



Status of Climate Change Research in Thailand

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ASEAN Workshop

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Swissôtel Le Concorde, Bangkok



Outline

- Climate Data
- Impact Assessment and Adaptation
- Technical Improvement
- Policy
- Community Level



Southeast Asia START Regional Center

SEA START RC

Enhancing scientific capacity to inspire informed action on global environmental change

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Southeast Asia START Regional Center

About SEA START RC

The Southeast Asia START Regional Center is the regional research node of the Southeast Asia Regional Committee for START ([SARCS](#)). Southeast Asia is one of the eight existing regions of the Global Change System for Analysis, Research and Training ([START](#)) network, jointly initiated by the International Geosphere-Biosphere Programme ([IGBP](#)), International Human Dimension Programme ([IHDP](#)), and World Climate Research Programme ([WCRP](#)).

Climate change impact, vulnerability and adaptation

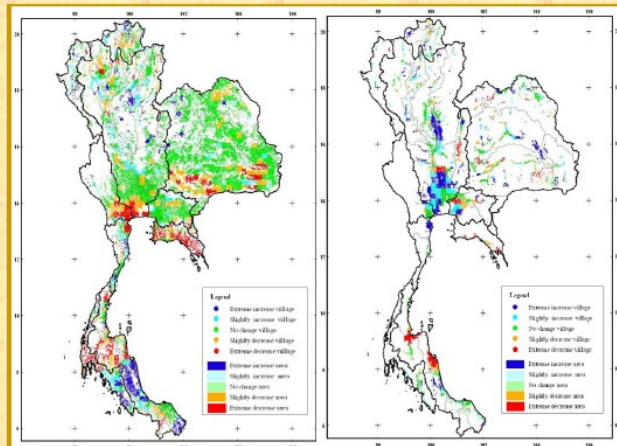
Southeast START Regional Center has been conducting the study in Southeast Asia region on climate change impact, vulnerability and adaptation since 1997 with main objectives to get basic understanding on climate change at the regional scale and also to develop research capacity as well as research network in the region to study climate change impact, vulnerability and adaptation. In addition, the goal of the climate change study at SEA START RC is also to develop, modify and test various tools and methodologies for the study in this subject.

Future Climate Projection for Thailand and Mainland Southeast Asia Using PRECIS and ECHAM4 Climate Models

Water Resources System Research Unit

Technical Report

GCM data comparison and its application to
water disaster adaptation measures in Thailand



Assoc.Prof.Dr. Sucharit Koontanakulvong
Mr. Winai Chaowiwat

Water Resources System Research Unit
Faculty of Engineering, Chulalongkorn University

