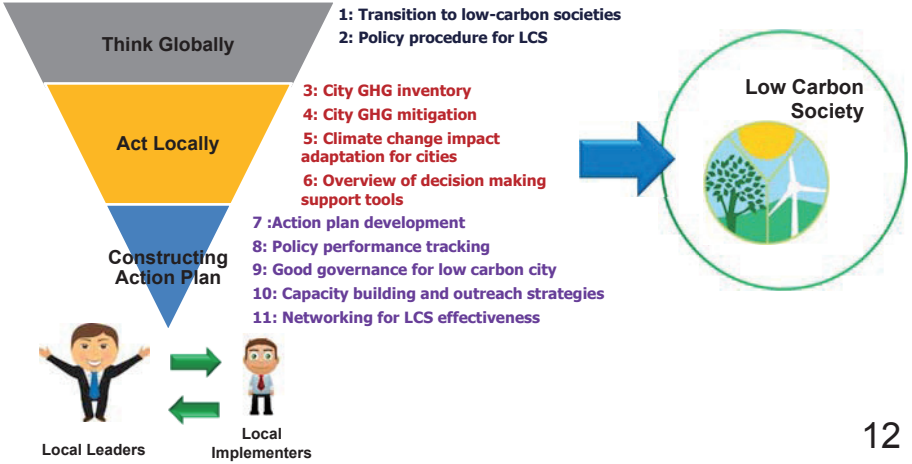
Knowledge Cluster: GHG Inventory Management

GHG Inventory for Central Government Officers/Technical Level (Sectoral Based)



Knowledge Cluster: Low Carbon Society Development

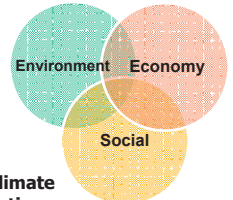
Low Carbon Society Development for Local Government Officers (Local Leaders and Local Implementers)



Knowledge Cluster: Sustainable GHG Management

Climate Change: Economics & Finance

- Basic Concept of Climate Change
- Economic of Climate Change Adaptation



- GHG Reduction and Target Setting
- Climate Change and Market Failure
- Economic Measures and GHG Management Mechanisms
- Climate Change Negotiation in GHG Mitigation Perspective
- Cost Benefit Analysis
- Impact of GHG Mitigation Measures

CCCO & Related Central Implementer

General Public

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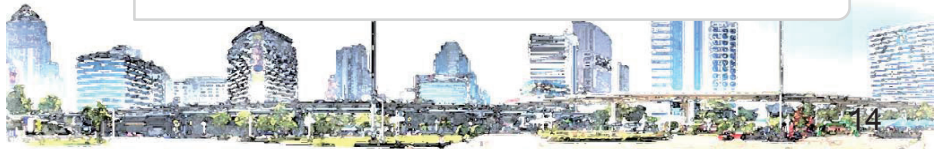

CITC Facilities – CITC Office

CITC Facilities – Training rooms

The 1st meeting of CITC Sub Committee, 6 Sep 2013



Workshop on Training Needs Assessment on Low Carbon City Planning, 28-29 Aug 2013, Thailand




Expert meeting of curriculum Development on GHG Inventory, 5 November 2013, Thailand





Expert meeting of curriculum Development for Low Carbon Society Development for Local Leaders, 31 January 2014, Thailand

Capacity Development for Establishment of Climate Change Technical and Training Center, 25 November - 6 December 2013, Japan




Meeting on"Capacity Development for Establishment of Climate Change Technical and Training Center", Japan 19 - 24 Jan 2014




Training on AIM CGE model and LCS-RNet/LoCARNet Internship Programme,23 February – 7 March 2014 Japan


The Learning from Green Growth Initiatives in ASIA with USAID, Delhi Sustainable Development Summit (DSDS), India, 31 Jan -2 Feb 2013




Low Carbon Society Development in ISAP&LCS-RNet joint session: Knowledge Sharing-Networks for Low Carbon Society, Yokohama, Japan, 23 July 2013

Climate Change International Technical and Training Center (CITC)

" One-stop technical and training center "

Sharing Challenges of Regional Training Programs for Low Carbon Knowledge, Asia LEDS Forum 2013 From Planning to Implementation: Putting LEDS into Practice, Manila, Philippines , 30 Sep 2013

Climate Change International Technical and Training Center (CITC)

" One-stop technical and training center "

The 3rd Green Economy Green Growth (GEGG): Workshop on "Energy, Greenhouse Gas and Climate Change: Capacity Development in ASEAN Countries", Myanmar, 21-22 Nov 2013

Climate Change International Technical and Training Center (CITC)

" One-stop technical and training center "

Meeting with ASEAN Secretariat and government organization in Indonesia, 17 – 20 Feb 2014

Climate Change International Technical and Training Center (CITC)

" One-stop technical and training center "

IGES: Capacity-Building Workshop on Low Carbon Development Policies for Cambodia, Lao PDR, and Myanmar, Cambodia, 25-26 Feb 2014,

The 5th Meeting of the ASEAN Working Group on Climate Change (AWGCC)

Jakarta, Indonesia, 30 April 2014

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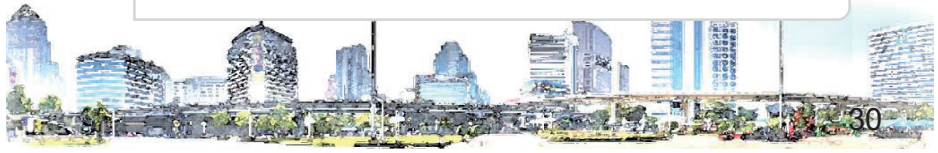


Workshop for Capacity Development on
Low Carbon Society (LCS) in the Southeast Asia Region: TNA
8-9 May, 2014, Pattaya, Thailand

Achievement of ASEAN Low Carbon Development

Workshop Objectives ::

To **exchange information** on current status and further steps towards LCS development, CC mitigation and adaptation actions

To **identify training needs** of ASEAN central government

To **share capacity development resources** on LCS development among relevant institutions

To **initiate networking** among climate change related institutions

Climate Change International Technical and Training Center (CITC)
" One-stop technical and training center "

Workshop Participants ::

- High-Mid **central government officers**
- Representatives from **academic sector** who have advanced knowledge of climate change

Workshop Session ::

- Define Mutual Understanding on LCS
- Present TNA Survey Result
- Consult on ASEAN LCS Capacity Development
- Mobilize LCS Capacity Building Resources

Climate Change International Technical and Training Center (CITC)
" One-stop technical and training center "

Expected outputs ::

- **Mutual understanding** of current status of LCS development, CC mitigation and adaptation actions
- **Training development road map** on LCS for the climate change relevant agencies/ institutions
- **LCS capacity development resources mobilization platform** among Southeast Asia relevant agencies/ institutions
- **Networking** among climate change-related institutions in the region

Climate Change International Technical and Training Center (CITC)
" One-stop technical and training center "

Contents

Upcoming Activities

15 May 2014	• "IPCC Guidelines for Greenhouse Gas Inventories: Kick-Off of Blended E-Learning Course", Bangkok, Thailand
7 Aug 2014	• GHG Inventory Workshop "How to meet the capacity building needs in ASEAN", (Back-Back event with WGIA Workshop), Bangkok, Thailand
Aug-Sep 2014	• GHGIM for Central Government Officers/Technical Level (Sectoral Based) • LCSD for Local Government Officers/ Local Leaders • LCSD for Local Government Officers/ Local Implementers

Climate Change International Technical and Training Center (CITC)
" One-stop technical and training center "

Thank you

www.citc.in.th

Project for Capacity Development on Climate Change Mitigation/ Adaptation in the Southeast Asia Region

JICA's Support for CITC

8 May, 2014

Masahiko Fujimoto
Team Leader/ Climate Change Strategy,
JICA Expert Team

TGO and JICA: Cooperation background

- **JICA's previous cooperation with TGO: "Capacity Development and Institutional Strengthening for GHG Mitigation in Thailand" (2010-2012)**
  - Training implementation (53 times, 450 participants)
  - Jointly prepared training materials covering various topics on climate change mitigation and adaptation, GHG inventory
  - 10 TGO officials were trained as a trainer
  - Held a regional low carbon society (LCS) seminar where ASEAN representatives shared the importance of establishing a regional training center on climate change mitigation and adaptation

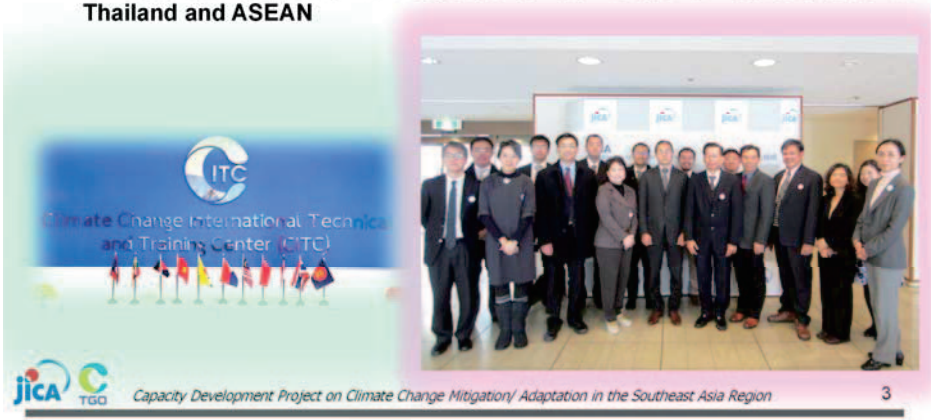
Regional LCS seminar

Presentation by TGO officials

Example of training materials

JICA's Support for CITC

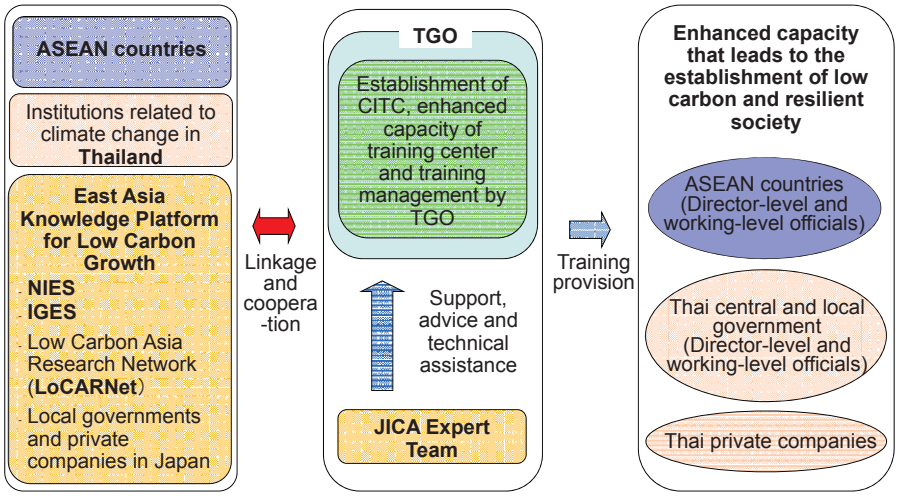
- **JICA's ongoing project "Project for Capacity Development on Climate Change Mitigation/ Adaptation in the Southeast Asia Region"**
- Project period: May, 2013 to June, 2016
- Project objective: **To enhance capacities of TGO as a focal point of CITC and to establish programs in response to the needs of stakeholders in Thailand and ASEAN**



Project Activities

1. Set up **institutional framework of CITC**	
2. Identify **training needs and training resources** of Thai and ASEAN stakeholders	
3. Develop **training curriculum** for Thai and ASEAN stakeholders	• GHG Inventory Management • Low Carbon Society Development • Mitigation Mechanisms • Sustainable GHG Management
4. Develop **training materials** and **textbooks**	
5. Implement **trainings**	• Training delivery ⟺ Training evaluation • Training of Trainers
6. Strengthen **information management system** of CITC	• Website • Knowledge management platform
7. Organize **ASEAN Workshops**	• 1st ASEAN Workshop for **training needs assessment for LCS** (May, 2014) • 2nd ASEAN Workshop for **introduction of training curriculum, training courses and textbooks of CITC** for comments and feedbacks from ASEAN stakeholders (in 2015)

Project structure



Activities in the 1st project year

May, 2013
- Consideration on concept and framework of CITC and training curriculum

July- Aug, 2013
- Development of CITC business plan and training curriculum
- Conduct Training Needs Assessment
- PR activities in Thailand and abroad

Sep, 2013
- 1st Joint Coordinating Committee (JCC)



Activities in the 1st project year (cont.)

Oct, 2013
- Preparation of training curriculum outline

Nov- Dec, 2013
- Visit to Japan (1st group) to collect information on Japan's experience in training
- Support for development of CITC training curriculum

Jan- Mar, 2014
- Visit to Japan (2nd group) to establish partnership with Japanese institutions
- Training curriculum development

May, 2013- Mar, 2014
Preparation of draft CITC business plan



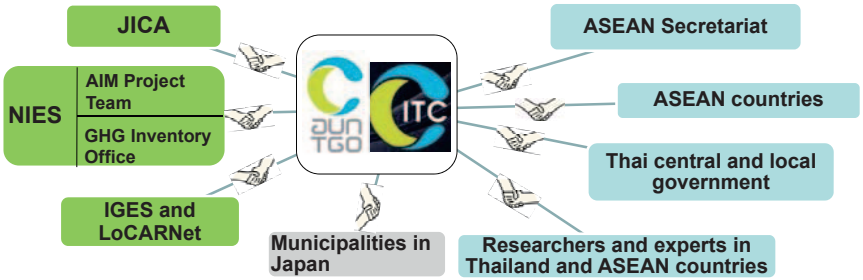
Schedule for the 2nd project year

May- June, 2014
- **Official launch of CITC** and **Training Needs Assessment for ASEAN stakeholders** (1st ASEAN Workshop)
- **Preparation of final draft of CITC Business Plan**
- **Development of training curriculum for Thai central government director-level and working-level officials**
- **Development of textbooks and training materials** for Thai local government director-level and working-level officials

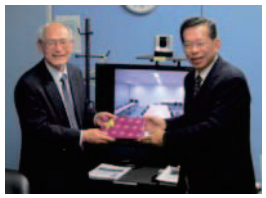
7 August, 2014
A half-day event on GHG inventory workshop as a back-to-back event to WGIA2014, in Bangkok

May, 2014- March, 2015
- **Demonstration of training**
  - **"GHG Inventory Management" training course for Thai central government working-level officials**
  - **"Low Carbon Society Development" training course for Thai local government director-level and working-level officials**
- **Training of trainers (ToT)**
- **Training delivery**
- **Evaluation of training curriculum**
- **Development of training curriculum for ASEAN stakeholders**

Networks for further development of CITC



Visit to NIES



Visit to IGES

Japan will provide continuous support to CITC as a climate change training center in the ASEAN region, based on the network expanded and reinforced through this project.

Low Carbon Asia Research Network
-Bridging Science and Low Carbon Policy

Global context of low carbon society and Asian challenges in sustainable development

May 2014

Shuzo Nishioka
Secretary General, LoCARNet
Institute for Global Environmental Strategies (IGES)

Policy implication of IPCC AR5 (1)

- Climate system is changing
- Anthropogenic change and impacts confirmed
- Serious impact to human survival base is anticipated

⇒Human being should and can mitigate climate change for survival

⇒We need to stop temperature rise less than some level

⇒ 2 degree target : less than 2degree rise from pre-industrial time (G8, UNFCCC)

Figure SPM.1a Observed globally averaged combined land and ocean surface temperature anomaly 1850-2012

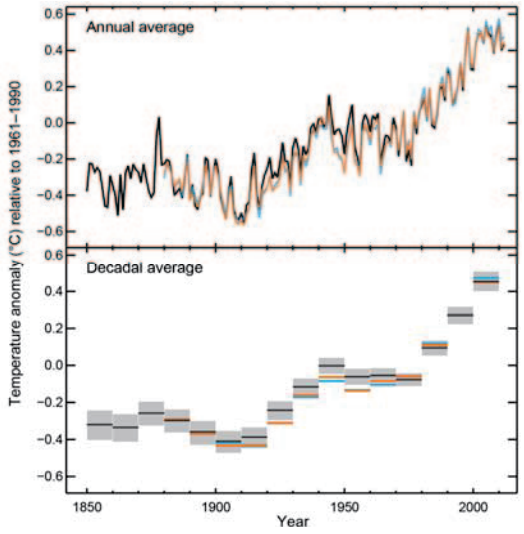


Figure SPM.3
Multiple observed indicators of a changing global climate

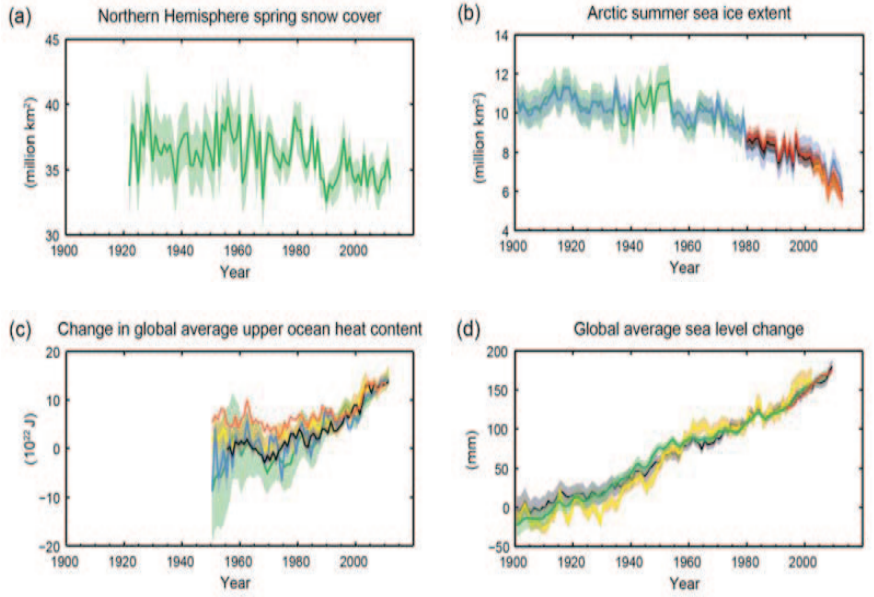


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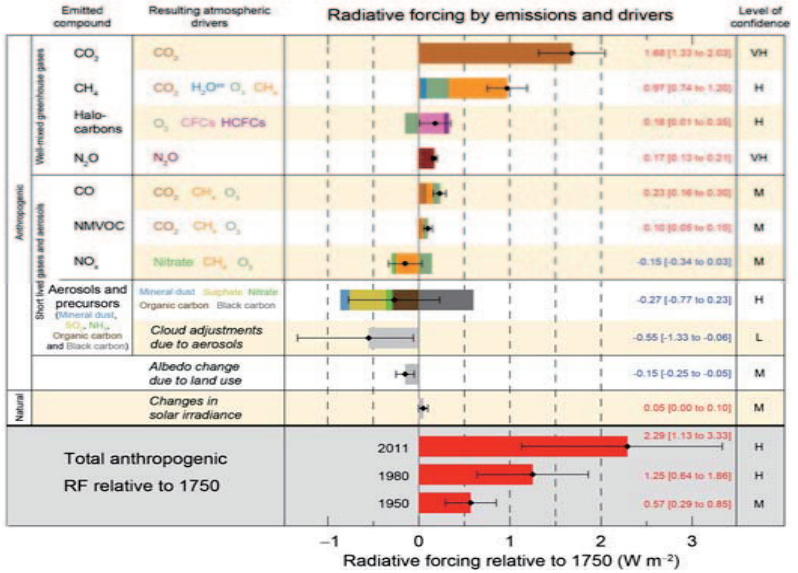
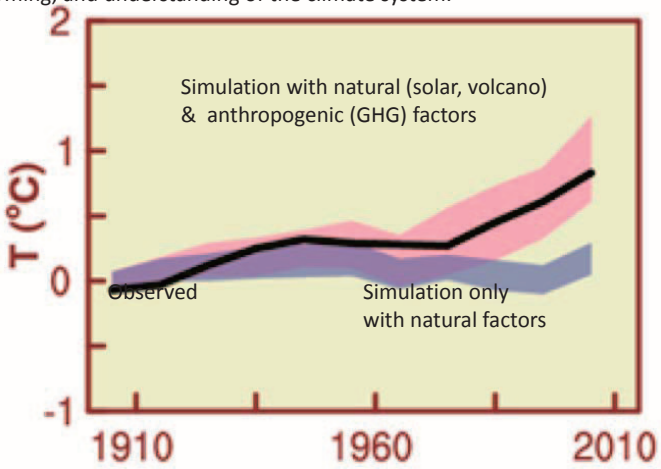
Figure SPM.5: Radiative forcing estimates in 2011 relative to 1750

Human influence on the climate system is clear. This is evident from the increasing greenhouse gas concentrations in the atmosphere, positive radiative forcing, observed warming, and understanding of the climate system.



Comparison of observed and simulated climate change

Human influence on the climate system is clear. This is evident from the increasing greenhouse gas concentrations in the atmosphere, positive radiative forcing, observed warming, and understanding of the climate system.



(IPCC 第5次評価報告書より)

Policy implication of IPCC AR5 (1)

- Climate system is changing
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⇒We need to stop temperature rise less than some level

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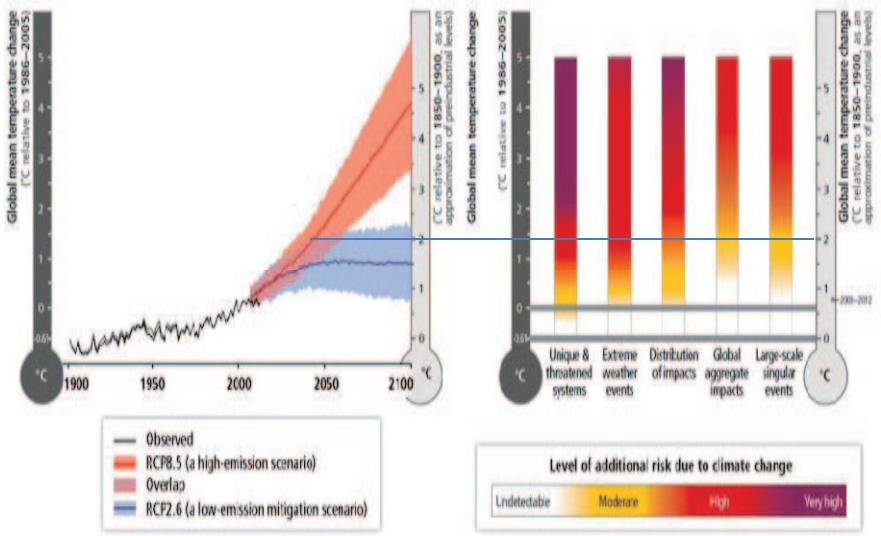
Major Climate change impacts to Asia and adaptability

Key risk 主要リスク	Adaptation issues and prospects 適応イシューと展望	Climatic drivers 気候的要因	Supporting ch. Sections 参照章・節	Time frame 時間軸	Risk for current and high adaptation 現行及び高次適応のリスク
Asia アジア					
Increased flooding leading to widespread damage to infrastructure and settlements in Asia (medium confidence) Flood アジアにおける増加する洪水とインフラや居住に対する広範な被害（*確信度が中程度*）	- Exposure reduction via effective land-use planning, selective relocation, and structural measure - Reduction in the vulnerability of lifeline infrastructure and services (e.g., water, energy, waste management, food, biomass, mobility, local ecosystems, telecommunications) - Assistance to vulnerable sectors and households ・効果的な土地利用計画、選択的移住、かつ構造的手段による影響被害の軽減 ・ライフラインインフラとサービスの脆弱性の軽減（例、水、エネルギー、廃棄物管理、食料、バイオマス、移動性、ローカルなエコシステム、通信） ・脆弱なセクターや家庭（世帯）への支援		24.4		
Increased risk of heat-related mortality (*high confidence*) Heat shock 増加する熱（暑い気候）に関連する死亡（*確信度が高い*）	- Heat health warning systems - Urban planning to reduce heat islands - Improvement of the built environment ・熱波に関する健康警告システム ・ヒートアイランド現象を軽減するための都市計画 ・建築環境の改善		24.4		
Increased risk of drought-related water and food shortage causing malnutrition (*high confidence*) Malnutrition 栄養失調の原因となる干ばつによる水と食料の不足の増大（*確信度が高い*）	- Disaster preparedness including early warning systems and local response strategies ・早期警告システムとローカルな対応戦略を含む災害準備		24.4		

Risks associated with reasons of concern (IPCC WGII)



Policy implication of IPCC AR5 (2)

- Cumulative GHG emission linearly related to temperature rise

  ⇒ eventually, we have to go zero emission world
  ⇒ limited cumulative emission (budget) allowed to stop some temperature rise level

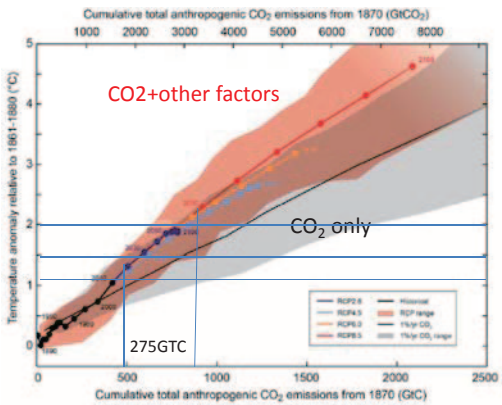
- 2 degree target
  ⇒ limited budget of 275GtC allowed for 2℃ target.
  ⇒ Urgency: cf. 2013 emission 9.9GtC
  If it continues, 30 years left until dead end!

- How about 3 degree?
  ⇒ almost 70 years left

⇒ We have to start quickly reducing emission
⇒ Low Carbon Society: use left emission budget slowly and carefully, while changing to carbon free society

Cumulative total anthropogenic CO2 emission from 1870 (GtCO2)

Linear relation to temperature rise
→Temperature limit decides upper limit of CO2/GHG emission

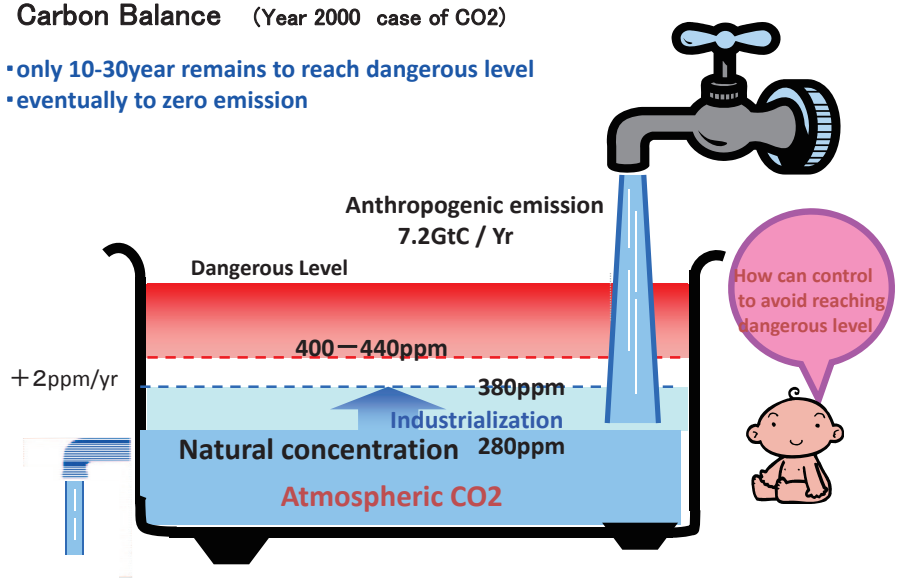


To limit within 2 ℃ from the pre-industrial era with certain possibility, upper limits are
>33% → 880GtC
>50% → 840GtC
>66% → 790GtC
Already until 2011, 515GtC has been emitted. So, only 275GtC allowed for 2℃ target.
cf. 2013 emission 9.9GtC
⇒if it continues, 30 years to go, and dead end!

(IPCC AR4 and Emori, NIES)

Carbon Balance (Year 2000 case of CO2)

- only 10-30year remains to reach dangerous level
- eventually to zero emission



Natural absorption (Land 0.9, Ocean 2.1)
3.1GtC/ yr (decrease as temp. rise)

Policy implication of IPCC AR5 (2)

- Cumulative GHG emission linearly related to temperature rise

⇒ eventually, we have to go zero emission world
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Policy implication of IPCC AR5 (3)

How to use limited budget ?

- Many pathways calculated

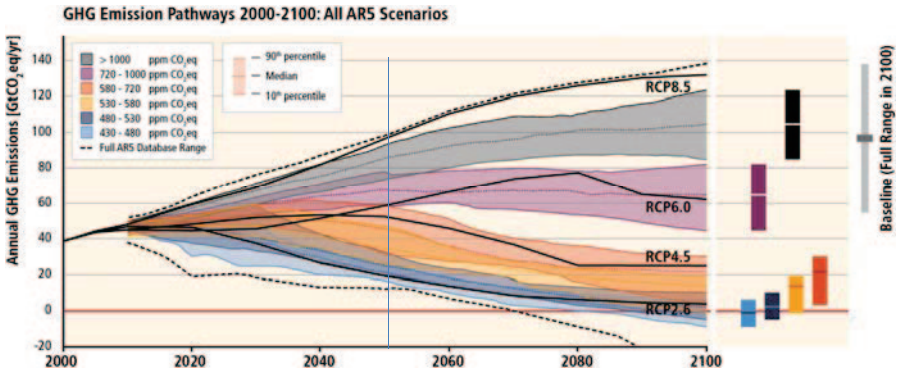
⇒ A pathway of 50% reduction from now can possibly achieve less than 2 degree rise technically

How much is the allocation per capita in 2050 ?
・2010 10GtC= 37GtCO2 world total
2050 1/2 =18.5 GtCO2 World Population 9G→ 2ton/capita

How much is the allocation to country under 2tCO2/capita allocation rule?
Japan 2010 13GtCO2 →
(decreasing population) 2050 1.8Gt→ 86% reduction

How much is China, India and ASEAN country?

Without more mitigation, global mean surface temperature might increase by 3.7° to 4.8°C over the 21st century.



Policy implication of IPCC AR5 (3)

How to use limited budget ?

