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**MINISTRY FOR FOREIGN
AFFAIRS OF FINLAND**

**The Research and Knowledge Transfer and Capacity
Building Programs on Assessment of Water
Availability for Hydropower Development and Effects
of Climate Change on Hydropower, Water Footprints
of Hydropower Generation in the Lower Mekong
Basin**

REVIEW

FINAL

Findings from Thailand

by

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Summary of Key Findings

Research on Hydropower and Sustainable Development in Thailand:

- Adoption of IWRM in the National Water Resources Policy/Strategy, and IWRM process has been followed in the planning, development & management of water and related resources; River basin development plans/ “master plan” for each 25 river basins have been prepared under the supervision of NWRC/DWR.
- Existing extensive courses, curriculum, education & training programs/research projects/networks in Thai universities/institutions on the following topics: IWRM; hydrological/WR databases; decision support system & knowledgebase system; optimization/simulation of water resources system; water balance/uses/allocation analysis; input-output water uses matrix; hydropower planning and development; alternative energy; SEA/EIA/SIA; public private partnership; good governance.
- Hydropower development is no longer received high priority in PDP. The potential for large scale-hydropower development within Thailand is almost gone. Some small hydropower schemes in existing irrigation projects are still viable option for hydropower development. Certain state utilities enterprise like EGAT, allocated some budgets to support research studies on impact assessment of its hydropower dams; green & alternative energy; energy efficiency.
- Certain institutions (e.g. SEA-START and TEENET at Chulalongkorn University; USER at Chang Mai University) are well known and already acting as regional and local research hubs on climate change study, CDM, strategic environmental assessment, impacts from regional hydropower development & stakeholders perspectives, involvement & participation.
- RTG established NCCC to develop national policy on climate change, to coordinate the country’s climate change strategy, and to oversee the implementation and follow-up of the UNFCCC, Kyoto Protocol & prepare Thailand’s national communication.
- Office of Natural Resources and Environmental Policy and Planning, serve as a national focal point on UN-IPCC, COP’s activities, Thailand National Assessment Report (NAR), and maintains good cooperation and linkages with the IPCC Working Groups and the line agencies. The Thailand Greenhouse Gas Management Organization (TGO) serves as a national focal point on Clean Development Mechanism (CDM), gas inventory, green energy, adaptation and mitigation, Carbon Footprint and Carbon Credit issues. Research Development and Co-ordination Center for Global Warming and Climate Change (T-GLOB) at KMIT serves as a national focal point.

Private Sector Activities on Hydropower:

Yes, but majority as contractors or investors in large-scale hydropower projects.

Gaps and Needs for Research Capacity Building:

- Increasing attentions in research on: databases & knowledge bases systems; information system & hydro-informatics; technology transfers on GIS; climate change (on status, impact assessment & response indicators/parameters; adaptation & mitigation measures; CDM & greenhouse gas reduction, alternative energy, green energy, Carbon footprint);
- None of these research activities explicitly mentioned about "water footprint". In other words, the "water footprint" concept is not yet well recognized or subscribed;
- More research studies & preparations on regulations/legal frameworks on PPP.
- Urgent needs for more research and education/training programs on the development of regulations and guidelines on the expanded quality of life measure/indicator on the Health Impact Assessment (HIA)

Suggestions on Improving Research and Knowledge Sharing and Inclusion of Private Sector:

- More joint research and development works on climate change by many universities and institutions together with partners from international institutions/climate change networks.
- More research works to address three main adopted strategic operation directives (SODs):
 - No. 1: develop mechanisms in IWRM with participation of all stakeholders;
 - No. 2: conserve, develop and rehabilitate natural and man-made water sources to increase water supply and distribution efficiency; and
 - No. 3: develop monitoring and warning system for mitigating natural/water resources disaster.
- Create linkage and strengthening existing research, knowledge transfer and capacity building projects/programs on sustainable and IWRM are organized by universities and institutions.
- Strengthening and capacity building activities on stakeholder participation and public private partnership processes.