March 2011

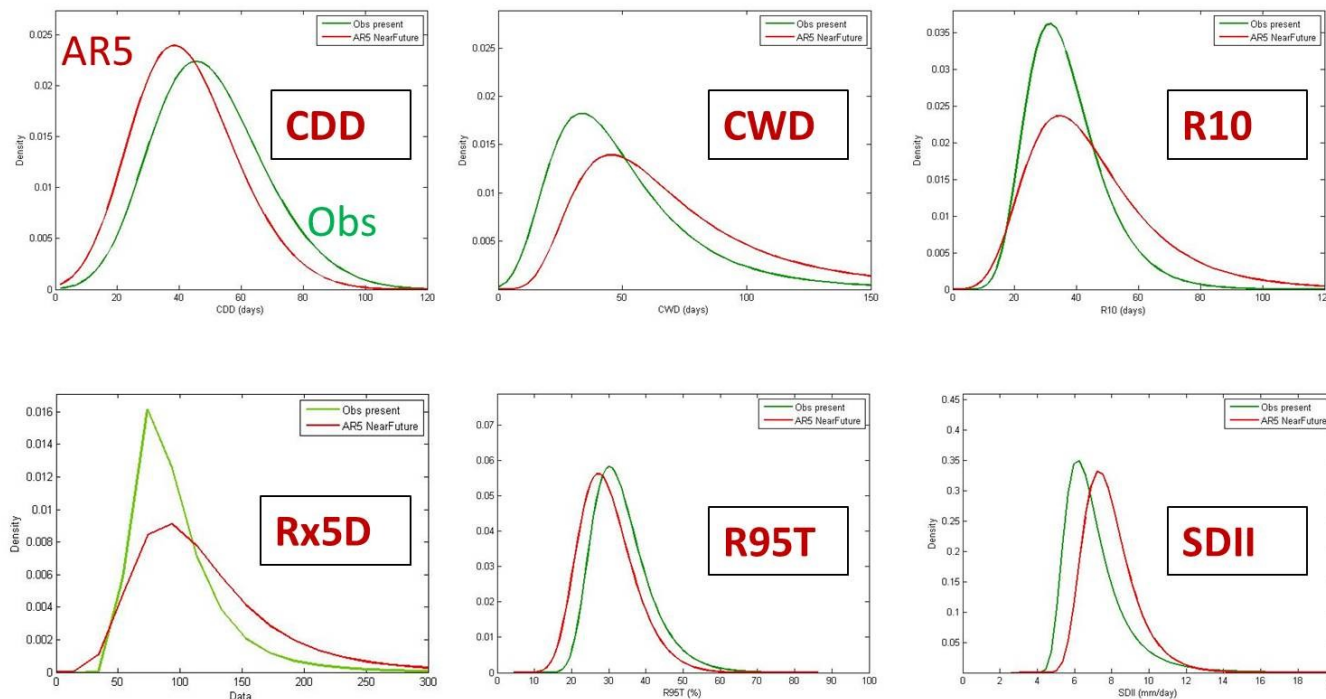
GCM data comparison
and its application to
water disaster
adaptation measures
in Thailand (AR4)



Precipitation Patterns and Extremes in Thailand: Comparison between MRI-AGCM 3.1S and 3.2S

Water Resources System Research Unit, Chulalongkorn University

Projected Change in Extreme Indices



PDF of generalized extreme values distribution

SEACLID/CORDEX-Southeast Asia



SEACLID
CORDEX-Southeast Asia

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High-resolution climate change scenarios are basic requirement for climate change impact, vulnerability and risk assessment studies at local and regional scales. Generation of such information requires downscaling of general circulation model (GCM) outputs. However, regional downscaling is a time-consuming and resource-expensive exercise. Given the overlapping domain, conducting a collaborative effort is in the best interest of countries within the Southeast Asia (SEA) region. Hence, SEACLID (Southeast Asia Climate Downscaling Experiment) is a collaborative climate downscaling project involving a number of

~ Announcement ~

[17-20 November 2014]