- Many pathways calculated

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<u>How much is the allocation per capita in 2050 ?</u>

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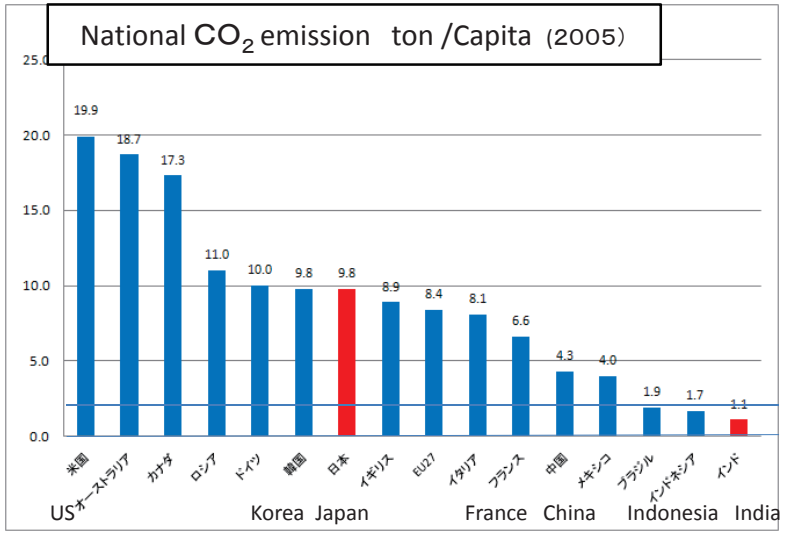


World Resources Institute, Climate Analysis Indicators Tool

Asian country's necessary reduction rate under worldwide halving in 2050

% base year 2005

	Allocation criteria	World	Developed A1	Developing NA1	Asia excl. Japan	China	India	Indonesia	Japan	Korea	Malaysia	Thailand	Vietnam
A	Equal per capita	58	83	42	42	68	-51	15	83	85	67	61	12
B	Equal per GDP	58	46-58	57-65	58-63	59-61	41-53	67	18-43	49-57	57-60	54-65	60-74
C	Equal cumulative per cap	58	95	34	43	97	-100	49	94	99	93	85	32

・Indonesia, Malaysia: excl. land-use origin
・estimation of GDP: High and Low case
・2050: world population 7G

出典: Matsuoka, et al., 2013, How to approach Asian Low- Carbon Societies?, Global Environment Research, 17(1), 3-10

Policy implication of IPCC AR5 (4)
Asian Challenges

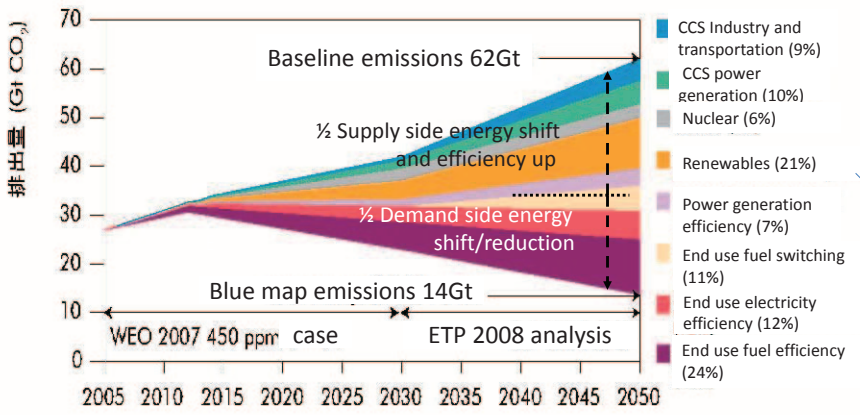
<u>How big are the challenges?</u>

- <u>Japan's case</u>
  - Energy demand reduction & shift to low carbon energy (without nuclear?)
  - Deep cut requires socio-economic changes, as well as technological innovation and infrastructural and behavioral change
  - Good & bad lessons

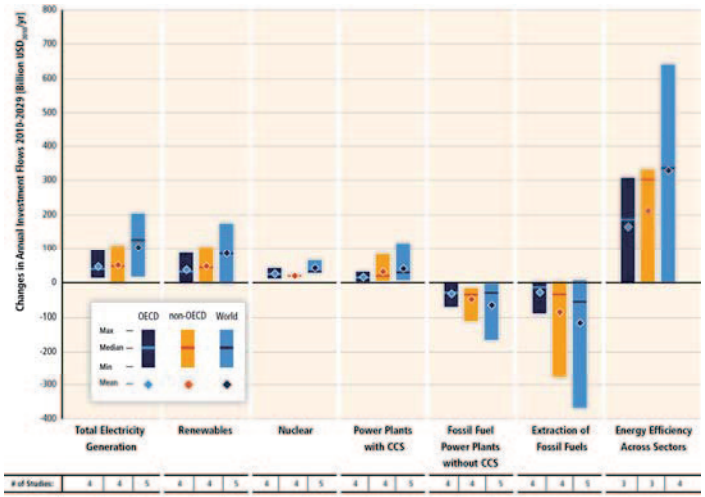
- Asian countries: big responsibility and huge chance
  - Forced leapfrog: needs to find new pathway
  - Late comer's advantage: locked in vs. lock in
  - Huge investment chance in high economic growth
  - Can be the leader of low carbon world

Contribution of emission reductio options 2005-2050
(Blue Map Scenario IEA 2008)

nn



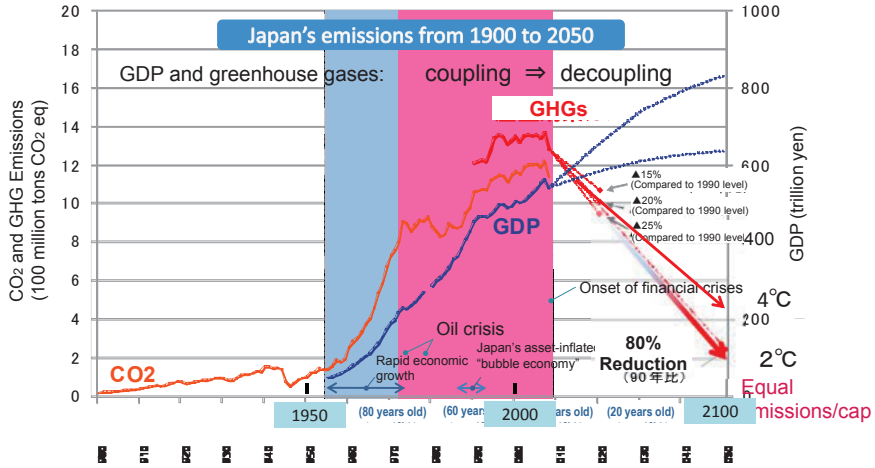
Substantial reductions in emissions would require large changes in investment patterns.



Applying IAM to the real policy process: The rad map o 2050

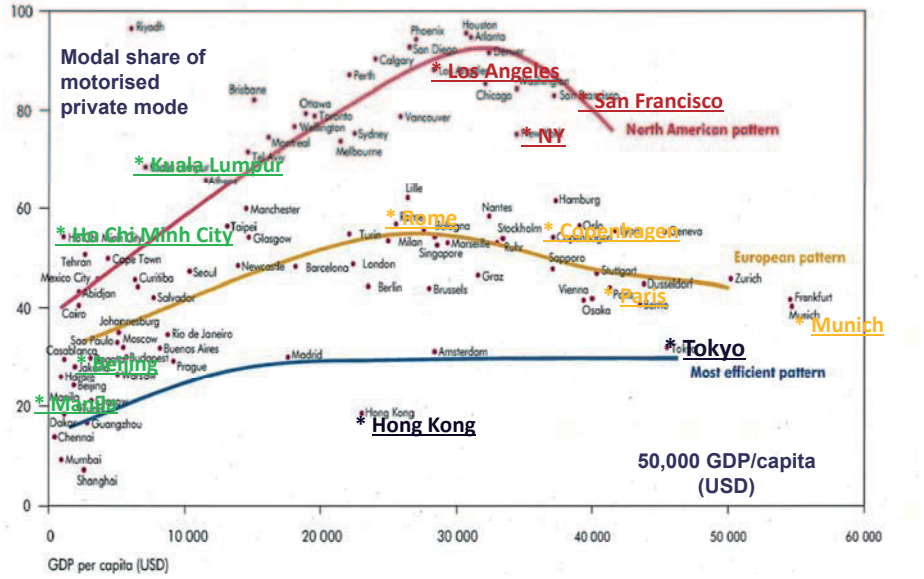
Drastic change needed to low carbon society within 40 years

Japan: GHG emission reductions of 80% by 2050:
An enormous transition towards an unexplored type of society



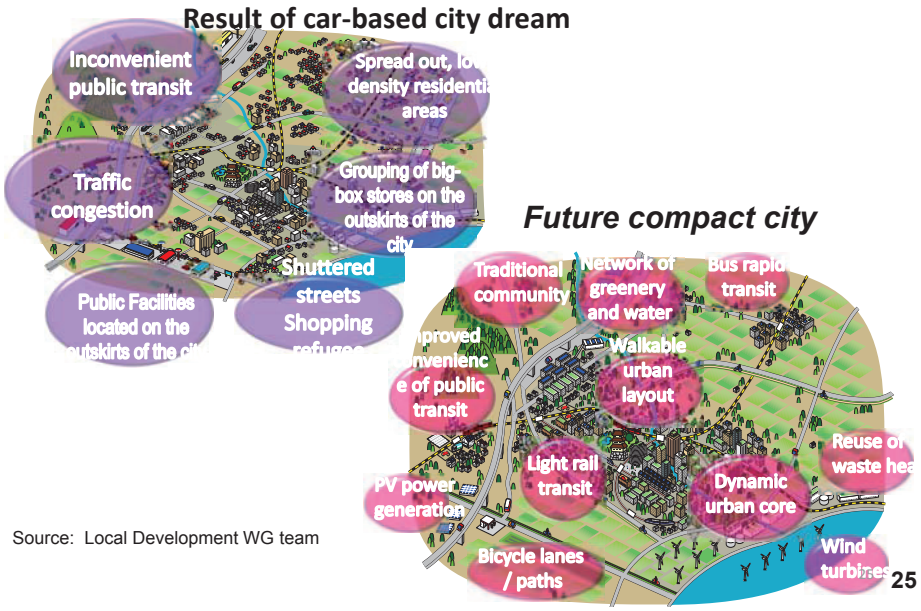
Future GDP: Based on scenarios A and B from the NIES Low Carbon Society Research Project 2050

Tokyo advantage: Least car dependent city
Metro network established before motor age came



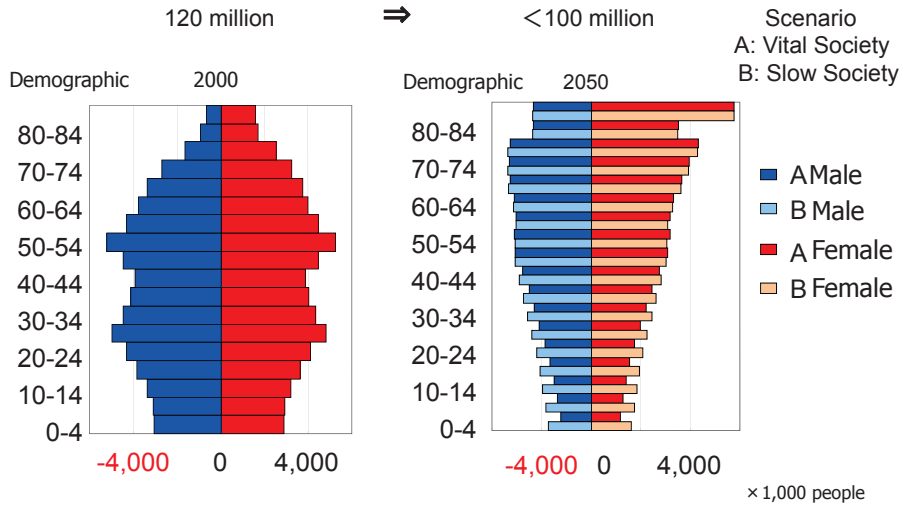
Source: IEA (2008)

Mis-anticipated rapid shift to aged society



Source: Local Development WG team

Japan as the global front runner of aging societies



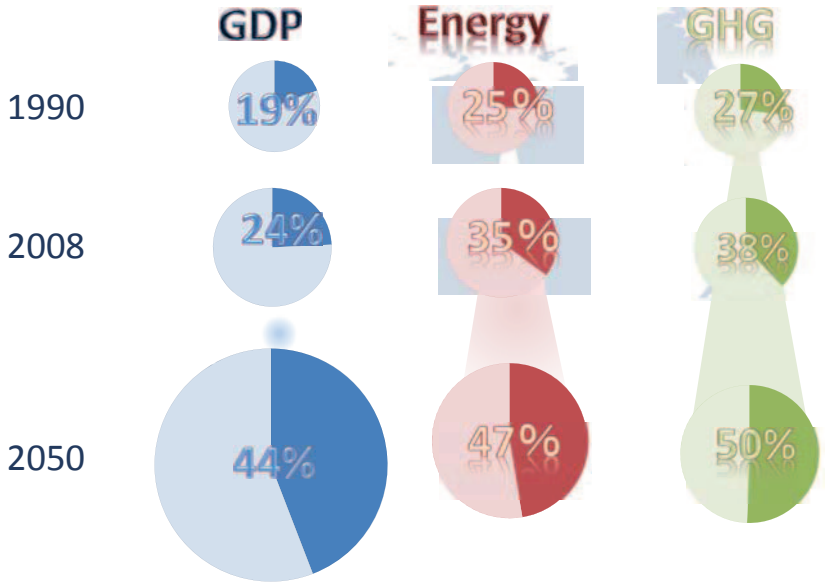
Policy implication of IPCC AR5 (4)
Asian Challenges

How big are the challenges?

- Japan's case
  - Energy demand reduction & shift to low carbon energy (without nuclear?)
  - Deep cut requires socio-economic changes, as well as technological innovation and infrastructural and behavioral change
  - Good & bad lessons

- Asian countries: big responsibility and huge chance
  - Forced leapfrog: needs to find new pathway
  - Late comer's advantage: locked in vs. lock in
  - Huge investment chance in high economic growth
  - Can be the leader of low carbon world

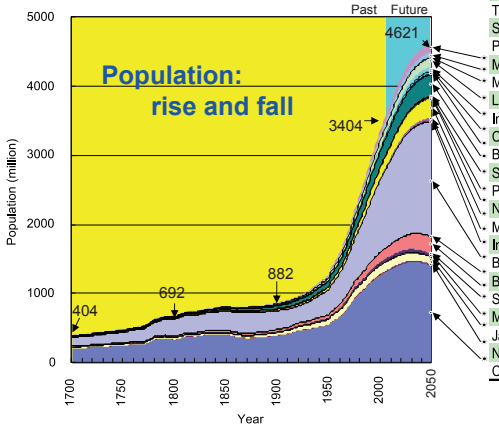
Growing importance of actions towards low-carbon development in Asia



Source: Presentation by Dr. Mikiko Kainuma (Nov. 2011)

Asia 40 years into the future

Population explosion will cease except in the South Asia region, while some countries' populations will begin to shrink



	2008	2050	ratio 2050/200	% in the region
VietNam	89,694	119,971	1.34	2.60
Thailand	64,732	67,376	1.04	1.46
Singapore	4,542	5,026	1.11	0.11
Philippines	91,332	140,466	1.54	3.04
Myanmar	49,640	58,709	1.18	1.27
Malaysia	27,476	39,631	1.44	0.86
Laos	6,068	9,290	1.53	0.20
Indonesia	237,002	296,885	1.25	6.42
Cambodia	14,957	25,114	1.68	0.54
Burunei	406	681	1.68	0.01
SriLanka	19,487	18,715	0.96	0.40
Pakistan	170,113	292,205	1.72	6.32
Nepal	29,325	51,891	1.77	1.12
Maldives	317	510	1.61	0.01
India	1,203,246	1,658,270	1.38	35.88
Bhutan	675	935	1.38	0.02
Bangladesh	163,970	254,084	1.55	5.50
S.Korea	48,538	42,327	0.87	0.92
Mongolia	2,680	3,388	1.26	0.07
Japan	127,868	102,511	0.80	2.22
N.Korea	23,941	24,666	1.03	0.53
China	1,343,933	1,408,846	1.05	30.48

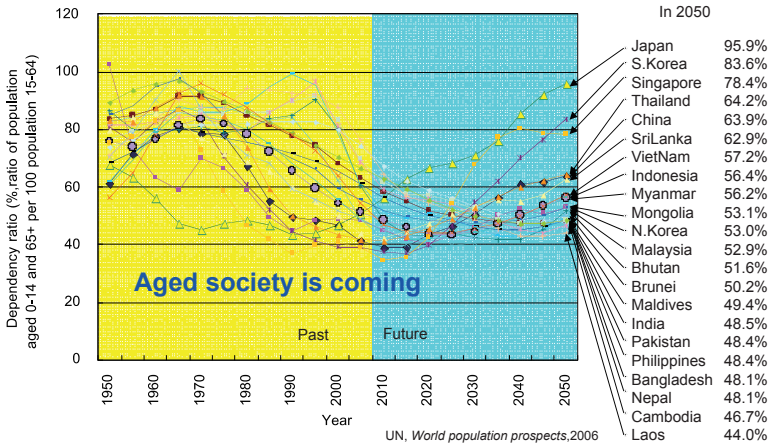
(thousands)

Mitchell *International Historical Statistics* (2007) and UN, *World population prospects* (2006)

From Matsuoka, 2009

Asia 40 years into the future

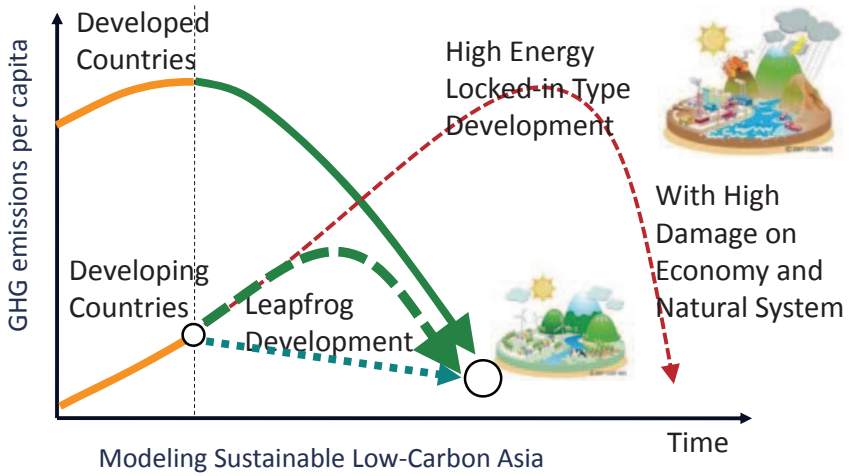
Dependency ratios of population will change drastically over the next forty years



UN, *World population prospects*,2006

From Matsuoka, 2009

LCS scenario in Asia

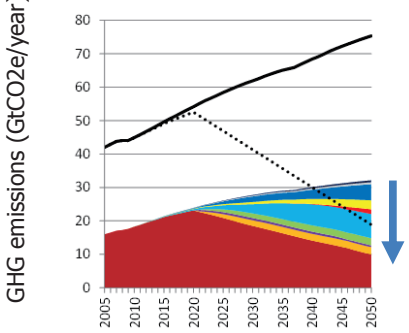


"Asian Low-Carbon Society Scenario Development Study" FY2009-2013, funded by Global Environmental Research Program, MOEJ

http://2050.nies.go.jp/index.html

There is potential to reduce GHG emissions by 69% compared to the reference case in Asia

- The global emissions will become 1.8 times larger compared to the 2005 level and emissions in Asia will be doubled under the reference scenario.
- It is feasible to reduce GHG emissions in Asia by 69% by introducing ten actions and Others (CH_4 and N_2O emissions from other than agriculture and livestock) appropriately compared to the reference scenario in 2050.



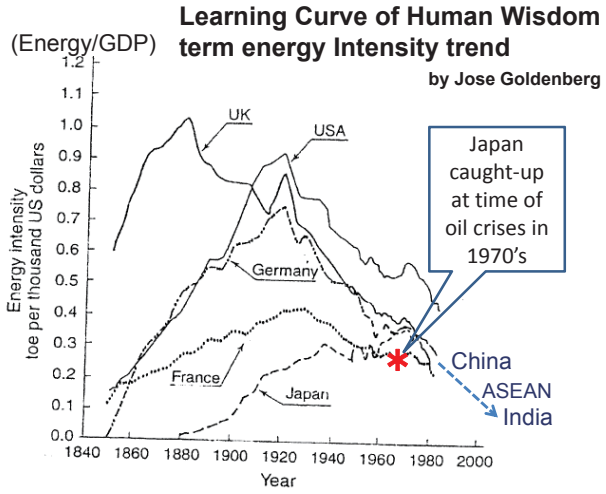
Reductions by
- Action1: Urban Transport
- Action2: Interregional Transport
- Action3: Resources & Materials
- Action4: Buildings
- Action5: Biomass
- Action6: Energy System
- Action7: Agriculture and Livestock
- Action8: Forest & Landuse
- Others (CH_4 and N_2O emissions from other than agriculture and livestock

GHG Emissions in
- the world (Reference)
- the world (LCS)
- Asia (LCS)

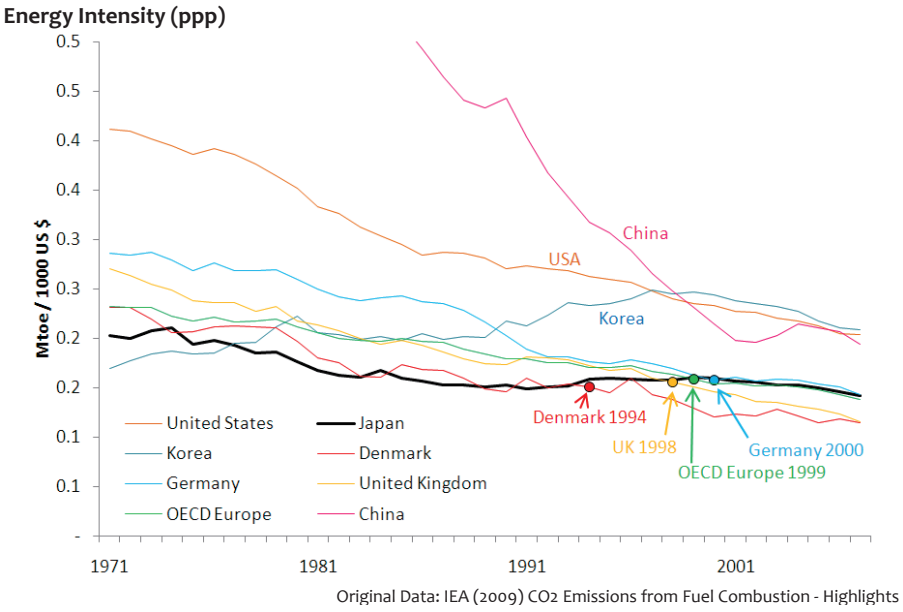
	Country	Domestic factors	External factors
Industrial structure	India: IT industry	Education/ human resources	Soft technology Globalization
Energy structure	Japan: Low energy intensity	Technology Rapid growth	Oil crisis Energy security
Urban structure	Singapore: Transportation, water, housing Tokyo: Public transportation	Small land area Strong leadership Rapid urbanization	Relationship with Malaysia In advance of auto age
Distributed energy	India: Renewable energy, biomass Brazil: Ethanol	Poor power grid investment; land area Sugar cane, scarce oil	
Information	China: Mobile phones	Rapid economic growth, big land area, Not enough com-grid	IT technology
Renewable energy system	China: Wind/solar energy	Vast land area	Climate change
Agriculture	Low energy use	Self sufficiency	Energy price

LoCARNet

Energy Technology in Asia Leading Transition to Low Carbon World

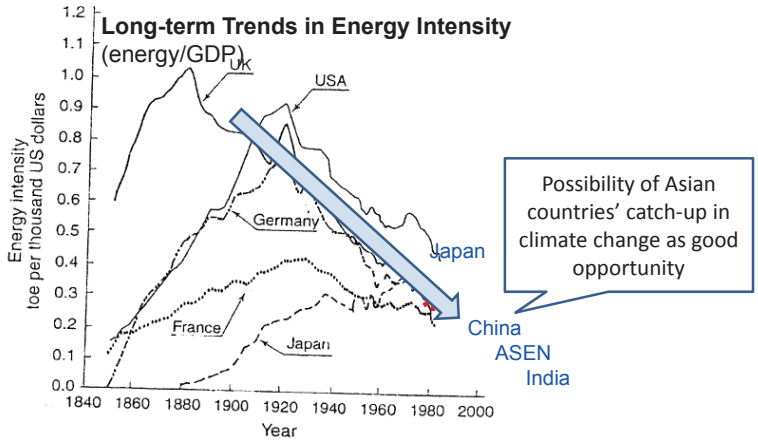


Japan delayed for low carbon technologies development and deployment?



Original Data: IEA (2009) CO_2 Emissions from Fuel Combustion - Highlights

Learning Curve of Human Wisdom



LCS·R Net

LoCARNet

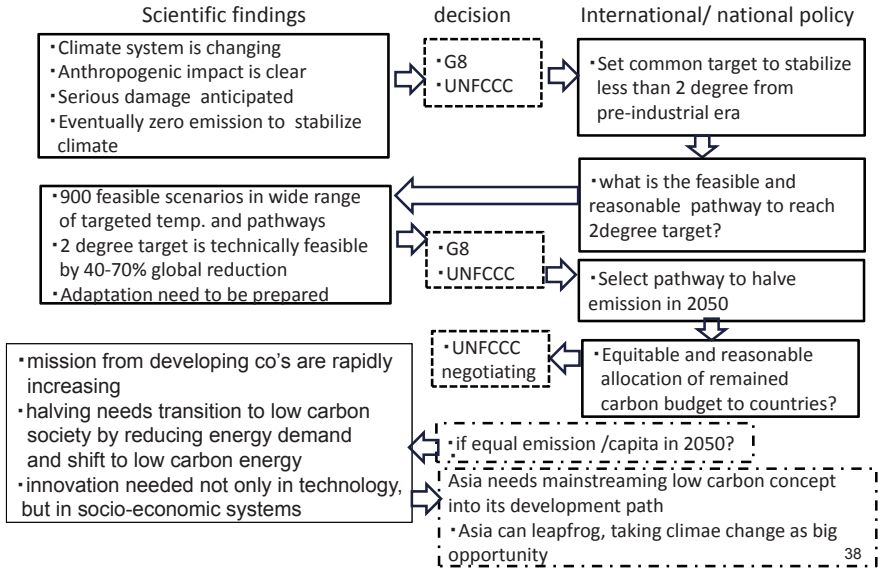
Thank you very much for your attention!

LCS-RNet/LoCARNet Secretariat
http://lcs-rnet.org/index.html

c/o Institute for Global Environmental Strategies (IGES)
2108-11 Kamiyamaguchi, Hayama, Kanagawa 240-0115, Japan

E-mail: lcs-rnet@iges.or.jp
Fax: +81 (0)46 855 3809

Global context of low carbon society and Asian challenges in sustainable development

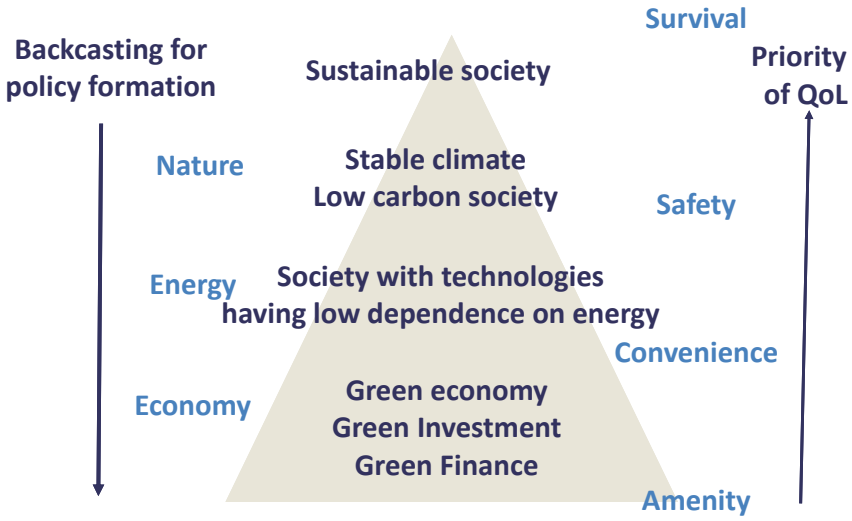


LCS·R Net

International Research Network for Low Carbon Societies

Prioritise policy targets

Stable climate ＞Society＞ Economy



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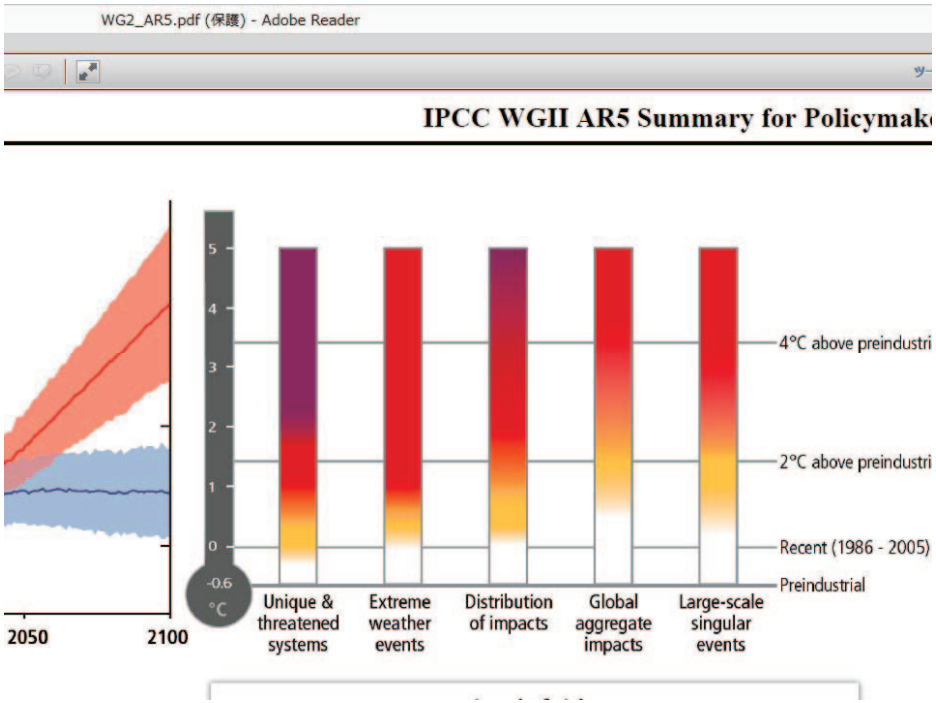
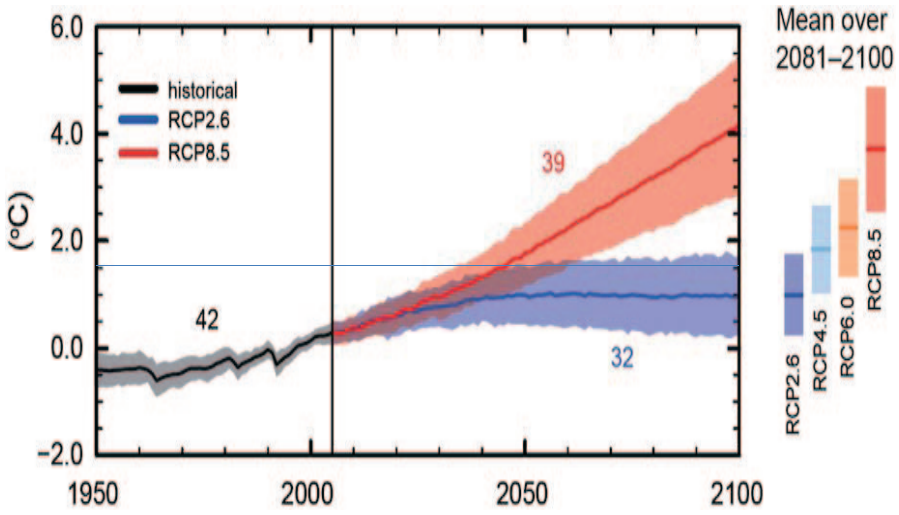


Figure SPM.7a

Global average surface temperature change

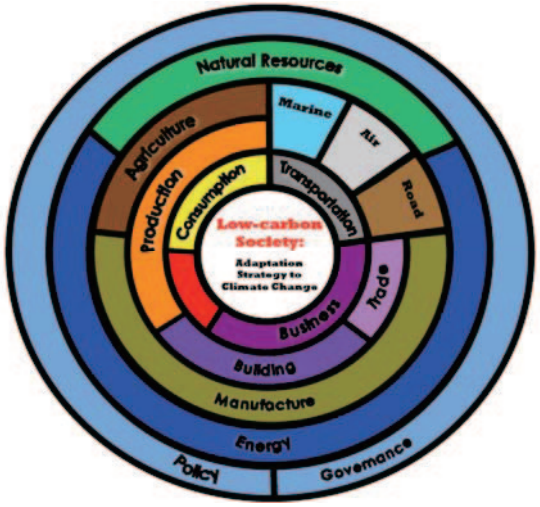


Overview of LCS Development

Sirintornthep Towprayoon

Joint Graduate School of Energy and Environment,
King Mongkut's University of Technology Thonburi

How does LCS look like



Low carbon society wheel

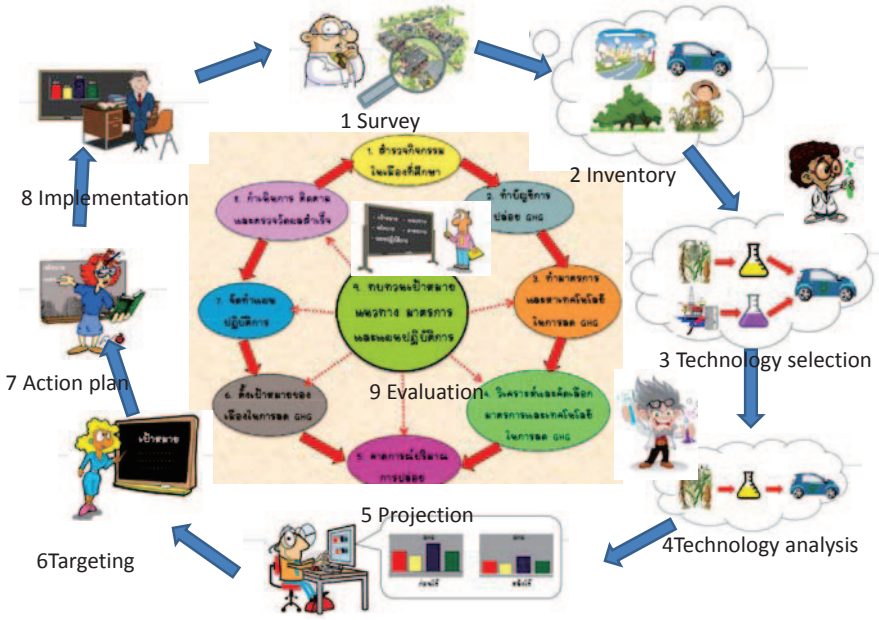
Sirintornthep 2007 initiate for the scoping meeting of Research on the Futures of Low Carbon Society: Climate Change and Strategies for Economies in APEC Beyond 2050

Enter into low carbon society

- Stakeholders (key players)
- Strategic approach
- Target setting
- Action plan
- Implementation
- Evaluation

Structural change | Mindset change | Behavioral change

From local study to policy maker
Nine steps approached to Thai low carbon city

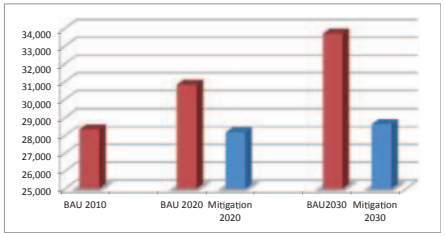


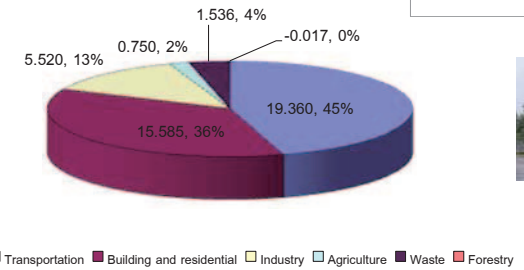
Example of LCS development in Thailand : Muang Klang Municipality

Municipality Profile: Muangklang

Statistics (2010)

City area:	14.5 km2
Population:	17,197
Households:	3,309
Communities:	13





Mitigation in major emission sector

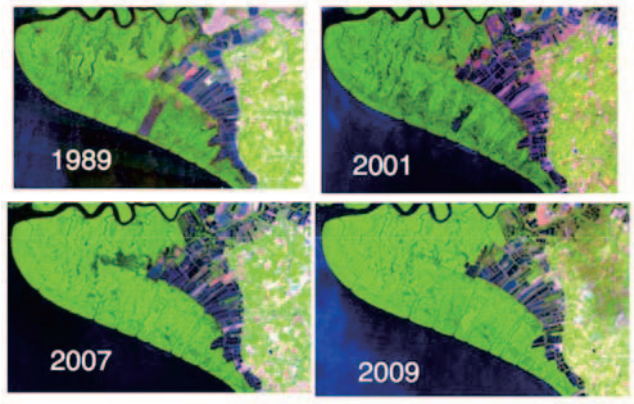
- **Buildings.** Encourage commercial building and homeowners to select energy efficient products receiving the "Energy Label No.5"; raise awareness on energy saving behaviors; and adopt clean energy in public buildings.
- **Transport.** Add public buses and improve routes to minimize personal vehicle use; convert public fleets to run on natural gas and biofuels; and encourage city residents to use bicycles.
- **Waste.** Install a municipal waste separation belt to sort organic waste and recyclables from general waste prior to landfill disposal—to reduce landfill methane; and install a biogas digester.
- **Agriculture.** Convert unused land areas to rice fields; and construct a municipal rice mill for local processing and consumption, to reduce emissions from transporting rice from elsewhere.
- **Urban Spaces.** Increase the area dedicated to public parks; and green and improve pedestrian routes to promote exercise and reduce motorcycle use.