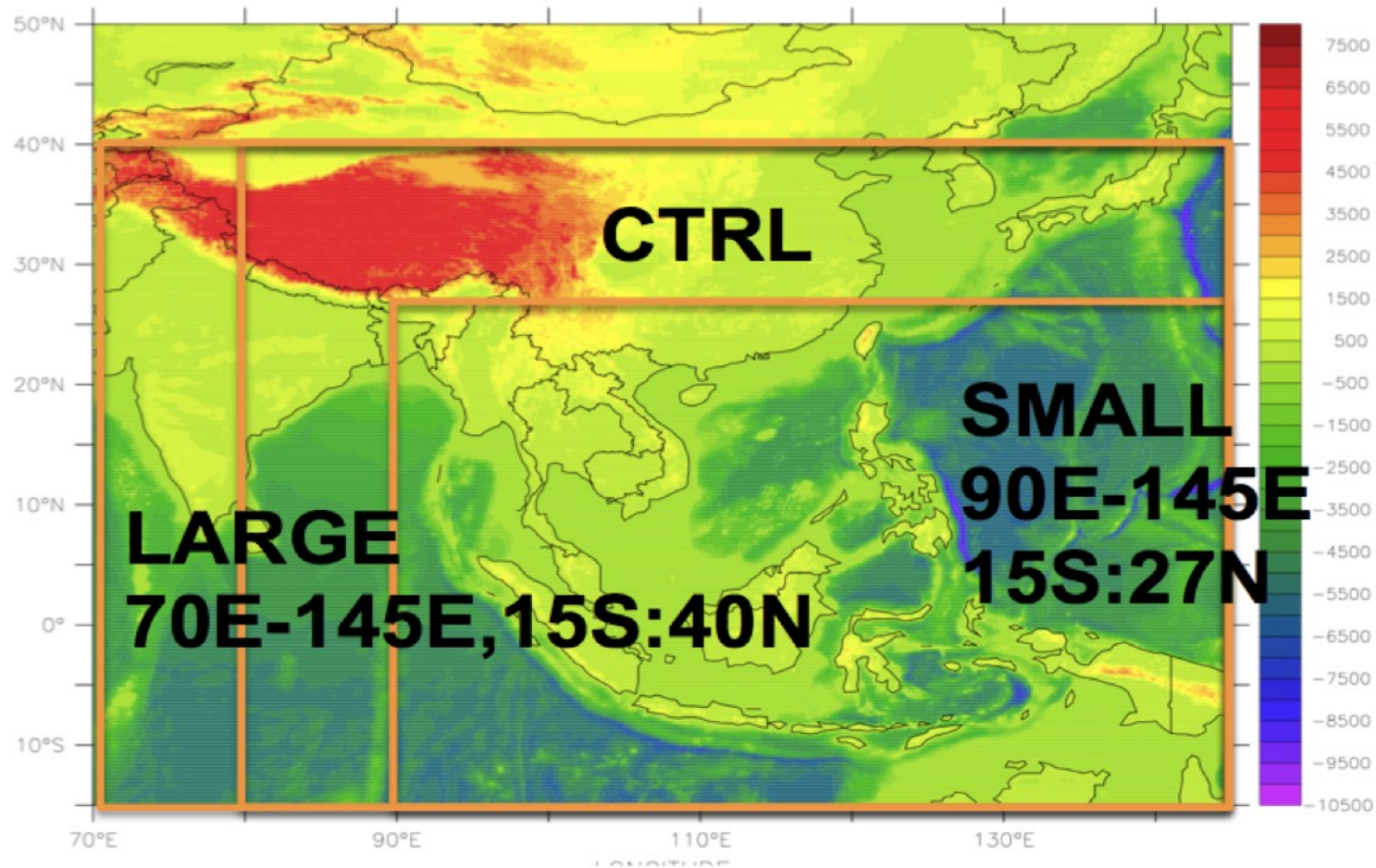
The 1st WCRP CORDEX Science and Training Workshop in Southeast Asia, 17-20 November 2014, Citeko Bogor, Indonesia. The workshop will be jointly organized by BMKG, the National University of Malaysia, APN, MAIRS and WCRP CORDEX. Further information and registration can be found [here](#).

[22-23 September 2014]

Proposal Preparatory Workshop of a Pilot Project on Climate Change Impact Assessment on Rice in Southeast Asia Region using SEACLID / CORDEX Southeast Asia products to be hosted and held at Ramkhamhaeng University, Bangkok. The workshop is jointly organized by Ramkhamhaeng University, Chiang Mai University, the National University of Malaysia, Thailand Research Fund, APN and WCRP CORDEX. Further information can be found [here](#).