Example of LCS development in Thailand : Muang Klang Municipality

Mitigation Measure	GHG Emission Reduction	Expected Co-Benefits
Installed municipal waste separation belt to sort organic waste and recyclables from general waste prior to landfill disposal	448.4 tCO_2e avoided over 10 years from landfill methane	• Lowered solid waste disposal costs for municipal authorities by 312,500 baht over lifetime of equipment (10 years) • New revenues generated from sale of recyclables • Extended the life of the municipal landfill
Constructed municipal rice mill for local processing and consumption	At least 61.6 tCO_2e avoided from transport of rice from outside of Muangklang	• New income generated from rice sales, benefiting smaller scale farming households • Reduced dependence on prices in the rice market and purchases from outside the municipality • Increased food security for local communities

Example of LCS development in Thailand : Ban Prednai Community

Sufficiency economy philosophy and LCS development



CO2 reduction 1200 tCo2 eq per year

Example of LCS development in Thailand : Khon Kaen Province

-Khon Kaen's declaration of 'Climate Change Adaptation and Mitigation 2020'
-The 'green vision' with roadmap to low carbon city since 2009
-'Green Eco City' by Office of Natural Resources and Environmental Policy and Planning,
-Khon Kaen Green City network
- Green eco city'

Khon Kaen-Towards Low Carbon Society

Example of LCS development in Thailand : Khon Kaen Province

STG.1 Green City

- To plant big tree in 0.5 km^2 area
- To breed tree in school by student
- To educate tissue culture to community leader
- To educate the gardening to student
- To train/demonstrate waste management / biogas
- To create environmental awareness of student
- To establish green network
- To launched green campaign
- To give 9 trees to the newborn baby
- To support the backyard garden in the house
- To support the free tree to the community

STG.2 Clean City

- To educate waste separation for the officer
- To provide tank separation waste
- To compete the amount of waste reduction in each department in the office
- To support using e-mail instead of paper
- To use paper-glass instead of plastic-glass for visitor
- To use own-glass for the officer
- To promote using cloth-bag instead of plastic-bag
- To construct compost pit at house/temple/school
- To produce biogas using in the cafeteria
- To exchange hazardous waste to value/egg /rice/score
- To separate waste composition
- To support recycling rate
- To convert waste to energy
- To convert plastic into oil

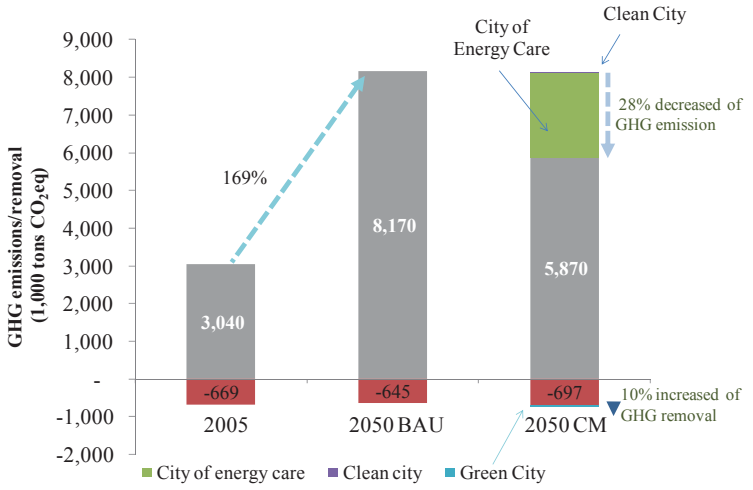
STG.4 Living Sustainable City

- To educate 'LCS' to the community
- To increase the member of green network
- To establish green-city network
- To establish second hand center
- To use environmental equipment
- Take your own glass to the meeting
- Do not distribute the meeting-document
- High efficiency of lighting in the meeting room

STG.3 City of Energy Care

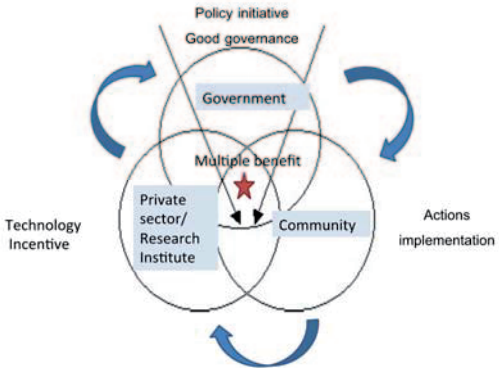
- To service employee by shuttle bus
- To control air condition operating time and temp.
- To turn off electricity equipment at the lunch time
- To provide the design of energy saving building
- To promote car free day
- To support using renewable energy
- To support using solar cell
- To purchase frying oil

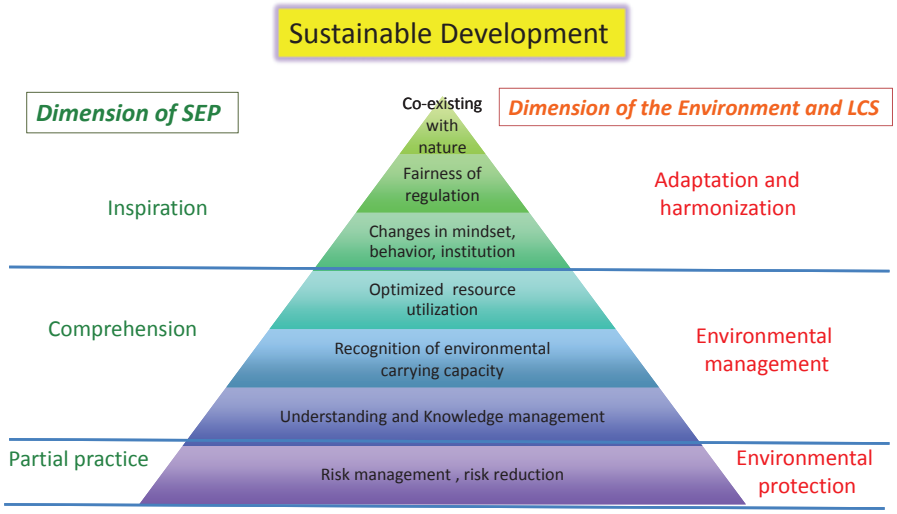
Example of LCS development in Thailand : Khon Kaen Province



Key success factors

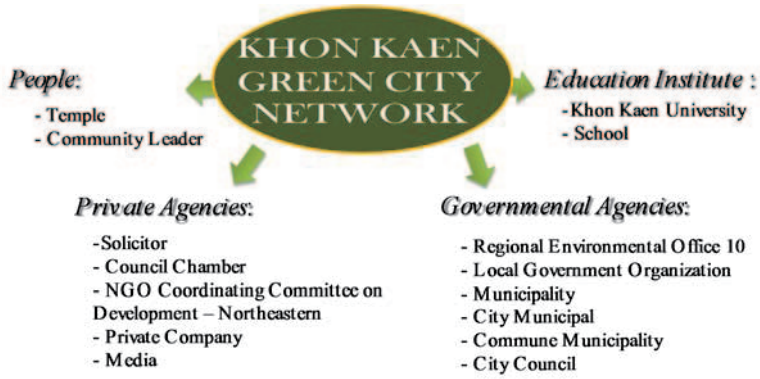
- Leadership
- Triple helix actors
- Multiple benefit
- Local wisdom
- Networking
- Communication





A step to sustainable development in view of Sufficiency Economy Philosophy (SEP)

Networking



Major Challenges

- Changes
  - Structural change
  - Mindset change
  - Behavioral change
- Research to Policy
  - Good mechanisms
  - Strong platform
- Policy to implementation
  - Top down
  - Bottom up

Thank you for your attention

Contact: sirin@jgsee.kmutt.ac.th

Launching of Climate Change International Technical and Training Center (CITC)
and
Workshop for Capacity Development on Low Carbon Society (LCS) in the Southeast Asia Region and Training Needs Assessment
8th – 9th May 2014 in Pattaya, Thailand

OVERVIEW LCS DEVELOPMENT- MALAYSIA

Low carbon development scenario development and its implementation of Low Carbon Society Blueprint for Iskandar Malaysia

SCIENCE INTO POLICY- LOW CARBON GREEN CITY

SATREPS
Science and Technology Research Partnership for Sustainable Development Program

Ho Chin Siong (UTM)
Faculty of Built environment/ UTM Low Carbon Asia Centre

Email: ho@utm.my/ csho59@yahoo.com

Content- Structure of Presentation

Background
- Urban problem and low carbon solution policy solution
- Developing countries context
- Science into policy

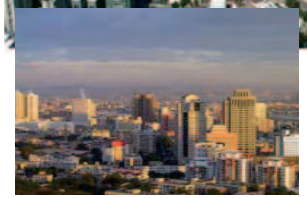
Challenges And Solution
- Issues and Challenges of Sustainable development and Climate Change

LCS Malaysia
- Low Carbon Society Blueprint for Iskandar Malaysia
- -AIMS Modelling
- Solution- 12 actions

URBAN PROBLEMS and Low carbon SOLUTIONS – Physical planning

Material and Energy

Mobility and Green

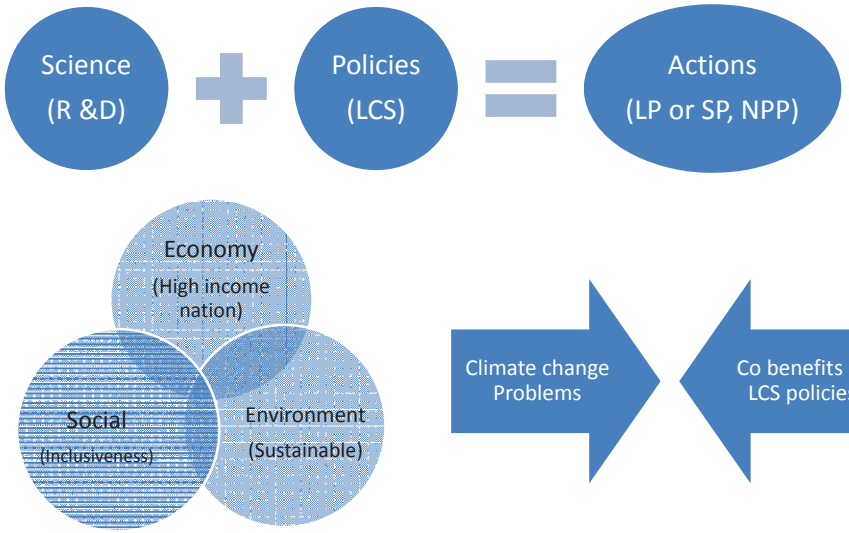


URBAN PROBLEMS and Low carbon SOLUTIONS – Socio-economic

Social/ People

Economy/ Engine of Growth

Developing countries context

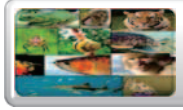


ISSUES AND CHALLENGES

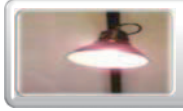
Rapid urbanization and industrialization

Relatively high carbon intensity dependence on fossil fuel (fuel subsidy)

High Private car ownership



Low density development and urban sprawl



Low efficiency appliances and low usage of renewable energy.

Why technocrats / policy makers in Malaysia care about low carbon society and sustainability ?

Rationale

- **National Agenda** 40% CO_2 intensity reduction
- Climate change and **sustainability policy issues are embedded** in all spatial planning policies (NPP/ RS/LP)
- Local authorities/Urban planning **enhances sustainable urban structure (** compact city / TOD / SWM/green and blue infrastructure and can promote LCS lifestyle
- **More Eco-friendly home buyers** demand green integrated neighborhood, infrastructure and buildings
- **Fulfill roles to reduce vulnerability** on disasters (flood) and promote comfort and safety.

Why LCS cities?

Malaysian Outlook

The CO_2 emission per capita and emission **intensity** of selected countries in **2010**

Countries	Emission per capita tones of CO2 per capita	Emission Intensity tones of CO2 per US$1000 of GDP
World	4.35	0.73
United States	19.1	0.5
Singapore	9.8	0.3
Japan	9.7	0.2
United Kingdom	8.6	0.3
Malaysia	**6.7**	**1.3**
China	4.6	2.5
Thailand	3.5	1.3
Indonesia	1.7	1.6
India	1.2	1.7

The 10th Malaysian Plan (2011-2015) has outlined 2 major National Policies on Environmental Protection and conservation :

National Green Technology Policy

• Emphasizes on Sustainable development, development of roadmaps to guide the application of green technologies & establishment of Green Tech Financing Scheme.

National Climate Change Policy

• Coordinate and streamline policy & legislations, stashed inter-ministrial and cross sectoral committee to facilitate and identify options and strategies to achieve a low carbon economy.

Green Neighborhood Guidelines – JPBD 2010
-Smart location, Neighbourhood pattern and design, Green Infrastructure

Green Township Framework
–LCCF Guide Towards LC Cities 2012- Kettha/MIP

ISSUES AND VISION

1 MALAYSIA CHARTING DEVELOPMENT
TOWARDS A HIGH INCOME NATION – National Transformation Policy (2012) and Prospering the Nation and Enhancing well being of rakyat (2013)

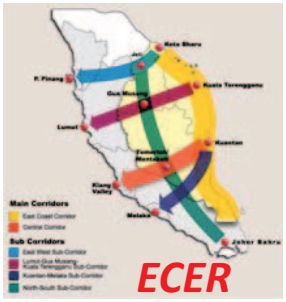
- The 2013 budget in line precedent goals on rakyat's welfare and nation's well being , aim to position Malaysia as a **developed and high-income economy** with inclusive and sustainable development, will continue to ensure that the **most conducive socio-economic environment** is created through the **Government Transformation Programme (GTP)** to underpin growth focusing on **Welfare for rakyat, Well Being of the nations**

The 10th Malaysia Plan

- Building an environment that **enhances Quality of Life**
- New urbanism and **compact city**
- Growth concentrated in **urban conurbation**
- **Safe city** initiatives
- **Developing climate resilient growth** policy
- Adaptation measures
- Mitigation measures
- Incentives for **RE and EE**
- Improving **Solid waste management**
- Conserving forest
- Reducing **emission to improve air quality**

BACKGROUND

MALAYSIA: KEY ECONOMIC DEVELOPMENT CORRIDORS



01 Low Carbon Society Scenarios for Iskandar Malaysia

Project Background

Site: Iskandar Malaysia

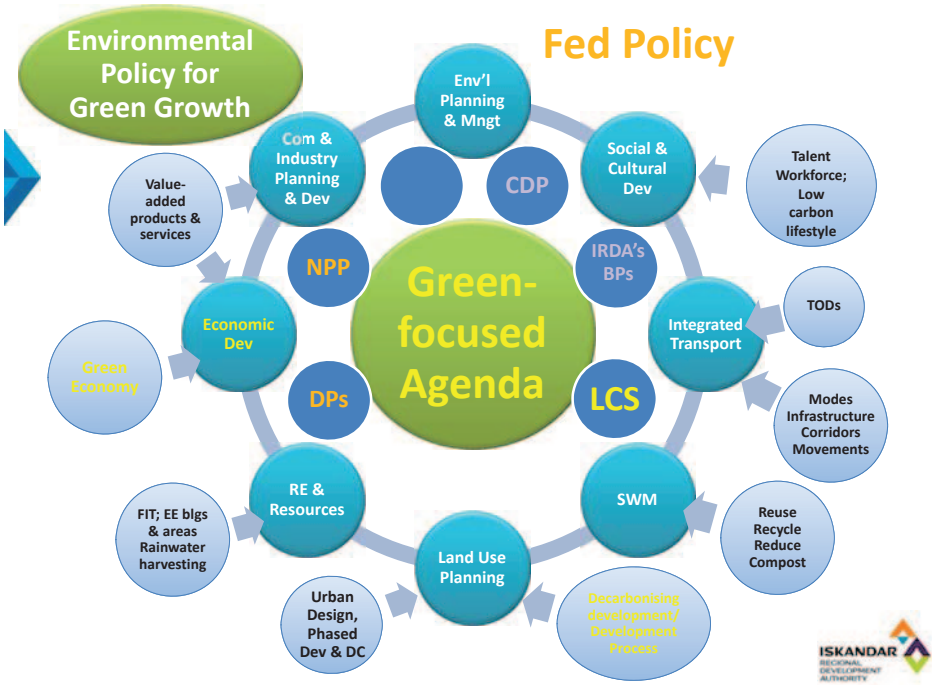
(Iskandar Regional Development Authority)

Objective:

i. To draw up **key policies and strategies** in guiding the development of Iskandar Malaysia in **mitigating carbon emission**. *Transforming Iskandar Malaysia into* ***a sustainable low carbon metropolis by adopting green growth strategies/roadmap.***

ii. To respond to the nation's aspiration for **ensuring climate-resilient development for sustainability**.

Target Year: 2025 (2005 – 2025)



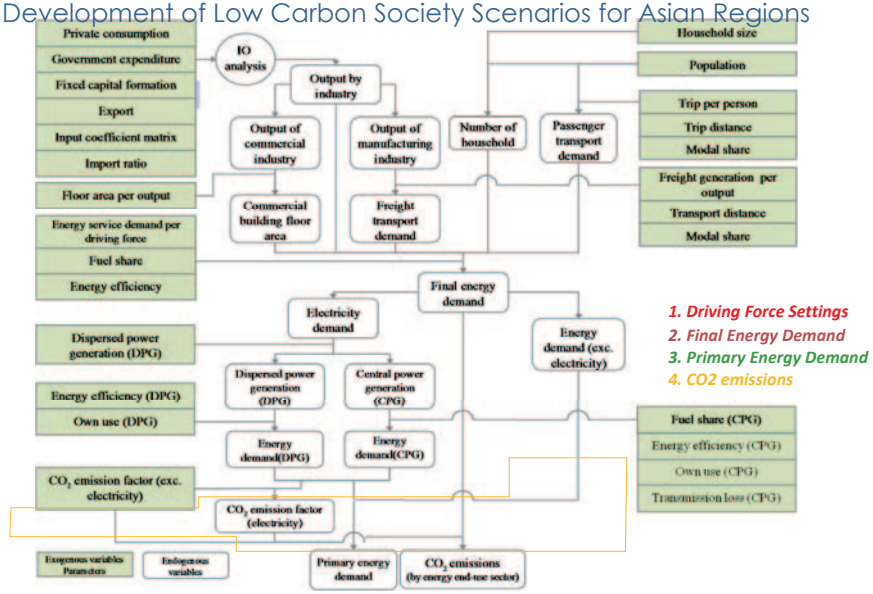
Blueprints directly relevant to the environment

ISKANDAR REGIONAL DEVELOPMENT AUTHORITY

Public versions downloadable at
www.iskandarmalaysia.com.my

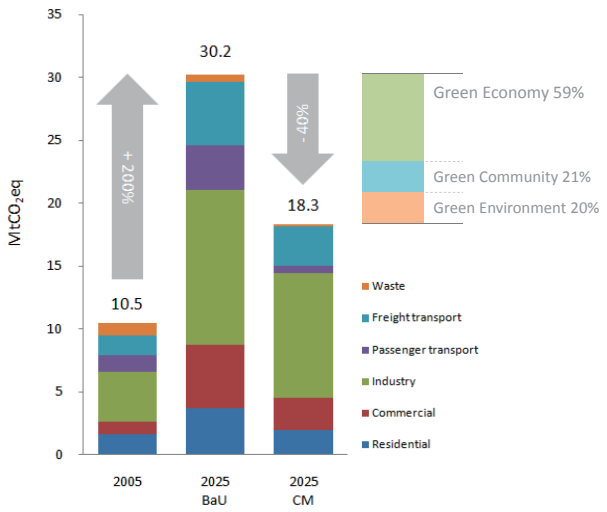
CO_2 Emission Modeling –

Development of Low Carbon Society Scenarios for Asian Regions



04 Potential Mitigation Options for Iskandar Malaysia

Green Economy, Green Community and Green Environment



04 Potential Mitigation Options for Iskandar Malaysia

12 Actions Towards Low Carbon Future

Mitigation Options	CO2 Reduction	%
Green Economy	7,401	59%
Action 1 Integrated Green Transportation	1,916	15%
Action 2 Green Industry	1,085	9%
Action 3 Low Carbon Urban Governance**	-	-
Action 4 Green Building and Construction	1,338	11%
Action 5 Green Energy System and Renewable Energy	3,061	24%
Green Community	2,557	21%
Action 6 Low Carbon Lifestyle	2,557	21%
Action 7 Community Engagement and Consensus Building**	-	-
Green Environment	2,510	20%
Action 8 Walkable, Safe and Livable City Design	264	2%
Action 9 Smart Urban Growth	1,214	10%
Action 10 Green and Blue Infrastructure and Rural Resources	620	5%
Action 11 Sustainable Waste Management	412	3%
Action 12 Clean Air Environment**	-	-
Total	12,467**	100%

Launching of the LCSBPIM – COP18 Doha 2012

Implementation of LCSBP Actions – 10 programmes in 2013

Launching of the Iskandar Malaysia: Actions for a Low Carbon Future

Malaysia Launching: 06 Nov 2013 at Parliament
Global launching: 15 November 2013,
COP19 Warsaw Poland

LCS: Ongoing projects- on the ground

GREEN ECONOMY

- Establish Green Economy & Investment Guidelines for IM
- Promote and Facilitate Green Building, Green Industry, Renewable Energy for new development
- Pasir Gudang – Clean and Healthy City

GREEN COMMUNITY

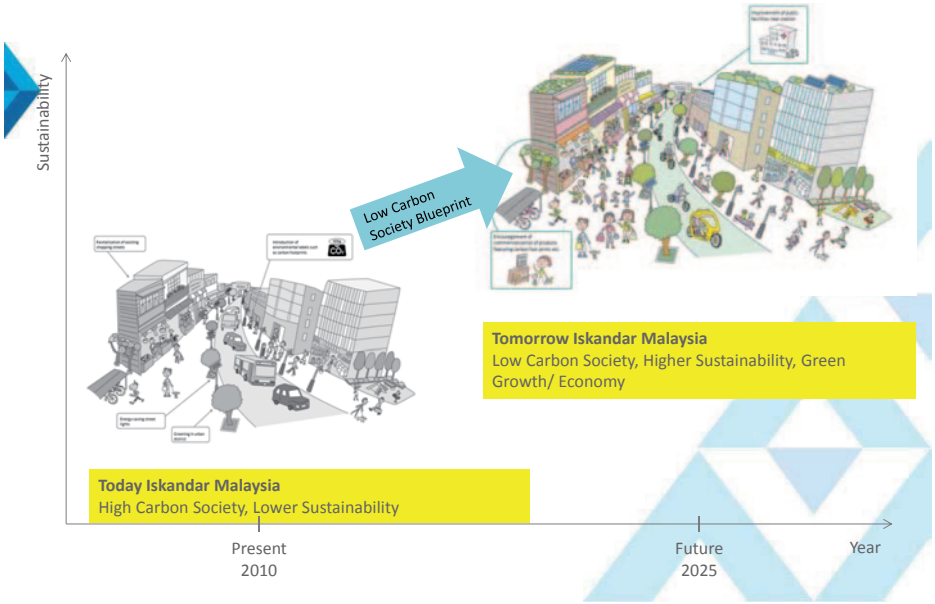
- Public awareness campaigns
- Enhancing school awareness – Eco-Life Challenge
- Promote Energy Efficiency
- Capacity Building- LCS International Symposium, GHG Protocol

GREEN ENVIRONMENT

- IM Environment Declaration
- GAIA- Green Accord Initiative Award
- Conservation of Mangrove Forests- Ramsar
- Pilot programme: Designated Bicycle Lane

Environmental report 2013 ***Report Card on Environment***

Iskandar Malaysia: Today and Tomorrow



05 Conclusion- Way forward

In a **rapid urbanization** situation, Sustainable Low carbon city is important component to facilitate green environment, green econom and green community.

Good **baseline quantitative study, consensus building and low carbo blueprint plan** will help to develop an **integrated climate resilient , Lov carbon framework** for a city or region by providing **objective** decision.

Important to have a Asian (IGES & AIM) **and International** for R&I **collaboration** between researchers and **capacity building opportunities.**

Looking beyond policy **– SCIENCE-KNOWLEDGE-POLICY IMPLEMENTATION (completing PDCA cycle)**

Green cities or Local carbon cities need to have a **LOW CARBON SOCIETIE mindset/** behavior and **Joint effort** between different profession (Planners, architect, engineer and related environmental profession)

Thank you for your attention!

Thank You Terima Kasih 谢谢 धन्यवाद ありがとう

Workshop for Capacity Building Development
on Low Carbon Society (LCS) in the
Southeast Asia Region
8-9 May 2014, Pattaya, Thailand

Sustainable Development: Green Growth Perspective in Cambodia

By Mr. Sem Sopheak
Deputy Director of Green Environment & Natural Resource
Ministry of Environment, KINGDOM OF CAMBODIA

Presentation Scheme

- Green Growth Vision
- Cambodia National Green Growth Roadmap
- Green Growth Policy and National Strategic Plan on Green Growth
- Green Growth Cooperation

- Brief LCS Policy Development Support for Cambodia
- LCS Cooperation
- LCS context in Cambodia
- LCS Practices

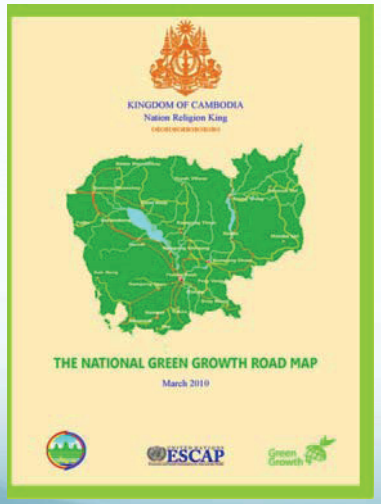
Green Growth Vision

Green Growth refers to **sustainable economy development** that will cause no damage to environment, which is based on the **sustainable use of natural resources**, **energy efficiency, minimize waste generation**, **clean development**, **livelihood improvement** to achieve balance of **economy** development with **environmental** sustainability that focus on great interest of whole society.

- Orient an economy toward a **greener developmental** paradigm; **Promote low-carbon growth** and climate resilient development; **Promote Knowledge on GG**, **awareness and education**; Promote **bilateral** and **multilateral** cooperation on GG; Enhance **green jobs** for **poverty** eradication; Increase **ecosystem services payment**.

Green Growth Vision

Cambodia National Green Growth Roadmap

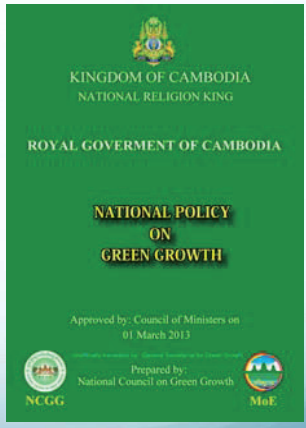


Green Growth Roadmap lays out seven key priority accesses:

1. **Access** to water resources management and sanitation;
2. **Access** to food security (agriculture) and non - chemical products;
3. **Access** to sustainable land - use;
4. **Access** to renewable energy and energy efficiency;
5. **Access** to information and knowledge;
6. **Access** to means for better mobility and
7. **Access** to finance and investments.

National Policy on Green Growth

- The National Policy on Green Growth was approved by RGC on 1 March 2013.
- The policy is envisaged to strike **balance of economic development with environment**, **society**, **culture** and **sustainable use of national resources** through integration, matching and adaptation, as well as harmonization between a green growth principle and national policy.
- The policy aims at enhancing the **well-being** and livelihood of all people in **harmonization** with **ecological** safety through **green growth**, basing on green economy, blue economy, environment protection, social safety nets system and uphold of national cultural identity.