Southeast Asia Regional Climate Downscaling

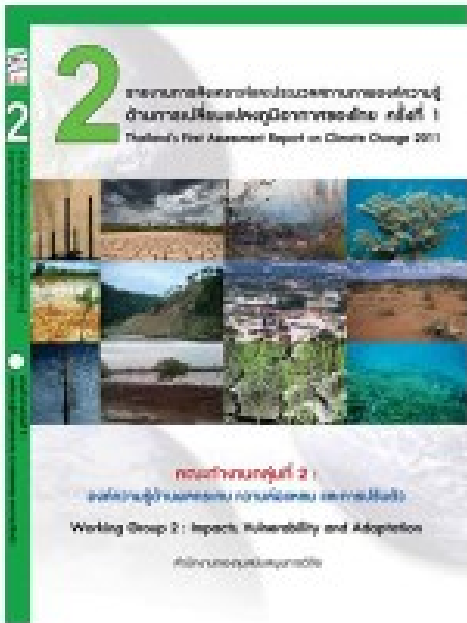
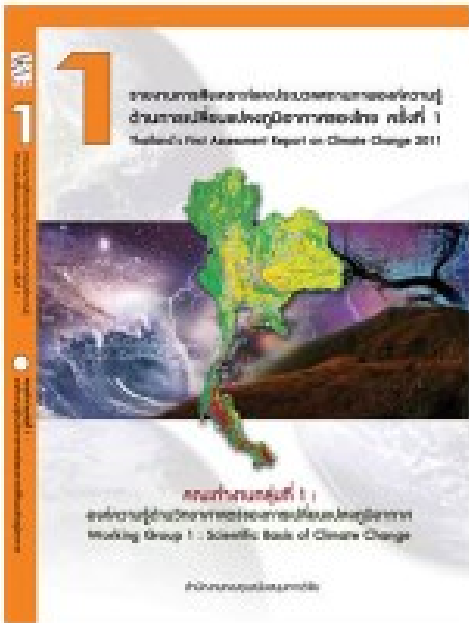
Domain of SEACLID/CORDEX Southeast Asia



Resolution 25 km



- Thailand's First Assessment Report on Climate Change 2011
- Thailand's 2nd Assessment is being processed



WRSRU and JIID

Final Report

Research Project on

“The Impact of Climate Change on Irrigation Systems and
Adaptation Measures (Dam Operation Analysis)”

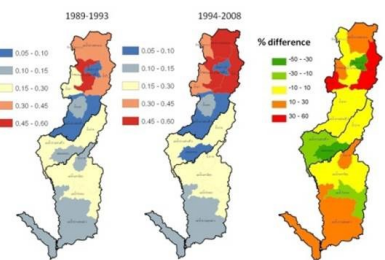
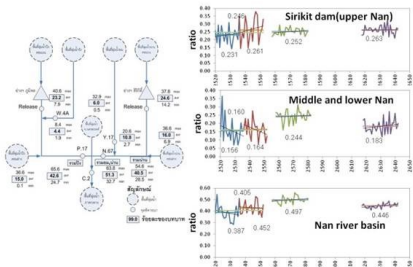
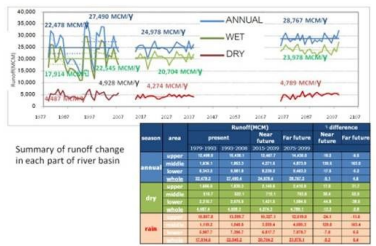
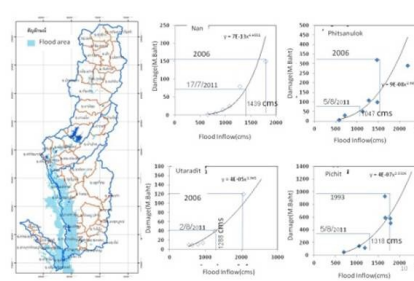
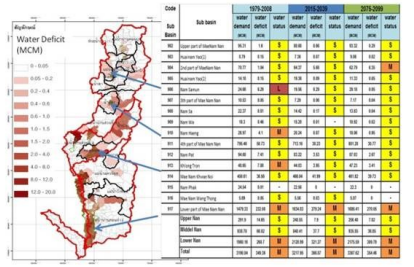
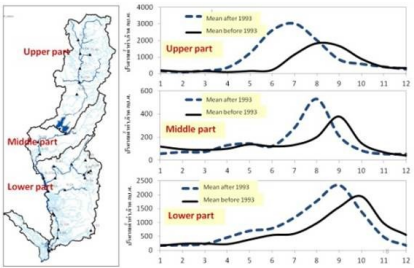
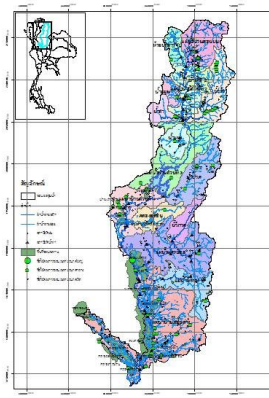
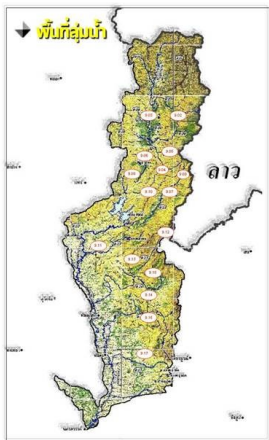