National Policy on GG

In order to achieve the GG goals,main strategies are as follows:

Creating Mechanism on Green Growth

Refers to Royal Decree on the Organization and Functioning of the National Council on Green Growth (NCGG) dated10 Oct 2012, and March 2013 General Secretariat has established.

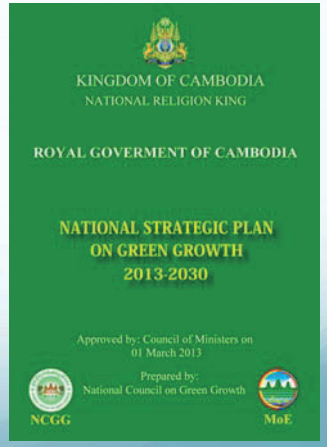
NCGG has 57 members included:

- Prime Minister is honorable chair
- Senior Minister and Minister of Environment is chairman
- Minister of MAFF is vice-chairman
- Senior Minister and Minister of Planning is vice-chairman
- 23 Secretary of State of line ministries
- 6 Secretary-Generals: SNEC, CDC, CNMC, NCGG, ect.
- 24 Governors (23 provinces and PP Municipality).

National Strategic on Green Growth 2013–2030

National Strategy Plan on Green Growth 2013–2030 was adopted by RGC on 1 March 2013. The strategy needs to improve green growth by focusing strategic direction include:

1. **Green Investment** and **Green Jobs Creation**
2. **Green Economy** Management in balance with Environment
3. **Blue Economy** Development with Sustainability
4. **Green Environment** and **Natural Resources** Management
5. **Capacity Building** and Green Education
6. Effective **Green Technology** Management
7. Promotion of a **Green Social Safety** System
8. Uphold and Protection of Green Cultural
9. Heritage and National Identity
10. **Good Governance** on Green Growth



Green Growth Cooperation

- Have good collaboration at the national, regional and international level: Having established National Council on Green Growth and General Secretariat for Green Growth to coordinate with relevant ministries, agencies, institutions, organizations, enterprises and civil society, as well as international organizations, i.e. United Nations (UNDESA, UNEP, UNESCAP & UNDP), GGGI, OECD, EU, AUSAID, USAID, KOICA, JICA and other development partners, i.e. National Bank of Cambodia, IMF, World Bank, ADB, IFC, Specialized -Investment Banks & other microfinance institutions.

Green Growth Cooperation

- Ministry of Environment representing Cambodia has signed an MOU with Global Green Growth Institute (GGGI) represented by Republic of Korea since Ma y 2011 and has become a member country of the GGGI as an international organization as well as with KEITI, WWF, FFI, CI.

Conclusion

- Key prioritized sectors for the enhancement of green economy and sustainable development of Cambodia include **food security**, **water security**, **energy security**, **clean production**, and together with **sustainable consumption**.
- Achieving **Cambodia Millennium Development Goals**, while **enhancing national green growth implementation** by integrating the **Green Growth Paradigm** into the four dimensions of Cambodia' s sustainable development or green growth, i.e. **economy**, **environment**, **society** and **culture** and balancing the development of the four pillars with each other in a coherent manner.

Thank You!

- THANK YOU VERY MUCH

Launching of Climate Change International Technical and Training Center (CITC) and Workshop for Capacity Development on LCS in Southeast Asia Region: Training Needs Assessment

Low Carbon Policy Development in Cambodia

8-9 May 2014

Mr. HAK MAO

OUTLINES

I. **BRIEF LCS POLICY DEVELOPMENT SUPPORT IN CAMBODIA**

II. **LCS COOPERATION BACKGROUND**

III. **LCS CONTEXT IN CAMBODIA**

IV. **LCS PRACTICES**

I. Brief LCS policy development support in Cambodia

- Cambodia Millennium Development Goals (CMDGs)
- Rectangular Strategy of the Government
- National Strategic Development Plan (NSDP)
- National Climate Change Committee (NCCC)
- National Strategic Plan on Green Growth (2013-2030)
- Cambodia Climate Change Strategic Plan (2014-2023): ***Vision to develop Cambodia towards a green, low carbon, climate-resilient, equitable, sustainable and knowledge-based society.***

II. LCS Cooperation Background

- **MoU between IGES and MoE on LCS Research Cooperation in 2011**

➢ **Objectives:**

- ✓ *exchange knowledge on adaptation, mitigation and policy on climate change in order to strengthen research activities in Cambodia;*
- ✓ *seek a possibility of applying AIM in Cambodia for GHG reduction policy like National Appropriate Mitigation Action (NAMA), and*
- ✓ *extend a possible future cooperation and collaboration with Japan on climate change related matters.*

III. LCS Context in Cambodia

- **Low-Carbon Society (LCS)** will serve as a guiding principle and strategy to turn the challenges of today into opportunities
- It doesn't only mean to reduce GHG emission, but also to ensure better resource efficient consumption and energy efficiency as well as to improve economic growth
- LCS is considered the important economic development tool for socio-economic development in Cambodia.
- The implementation of LCS is expected to significantly contribute to the CMDGs and other government development plans and to mobilize resources to enhance human capacity and economic development.

IV. LCS Practices

- **Capacity building:** trainings (Kyoto University), workshops (annual workshop supported by IGES), etc.

- **Proposed 4 LCS Policies and 12 Strategies for low carbon development plan towards 2050**

Low Carbon Development Strategy for Cambodia toward 2050

- A Preliminary Study -

Four Policies and a Dozen Strategies

Policy 1: Green Environment

Sustainable forest management strategy

Sustainable waste management strategy

Green agriculture management strategy

Policy 2: Harmonization of Green Economy, Society, and Culture

Green transport management strategy

Green energy management strategy

Green tourism management strategy

Green good governance and human resource development strategy

Green technology and investment strategy

Green financial mobilization strategy

Policy 3: Blue Economy

Green merchant marine and sustainable coastal zone management strategy

Policy 4: Eco-Village

Low carbon infrastructure development strategy

Green building design and construction strategy

- **Proposed Low Carbon Development Research Network**

East Asia Low Carbon Growth Partnership Dialogue

- **H.E. Dr. Mok Mareth, Former Senior Minister, Minister of Environment** Co-chaired with H.E. Fumio Kishida, Minister for Foreign Affairs of Japan showing the Country's support for Low Carbon Growth for the **Second East Asia Low Carbon Growth Partnership Dialogue** in Japan in 2013
- **H.E. Dr. Mok Mareth delivered** a speech during the Side **Event on East Asia Low Carbon Growth Partnership Dialogue** organized by IGE NIES and JICA

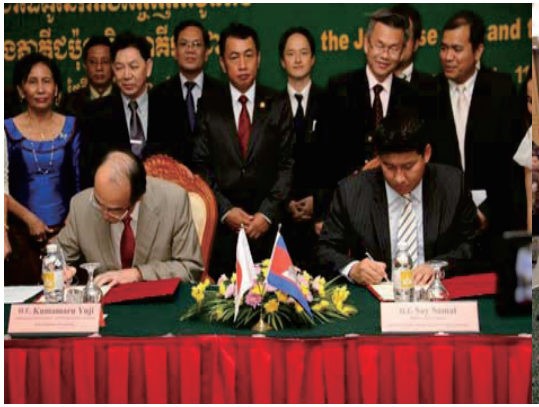
MOU: Low Emission and Climate Resilient Development

- **H.E. Dr. Mok Mareth, Former Senior Minister, Minister of Environment signed MoU** with USAID on the Low Emission and Climate Resilient Development
- **Objective:** To Enhance Capacity for Low Emissions Development Strategies" (EC-LEDS) and to become an official EC-LEDS partner country with the United States

- Cambodia launched CCCSP (2014-2023) chaired by the Prime Minister during third CC forum. It covered eight strategic objectives and Strategic Objective 4th is "the promotion of low-carbon planning and technologies to support sustainable development".

MOU: Low Carbon Growth Partnership

- H.E Say Samal, Minister of Environment signed MoU with Japan on Low Carbon growth Partnership
- Objective: To ensure the achievement of sustainable development and to address climate change in April 2014.

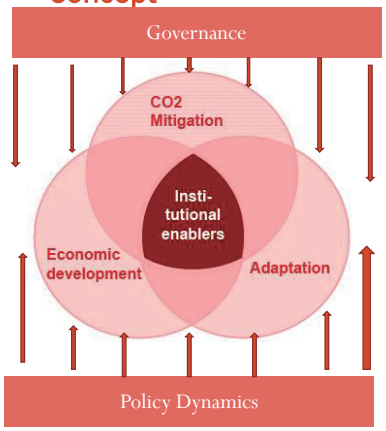


LCS POLICY DEVELOPMENT PROCESS, GOOD PRACTICES IN THE SOUTHEAST ASIA REGION

MURNI TITI RESDIANA
NATIONAL COUNCIL ON CLIMATE CHANGE

Low Carbon Development

Concept



Key Elements

- Pro-Growth
- Pro-Poor
- Pro-Job
- Pro-Environment

Master Plan for the Acceleration and Expansion of Indonesian Economic Growth (MP3EI)

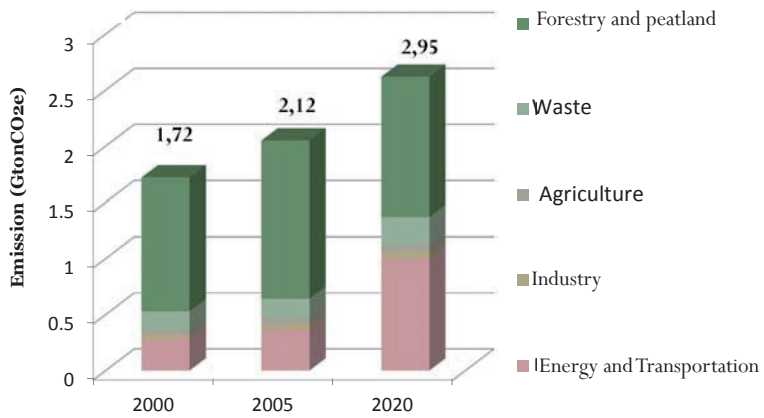
- An economic plan until 2025
- Economic growth 7%-8% annually
- Increasing GDP per capita from USD 3,000 to USD 15,000
- A total investment of USD 468,5 billion until 2025: mostly on infrustructure and industrial investment

A Refocus Towards Low Carbon Development

- 2009: Indonesia announced its voluntary commitment by 26% by 2020, from BAU and 41% with international support
- Reduce vulnerability and increase adaptive capacity

Emission Profile

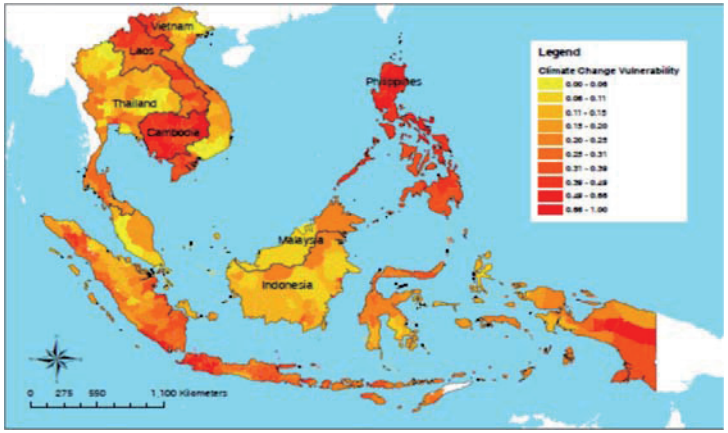
Indonesian emission is predicted to increase from 1.72 into 2.95 $GtCO_2e$ between 2000 dan 2020



NATIONAL ACTION PLAN. Indonesian emission is expected to increase from 1.72 to 2.95 GtCO2e (2000-2020). Proposed National Action Plan on GHG Emission Reduction(RAN-GRK) consist of 70 programs distributed among various sectors .

Sectors	Emission Reduction Plan (Giga ton CO2e)		Agency
	26%	15% (total 41%)	
Forestry and Peat	0.672	0,367	Ministry of Forestry, Ministry of Environment, Ministry of Public Works, Ministry of Agriculture
Waste	0.048	0.030	Ministry of Public Works, Ministry of Environment
Agriculture	0.008	0.003	Ministry of Agriculture, Ministry of Environment
Industry	0.001	0.004	Ministry of Industry
Energy and Transportation	0.038	0.018	Ministry of Transportation, Ministry of Energy and Mining, Ministry of Public Works
	0.767	0.422	

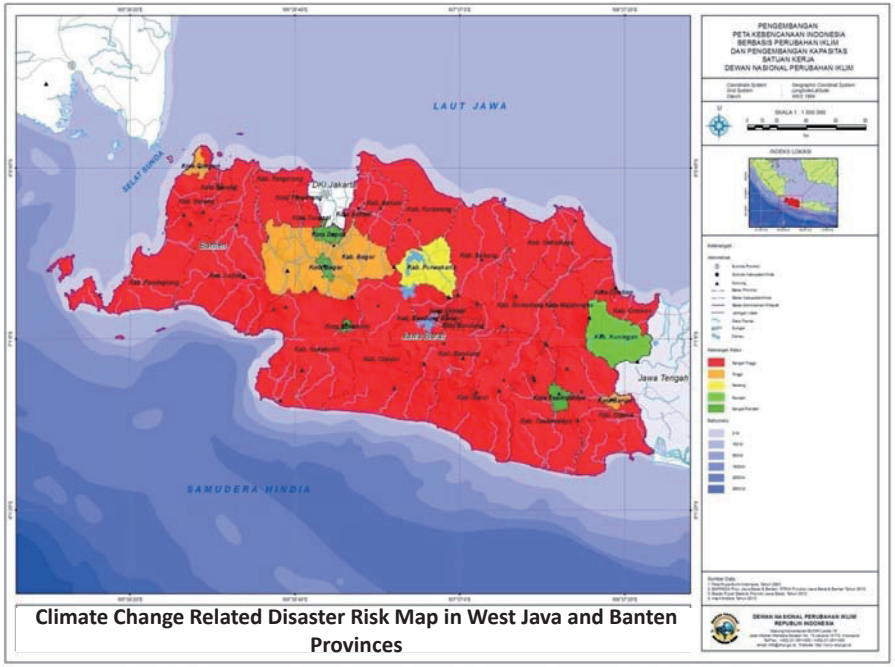
Vulnerability Map in Indonesia



❖ Vulnerable area: West and South of Sumatra, Wast and East of Java, Bali Nusa Tenggara, Papua, North of Kalimantan, North of Sulawesi

❖ Jakarta, the capital city is highly vulnerable on account of floods and population

Source: BAPPENAS



Climate Change Related Disaster Risk Map in West Java and Banten Provinces

National Action Plan on Adaptation

SECTOR	SUB SECTOR	CLUSTER	ACTION PLAN
Economic Resilience	Food Resilience	7 clusters	Cluster 1: Adjustment of Food Production System 1. Minimze yield loss through reduction of harvest failure due to floods. 2. ….
	Energy Independence	4 clusters	
Livelihood Resilience	Health	4 clusters	Cluster 1: Identification and control of vulnerability factors and risks on public health 1. Mapping of population and vulnerable area due to climate change. 2. ….
	Settlement	4 clusters	
	Infrastructure	4 clusters	
Ecosystem Resilience		7 clusters	Cluster 1: Revision of Land Use and Spatial Planning 1. Identification and mapping of vulnerability assessment in forest areas, marine ecosystem, river strem and biodiversity on account of climate change 2. …..
Special Zone Resilience	Urban	5 clusters	Cluster 1: Integration of spatial planning and adaptation programs 1. Development of vulnerability assessment map for urban areas 2. ….
	Coastal and Small Islands	5 clusters	
Supporting System		5 clusters	Cluster 1: Capacity building for various stakeholders for climate change adaptation 1. Education, training on climate change adaptation 2. …..

Source: BAPPENAS

Low Carbon Assessment

Exercises have been undertaking in three provincial governments

Key Elements:

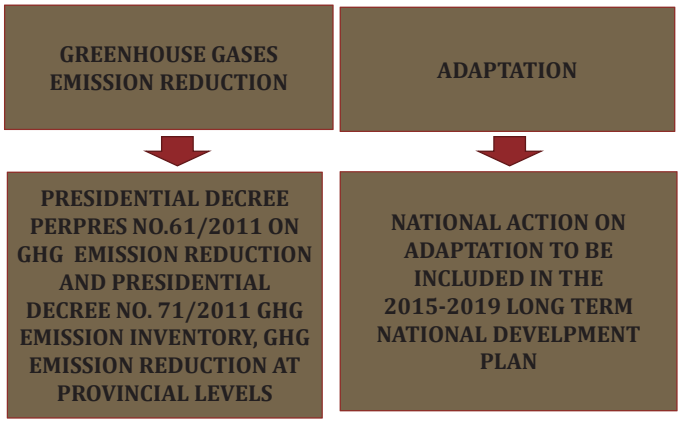
Sustainable economic development strategy
- Competitive strengths and weaknesses
- New sources of growth

Sector strategies
- Abatement opportunities, pilot projects, policies
- Palm oil, forestry, agriculture, coal, oil & gas

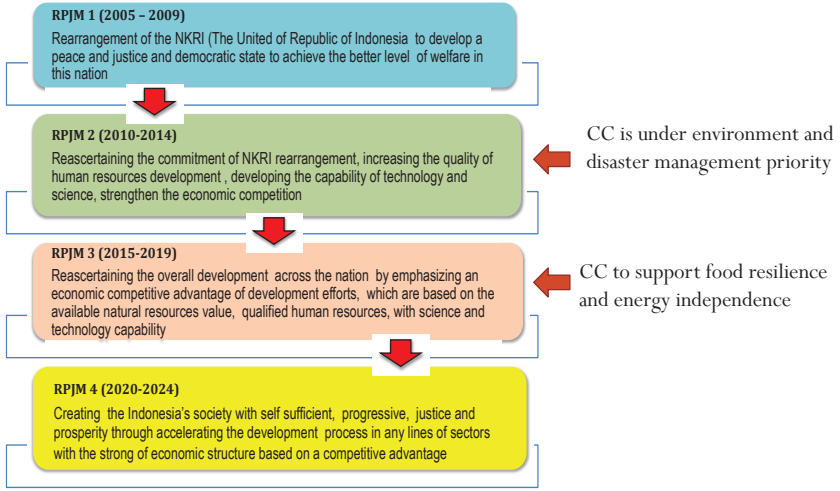
District strategies
- District's size and land use
- Emissions and potential for abatement
- GDP and employment

Implementation and enablers
- Detailed action plan
- Critical enablers required
- Estimate of total costs

Regulatory Framework



Long Term Development Plan



Governance

- Setting up of the National Council on Climate Change through Presidential Decree No. 46 of 2008 as the NFP to UNFCCC
- Setting up of REDD+ Agency through Presidential Decree No. 63 of 2013
- Ministry of Environment to coordinate GHG inventory
- National Development and Planning Agency to coordinate the report GHG emission programs
- Supreme Audit Board to audit government budget vs implementation of GHG emission reduction
- Ministry of Administrative and Bureucratic Reform to evaluate the achievement of performance indicators of each Ministry/Agency
- Role of Legislatives in national and sub nationals to support mitigation and adaptation programs

Enablers: Financing

- 2012 Government budget for mitigation: USD 1,4 billion
- Total cost of achieving national emission reduction target for major sectors (forestry & peatland, energy & transport) is estimated at USD 10-14 billion
- Cost should be shared by government and the private sectors
- Fiscal Incentive is needed

Source: Ministry of Finance

Enablers: Carbon Market Investment

Clean Development Mechanism

- 2013 - total 214 projects received DNA approval, 141 registered at UNFCC CDM Board, 33 projects already awarded CERs equal to 9.22 MtCO2; most of the CERs are from geothermal projects

Joint Creditting Mechanism between Indonesia - Japan

- 8 pilot projects to be conducted

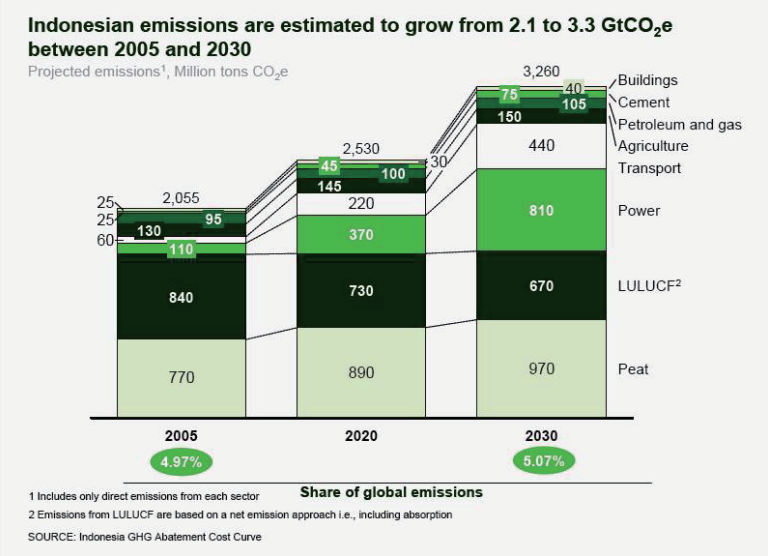
National Carbon Scheme (under development)

- 1 pilot project

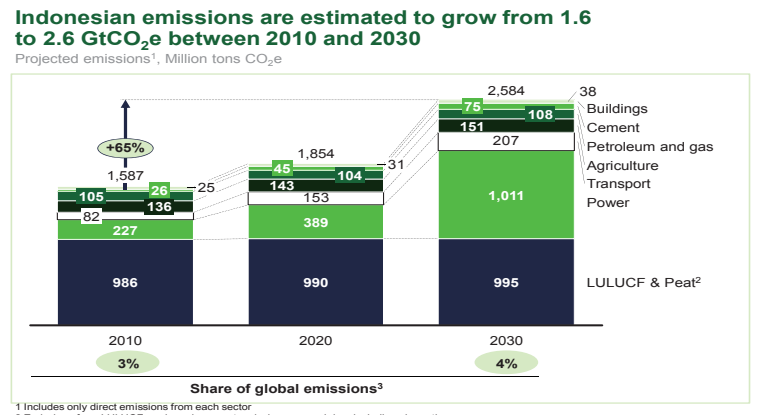
Enablers: Capacity Building and Technology Advancement

- Develop an *National Climate Change Learning Strategy: Capacity Building of Human and Institutional Resources to Address Climate Change and Achieve Low Emisssion and Climate Resilient Development*
- Follow up on TNA: to remove barriers on Photovoltaic cell industry, Regenerative Burner Combustion System (RBCS)
- Proof of concept: through applied practices or technology support to achieve national emission reduction
- Joint Research

Abatement Cost Curve 2009



Abatement Cost Curve 2013 (draft)



Lessons Learned

- Leadership is essential in every line of power
- Assessments are essential to back up sound policies
- Communication to strategic actors should be enhanced: legislatives, sectors, universities, societies, NGOs etc..

THANK YOU

The Workshop for Capacity Development on LCS in the Southeast Asia Region: TNA 8-9 May 2014 in Pattaya, Thailand

Policies and Activities on Climate Change in Lao PDR

Mr. Phouvannasinh PHONGSA
Technical Official
Department of Disaster Management
and Climate Change, MoNRE.

Contents

1 Climate Change Policies and Plans

- Lao PDR endorsed UNFCCC in 1995:
  - ➢ As a framework of cooperation at international level;
  - ➢ Commitment, responsible and assistance from Developed to Developing countries.
- Kyoto Protocol (KP) in 2003:
  - ➢ Commitment 5% of GHG Mitigation based on year 1990 for developed countries;
- Ministry of Natural Resources and Environment (MONRE) as the National Focal Point for UNFCCC and KP.

1 Climate Change Policies and Plans

- First National Communication on Climate Change (FNC) approved in 2000;
- Second National Communication (SNC) approved on January 2013;
- National Adaptation Programme of Action (NAPA) approved in 2009;
- National Strategy on Climate Change (NSCC) approved in 2010;
- Action Plan on Climate Change (APCC) for years 2013-2020 approved 19 April 2013;

1 Climate Change Policies and Plans

- Input of climate change in the revised Environmental Protection Law, approved Dec 2012;
- Guideline on development and consideration of CDM projects approved Nov. 2012;
- Lao PDR and Japan signed the bilateral document to launch Joint Crediting Mechanism (JCM) on 7 August 2013;

1 Climate Change Policies and Plans

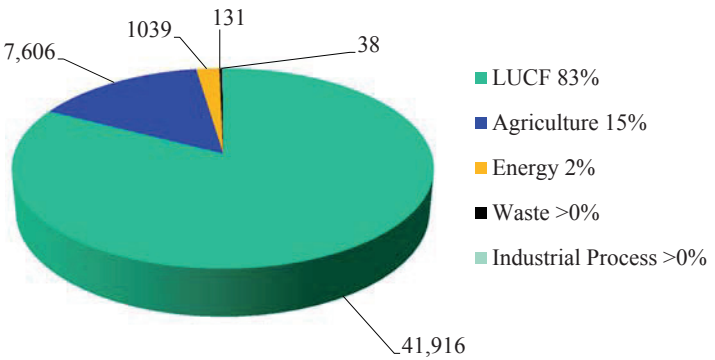
OECC Overseas Environmental Cooperation Center, Japan

IGES Institute for Global Environmental Strategies

- Cooperation with IGES of Japan in capacity building for CDM (2010-2014)
- Cooperation with OECC of Japan on capacity building for NAMA, BOCM/ JCM included MRV (2012-2014);
- IRAS (NAPA Follow up No. 1) ongoing (2010-2015);
- NAPA follow up No. 2 project : On water and rural infrastructure, started July 2013 (2013-2017);
- Awareness Rising on Climate Change ongoing;

2 Mitigation Actions and Measures

Total emission by sectors, in CO2 equivalent (Gg), 2000 (SNC)



2 Mitigation Actions and Measures

Potential mitigation measures in all **5 emission sectors:**

- **Land-use change and forestry:** stopping slash-and-burn agriculture actions, enhancing alternative sustainable livelihood strategies, forest fire protection, and effective mapping and planning of land use;
- **Agriculture:** improved water and organic matter management, soil amendment and planting techniques to reduce CH4 emission from fermentation and manure;

2 Mitigation Actions and Measures

- **Energy and transport:** Accelerating development of renewable or clean energy, enhancing energy efficiency, promoting low-carbon transport and improving public awareness;
- **Industrial processes:** improving energy efficiency and promoting renewable energy sources, reducing wood waste in wood processing;
- **Waste:** reduction of solid and water wastes, enhancing the practice of the "**3R**".

3 Institutional Structure

- National Environment Committee chaired by Deputy Prime Minister responsible for climate change coordination at policy maker level
- MONRE and Department of Disaster Management and Climate Change (DDMCC) established in 2011
- Technical Working Group on Climate Change Established in 2013
- DDMCC's staff total is now 44 (18 women).

4 Challenges, Constraints and Support Needs

National Greenhouse Gas Inventory in Lao PDR is still limited as the key issues include:

- Inadequate and inaccurate information and activity data for GHG Inventory
- Lack of local emission factors
- Inadequate capacities of local researchers among relevant agencies
- Poor database to support inventory activities
- And insufficient coherence and coordination

4 Challenges, Constraints and Support Needs

Mitigation Actions and Measures

- Limited capacities to develop long-term projects relevant to mitigation analysis and to use modelling tools
- Insufficient information and database
- Insufficient technical capacities
- Insufficient technical and financial support identified for priority options.

Development and Transfer of Technology

- High costs of technological development
- Insufficient research and development
- Limited integration of technological climate change needs into the national science and technology development.

4 Challenges, Constraints and Support Needs

Capacity Building, including Education and Public Awareness

- Very limited training and public awareness programmes, campaigns or activities at national level
- Limited inclusion of climate change subjects into the curriculum
- Need for improved dissemination of climate change knowledge and experiences at local level
- Limited development of national capacity, especially on negotiation processes
- Limited climate change research network among academics, scientists and researchers

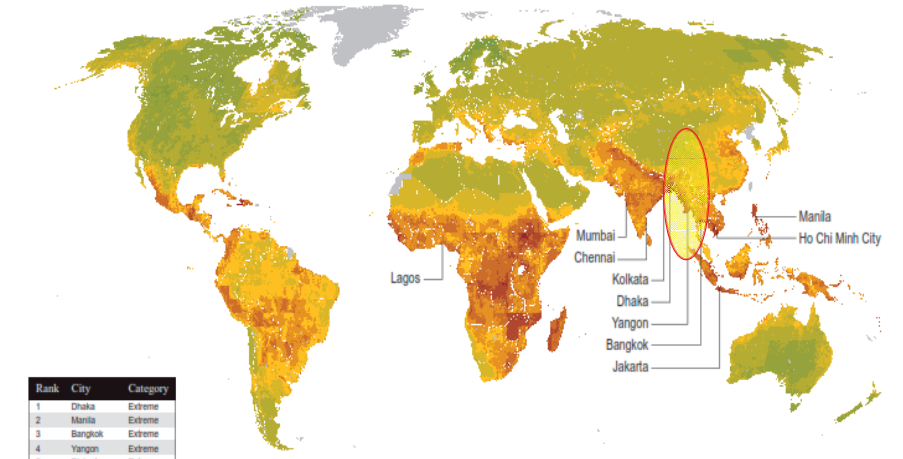
Thank you for your kind attention.

MINISTRY OF ENVIRONMENTAL CONSERVATION AND FORESTRY, MYANMAR

Climate Change Adaptation in Myanmar

presented by
Naing Linn Aung
Staff Officer
Environmental Conservation Department
Myanmar Investment Commission (Yangon)

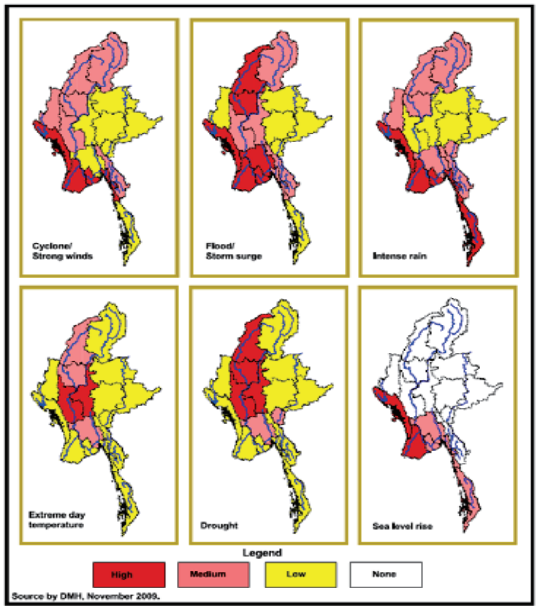
Climate Change Vulnerability Index 2013 – Most at risk cities



Rank	City	Category
1	Dhaka	Extreme
2	Manila	Extreme
3	Bangkok	Extreme
4	Yangon	Extreme
5	Djakarta	Extreme
6	Ho Chi Minh	Extreme
7	Kolkata	Extreme
8	Mumbai	High
9	Chennai	High
10	Lagos	High

- bitter experience of Cyclone Nargis in 2008 and Giri in 2010, flooding in recent events.

The potential hazard levels for climate change features due to global warming.



1.National Policy and Plan

- **There are some provisions and ministerial policy statements which contain climate policy but the specific Climate Change policy is still necessary.**

- **National Environment Policy**
  - Issued by Government Notification No.26/94 dated 5 December 1994.
  - Achieving harmony and balance between these through the integration of environmental considerations into the development process to enhance the quality of life of all its citizens….
  - **Environmental protection should always be the primary objective in seeking development**

- National Sustainable Development Strategy (NSDS)
  - Myanmar's NSDS vision is "Wellbeing and Happiness for Myanmar People".

❖**Three goals:**

Goal 1: Sustainable Management of Natural Resources;

Goal 2: Integrated Economic Development; and

Goal 3: Sustainable Social Development.

- **National Environment and Health Action Plan (NEHAP)**
  - To deal effectively with the environmental health problems in Myanmar by increasing the capacity of Myanmar on environmental health management.
  - Priority areas of environmental concern;
    - ❖ **Air Quality**
    - ❖ **Water supply, Sanitation and Hygiene**
    - ❖ **Solid and Hazardous Waste**
    - ❖ **Toxic chemicals and hazardous substances**
    - ❖**Climates change, Ozone depletion and ecosystem charges.**
    - ❖**Contingency planning, preparedness and response in environmental health emergencies.**

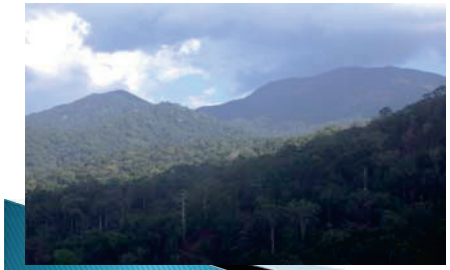
2.Measures/Implementations

- Promoting environmental education and awareness
- Article 6 of the UNFCCC provides for the development and implementation of education, training and public awareness on climate change and its effects.
- For promoting environmental education and awareness in Myanmar, the following activities are conducted.
- discussion in editorial and article in daily newspaper, journals
- billboards' Slogan "climate depends on forest"
- celebration of Environmental Day
- Tree Plantation Ceremony
- education in Schools and Universities
- in 2013, environmental talks over 2500 times was held in schools and rural areas all over the country

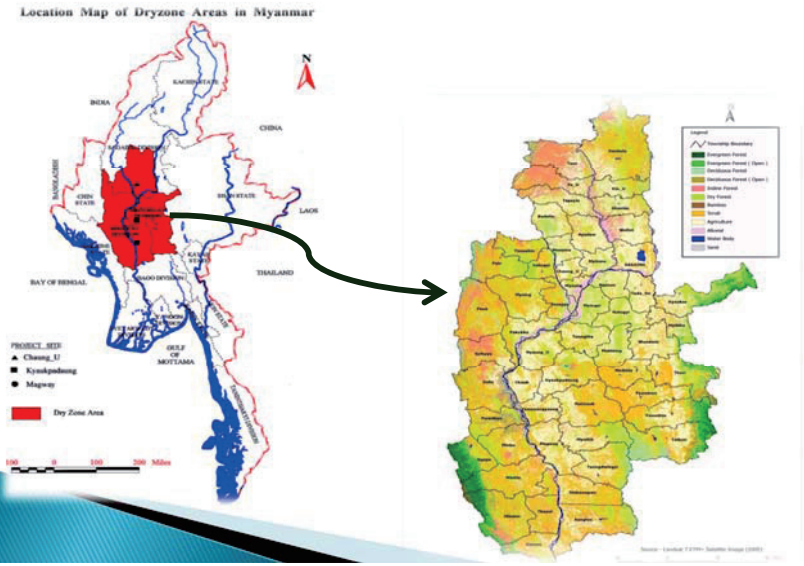



- **Greening activities**


Conservation of Natural forest




Measures (especially in Dry Zone)



Re-afforestation in the Dry Zone of Central Myanmar

Protection of Remaining Natural Forests

Tuyin Hill, Nyaung U, February 2006

2009, November

Boundary pillar, Signboard and Guard house

Area under full protection

Promotion of Fuel-wood Substitutes Utilization

Demonstration of Efficient Cooking Stove

Extension and Distribution

Collection of Agriculture Residues

Utz. of Efficient Stove with Agri. Residues

Water Resources Development

Pond

Tube Well

Check Dam

- Clean Electricity Generation

2009-2010

- HYDRO power stands at the top with the highest amount generated 75.6 %
- followed by natural gas at 16.7 %
- using coal and diesel are very small amount.

Water Resources

River water pumping station

Water Resources

A gasifier used for groundwater extraction from a tube well Magyipinbu village, Meiktila township

Treadle pump to fetch the ground water from a tube well

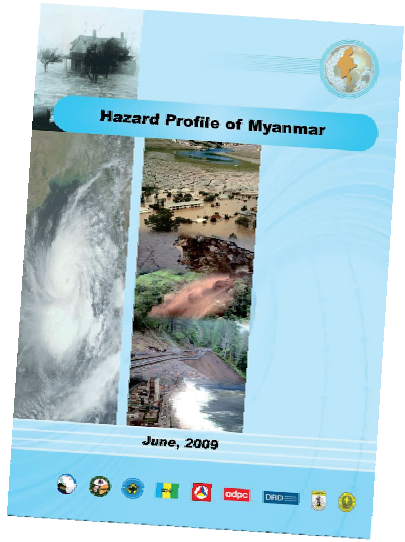
3.Institutional Structures

- National Disaster Preparedness Committee
- Environmental Conservation Committee
- National Rural Community Development and Poverty Reduction
- Ministry of Environmental Conservation and Forestry
- Integrated Water Resources Management Committee

Other issues

Hazard Profile of Myanmar

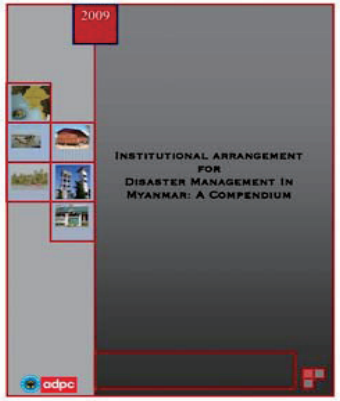
- Includes 9 hazards
  - Fire
  - Floods
  - Tsunami
  - Storm Surge
  - Landslide
  - Forest Fire
  - Earthquakes
  - Cyclone
  - Drought
- Prepared by Fire Services Dept, DMH, MES , Irrigation Dept, Forest Dept, RRD, MGS, MIMU and ADPC



Other issues

Institutional Arrangements for DM in Myanmar

- Chapter : 1 *Overview of Union of Myanmar*
- Chapter : 2 *Hazard profile of Myanmar*
- Chapter : 3 *Global and Regional Commitment of Myanmar*
- Chapter : 4 *Existing Institutional arrangement at National level*
- Chapter : 5 *Study of Key DRR related Departments*
- Chapter : 6 *Existing Institutional arrangement at Division/State*
- Chapter : 7 *Existing Institutional arrangement at District level*
- Chapter : 8 *Existing Institutional arrangement at Township level*
- Chapter: 9 *Concluding remark*



Other issues

Air Quality Measuring

- With the support of JICA, Myanmar has carried out Air Quality Monitoring for Urban Centres in Myanmar from 15 February 1999 to 7 March 2000.
- National Air Quality Monitoring Project funded by UNEP has also been carried out in the year 2007, 2008, and 2009 in Yangon, Mandalay, and Nay Pyi Taw respectively.
- Moreover, with the assistance of Thai government, air quality measuring was carried out in Tachileik, near Thai-Myanmar border area, in 2010 and 2011.

Opportunities

- Political Willingness
- Policy Guidance by President is to work for Economic Development in Parallel with Environmental Conservation
- National Development Planning
- As procedures of MIC, Requirement of Environmental Clearance for approval of the proposed projects
- **Environmental conservation is included in the National Plan for Rural development and Poverty alleviation**
- People awareness
- People are great attention on environmental conservation for their livelihood development and their safety

Challenges

- **Leading to cause environmental pollutions**
- **Global Climate Change**
- **Poverty**
- **Limited Institutional Capacity and Technology**
- **Poor coordination**
- **Sustainability of Finance**

Environnemental Issues

- **Seven key priority areas of environmental issues are identified through Environmental Performance Assessment (EPA-2009):**
  - **Forest Resources Degradation**
  - **Threat to Biodiversity**
  - **Land Degradation**
  - **Water Resources and Quality Status**
  - **Solid Waste Management**
  - **Impact of Mining Industry on Environment**
  - **Climate change**

Future Plan for Environmental Management

Policy, Guidelines and Planning

- Developing National Environmental Management Plan and Framework
- Laying down the integrated environmental policy, regulations and guidelines
- Developing Environmental Quality Standard

Future Plan for Environmental Management

Capacity Development

- Strengthening coordination mechanism such as ECC, Monitoring Committee and etc.
- Institutional Capacity both human resources and infrastructure of ECD and line ministries and NGOs and Civil Society

Future Plan for Environmental Management

International Cooperation

- Technical and financial assistance
- Cooperation with international organization deal with MEAs such as CBD, UNCCD, UNFCCC, Montreal protocol

Public Awareness, and participation

- Raising awareness and participation
- Extension and Education Programmes

Research and Development

- Development of the programs / projects

LCS Policy Development Process and Good Practices: Philippine Case

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Website: http://climate.gov.ph

Capacity Development on Low Carbon Society (LCS) in Southeast Asia Region
Pattaya, Thailand
May 8-9, 2014

Philippines Response to Climate Change: Institutions, Policies and Programs/Strategies

1990-1995
- IACC established (1991)
- PHL signs UNFCCC (1994)

1996-2000
- 1st PHL National Communication (1999)
- Philippine Clean Air Act (1999)
- National Soid Waste Management Act (2000)

2001-2005
- PHL Government signs Kyoto Protocol (2003)

2006-2010
- Biofuels Act (2006)
- Presidential Task Force on CC (2007)
- Presidential Proclamation on Climate Change Consciousness Week (2008)
- Renewable Energy Act (2009)
- Climate Change Act (2009)
- Philippine National REDD Plus Strategy (2010)
- National Framework Strategy on Climate Change (2010)
- PHL Disaster Risk Reduction and Management Act (2010)
- The PHL Strategy on Climate Change Adaptation (2010)

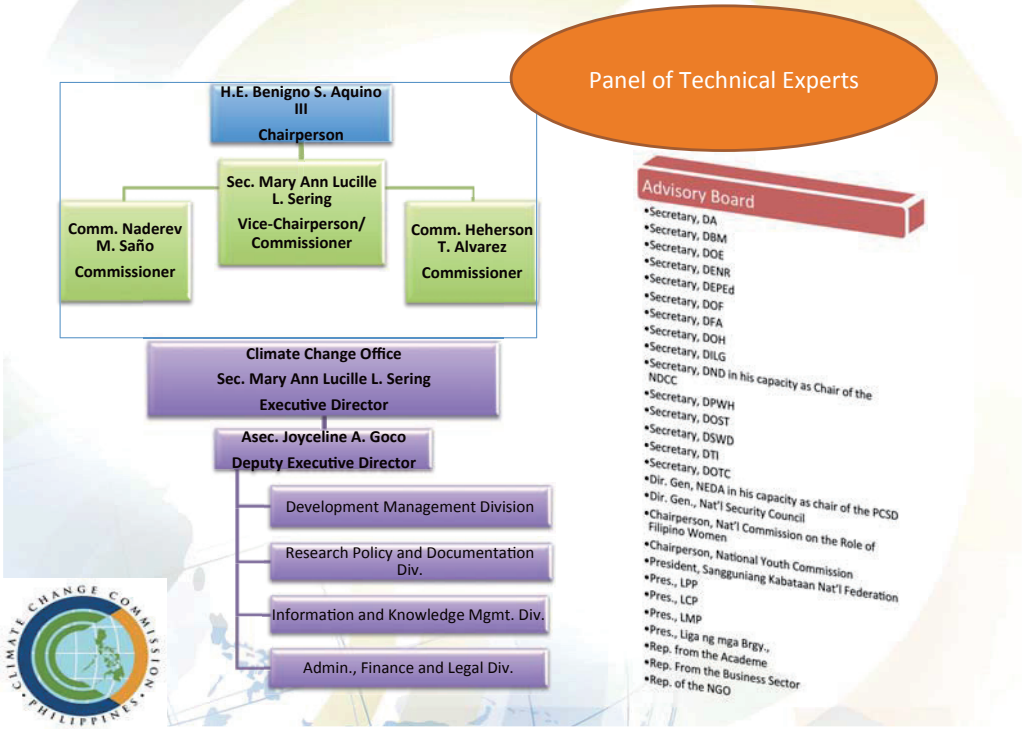
2011-2014
- National Climate Change Action Plan (2011)
- Cabinet Cluster on Integrity of the environment and climate change adaptation and mitigation (2011)
- People's Survival Fund Act (2012)
- Integrating DRR and CCA concerns in PHL EIS System (2012)
- Integrating CCA-DRR in Comprehensive Land Use Plans of Local Government (2013)
- Guidelines in Tagging/Tracking Government Expenditures for Climate Change in the Budget Process (2013)

Climate Change Commission

Independent and autonomous body, with the same status as that of a national agency

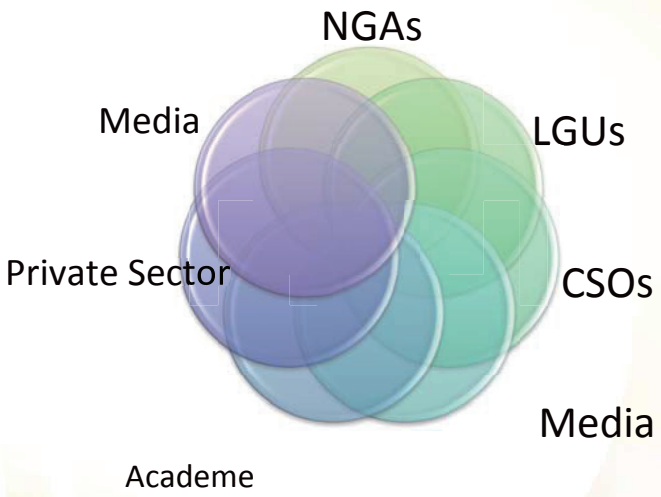
Lead policy-making body of the government on climate change

Tasked to ***coordinate, monitor and evaluate*** the programs and action plans of the government relating to climate change



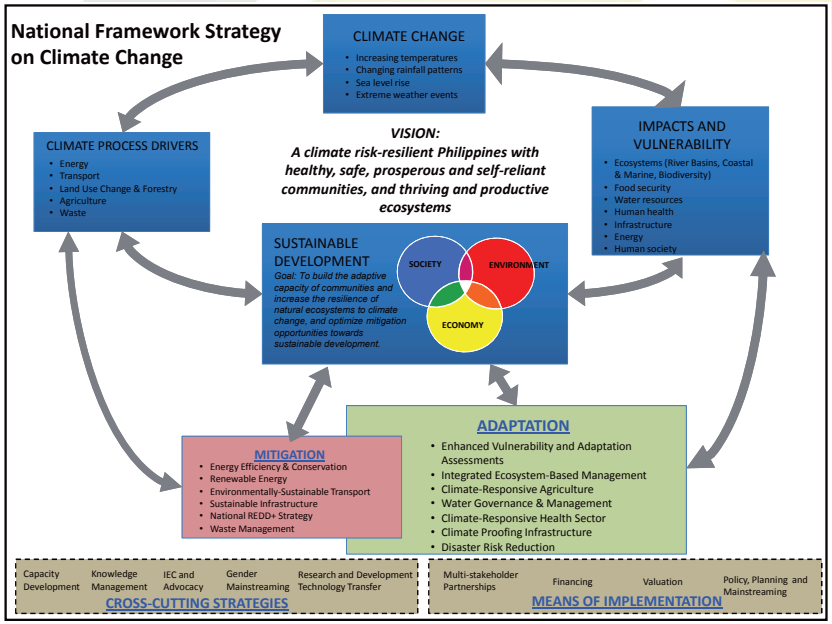
How the CCC works

- Coordinative in driving the process in addressing CC
- Enhance existing mandates to include CC in their Plans and Programs
- Engaging stakeholders in the different plans and activities of the CCC
- Consultative approach to CC Activities



Some of the Functions of the Climate Change Commission on Policy Formulation (RA 9729)

- Mainstream CC into national, sectoral and local development plans and programs
- Recommend legislation, policies, strategies, programs on and appropriations for adaptation and mitigation activities
- Formulate strategies on mitigating GHG and other anthropogenic causes of climate change
- Formulate and update guidelines for determining vulnerability to CC impacts and adaptation assessments

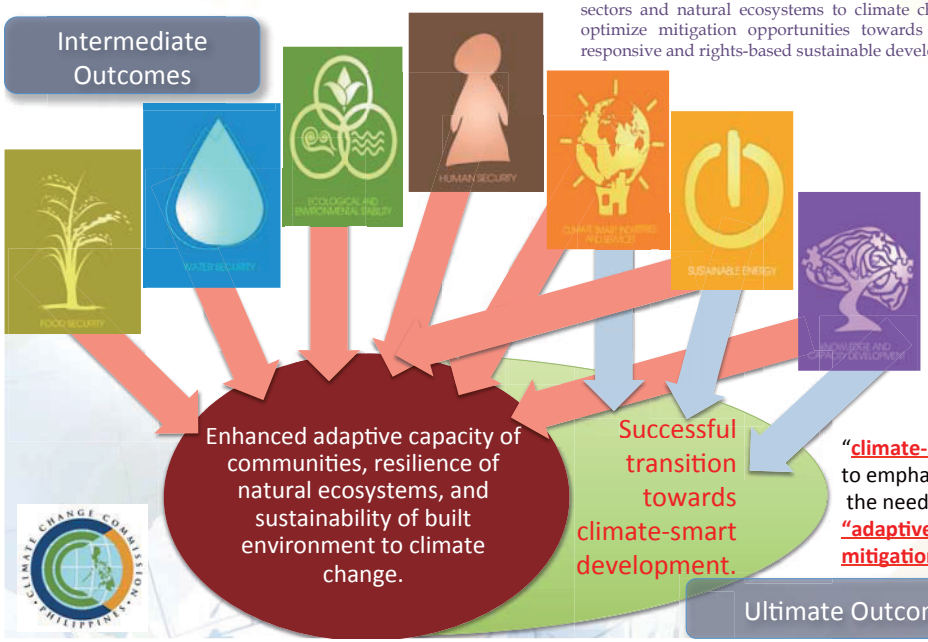


Guiding Principles

- Anticipatory and Precautionary Principle
- Pillars
  - Adaptation – priority and the anchor strategy
  - Mitigation – function of adaptation
- Principle of complementation
- Principle of subsidiarity and the role of LGUs as front-liners in addressing climate change
- Multi-stakeholder participation and partnership
- Private sector participation

National Climate Change Action Plan (2011 – 2028)

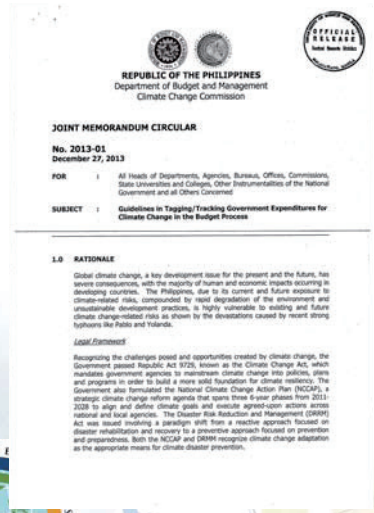
Goal:
To Build the adaptive capacities of women and men in their communities, increase the resilience of vulnerable sectors and natural ecosystems to climate change, and optimize mitigation opportunities towards a gender-responsive and rights-based sustainable development



Cabinet Cluster

- Assess the degree of accomplishment in partnership with the private sector and civil society
- Evaluate the milestones relative to the intended outcomes
- Undertake the necessary measures to fast track program.

Tagging Government Expenditure on Climate Change



REPUBLIC OF THE PHILIPPINES
Department of Budget and Management
Climate Change Commission

JOINT MEMORANDUM CIRCULAR

No. 2013-01
December 27, 2013

FOR : All Heads of Departments, Agencies, Bureaus, Offices, Commissions, State Universities and Colleges, Other Instrumentalities of the National Government and all Others Concerned

SUBJECT : Guidelines in Tagging/Tracking Government Expenditures for Climate Change in the Budget Process

1.0 RATIONALE

Global climate change, a key development issue for the present and the future, has severe consequences, with the majority of human and economic impacts occurring in developing countries. The Philippines, due to its current and future exposure to climate-related risks, compounded by rapid degradation of the environment and unsustainable development practices, is highly vulnerable to existing and future climate change-related risks as shown by the devastations caused by recent strong typhoons like Pablo and Yolanda.

Legal Framework

Recognizing the challenges posed and opportunities created by climate change, the Government passed Republic Act 9729, known as the Climate Change Act, which mandates government agencies to mainstream climate change into policies, plans and programs in order to build a more solid foundation for climate resiliency. The Government also formulated the National Climate Change Action Plan (NCCAP), a strategic climate change reform agenda that spans three 6-year phases from 2011-2028 to align and define climate goals and execute agreed-upon actions across national and local agencies. The Disaster Risk Reduction and Management (DRRM) Act was issued involving a paradigm shift from a reactive approach focused on disaster rehabilitation and recovery to a preventive approach focused on prevention and preparedness. Both the NCCAP and DRRM recognize climate change adaptation as the appropriate means for climate disaster prevention.

- JMC of CCC and DBM on the guidelines in tagging/ tracking government expenditures for climate change in the budget process
- Purpose is to identify, tag and prioritize climate change related activities of all government agencies

Mainstreaming Climate Change into the Educational System

- Integration of Climate Change Concepts into the K-12 Curriculum in partnership with the Department of Education (DepEd)
- Pilot Areas: Regions 2, 6 and 13

Philippine Climate Change Assessment

- In partnership with the National Panel of Technical Experts and support from the Oscar M. Lopez Center (OML)
- Following the format of the IPCC, it will be composed of three working groups:
  - Working Group I: Physical Science
  - Working Group II: Impacts, Adaptation and Vulnerability
  - Working Group III: Mitigation of Climate Change
- Expected outputs: 3 technical working group reports and 1 synthesis report with a summary for policymakers
- Target release of the reports: 2014 after the release of the IPCC 5th Assessment Report

Enhancing Capacities of Government Agencies to Participate in International Climate Negotiations

- In partnership with Department of Foreign Affairs
- Training workshops and focus group discussions on key issues discussed internationally and its implications to Philippines

Partnerships, Programmes and Activities

- Greeneration (Youth)
- Business Sector
- Local Government
- Consultations with CSOs
- Philippine Development Forum TWG on CC Adaptation and Mitigation (Development Partners)
- Academe

People's Survival Fund

A domestic "rewards fund" aimed at addressing urgent adaptation needs

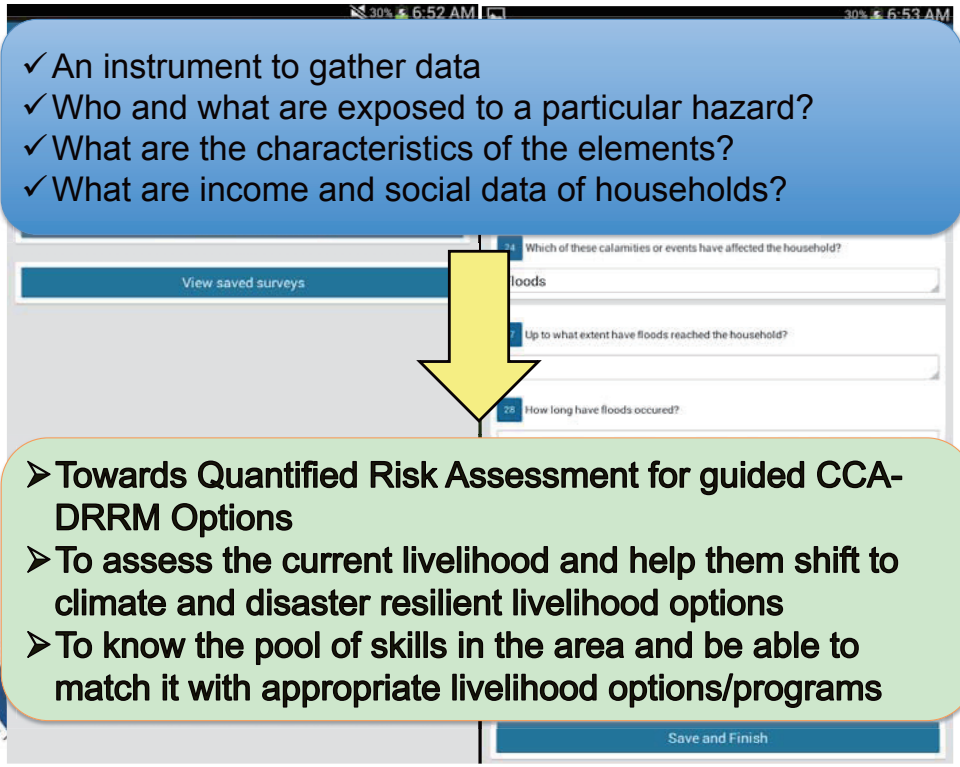
To finance adaptation programs and projects that are directly supportive of the objectives enumerated in the Climate Change Action Plans of local government units and communities

Sources of the PSF managed by the Fund Board
- Php 1,000,000,000 from the National Budget
- Augmented by donations, endowments, grants, contribution

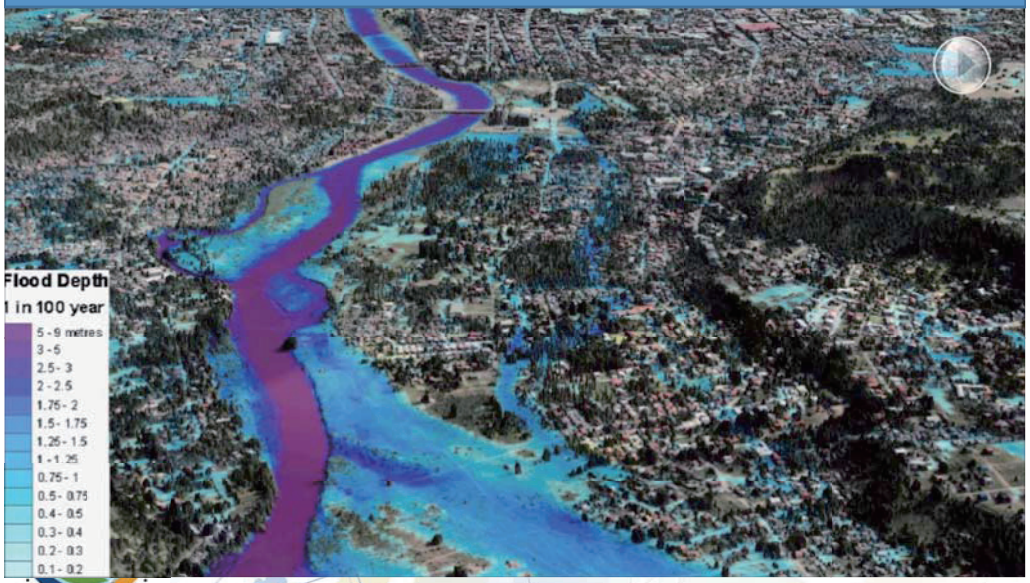
Members of the Fund Board
- Department of Finance
- Department of Budget and Management
- National Economic and Development Authority
- Climate Change Commission

Building the Database for Climate Change and Disaster Exposure (ClimEX.DB)

	CBMS	GMMA-RAP Exposure Database	ClimEX.DB
Exposure	With information of type of disaster/calamity experienced and number of times experieces in the past 3 years; Covers residential buildings only; Complete HH Profile	Area-based Approach, Complete Building Attributes, Not designed for HH Assessment	Element-based approach; covers HH, Building and Production Area; Has information of type disaster and perception on climate change
Vulnerability	Categorized buildings according to type of materials used for construction; has thorough description of household characteristics	Generated vulnerability curves according to structural characteristics among other building attributes; More on physical vulnerability and not designed for household level	Complete on physical and socio-economic profile of the elements
Resilience/ Adaptive Capacity	Includes sources of income including key industry sectors and technical and professional services rendered by household members	May tag certain building as locations of emergency facilities	Identifies adaptive capacity and coping mechanisms, including relief assistance during disasters
Coverage	All LGUs	Metro Manila	Misamis Oriental Davao Oriental Iloilo Cagayan

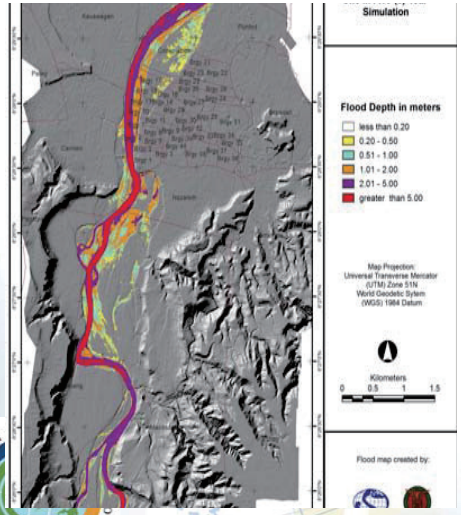


River Basin Flood Modelling

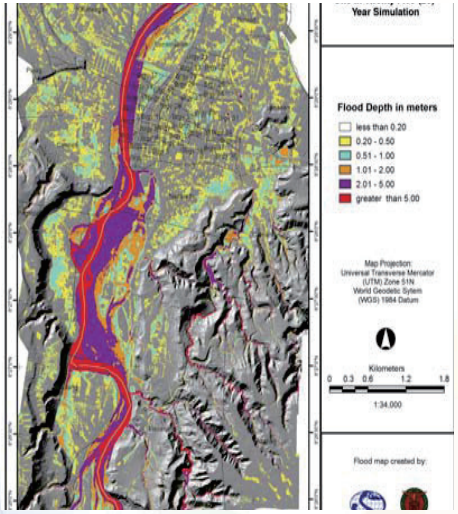


Enhanced Flood Mapping using State of the Art technology incorporating climate change projections

5 year return period simulation

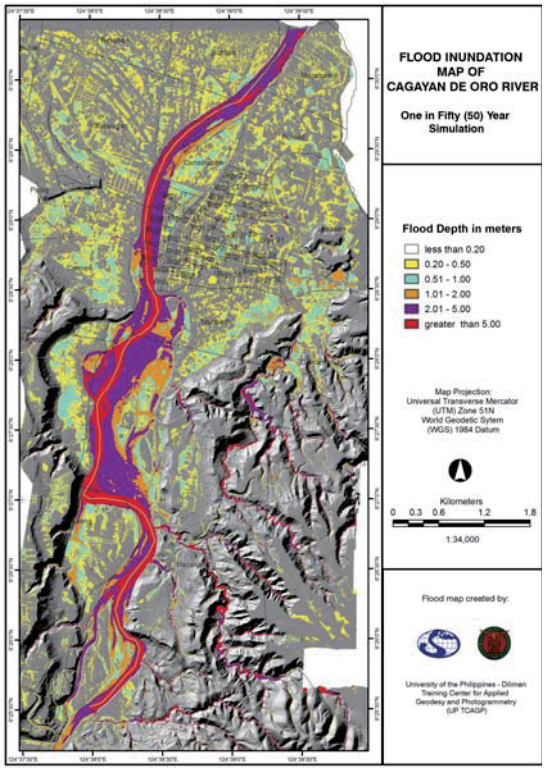


25 year return period simulation



50-year rainfall return period simulation

Depth level	Area	Percentage
Below 0.20m	3,114.21	70%
0.2 to 0.5	542.50	12%
0.5 to 1	279.70	6%
1 to 2m	173.04	4%
2 to 5m	258.11	6%
Greater than 5	109.86	2%

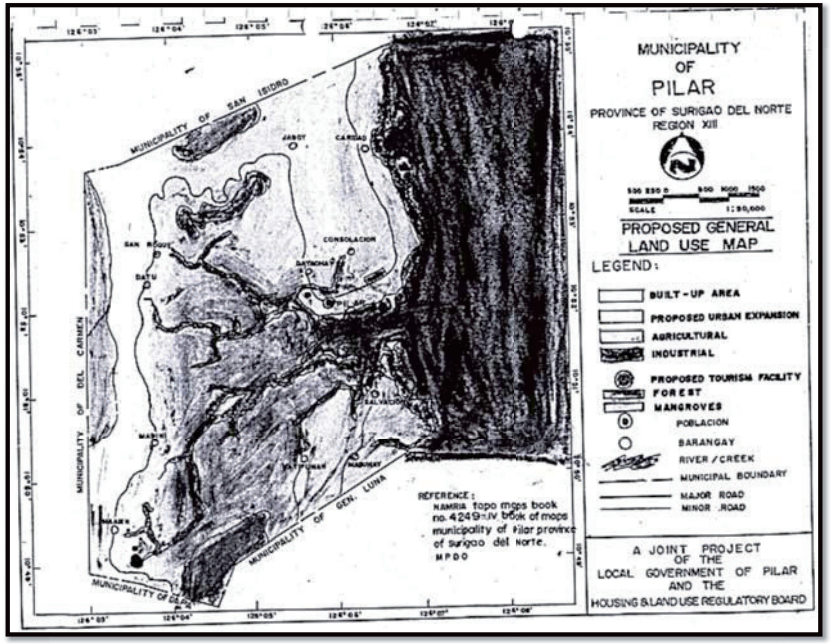


How did we go about it

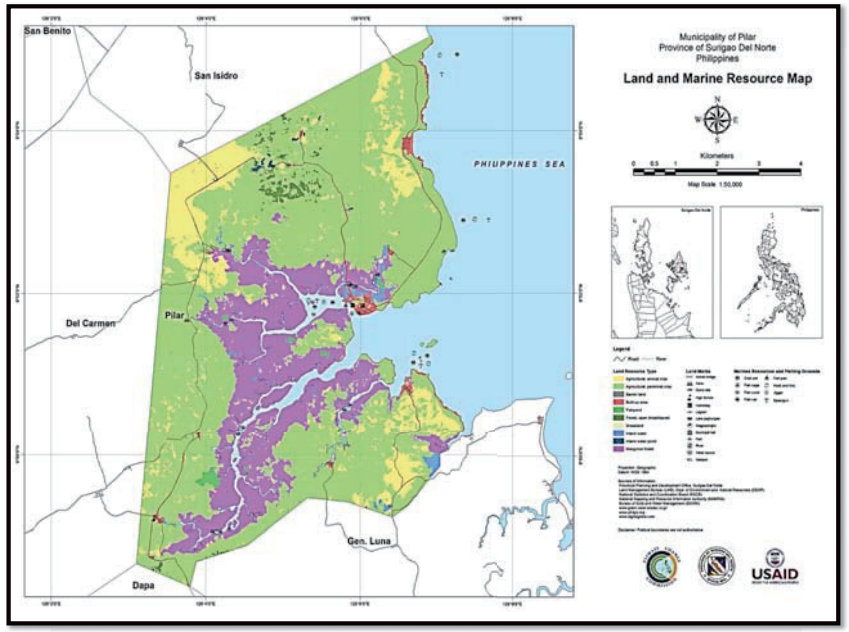
FRESH ANGLES

- **Ecotown** is a **proactive approach** to climate change, analyzing vulnerabilities and identifying appropriate adaptation measures based on science, expert advice, and local knowledge of the community's unique conditions.