The Impact of Climate Change on Irrigation Systems and Adaptation Measures (Dam Operation Analysis)

By

Water Resources System Research Unit
Faculty of Engineering, Chulalongkorn University
February 2013

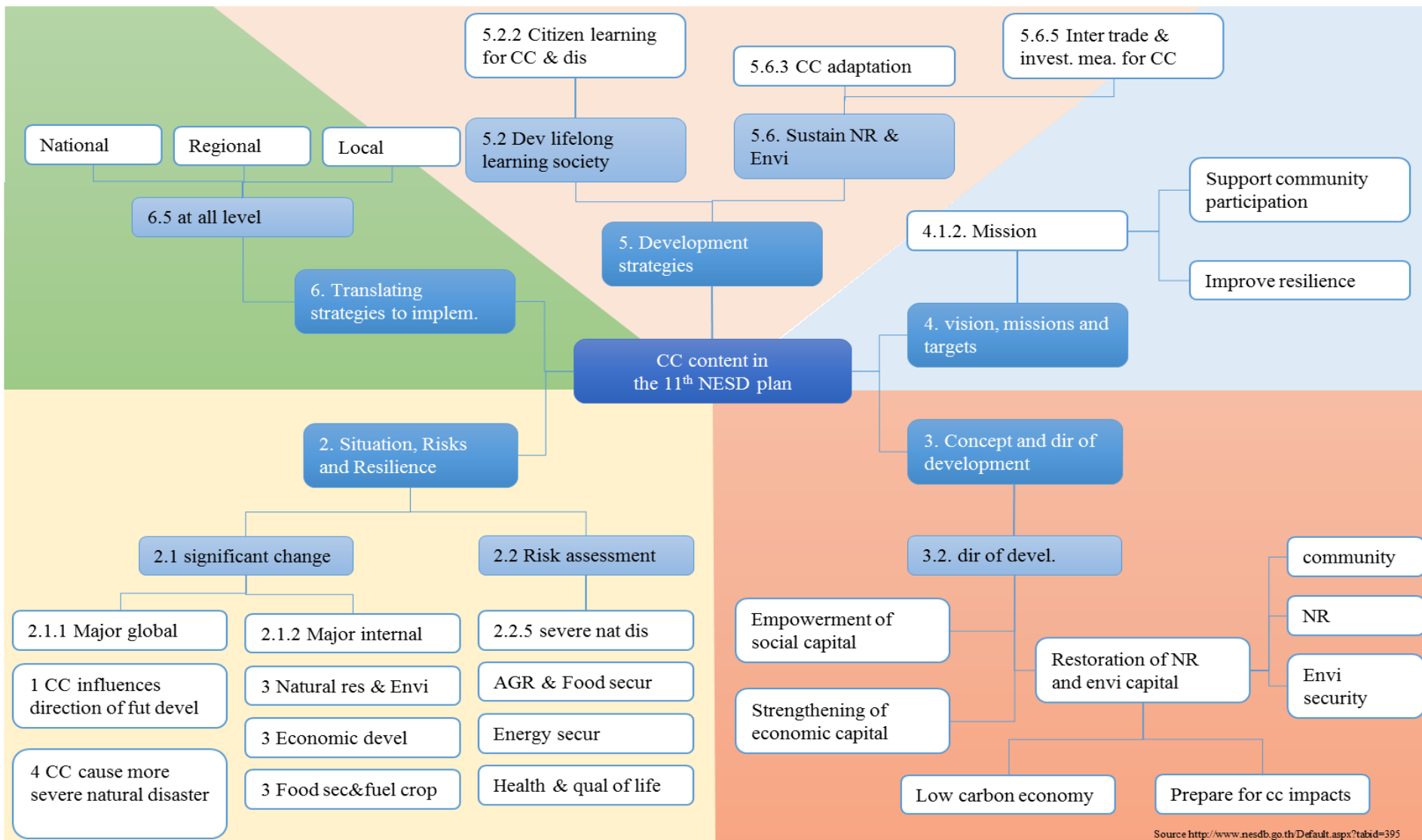
Strategic Water Management in Nan River Basin