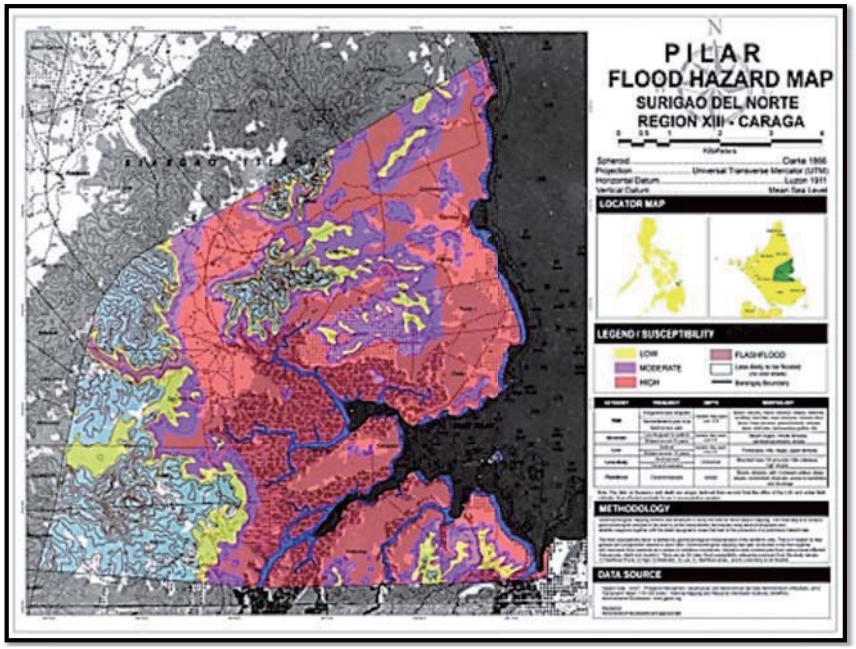
Before Ecotown



After Ecotown

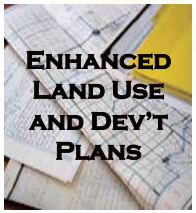


After Ecotown



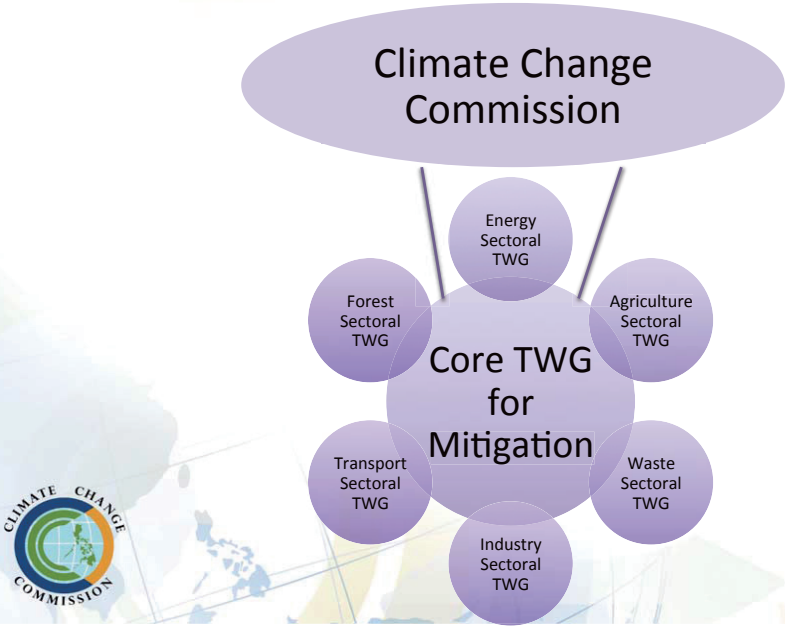
Eco town Demonstration: How it was done

1. Natural Resource Assessment
2. Vulnerability Assessment
3. ENR Accounting
4. Adaptation Measures
5. Climate Adaptation Support Service
6. Finance Schemes



Formulation of the Mitigation Framework for the Philippines consistent with CC Act, NFSCC and NCCAP

- **GHG Accounting/ Inventory System**
- **Domestic MRV system** *(Measurable, Reportable, Verifiable)*
- **NAMAs Roadmap** *(Nationally Appropriate Mitigation Actions)*
- **LEDS/LCDS Framework** *(Low Emission Development Strategies/ Low Carbon Development Strategies)*



Activities on Capacity Building and Technical Assistance on GHG Inventory

Activity	Sector	Lead Agency	Funding Source
Institutional Arrangements	All sector	CCC	US Gov't through USAID (EC LEDS); and US & UNFCCC (SEA GHG)
Capacity building – National GHG Inventory	Waste, IPPU, Agriculture Energy, Forestry	CCC	(EU, Germany and Australia) LECB EC LEDS SEA GHG
Capacity Building – community-level and entity-level GHG inventory for LGUs	Multi-sectoral		CEnergy (USAID) Modules were presented to CCC before they were used for the training
Capacity Building – private sector entity-level GHG inventory	Multi-sectoral	EMB	EMB
Capacity Building – entity-level GHG inventory for NGAs	Multi-sectoral	CCC and DENR	USAID
Baseline Scenario			BMU through GIZ: Information Matters

NAMA Initiatives

Activity	Sector	Lead Agency	Funding Source
Institutional Arrangements & Framework - Core TWG - Sectoral TWG (AWIT-FE)	Waste, Industry, Agriculture Energy, Forestry, Transport	CCC	CCC Regular funds and LECB
Study on Sectoral NAMA Options	Waste, Industry, Agriculture Energy, Forestry, Transport	CCC	LECB and CCC Regular Funds
Mitigation Potential in the Solid Waste Sector	Waste	NSWMC	GIZ - BIFA
Multi-criteria Analysis for NAMA	multi-sectoral	CCC	SEAN-CC (UNEP); LECB
Proposal for the NAMA Facility of UK-Germany	Waste RE	NSWMC (assisted by GIZ) DOE (assisted by CCAP)	Germany and UK
Tools and Methodologies for Mitigation analysis	Energy	DOE – LEAP Transport tools	USAID (EC LEDS) USAID (EC LEDS)
Capacity Building - NAMA		CCC	GIZ LECB (webinars)

Activities towards the Formulation of a Domestic MRV System

Activity	Sector	Lead Agency	Funding Source
MRV for REDD+	Forestry	FMB	BMU through GIZ (REDD+) (?) UN REDD USAID B+WISER (?)
Integration of GHG Data in existing reporting systems	Industry – integrate GHG data to SMR (EMB) Agriculture – ALU software	EMB with CCC	LECB LECB and SEA GHG
MRV system			LECB
Capacity Building – MRV architecture and systems	Multi-sectoral	CCC	BMU through GIZ (Info Matters)
Budget tagging for CC	Multi-sectoral	DBM with CCC	WB (CPEIR)
M&E of NCCAP	Multi-sectoral	CCC	BMU through GIZ (Support to CCC - RBMES)

Lessons Learned

- Partnerships are important
- Multistakeholder participation critical
- Political will, "buy-in", ownership
- Respecting mandates to minimize turfing
- Use of Information, Communication and Technology (ICT) tools
- Knowledge Management

THANK YOU

Climate Change Office
Climate Change Commission
Telefax: (+63-2) 735-3144 or 735-3069
Email: info@climate.gov.ph
Website: http://www.climate.gov.ph

LCS Policy Development Process, Good Practices in the Southeast Asia Region

Prasert Sirinapaporn
Director, CCMC-ONEP
Climate Change Management Coordination Division
Office of Natural Resources and Environmental Policy and Planning
Ministry of Natural Resources and Environment, Thailand

8-9 May 2014
Pattaya, Chonburi

Institutions towards Low-Carbon Growth in Thailand

"HIERARCHICAL STRUCTURE"

National Committee on Climate Change Policy (NCCC)

Chair: **Prime Minister**

Vice-Chair: **Minister of Natural Resources and Environment**

- **Technical Subcommittee**
- **Negotiation Subcommittee**
- **NAMAs Subcommittee**

NCCC members:

1. Prime Minister's Office
2. Ministry of Finance
3. Ministry of Agriculture and Cooperatives
4. Ministry of Transport and Communications
5. Ministry of Information and Communication Technology
6. Ministry of Energy
7. Ministry of Commerce
8. Ministry of Interior
9. Ministry of Science and Technology
10. Ministry of Education
11. Ministry of Public Health
12. Ministry of Industry
13. Bangkok Metropolitan Administration
14. Office of the National Economics and Social Development Board
15. Bureau of Budget
16. 5-9 Experts

Secretariat

Ministry of Natural Resources and Environment

- **ONEP/CCMP** (Policy formulation and National Focal Point)
- **TGO** (DNA (for CDM) / Technical support and services to carbon market actors)

Climate Policy Integration in Thailand


Environmental Quality Management Plan B.E. 2550-2554


Environmental Quality Management Plan B.E. 2555-2559

National-level planning


10th National Economic and Social Development Plan B.E. 2550-2554


11th National Economic and Social Development Plan B.E. 2555-2559

Issue-based planning


National Strategic Plan on Climate Change B.E. 2551-2555


Draft Climate Change Master Plan B.E. 2557-2593

Country Strategy on Green Growth

Sectoral planning

- •Power Development Plan
- •Energy Conservation Plan
- •Renewable Energy Development Strategies
- •Sustainable Transport Master Plan

Local-level planning and implementation

, etc.

DRAFT Climate Change Master Plan (2013-2050)

Vision: **Thailand has achieved climate resilience and low carbon growth in accordance with sustainable development agenda**

Mission:

- Build climate resilience for Thailand's development by mainstreaming climate change adaptation into development planning of all sectors and levels
- Reduce GHG emission and establish policy instruments to encourage sustainable and low-carbon development
- Develop appropriate knowledge base, databases and technologies to support climate change adaptation and low-carbon development
- Enhance capacity and awareness of development partners at all levels to enable effective engagement in executing climate change policy and plan

Strategy:

ADAPTATION

1. Water resource management
2. Agriculture and food security
3. Tourism
4. Public health
5. Natural resource management
6. Settlements and human security

MITIGATION

1. Power generation
2. Transport
3. Buildings
4. Industry
5. Waste management
6. Agriculture
7. Forestry
8. Urban Management

CROSS-CUTTING ISSUES

1. Database, R&D and technological development
2. Policy instrument development
3. Awareness and capacity building
4. Enhancement of international cooperation

DRAFT Climate Change Master Plan (2013-2050)

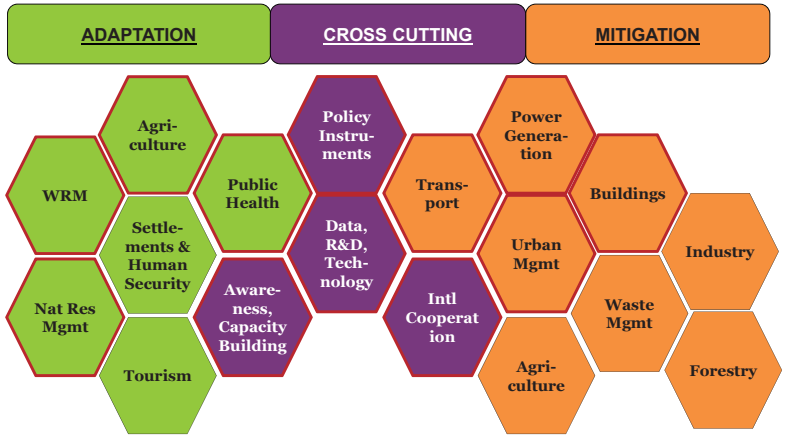
Short-term (2016)	Medium-term (2020)	Long-term (2050) & continuous
• vulnerability mapping • 19% biodiversity protected area and 5,000 rai (about 800 hectares) additional mangroves annually • 50% of coastal cities with coastal restoration plan • establishment of NAMAs and MRV • development of policy instruments to encourage low-carbon growth	• forecasting and early-warning • climate insurance systems • national adaptation fund • 40% growth in forest cover • maximum conservation area for biodiversity protection • all coastal cities with coastal restoration plan	• more farm land and farmers with irrigation system • more farm land outside irrigation area with water resource development • more farmers in hot spots with training on natural disaster management and vocational training • more farmers with climate insurance • less climate-related agricultural loss per agricultural GDP • more land in natural disaster hot spots with soil and water conservation and restoration • more managed surface water • more population with access to clean water • more natural disaster hot spots with surveillance systems

DRAFT Climate Change Master Plan (2013-2050)

Short-term (2016)	Medium-term (2020)	Long-term (2050) & continuous
• center or platform for climate change R&D network • databases including GHG emission database, GHG mitigation registry, database to support climate change negotiations • development of relevant action and/or strategic plans in line ministries	• 20% reduction of GHG emission from energy and transport sectors, relative to BAU • 25% share of renewable energy in final energy consumption • more municipalities with over 10 m² per capita of urban green space • development of local-level action plans on climate change adaptation • smart grid technology deployed	• fewer endangered species • more eco-tourism • 20% reduction of final energy consumption relative to BAU • 25% reduction in energy intensity relative to BAU • more public transport travel • less GHG emission from land transport sector • more low-carbon and environmental-friendly investments in industry • less open dumping area • more farm land with GAP or organic standards • less agricultural burning • less GHG emission per GDP

DRAFT Climate Change Master Plan (2013-2050)

Priorities:



Driven approach to master plan into action.

Pushing **"Climate change"** is a national agenda

Development of tools and mechanisms.

Promote an understanding and objective of the master plan.

Coordination clarification and understanding of the relevant authorities.

Building control system, tracking system and evaluation system is effective.

Past Activities

2012

- TGO has undertaken a study to identify Thailand's capacity to fulfill the goal of Nationally Appropriate Mitigation Action by 2020, focusing on the energy sector. Including electricity industry, waste to energy and transport sector.

2013

- 1st NAMAs Subcommittee meeting has presented Thailand's capacity to fulfill the goal of Nationally Appropriate Mitigation Action by 2020.
- ONEP and TGO have held 3 public hearing focusing on 3 different target groups ie.
  1) experts 2) public sector, private sector, NGO, media and the general public, and 3) Senate Commission and Energy Commission House of Representatives
- 2nd NAMAs Subcommittee meeting has submitted the potential to Nationally Appropriate Mitigation Action by 2020.

2014

- ONEP is undertaking a study to develop a guideline for Nationally Appropriate Mitigation Action to identify action plan/project to develop GHG reduce measure both Domestic NAMAs and International Supported NAMAs.

Thailand's NAMAs

- **Priority sectors are energy, buildings and transport**
- **Based on:**
  1) **Alternative Energy Development Plan (2012-2021)**
  2) **Energy conservation measures in Designated Buildings**
  3) **Sustainable Transport Master Plan (2013-2030)**
- **Voluntary pledge in the pipeline for approval**
- **Studies suggest a possible range of 7-20% GHG reduction from BAU in energy and transport sectors by 2020, subject to support**

Next Step

NAMAs preparation:

- **Identification and selection**
  - Energy NAMA
  - Transport NAMA
- **Seeking for financial support**
- **Implementation**
- **Monitor of implementation and MRV**

Thank You!

For further information:

Climate Change Management and Coordination Division

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Workshop for Capacity Development on

Low Carbon Society (LCS) in the Southeast Asia Region: Training Needs Assessment

8th – 9th May 2014 in Pattaya, Thailand

"Panel Discussion: LCS Policy Development Process, Good Practices in the Southeast Asia Region"

Chu Thi Thanh Huong
Department of Meteorology Hydrology and Climate Change
Ministry of Natural Resources and Environment of Viet Nam

MAIN CONTENTS

1. General information
2. Overview of climate change mitigation and adaptation / LCS, tasks and solutions
   - National Policy & Plan
   - Implementation / Measures
   - Institutional Structure
3. Good practices to share key success factors, challenges and need for successful outcomes

General Introduction

- ✓ Population in 2011: about 87 million
- ✓ Vulnerable to climate change

- 10% GDP to be lost if sea level rises 1 metre;
- 10% population to be affected; and
- 40% of biggest delta to be flooded.

Policies on Climate Change
Party Central Committee's Resolution (the 24-NQ/TW)

- ✓ Party General Secretary approved it on June 3, 2013
- ✓ Objectives:
  - *Developing a low-carbon economy;*
  - *Reducing GHG emission on a GDP unit by between 8 - 10% against base year 2010*

Policies on Climate Change
Action plan to implement the 24-NQ/TW of Party Central Committee's Resolution

- ✓ Prime Minister approved it on Jan 23rd, 2014
- ✓ Purpose:
  - *To identify the main tasks and solution of the Gov to respond to CC;*
  - *To be as basic for LMs, provinces to prepare and implement the action plan of 24-NQ;*
  - *To continue to implement approved plans, programs, shemes under 24-NQ/TW*

Policies on Climate Change
National Green Growth Strategy

- ✓ Prime Minister approved it on Sep. 25, 2012
- ✓ Objectives:
  - *Reduce GHG emissions intensity by 8-10% against 2010 level;*
  - *Reduce energy consumption per unit of GDP by 1-1.5% per year.*
  - *Reduce GHG emissions from energy activities by 10% to 20% compared to BAU.*

Policies on Climate Change
National Climate Change Strategy

- ✓ Prime Minister approved on Dec. 5, 2011
- ✓ Overall mitigation objectives:
  - *Carry out GHG mitigation options;*
  - *Ensure sustainable development goals; and*
  - *Develop a low-carbon economy to protect and enhance quality of life;*

National Climate Change Strategy

Chapter V. Strategic Tasks
1. Proactive disaster response and climate monitoring
2. Food and water resource security assurance
3. Suitable proactive response to sea level rise in vulnerable areas
4. Protection and sustainable development of forests, increase of GHG absorption and biodiversity conservation
5. GHG emission reduction to protect the earth's climate system
6. Increasing the decisive role of the State in climate change response
7. Building of communities to effectively respond to climate change
8. Development of advanced sciences and technologies for climate change response
9. Promotion of international cooperation and integration to enhance the country's status in climate change issues
10. Diversification of financial resources and effective concentrated investment

National Action Plan to Respond to Climate Change (1474/QD-TTg) 2012-2020

- ✓ Approved by Prime Minister on 5th Oct 2012
- ✓ Strategic tasks to 2020:
  - *Capacity building on Climate monitoring, disaster early warning system;*
  - *To ensure Food and water security;*
  - *To respond to disaster actively,*
  - *To mitigate GHGs and to develop LCS*
  - *To enhance management capability, institutional framework including policy*

National Action Plan to Respond to Climate Change (1474/QD-TTg) 2012-2020

- ✓ Approved by Prime Minister on 5th Oct 2012
- ✓ Strategic tasks to 2020:
  - *To mobilize the participation of society, organization… to respond to CC*
  - *Awareness raising*
  - *To develop the science and technology as the basis for develop policy*
  - *International cooperation, mobilize sources to respond to CC*
  - ✓ *Action Plan of LMs, and provinces*

Scheme of GHG emission management; management of carbon trading activities to the world market

- ✓ The Scheme has been approved on 21 Nov. 2012
- ✓ Objectives:
  - *carrying out UNFCCC and other related treaties that Viet Nam involved in;*
  - *taking oppoturnities to develop a low carbon economy and green growth in the country*
  - *Joining international community's efforts to mitigate GHG emissions and contribute to sustainable development*
  - ✓ GHG mitigation targets in 2020:
    - *Energy: 8% (Base year 2005)*
    - *Agriculture: 20%*
    - *LULUCF: 20%*
    - *Waste: 5%*

Scheme of GHG emission management; management of carbon trading activities to the world market

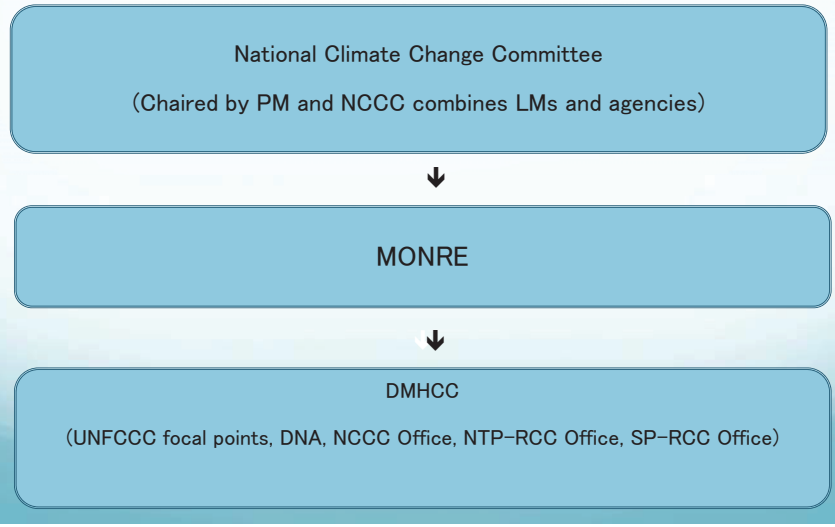
- ✓ **Management of GHG emissions**
  - Inventorying national GHG for base year 2005 and developing basic emission scenarios
  - Carrying out targets of GHG emission reduction and GHG absorption increasing by 2020 (base year: 2005)
    - *Energy: 8%*
    - *Agriculture: 20%*
    - *LULUCF: 20%*
    - *Waste: 5%*
  - Assessing technology needs; disseminating and applying potential technologies of GHG emission reduction and GHG absorption increasing.

Scheme of GHG emission management; management of carbon trading activities to world market

Management of GHG emissions

- ✓ Raising awareness and obligation on carrying out GHG emission reduction and carbon trading activities (2012-2020)
- ✓ Setting up national GHG inventory system (2012-2014)
- ✓ Researching, developing and assessing some options to carry out GHG emission reduction targets in energy, transportation, agriculture, LULUCF, waste, construction material production and urban technical infrastructure sectors (2012-2013)
- ✓ Researching and developing mechanisms and policies to support prioritized GHG mitigation options in energy, transportation, agriculture, LULUCF and waste sectors (2012-2015)
- ✓ Developing the NAMAs program framework of Viet Nam. Researching to develop NAMA's methodologies, register and pilot implement NAMA (2012-2015)

Institutional Structure



Supporting To Respond to Climate Change Program (SP-RCC)

- In 2008, the National Target Program to Respond to Climate Change (NTP-RCC) as adopted as the first legal document related to climate change in Viet Nam.
- In 2011, the National Climate Change Strategy (NCCS) was approved to strengthen NTP-RCC, and provided pillars of actions.
- In 2009, the Support Program to Respond to Climate Change (SP-RCC) was started, and SP-RCC 2009-2012 was implemented, and currently SP-RCC2013-2015 is being implemented.

Supporting To Respond to Climate Change Program (SP-RCC)

- **Sectors covered by Policy Actions of SP-RCC (according to NTP-RCC and NCCS)**

Energy (EE and RE), Agriculture, Forest, Waste Management, Construction, Transport, Water Resource Management, Health, Education, and Mainstreaming

- **Ministries involved**

MONRE, MPI, MOF, MARD, MOIT, MOST, MOT, MOC, MOH, MOET

- **Donors**

JICA, World Bank, AFD, Australia(AusAID- DFAT), KEXIM, and CIDA

Purpose and Outputs of the SP-RCC Impact Study

[Purpose]

- To verify impacts of the 219 Policy Actions(PAs) supported by SP-RCC, in advancing Vietnam's national climate change policies, in particular, for the implementation of NTP-RCC and NCCS.

Feedback

1. Highlights on contributions made by SP-RCC.
2. Provide useful reference on elaborating future Policy Actions.

Challenges and need for successful outcomes

- Capacity building, awareness raising (for different groups);
- Tools to assess the impact of current Policy;
- Training courses and researches on CC Sciences and technology as the basic to develop the policy
- Create the network for the Climate Change at LMs and Provinces to prepare and implement the approved action plans;
- Lack of sources to implement the strategy, action plans;

THANK YOU VERY MUCH FOR YOUR ATTENTION

For more information, please contact:
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No. 10 Ton That Thuyet str., Hanoi, Viet Nam
Email: chuthanhhuong@gmail.com

CAPACITY DEVELOPMENT ON MITIGATION& ADAPTATION IN THE SOUTHEAST ASIA REGION: INDONESIA CASE

Rizaldi Boer

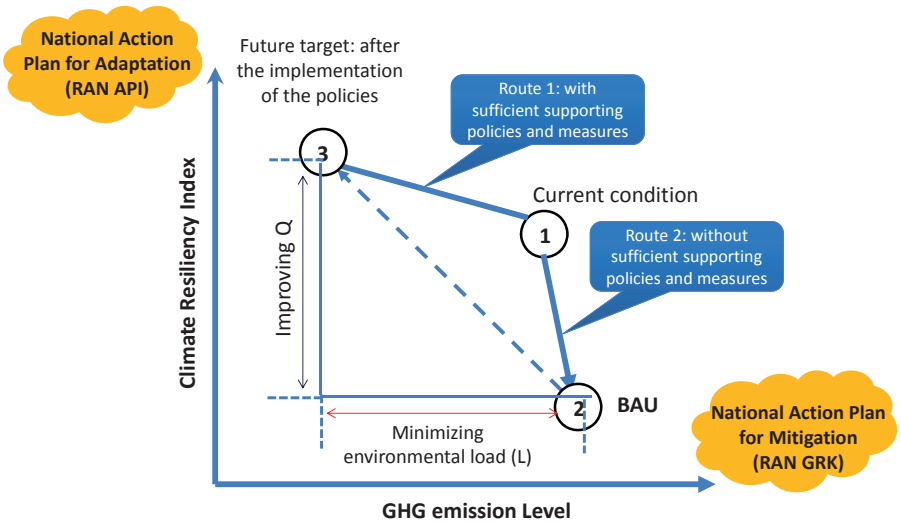
Centre for Climate Risk and Opportunity Management in Southeast Asia and Pacific

Bogor Agriculture University

Prolog

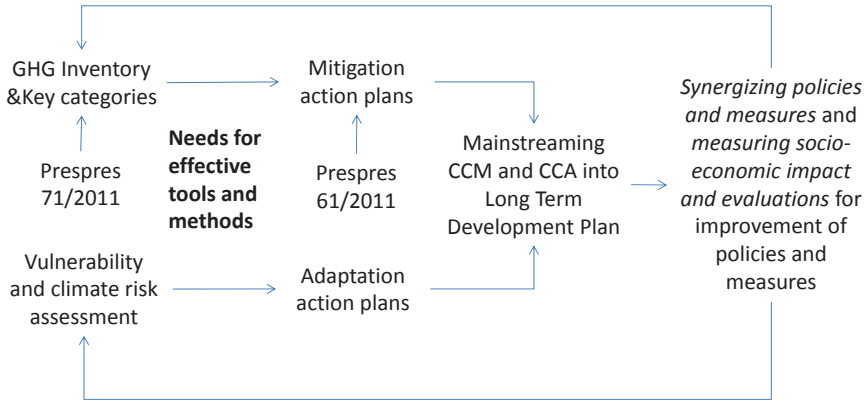
- Indonesia is one of vulnerable countries to impact of climate change and also one of the ten largest GHG emitters in the world
- Government of Indonesia in the process of designing and implementing low carbon and climate resilience development
- Capacity building is one of the main programs to strengthen local governments capacity and related stakeholders to address on climate change
  - How to develop effective climate change actions plans?
  - What indicators to be used to measure effectiveness of the actions?
  - What tools and methods (Simple and complex)?