ประเด็นของการเปลี่ยนแปลงสภาพภูมิอากาศที่บรรจุในหัวข้อของแผนพัฒนาเศรษฐกิจ และสังคมแห่งชาติ ฉบับที่ 11 (พ.ศ. 2555-2559)

Summary of climate change content in the 11th NESD plan: 2012-2016

Pongsak@CU



Data synthesis and climate change impact (CC) assessment

Data collection

- Secondary data
- Reports

Expert meeting

- Expert system

Interview

- Each department

Identification of priority sectors

- Main sectors, issues selection with CC impacts
- Vulnerability & Adaptation in each sector
- Institutional arrangement with available capacity
- Development in national / ministry and department levels

Identification of target implementation

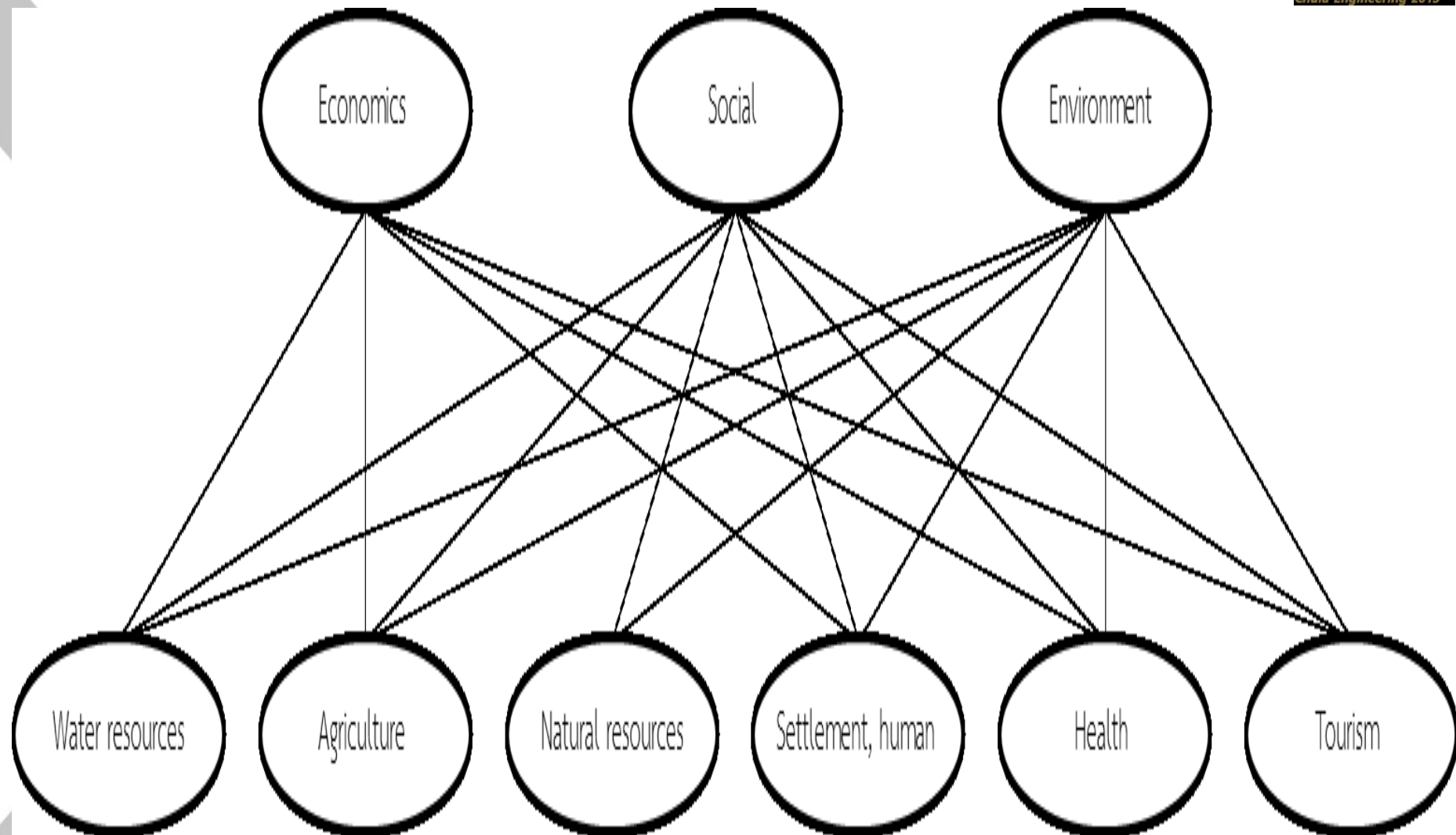
- Linkages of development target and Need
- Gap of need and available resources
- Adaptation measures to fulfill the Gap

National adaptation framework

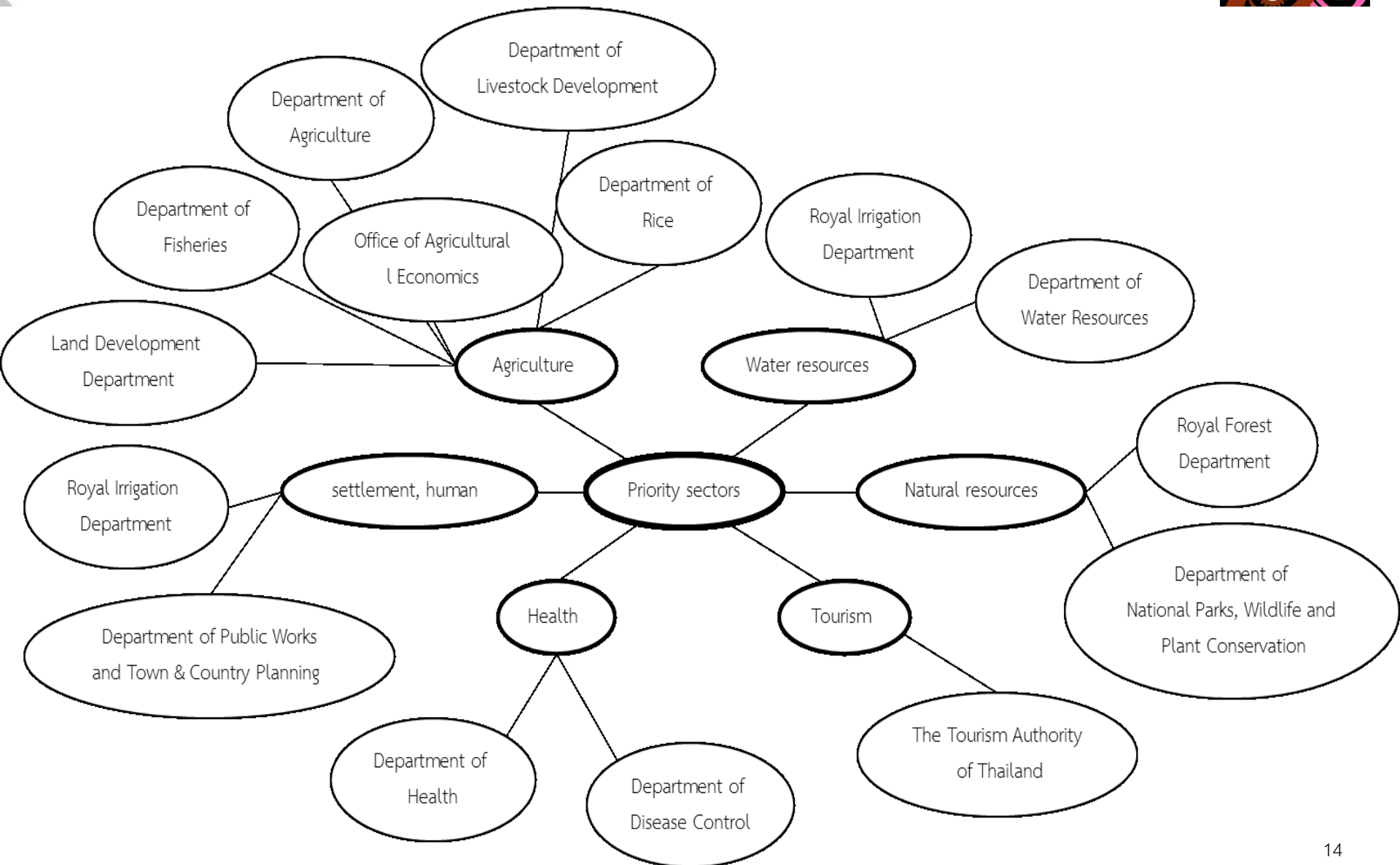
- Key strategies to mainstream efforts into policy
- Plans of selected priority sectors
- Roadmap, milestones
- List of stakeholders
- Recommendation for National Adaptation Plan

National Adaptation Framework (NAF) for National Adaptation Plan (NAP)

Relations between Key Sectors and Economics, Social, Environment



Key Sectors and Responsible Agencies





Vulnerability Assessment & Adaptation

- Office of Natural Resources and Environmental Policy and Planning (ONEP)
- Improve V&A assessment approaches and management to deal with risks of climate change, climate variability and extreme weather events
- National Adaptation Framework preparation



TRF's Strategic Research Issues (SRIs)

SRI 1 ASEAN Community and the East Asian Region

SRI 2 Food Security and Safety

SRI 3 Climate Change, Water, Land and Environmental Management

SRI 4 Inequality Reduction

SRI 5 Creative Learning and Educational Reform

SRI 6 Good Governance and Corruption Reduction

SRI 7 National Interests on Marine Resources and Maritime Security

SRI 8 Ethics, Culture, and Discipline of Thais

SRI 9 Health and Demographic Transition

SRI 10 New Knowledge and Innovation on Sciences, Social Sciences and Humanities

SRI 11 Energy and Alternative Energy

SRI 12 Overcoming the Middle Income Trap



Policy

- NESDB study on how to cope with Climate Change
- Water Forum in Water day (March)



Technical improvement/Dissemination

- Downscaling
 - Satellite data application
 - Land use change effect
 - Climate Change effect on Basin Water Planning
- Education and training
- Disaster Resilience City Program (with Kyoto and ASEAN)
 - Information system training at the local community