SETTING THE GOAL AND INDICATORS FOR MONITORING

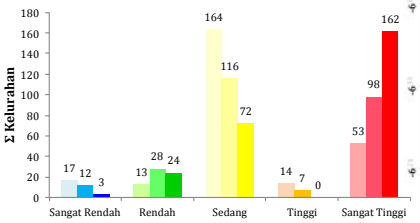


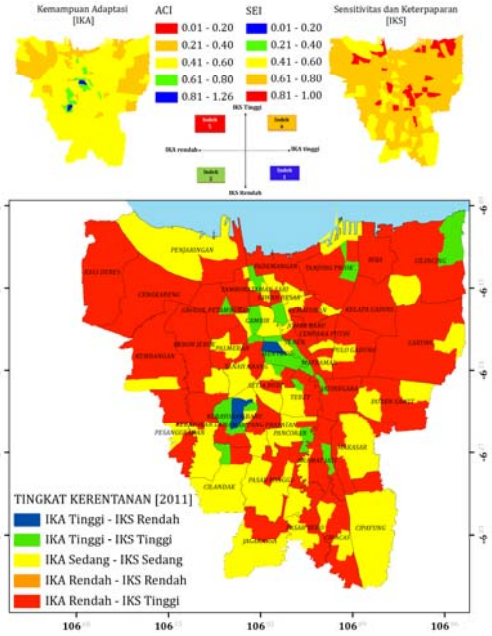
Source: Modified from JSBC (2012)

Integrating CCA and CCM

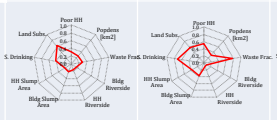
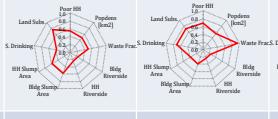
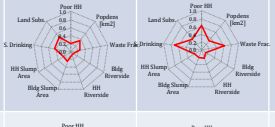
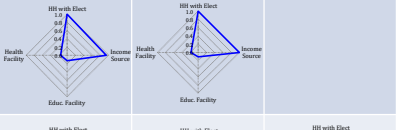


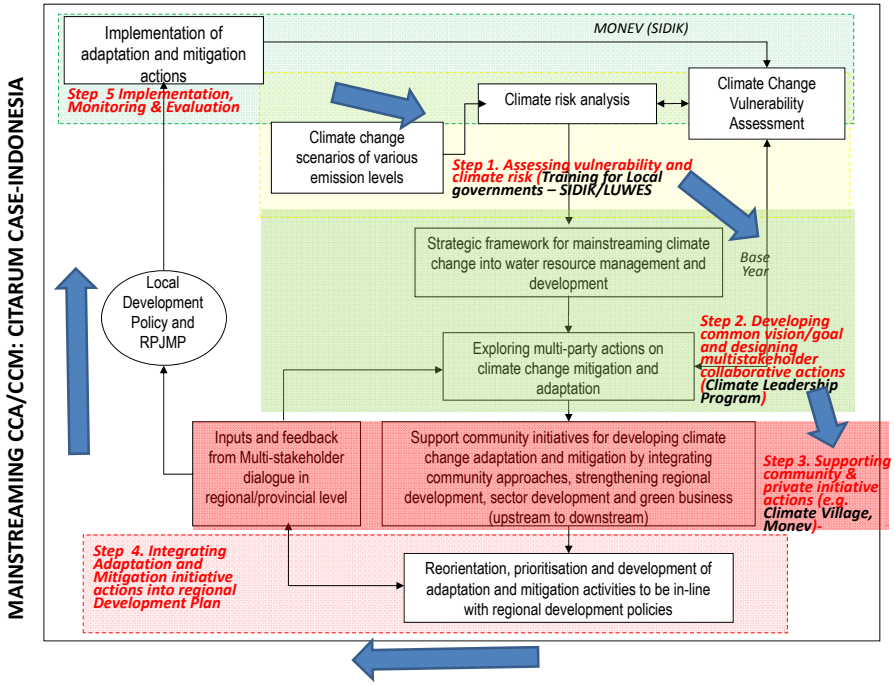
Case: Simple and Effective Tools for assessing Vulnerability of Village in Jakarta [Baseline 2005]



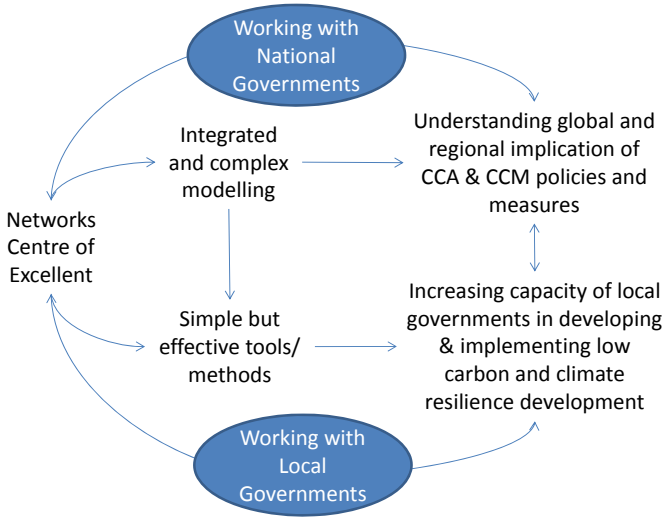


- WHERE, WHAT and WHEN the adaptation should be prioritized and synergized?
- WHAT policy supports needed?
- WHAT Institutional Arrangement?

Characte-ristic	SEI			ACI		
	2005	2008	2011	2005	2008	2001
High ACI and Low SEI						
High ACI and High SEI						
Medium ACI and Medium SEI						
Low ACI and Low SEI						
Low ACI and High SEI						



Centre of Excellent and Capacity Development



Epilogue

- Area for capacity developments:
  - Development of tools & methods that guide policy and decision-making for CCA/CCM and mainstreaming including monitoring and evaluation system
  - Implementation of pilots for testing the tools and methods with involvement of network of CoE
  - Implementation of capacity building for beneficiaries to use and apply the tools & methodologies through learning by doing process
  - Facilitating dialogues of the beneficiaries to exchange lesson learnt and practices in mainstreaming CCA/CCM and monitoring and evaluation
  - Climate Leadership → strengthening core leadership competencies effective in facilitating innovative solutions and collective actions in multi-stakeholder settings

Capacity Development on Mitigation& Adaptation activities in Laos

Workshop for Capacity Development on Low Carbon Society in Southeast Asia Region:
Training Needs Assessment
8–9 May 2014, Pattaya, Thailand

BounEua Khamphilavanh,
Dept of Disaster Management and Climate Change,
Ministry of Natural Resources and Environment,
Vientiane, Laos

Reformation of Organization

2011: **Department of Disaster Management and Climate Change** under MoNRE

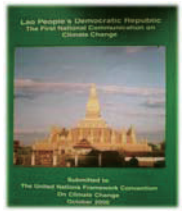
↑

2007: **Climate Change Office** under WREA

↑

Before 2007: **Climate Change Section** under STEA

Climate Change Activities



- 2000: First National Communication on Climate Change

- 2009: National Adaptation Program of Action (NAPA)

- 2010: National Strategy on Climate Change

Climate Change Activities

- 2012: Guideline on development and consideration for CDM projects

- 2012: Mainstream climate change into the revised Environmental Protection Law

- 2013: Second National Communication (SNC) was Approved by Government

National Action Plan on Climate Change

There are four key initiatives:

1. Strengthening Institutional and Human resources Capacity on Climate Change;
2. Enhancement of Adaptive Capacity for Coping with Climate Change;
3. Climate Change Mitigation Through reduction of Greenhouse Gas Emission;
4. Strengthening Education and Public Awareness raising on Climate Change.

- **INITIATIVES ON ADAPTATION ACTIVITIES**

National Strategy on Climate Change, 2010, focusing on Mitigation and Adaptation Option in priority sectors:

- 1.Agriculture & Food security
- 2.Forestry & Land use change
- 3.Water Resources
- 4.Energy & Transport
- 5.Industry
- 6.Urban Development
- 7.Public Health

Improving the Resilience of the Agricultural Sector to Climate Change Impacts

- Objectives:
  1. Capacity building on improving knowledge and information on climate change impacts;
  2. Enhancing capacity of agricultural planner to response to climate change;
  3. Demonstrating and promoting community pilot activities;
  4. Sharing and disseminating lessons learnt.

➢ **Component 1: Capacity building on improving knowledge and information on climate change impacts;**

Outcome:

1. Created communication tools: brochures, posters, booklets, and videos;
2. Organized training workshops and disseminating communication tools

Direct and Indirect Beneficiaries: Government officers, Secondary schools, and Elder people.

➢ **Component 2: Enhancing capacity of agricultural planner to response to climate change.**

Outcome:

1. Developed guideline on reducing natural disaster in the communities;
2. Developed training courses for adapting to climate change;
3. Village fund.

➢ **Component 3: Demonstrating and promoting community pilot activities**

- Illustrated implementation of component 2: pilot vegetable and fruit farming, fishery, animal husbandry, water source management

➢ **Component 4 : Sharing and disseminating lessons learnt**

- Created 3 websites for sharing and disseminating project outcomes : www.nafri.org.la; www.adaptationlearning.net; www.undplao.org
- Videos and other communication tools

Initiative Activities on Climate Change Adaptation

Capacity Enhancement for Coping with Climate Change (CECCC)

❖ Adaptation pilots demonstration:

➢ Agriculture:

- 1. Increasing the Resilience of Upland Agriculture to Climate Variability and Climate Change (LuangPrabang Province)
- 2. Dry Season Irrigation of Cash Crops to Increase the Resilience of Lowland Farming System (Attapeu Province)

➢ Water resources:

- 1. Integrated Management of Fresh Flooding in Nam Po (Vientiane Province)
- 2. Integrated Management of Water Scarcity in HouayNam Sai (Salavan Province)

Launching of Climate Change International Technical and Training Center (CITC)
and
Workshop for Capacity Development on Low Carbon Society (LCS) in the Southeast Asia Region and Training Needs Assessment
8th – 9th May 2014 in Pattaya, Thailand

PANEL DISCUSSION 1515-1645pm 8 May 2014

Capacity Development on Mitigation and Adaptation in South East Asia - UTM Low Carbon Asia Centre, Malaysia

SCIENCE INTO POLICY- LOW CARBON GREEN CITY

SATREPS
Science and Technology Research Partnership for Sustainable Development Program

Ho Chin Siong (UTM)
Faculty of Built environment/ UTM Low Carbon Asia Centre

Content- Structure of Presentation

- **Background**
  - Current situation of climate change training, education and awareness raising activities
- **Challenges And Solution**
  - Capacity development in climate change related plan
- **LCS Malaysia**
  - Conclusion- Effective methods of climate change capacity development
  - (Organisation, officers level , stakeholders)

1 Background

Iskandar Malaysia: Key Challenges

Size: 2,216.3 km²
Population: 1.3 mil. (2005) I 3.0 mil. (2025)
GDP: 35.7 bil. RM (2005) I 141.4 bil. RM (2025)

COP 18 Side Event . Doha . 30 November 2012

Voluntary 40% reduction of CO_2 emission intensity by 2020

Issues

- Rapid urbanization and industrialization
- Relatively high carbon intensity dependence on fossil fuel
- High private car ownership
- Low density development and urban sprawl
- Low efficiency appliances and RE supply

Government Policy Directions

- National Green Technology Policy
- National Policy on Climate Change
- National Renewable Energy Policy and Action Plan
- National Policy on the Environment
- 10th Malaysia Plan
- Green Neighborhood Planning Guideline
- Low Carbon Cities Framework and Assessment System

01 Low Carbon Society Scenarios for Iskandar Malaysia

Project Background

Site: Iskandar Malaysia

(Iskandar Regional Development Authority)

Objective:

i. To draw up **key policies and strategies** in guiding the development of Iskandar Malaysia in **mitigating carbon emission**. *Transforming Iskandar Malaysia into* ***a sustainable low carbon metropolis by adopting green growth strategies/roadmap.***

ii. To respond to the nation's aspiration for **ensuring climate-resilient development for sustainability**.

Target Year: 2025 (2005 – 2025)

01 Low Carbon Society Scenarios for Iskandar Malaysia

Project Background

Research Team: Universiti Teknologi Malaysia (UTM), Kyoto University (KU), Okayama University (OU), National Institute for Environmental Studies (NIES)

Joint Coordinating Committee: Iskandar Regional Development Authority (IRDA), Federal Department of Town and Country Planning (JPBD), Malaysia Green Technology Corporation (MGTC)

Sponsorship: Japan International Cooperation Agency (JICA) , Japan Science and Technology (JST)

Output:

i. **Methodology** to create LCS scenarios which is appropriate for Malaysia is developed.

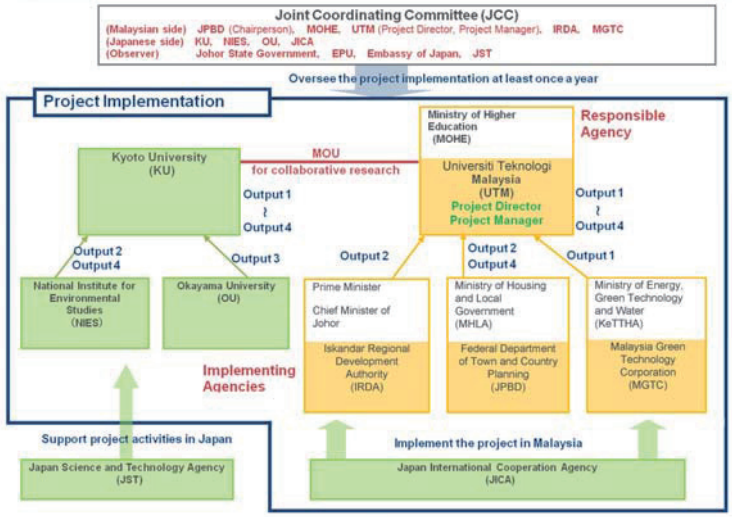
ii**. LCS scenarios** are created and utilized **for policy development** in IM.

iii. **Co-benefit of LCS policies** on air pollution and on recycling-based society is quantified in IM

iv. **Organizational arrangement of UTM** to conduct trainings on LCS scenarios for Malaysia and Asian countries is consolidated, and a network for LCS in Asia is established

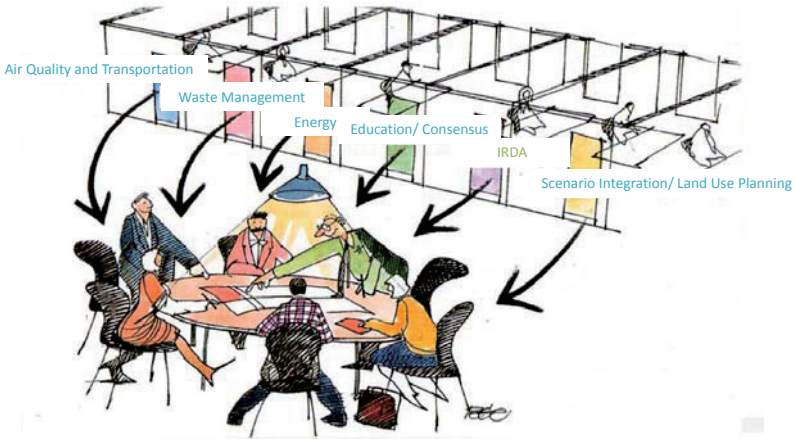
01 Low Carbon Society Scenarios for Iskandar Malaysia

Project Framework



01 Low Carbon Society Scenarios for Iskandar Malaysia

5 Research Groups + 1 Implementation Agency



02 Chronology LCS Iskandar Malaysia research activities

Fiscal Year 2012 - 2013 Project Highlights (April 2012 – December 2013)


3rd SATREPS Meeting + Okayama Waste Management Technical Tour


General LCS Household Survey


5th and 6th FGD


Air Quality Monitoring

APRIL | MAY | JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER

Year 2012


3rd and 4th FGD


Seelong Landfill Survey


3rd LCS Symposium cum 4th SATREPS Meeting


Consensus Building and Education Technical Tour

02 Chronology LCS Iskandar Malaysia research activities

Fiscal Year 2012 - 2013 Project Highlights (April 2012 – October 2013) cont...


5th SATREPS Meeting


Prime Minister endorsed the LCS Blueprint


6th SATREPS Meeting

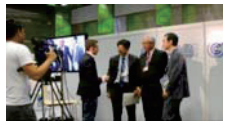
End of Fiscal Year 2012

NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY

Year 2013



18th Conference of Parties (COP18) to UNFCC



7th SATREPS Meeting

02 Chronology LCS Iskandar Malaysia research activities

Fiscal Year 2012 - 2013 Project Highlights (April 2012 – Dec 2013) cont...


Implementation Plan Concept Paper


8th ISDE Special Session

Asia LEDS Forum 2013


PM launch LC Future 2013

JUNE | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER


ISAP 2013/ 5th LCS-RNet Annual Meeting/ 2nd LoCARNet Annual Meeting


30 Oct LCA COE launched


IRDA's Implementation Plan Workshop


COP19 2013 Warsaw

03 Research output on Iskandar Malaysia


Sustainable Iskandar Malaysia 2025

Low carbon society Blueprint Iskandar Malaysia 2025 (SPM and Main reports)


Roadmap Towards Low carbon Iskandar Malaysia 2025


Actions for Low carbon future 2011-2015

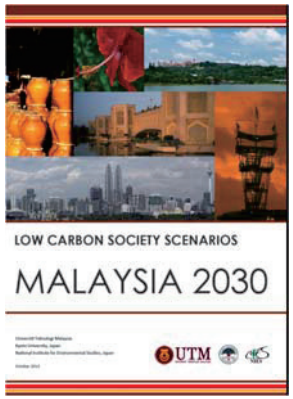

Eco Life challenge handbook 2013

Launching of the Iskandar Malaysia: Actions for a Low Carbon Future

ISKANDAR REGIONAL DEVELOPMENT AUTHORITY

Malaysia Launching: 06 Nov 2013 at Parliament
Global launching: 15 November 2013,
COP19 Warsaw Poland

03 Research output on Putrajaya 2025 and Malaysia 2030



Children's Eco-Life Challenge in IM (Research)

Workbook design:

- Adaptation of Eco-Life Challenge workbook Kyoto version
- Main contents:-

1) Eco-Lifestyle Checklist

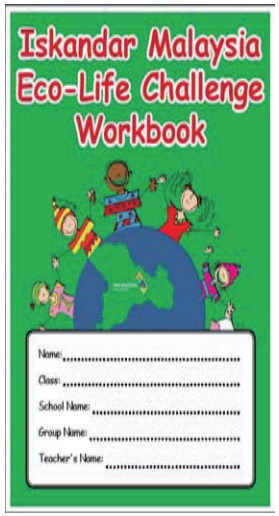
2) Background on LCS & global warming

3) **Reduce**: Electricity, transportation, daily cooking, waste & 3R

4) **Select/ Choose**: Eco-label and environmental-friendly products

5) **Change**: Renewable energy

6) Others: Plants and Eco-Life



Children's Eco-Life Challenge in IM (Research)

Workbook design

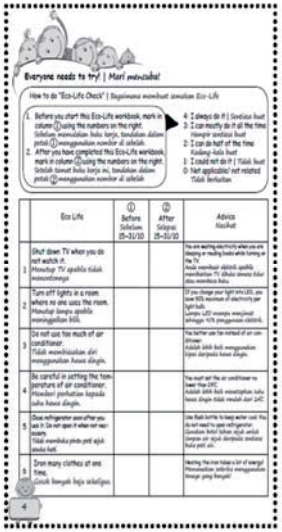
Eco-Life Checklist

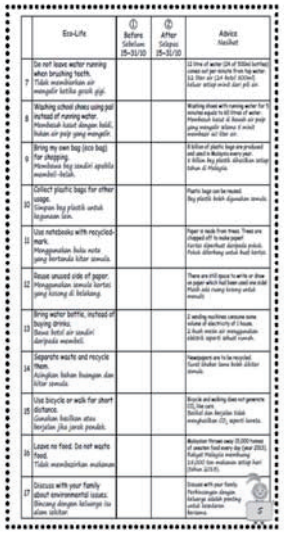
-As **instrument**

-To **assess** students' lifestyle/ behavior prior to to and after project

-To **provide feedback** to to students and their family family

-To encourage students to to be **conscious** of their daily lifestyle/ behavior





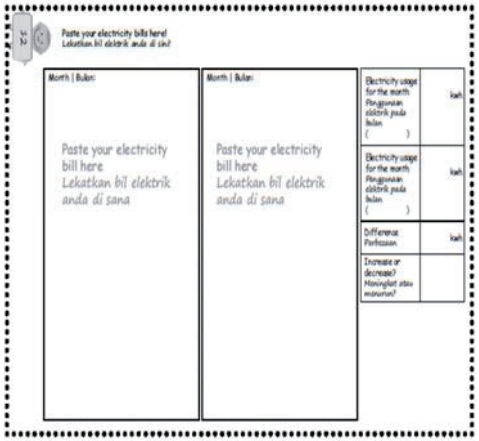
1.3 Children's Eco-Life Challenge in IM (Research)

Workbook design: Challenge 1: Check water and electricity usage at home

•To learn to read electricity & water bill

•To raise awareness about electricity and water usage at home

•To raise awareness about energy/ water savings and money savings too



1.3 Children's Eco-Life Challenge in IM (Research)

Instruments

1)Eco-life Checklist *as questionnaire for students*

2)Questionnaire for teachers

3)Interview protocol for students & teachers

Children's Eco-Life Challenge in IM (Research)

School visits & monitoring (+ interviews)

Children's Eco-Life Challenge in IM

Final presentation competition

1.3 Children's Eco-Life Challenge in IM

Final presentation competition

1.3 Children's Eco-Life Challenge in IM

Final presentation competition (results)

1st place: SJK (C) Chee Tong (153 points)
2nd place: SK Putra Utama (144 points)
3rd place: SK Taman Desa Skudai (138 points & won tie-breaker)



1.3 Children's Eco-Life Challenge in IM (Research findings)

Student Survey – Eco-life Checklist

Aspect	Period	Average	Level
LCS & 3R Practice	Pre-ELC	2.44	Low
	Post-ELC	2.81	Moderately Low

(Max score is 4.0

Household Accounting – Electricity and Water bills

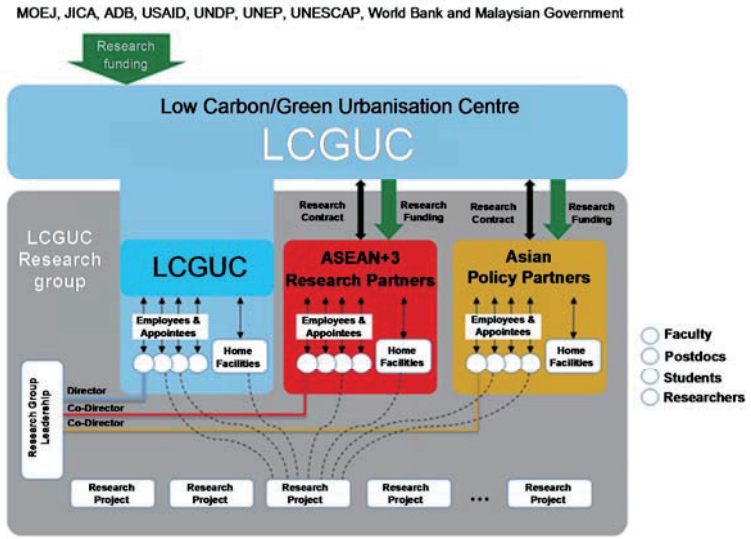
Aspect	Period	Average	% Decrease
Electricity Bill	Pre-ELC	50.40kWh	7.5%
	Post-ELC	46.62kWh	
Water Bill	Pre-ELC	3.96m^3	6.0%
	Post-ELC	3.72m^3	

Children's Eco-Life Challenge in IM

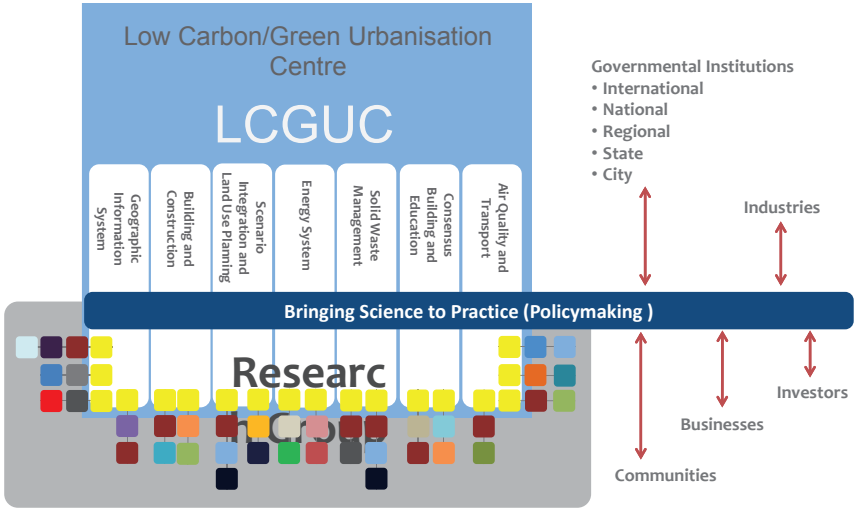
(Research findings – Eco-life Checklist)

No	Item	Pre-ELC	Post-ELC	Diff.
1	Shut down TV when you do not watch it.	3.11	3.22	0.11
2	Turn off lights in a room where no one uses the room	3.15	3.22	0.07
3	Do not use too much of air conditioner.	1.28	1.93	0.65
4	Be careful in setting the temperature of air conditioner.	1.28	1.70	0.43
5	Close refrigerator soon after you use it. Do not open it when not necessary.	2.65	2.98	0.33
6	Iron many clothes at one time.	2.25	2.57	0.32
7	Do not leave water running when washing teeth or face.	2.70	2.92	0.21
8	Washing school shoes using pail instead of running water.	2.54	2.83	0.29
9	Bring my own bag (eco bag) to shopping.	1.80	2.45	0.65
10	Collect plastic bags for other usage.	3.46	3.65	0.19
11	Use notebooks with recycled-mark.	1.75	2.36	0.61
12	Reuse unused side of paper.	2.76	3.26	0.50
13	Bring water bottle, instead of buying drinks.	2.86	3.08	0.21
14	Separate waste and recycle them.	2.23	2.93	0.70
15	Use bicycle or walk for short distance.	2.97	3.15	0.18
16	Leave no food. Do not waste food.	2.99	3.20	0.20
17	Discuss with your family about environmental issues.	1.67	2.52	0.85

5 Operation and Administration of Low Carbon/ Green Urbanisation Centre



5 Low Carbon/ Green Urbanization Centre: Strengthening Science based Policymaking



06 Issues and Challenges

LCS awareness

Local authorities and Public in general to participate in LCS activities

(Showcase projects, LA21 and ELC)

Close cooperation between federal, state and local authorities

(Development plan system- decarbonised and close working relationship D, Kettha , NRE etc)

Issues and Challenges

Subsidized Energy cost distorted the market mechanism

Need more challenging R&D to promote EE and RE

Monitoring and LCS Inventory

Data collection for monitoring at local authorities level are important to ensure effective PDCA cycle/implementation.

05 Conclusion- Way forward

Looking beyond policy – **SCIENCE-KNOWLEDGE-POLICY IMPLEMENTATION (completing PDCA cycle) - CAPACITY BUILDING**

Good **baseline quantitative study, consensus building and low carbo blueprint plan** needs good data and appropriate modelling

Important to have a Asian (IGES & AIM) **and International** for R&I **collaboration** between researchers and **capacity building opportunities.**

Local carbon development need to have a **LOW CARBON SOCIETIE mindset**/ behavior – Awareness from different stakeholders
Central government, State/Local authorities, professional bodies academicians, business community , NGOs + SCHOOL CHILDREN

Thank you for your attention!

Thank You Terima Kasih 谢谢 धन्यवाद ありがとう

Panel Discussion

Capacity Development on Mitigation & Adaptation in the Southeast Asia Region

(Myanmar)

Aye Kyawt Swe – Township Coordinator , CESVI, Myanmar

Junior Researcher (Climate change adaptation and mitigation in Agriculture)

Brief Context of Country and Climate Change

- Myanmar is in a rapid transition:
  socially, economically and politically
- National Economy Development highly relies on exploitation of natural resources in terms of Forest Resources, Agricultural production, Mining, Oil and Gas
- Basically, Myanmar is Agricultural country
- Rice is our staple and Major crop. Sown areas cover more than 40 % of total acreage annually
- Methane Emission and other GHG from agriculture sector is substantially increased

- Currently Myanmar is facing the impact of climate change especially in Agriculture sector
- Because of drought, high temperature , flood and un seasonal rainfall, production of many crops are declining.
- The majority of farmers are small and marginal landowners who are resource-poor.
- They are most affected due to their low adaptive capacity
- Adaptation technology to these impacts should be promoted
- By incorporating various adaptation measures in the agriculture system can increase the resilience and adaptive capacity of the small land holders.

Requirement of Capacity Development

To be able to promote adaptation and mitigation strategy

- **human resources and capacities are still required for the requirement of climate change adaptation and mitigation**
- **National strategic frameworks need to be strong**
- **Institution should be specific for climate change to set up strategy**
- **Climate financing towards mitigation is still lack and it should be paid attention**

Current Situation of Climate Change Training

- No Special Climate Change Training Program yet in Myanmar
- INC (Initial National Communication) has finished in 2011 & SNC (Second National Communication) is currently preparing to begin.
- During the INC project, the trainings are only related with GHG Inventory for the various sector - namely, agriculture, forestry, energy, industry, and waste sectors.
- Myanmar joins annually the WGIAs (Workshop on GHG Inventory in Asia), and for the capacity building of the Inventory.
- Myanmar also joined the IPCC Expert meeting in the 2006, training for IPCC Guidelines and Software, in 2012 and 2013. It included a hand-on training on the use of 2006 IPCC guidelines and tools for GHG Inventory.

Who are required to get training?

- Myanmar needs trainings for all levels of stakeholders to raise their knowledge and understanding for CC.
- But the priority is higher level officials who are directly involving in the development plans (policy makers) or development works, in order to disseminate the awareness training to the grass-root organizations or farmers who are urgently needed for adaptation and mitigation strategy
- Then the local government/ practitioners
- After that, the education curriculum of CC issues should be included for the long term sustainability

- **For CC education and awareness raising**,

we had several workshops and meetings, but a few at the training level after the Cyclone Nargis devastated in May 2008, all the citizens are becoming interested in Climate change issues. The basic concept of Climate change training were conducted by the DMH (Department of Meteorology and Hydrology) to the officials from related Ministries.

- There were some cases done by NGOs

(Eg. CCA awareness program are being initiated at TOT key farmers trainig and introducing CCA practices such as

- Implementing agroforestry
- Changing crop variety

Capacity development is still needed for Mitigation and Adaptation

If Myanmar gets an opportunity to join " CITC "
It will be of great help to Myanmar for the future network of Low Carbon Society and the sustainable development

Thank You!

Climate Change and Disaster Risk Reduction Management Initiatives at Various Levels (National, LGUs and Academe)

Leonardo M. Florece, *Ph.D.*
Professor & Dean
School of Environmental
Science and Management (SESAM),
University of the Philippines
Los Baños (UPLB)

NATIONAL GOVERNMENT INITIATIVES:

RA 9729 of 2009

" Climate Change Act of 2009"

An act mainstreaming climate change into government policy formulations, establishing the framework strategy and program on climate change, creating for this purpose the climate change commission, and for other purposes

RA 10121 of 2010

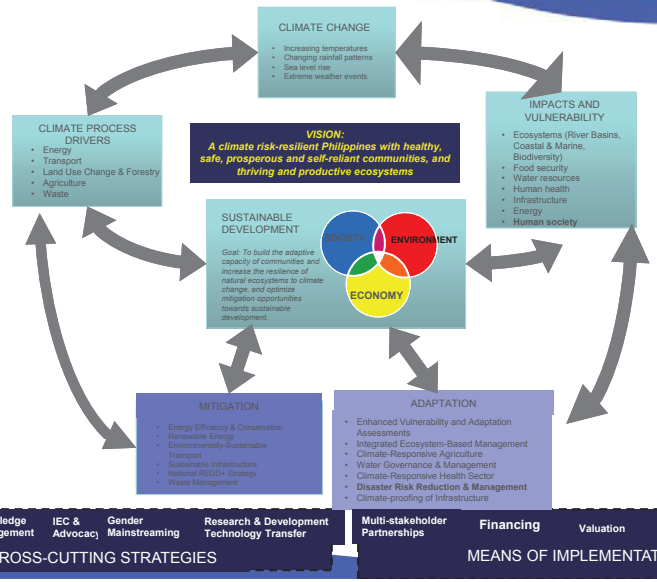
"Philippine Disaster Risk Reduction and Management Act of 2010".

An Act that provides for the development of policies and plans and the implementation of actions and measures pertaining to all aspects of disaster risk reduction and management, including good governance, risk assessment and early warning, knowledge building and awareness raising, reducing underlying risk factors, and preparedness for effective response and early recovery.

Salient Features of RA 9729:

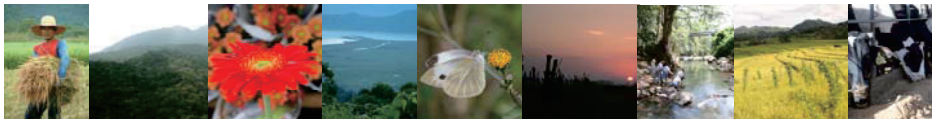
- Creation of Climate Change Commission and its Advisory Board;
- Development of National Framework Strategy to Adapt to Climate Change;
- Crafting of National Climate Change Action Plan; and
- Mandating LGUs to prepare LCCAP

National Framework Strategy on Climate Change



Philippine Agencies' Initiatives/ Role of Agencies (RA 9729)

- National Climate Change Action Plan
  - **Seven Strategic Priorities:**
    - Food Security
    - Water Sufficiency
    - Environmental and Ecological Stability
    - Human Security
    - Sustainable Energy
    - Climate Smart Industries and Services
    - Knowledge and Capacity Development



Where can the academe contribute?

Capacity Development | Knowledge Management | IEC & Advocacy | Gender Mainstreaming | Research & Development Technology Transfer

CROSS-CUTTING STRATEGIES

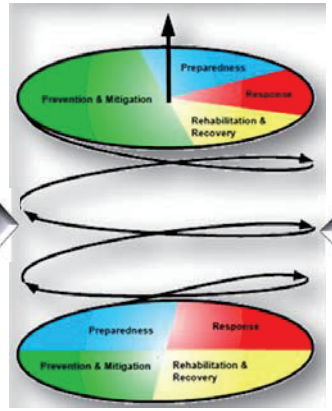
Multi-stakeholder Partnerships | Financing | Valuation | Policy, Planning & Mainstreaming

MEANS OF IMPLEMENTATION

NDRRMC Framework

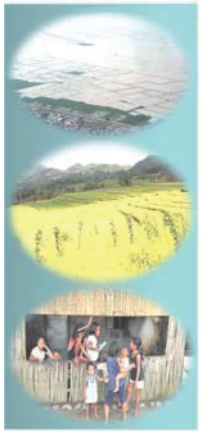
Towards safer, adaptive and resilient Filipino communities toward sustainable development

RISK FACTORS:
Hazards
Exposures
Vulnerabilities
Capacities



Mainstreaming DRR and CCA in Planning and Implementation

Where can the academe contribute?



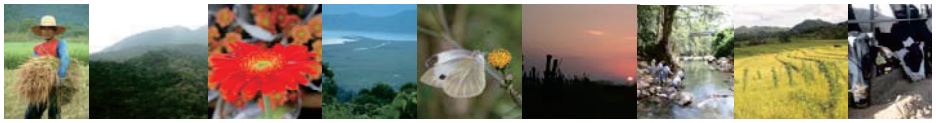
RISK FACTORS:
Hazards
Exposures
Vulnerabilities
Capacities

Mainstreaming DRR and CCA in Planning and Implementation

Capacity building of the LGUs, local planners and decision makers and SUCs

Role of the Academe

- **University of the Philippines System Committee on Climate Change (UP-CCC)**
  - Created to increase technical collaboration in capacity building and related climate change services and actions to national government agencies, LGUs, local state colleges and universities and other vulnerable sectors of society
  - A mechanism to bring together experts and institutions within the University to ensure the completion of the activities of the UP – Climate Change Commission MOA

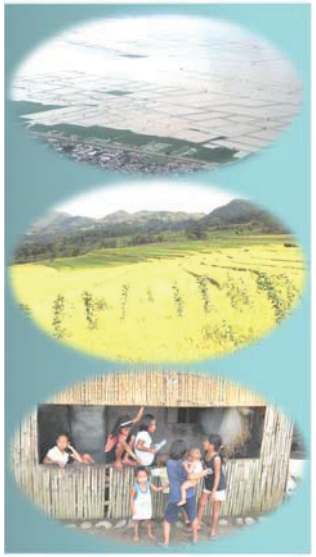


UPLB

nterdisciplinary Studies Center on Climate Change Adaptation and Disaster Risk Reduction (UPLB-IdSC-CCA-DRR)

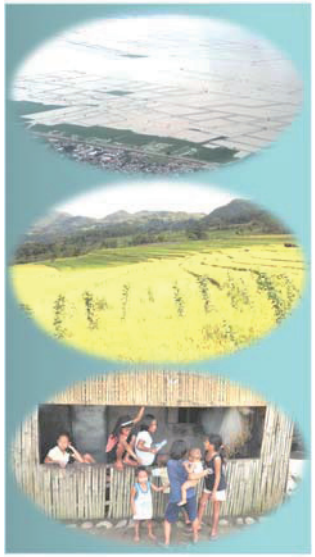
"Finding solutions towards climate resilient communities"

Photo Credits: www.interaksyon.com, www.ourplanet.org.uk, www.inquirer.net, www.theguardian.com



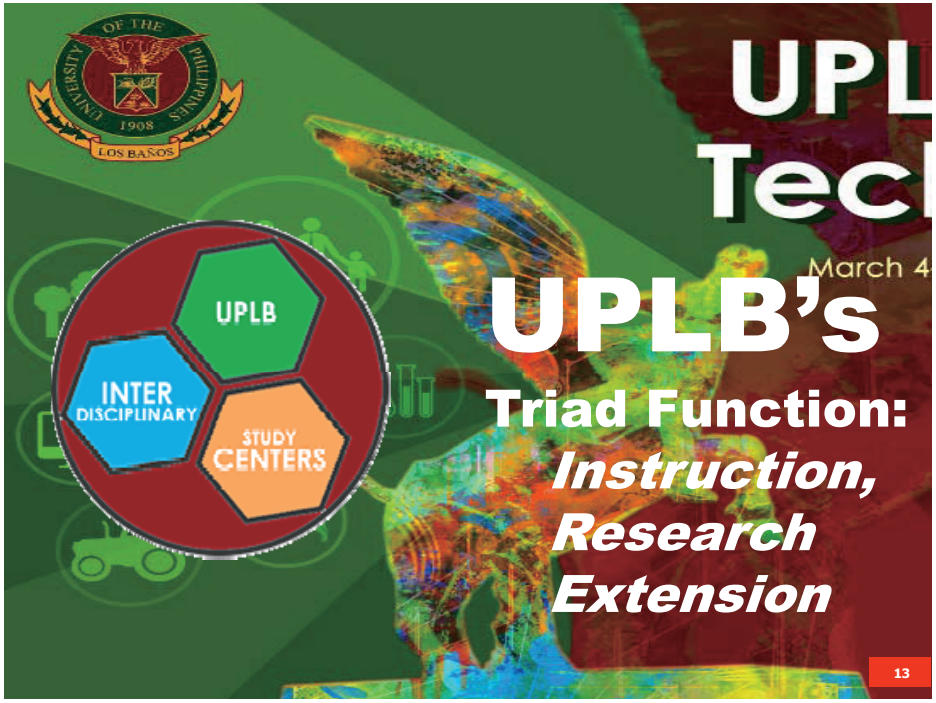
VISION

A world-class research center that provides science-based knowledge for building climate resilient communities.



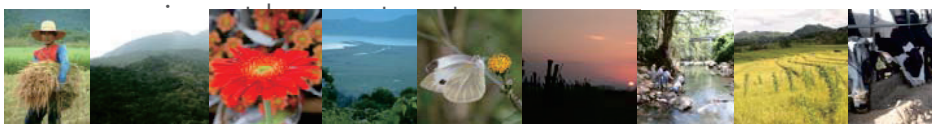
MISSION

Develop national and local climate change adaptation and mitigation strategies for climate resilient agriculture, environment, natural resources and communities.



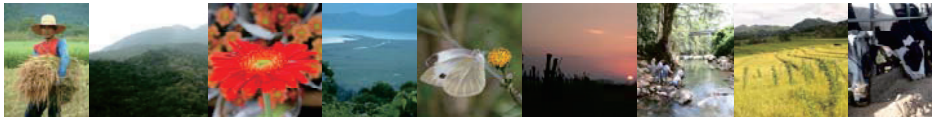
Role of the Academe

- **Current Activities and Services**
  - Providing technical knowledge and assistance to the national and local agencies;
  - Integrating and systematizing information from different units of UPLB and making them accessible to the wider public;
  - Assisting LGUs and other national agencies through capacity building programs and development of their Local Climate Change Action Plans (LCCAP), Disaster Risk Reduction Management Plan (DRRMP) and Comprehensive Land Use Plan (CLUP);
  - Assisting the education sector in mainstreaming climate change to its National Service Training Program (NSTP) and other relevant courses;
  - Strengthening the participation of various disciplines through research and development programs and policy advocacy; and
  - Actively participating in the conduct and preparation of national



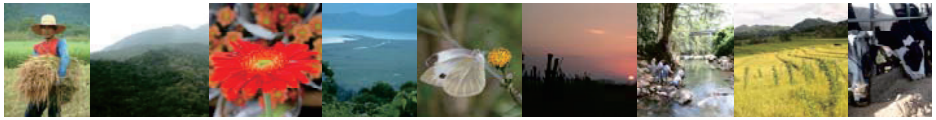
Role of the Academe

- **Research Project and Some Extension Programs**
  - Project SARAI - Smarter Approaches to Reinvigorate Agriculture as an Industry
  - Climate Change Influences on Watershed Landscape Patterns and Water Quality
  - Formulation of Guidelines for the Integration of Climate Change Adaptation-Disaster Risk Reduction (CCA-DRR) in Local Development Planning and Mainstreaming Climate Change Research in Policy Formulation in Selected Local Government Units
  - Assessment on Climate Change Impacts to Yields of Key Upland Agricultural Commodities



Some Example of Good Practices

- Establishment of Climate Change Academy in the Province of Albay and Integration of Climate Change Concepts in the Province's Educational Curriculum
- Offering of General Education (GE) Course on Climate Change Adaptation and Disaster Risk Reduction in some SUCs
- Conduct of Series of Workshops, Trainings, Seminars in Enhancing and Strengthening the Capacity of State Universities and Colleges (SUCs) and Local Government Units (LGUs) in Mainstreaming Disaster Risk Reduction & Management – Climate Change Adaptation (DRRM-CCA)



Completed Extension Work:

- In partnership with WFP, UPLB developed flood automated early warning systems for the four municipalities of Laguna

Stickers

Interactive CD

DRRM-CCA Documentation Videos

Republic of the Philippines
Province of Laguna
Municipality of Nagcarlan

Comprehensive Land Use Plan of the Municipality of Nagcarlan

2013-2022

Prepared by:
The LGU of Nagcarlan with Technical Assistance from the UPLB Foundation Inc.

CURRENT ACTIVITIES & SERVICES

Training:

In partnership with CDI, The Netherlands, UPLB organized training course focusing on sustainable agricultural production systems amidst climate change

CURRENT ACTIVITIES & SERVICES

Training Module Development:

To enhance the capability of the tertiary institutions and LGUs of the selected municipalities in the province of Laguna on mainstreaming climate change in sectoral planning for DRRM and CCA, the center is now producing site specific or localized training modules on DRR and CCA and climate change science

Salamat Po /Thank you

Contact Address: UPLB IDSC-CCADRR
Secretariat
c/o UPLB-SESAM
536-2251

Capacity Development on Mitigation & Adaptation in the Southeast Asia Region

Thailand

Dr. Ladawan Puangchit
Faculty of Forestry
Kasetsart University

Climate Change Policy

Thailand has a framework and guideline on climate change preparedness, adaptation, mitigation as well as enhancing competitiveness and development toward sufficiency economy and low carbon society

- The 11th National Economic and Social Development Plan (2012-2016)
- Climate Change Master Plan (2012-2050)
- National Strategy on Climate Change (2008-2012, 2013-2017)

National Climate Change Mitigation Activities

Several mitigation activities have been carried out to reduce greenhouse gases emission and increase carbon sink.

- Priority is given to energy sector, waste utilization, agricultural activities, and industries
- Promote reforestation and REDD+
- Promote clean and low carbon technology

Mitigation Actions in Thailand

- Implementation on Clean Development Mechanism (CDM), i.e. energy from biomass
- Carbon labeling: carbon footprint, carbon reduction label
- Low carbon city
- Thailand's voluntary domestic carbon market

National Climate Change Adaptation Activities

5

- Developing database of climate change to date and easy to use;
- Improving research on potential impacts of climate change;
- Raising awareness;
- Strengthening human resource;
- Strengthening regional and international cooperation especially among ASEAN countries.

Adaptation Actions in Thailand

6

- The development of plans for flood prevention
- NGO-supported projects to increase the resilience of local farmers to the effects of climate change
- Mangrove reforestation and coastal resource management projects
- Promote social forestry

Current Situation of Climate Change Capacity Development

7

- It is outlined as an important issue in National Climate Change Master Plan (2012-2050)
- Several sectors, i.e. government, private and NGO, involved in climate change training and awareness raising in climate change
- Subjects on climate change have been developed for school students
- Integrating Climate Change into Forestry and Natural Resource Management Curricula

Regional Climate Change Curriculum Development: Training of Trainers

8

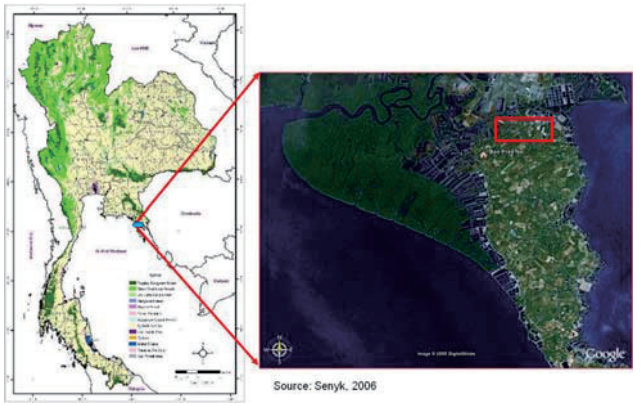
- The project is supported by USAID/Regional Development Mission for Asia (RDMA) through the Lowering Emissions in Asia's Forests (LEAF) program
- Four climate change modules (teaching materials) were developed: Basic Climate Change (BCC), Social and Environmental Soundness (SES), Low Emission Land Use Planning (LELUP), and Carbon Measurement and Monitoring (CMM).

Stakeholders in Climate Change

- Politicians / high level administrators
- Government officers
- Private/industrial sectors
- NGOs/Civil society
- Students
- Teachers / professors
- Local communities

Case study : Capacity Development on Adadptation

Mangrove Forest Restoration through Community Participation: A Case Study of Ban Pred Nai Forest Community



Source: Senyk, 2006

Community Participation in Research Plan

Consultation between major researchers and community researchers

Conclusions

- Community is an important management model to achieve the twin objectives of forest conservation and livelihood security
- Climate change is a long-term phenomenon which needs an efficient monitoring system
- The database system is an effective tool for efficient monitoring

Training on data collection for local researchers

Diameter measurement

Plot setup

Height measurement

Plate number

Development of Database System on mangrove forest resource for community

Training on database system to local researchers

Conclusion

- Capacity Development is an important framework in Thailand climate change policy
- Climate change mitigation and adaptation strategies rely on forests.
  - Managing forests sustainably and enhancing forest cover can increase carbon sequestration – mitigation mechanism
  - Forest helps to diversify livelihoods, thereby buffering rural peoples vulnerability to natural disasters and food security – adaptation mechanism
- REDD+ is an effort to valuate forest carbon and generate financial incentives for forest protection.

Thank you !!!!

Capacity Development on Mitigation and Adaptation

Nguyen Tung Lam
ISPONRE
Presentation at Workshop for Capacity Development on LCS in the Southeast Asia Region
8-9 May, Thailand

Issues/topics

- LCS and CC adaptation and mitigation approach
- LCS and CC adaptation and mitigation policy related issues, experience from other countries
- Technical skills: simulation, scenario analysis
- Integrate LCS and CC adaptation and mitigation approaches in policy making process
- Policy performance assessment

Targeted groups

- High level policy maker
- Program officer from policy making organizations
- Officer of LCS and CC implementing agency
- Research institutes
- National and local/provincial level
- Enterprise community

Workshop for Capacity Development on
Low Carbon Society (LCS) in the Southeast Asia Region: TNA
8-9 May, 2014, Pattaya, Thailand

Training Needs Analysis (TNA) Results

9 May, 2014

Dr. Jakkanit Kananurak
Director of Capacity Building and Outreach Office, TGO

Contents

1. **Overview of TNA & questionnaire survey**
2. **Summary of training needs**

Contents

1. **Overview of TNA & questionnaire survey**
2. **Summary of training needs**

Achievement of ASEAN Low Carbon Development

Workshop Objectives

To **exchange information** on current status and further steps towards LCS development, CC mitigation and adaptation actions

To **identify training needs** of ASEAN central government

To **share capacity development resources** on LCS development among relevant institutions

To **initiate networking** among climate change related institutions

Workshop Participants

Target groups:

Government officials and experts from ASEAN countries

Workshop Session :

- Define Mutual Understanding on LCS
- Present TNA Survey Result
- Consult on ASEAN LCS Capacity Development
- Mobilize LCS Capacity Building Resources

Expected outputs

- **Mutual understanding** of current status of LCS development, CC mitigation and adaptation actions
- **Training development road map** on LCS for the climate change relevant agencies/ institutions
- **LCS capacity development resources mobilization platform** among Southeast Asia relevant agencies/ institutions
- **Networking** among climate change-related institutions in the region

Overview of Questionnaire Survey

Tentative Course Title	Low Carbon Society Development for Central Government
Proposed Target group	An officer who is responsible or will be responsible for both formulating and implementing low carbon society and related policies at a central government agency from any sector in ASEAN countries
Suggested Goal of the Course	A central government agency formulates and implements effective policies and actions related to low carbon society development in line with respective national or sectoral plans and strategies
Suggested Objective of the Course	A course participant enhances his/her understanding on effective approaches and methodologies to formulate and implement effective low carbon society and related policies (and measures) in line with their national and sectoral plans and strategies

Overview of Questionnaire Survey

Section I: Personal Information and Related Experiences
Section II: Training Needs Analysis
Section III : Training Contents Suitability
Section IV: Current Knowledge and Training Resources in Southeast Asia Region

Contents

Summary of training needs

2.3. The expected skill and capability of the trainees

A trained trainee should:

•Obtain necessary skill for

- Develop proposal of LCS policy development in the representing country,
- Use of climate change decision making support tools for review of previous policies for proposal of new policies in the country,
- Develop a blue print for implementation of LCS at local level,
- Develop concept of LCS and LCS action plan,
- Implement policies and strategic plans related to climate change, LCS and green growth,
- Monitor LCS national plan, and
- Disseminate of knowledge for colleagues and other people.

•Have a good understanding of LCS programs in ASEAN region

•Have a good vision on society/ community needs

•Have a sustained commitment for enforcement of LCS action plan

Summary of training needs

Section III : Training Contents Suitability

3.1. Suitability of main training modules

Training Modules	Sub Topics
1. Necessity of transition to low-carbon societies	- Basic knowledge on climate change
	- Concept of low carbon society (LCS)
	- Overview of international and national climate change related policies
2. Policy procedure for LCS	- LCS planning and implementation process
3. GHG inventory	- Overview of GHG inventory
4. GHG mitigation	- Overview of mitigation
	- Low Carbon Technology Selection
	- Appraisal of appropriate GHG mitigation actions
5. Climate change impact adaptation	- Adaptation and interrelationship with mitigation

Summary of training needs

Section III : Training Contents Suitability

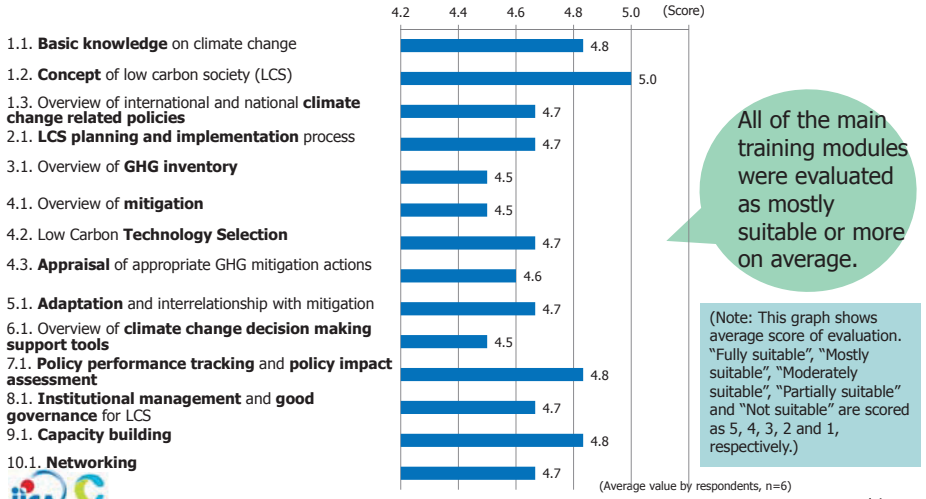
3.1. Suitability of main training modules

Training Modules	Sub Topics
6. Decision making support tools	- Overview of climate change decision making support tools
7. Policy performance tracking	- Policy performance tracking and policy impact assessment
8. Institutional management and good governance for low carbon society	- Institutional management and good governance for low carbon society
9. Capacity building	- Capacity building
10. Networking	- Networking

Summary of training needs

Section III : Training Contents Suitability

3.1. Suitability of main training modules



All of the main training modules were evaluated as mostly suitable or more on average.

(Note: This graph shows average score of evaluation. "Fully suitable", "Mostly suitable", "Moderately suitable", "Partially suitable" and "Not suitable" are scored as 5, 4, 3, 2 and 1, respectively.)

Summary of training needs

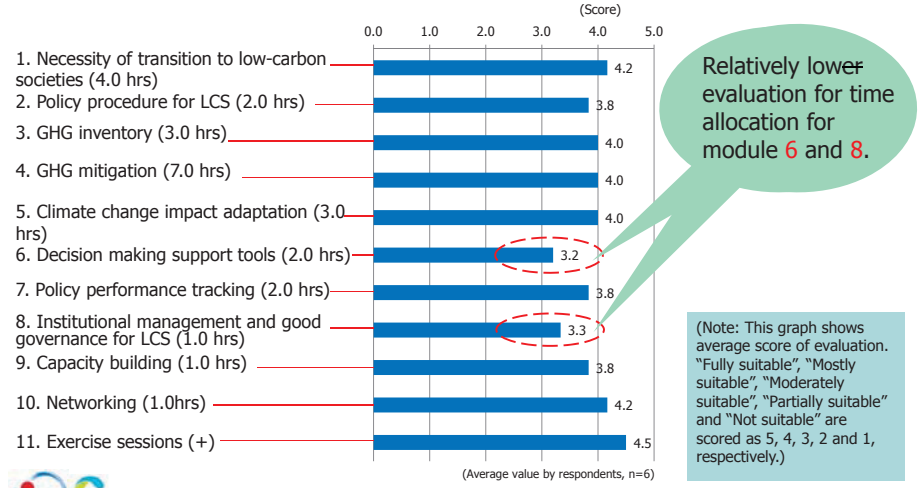
3.1. Suitability of main training modules (cont.)

Comments on additional topics

Module	Additional comments
1. Necessity to transition to low-carbon societies	Earth system science/global weather patterns focusing on Southeast Asia
6. Decision making support tools	Integrating LCS in local ordinance formulation
7. Policy performance tracking	Indicators of sustainable LCS
9. Capacity building	Commitment building
10. Networking	Networking and facilitation
Others	Training participants is required to have good understanding of action plan at local government level, which they will develop after training. Performance tracking of the developed action plans is essential.

Summary of training needs

3.2. Suitability of time allocation



Relatively lower evaluation for time allocation for module 6 and 8.

(Note: This graph shows average score of evaluation. "Fully suitable", "Mostly suitable", "Moderately suitable", "Partially suitable" and "Not suitable" are scored as 5, 4, 3, 2 and 1, respectively.)

Summary of training needs

3.2. Suitability of time allocation (cont.)

A respondent provided their comments that time allocation for following modules is short:

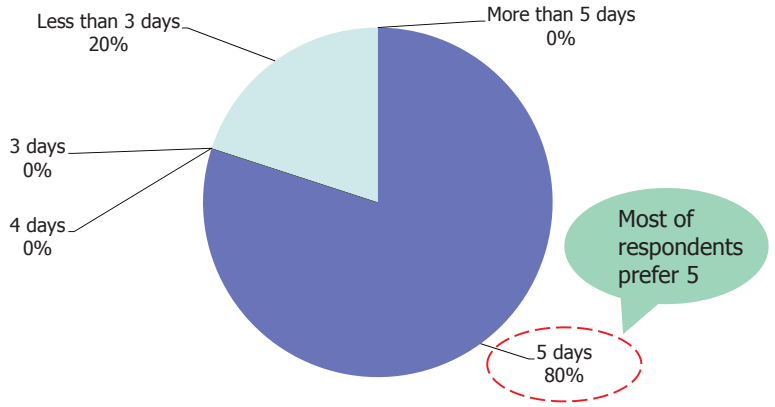
- Module 6. Decision making support tools
- Module 8. Institutional management and good governance for low carbon society
- Module 9. Capacity building

Another respondents pointed out that desirable time allocation for following modules is 3.0 hours per module:

- Module 6. Decision making support tools
- Module 7. Policy performance tracking

Summary of training needs

3.3. Preferred duration of a training course (days)



Thank you

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Workshop for Capacity Development on
Low Carbon Society (LCS) in the Southeast Asia Region
Training Needs Assessment

Introducing draft CITC training curriculum for Low Carbon Society Development for central government officers

May 9, 2014

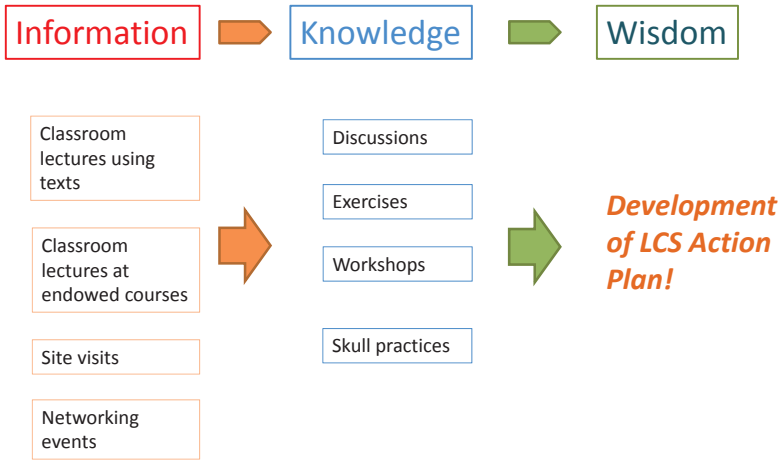
Dr. Kazuhito Yamada
JICA Expert Team

Structure of CITC curriculum clusters

- GHG inventory management
- Low carbon society (LCS) development
- Mitigation mechanisms
- Sustainable GHG management

  – Basic level
  – Advanced level

Ideal image of the curriculum



Overview: LCS development curriculum for central government officers

Target group (trainees)	• Director level and working-level officers who are currently involved or who will be involved in any sector related to climate change, especially low carbon society (LCS) policy and action development at a central level. • Those who do not have basic knowledge and limited working experience in the above field may also attend the training course.		
Objective and outcomes	• Participants understand necessity and benefit to move toward LCS. • Participants obtain profound and comprehensive understanding on the concept of LCS and its development process including best practices in Asia. • Participants acquire ability to formulate and implement their own LCS policy and action plan, or incorporate such LCS element into their related national or sectoral policy.		
Goal	• A central government agency formulates and implements effective policies and actions related to low carbon society development in line with respective national or sectoral plans and strategies		
Duration	5 days	**Number of participants**	30-40

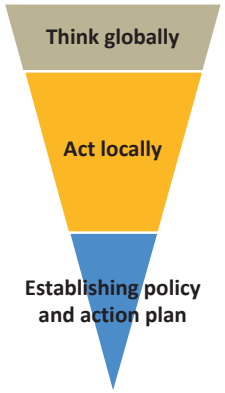
Training delivery methods

- Face-to-face Lecture
- E-learning
  - Part of training sessions accessible to registered participants for prep study
- Hands-on exercise sessions
  - Individual work
  - Group discussion
- Site visit
  - to enhance understanding on LCS realization
  - to facilitate networking among participants

Training materials

- Textbooks
- PowerPoint presentations
  - Available in advance exclusively for registered training participants

Overview: course modules



No.	Module title
1	Transition to low carbon society
2	LCS policy development procedure
3	GHG inventory
4	GHG mitigation and technology
5	Climate change impact adaptation
6	Decision making support tools
7	Policy performance tracking
8	Institutional arrangement and good governance
9	Capacity building
10	Networking
-	Exercise sessions
-	Site visit (1 day)

Module overview
1. Transition to low carbon society

Session title	Session Overview	Sub-topics	Time (Hrs.)
1.1 Basic knowledge on climate change	• Climate change science • Key elements for LSC development	• Global climate change • Climate change prediction and its impact • GHG emission sources and reduction scenarios • Co-benefit	1.00
1.2 Concept of low carbon society (LCS)	• Basic concept LCS • General LCS development process	• What is LCS • Envision society to leapfrog development	2.00
1.3 Overview of international and national climate change related policies	• Policy frameworks of climate change • International, regional, and national level of policies	• Global, regional, national and local trend of climate policies and actions	1.00

Module overview
2. LCS policy development procedure

Session title	Session Overview	Sub-topics	Time (Hrs.)
2.1 LCS planning and implementa-tion process	• Process of LCS development • Good practices in ASEAN countries and	• LCS planning and its process • Vision formulation, target setting, scenario development, PDCA cycle	2.00

3. GHG inventory

3.1 Overview of GHG inventory	• Overview of GHG inventory • Good practices of GHG inventory development and application • Overview and application of IPCC guidelines	• What is GHG Inventory • IPCC guidelines • Data classification and collection • GHG information report for decision making • Good practices and lesson learned	3.00

Module overview
4. GHG mitigation and technology

Session title	Session Overview	Sub-topics	Time (Hrs.)
4.1 Overview of mitigation	• Mitigation mechanisms and schemes • Mitigation projects in various sectors	• Overview of global and national GHG mitigation policies, measures and mechanisms • Possible financial sources	1.00
4.2 Mitigation technologies	• Key mitigation technologies • Good practices in Asia	• Energy • Industry process • Agriculture, land use change and forestry • Transportation • Waste, etc.	3.00
4.3 Appraisal of GHG mitigation measures	• General appraisal process for LCS project development	• Appraisal process of mitigation measures • GHG mitigation project design document	3.00

Module overview
5. Climate change impact adaptation

Session title	Session Overview	Sub-topics	Time (Hrs.)
5.1 Adaptation and inter-relationship with mitigation	• Climate change adaptation, vulnerability and its assessment • Good practices of climate-resilient society development • Relationship and synthesis of adaptation with mitigation	• Vulnerability, extreme events, losses and damages • Synthesis of climate change mitigation and adaptation • Existing financial aids • Adaptation technology	3.00

6. Decision making support tools

6.1 Overview of climate change decision making support tools	• Overview of decision-making assistance tools for LCS • Application of Asia-Pacific Integrated Model (AIM)	• Various decision making support tools • Application of tools • Good practices in Asia	2.00

Module overview
7. Policy performance tracking

Session title	Session Overview	Sub-topics	Time (Hrs.)
7.1 Policy performance tracking and policy impact assessment	• Approaches for monitoring LCS policy and actions • Indicators for evaluation	• Action plan monitoring and evaluation • Key success indicators for evaluation of LCS development	2.00

8. Institutional arrangement and good governance

8.1 Institutional management and good governance for low carbon society	• Institutional arragement and legal arragement • Good governance	• Institutional management for LCS • Overview of related law and regulation for developing LCS • Good governance and climate change implementation	1.00

Module overview
9. Capacity building

Session title	Session Overview	Sub-topics	Time (Hrs.)
9.1 Overview of capacity building and outreach strategies	• Capacity building of stakeholders for LCS realization	• Public education and promotional campaign • Capacity building and outreach strategies	1.00

10. Networking

10.1 Networking for effective LCS development	• Network development • Existing networks in various levels	• Government network on climate change • How to strengthen climate networking	1.00

Module overview
Exercise sessions

Exercise session overview	Contents and outcome	Time (Hrs.)
• Discussion on LCS development in your country	• Free discussion on future LCS vision in a representing country; ice-breaking	1.00
• Completing of GHG data collection template and classification	• Workshop style session for GHG inventory; understand contents and amount of works required for inventory development	1.00
• Development of LCS Action Plan	• Group work; develop a hypothetical LCS Action Plan using the knowledge obtained during the training	3.00
• Presentation of developed Action Plan	• Each group presents the developed Action Plan and discusses with other participants; • Learn key points of Action Plan development	2.00