

**THAILAND'S EXPERIENCES**  
**IN**  
**PREPARING ITS INITIAL NATIONAL COMMUNICATION**

**BY**

**DR. WANEE SAMPHANTHARAK**  
**DEPUTY SECRETARY GENERAL**  
**OFFICE OF ENVIRONMENTAL POLICY AND PLANNING**  
**MINISTRY OF SCIENCE, TECHNOLOGY AND ENVIRONMENT**

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**Introduction**

Thailand ratified the UNFCCC in December 1994. The Convention became effective to Thailand in March 1995. Prior to the preparation of National Communications, Thailand had participated in several bilateral and multilateral projects on climate change, such as US Country Studies Program (supported by USA) and ALGAS (supported by Asian Development Bank). Some other research on climate change has also been carried out using national budget.

As a non-annex 1 member party of the United Nations Framework for Convention of Climate Change, Thailand has an obligation to prepare a "National Communication of Thailand" and submit to the Secretariat office of the UNFCCC. To enable Thailand to prepare the report, the GEF has supported Thailand in preparation of the national communication and the project has commenced in October 1998.

Thailand finished its first national communication and submitted to UNFCCC in November 2000. The preparation was supported by many research reports and papers on inventory and mitigation and vulnerability and adaptation prepared by many local experts. These reports went through review by experts and related agencies. A series of workshops and seminars on specific sectors on inventory and mitigation, vulnerability and adaptation and national communication reports were organized. During the course of actions, There were regular capacity building and public awareness activities.

Thus, Thailand's Initial National Communication was completed through the collective efforts of experts from numerous government and private institutions in the country.

The initial communication of Thailand covers the 1994 inventory of greenhouse gases and the steps being taken by Thailand to address climate change. It also addresses other important issues on climate change such as vulnerability and adaptation, research and development, financial resources, technology transfer and public awareness.

## **The Experiences Gained**

Many experiences were gained during the course of actions in preparation of national communication. Among them are:

### *Data and Methodology Aspect*

Two basic information bases, critically important to NC preparation and future development, are database for calculation of national inventory and that for research development on mitigation and vulnerability studies.

Thailand has accumulated experiences in inventory and mitigation studies from several projects over the past few years. Data as well as research tools and experiences have been accumulated to a good extent. Unfortunately, there was a lack of good information system. Instead of building from the existing information database, often that data had to be recollected when new projects started. Similarly, the experiences learned overtime have not been fully integrated into the future work. Basic data need for various technical analysis were also not well kept and difficult to further develop or modify. This partly due to the lack of coordination between researchers and partly due to the lack of well established information network.

In preparing the initial national Communication, various research works were carried out. In Thailand, a group of experts carried out inventory and mitigation work and several others worked on impact and adaptation on water resources, agriculture, coastal areas and health. Researchers have gained a lot of experiences from these studies. On inventory, there were experiences gained in applying methodologies from 1996 IPCC Revised Guidelines. To analyze mitigation options, different models were used for different sectors. Even more extensive experiences were gained in vulnerability and adaptation studies. The Thai researchers followed the standard vulnerability and adaptation approach by using the climate scenarios from GCMs and different sectoral models. These experiences helped us to identify various problems and constraints in addressing climate change issues (see below).

### *National Capacities*

Preparing national communication requires substantial support from experts in different sectors for inventory and mitigation as well as vulnerability and adaptation. It brought together experts in various fields from academic and public research institutes. It also provided opportunities for the local experts to exchange information and experiences with others regionally and globally. Likewise, Thailand also benefited from participation in National Communication Support Program of UNDP.

While capacity had been built, difficulties were also observed. The experts were usually part-time and busy with their regular works. Their availability to actively contribute to national communication preparation process was limited. Moreover, to sustain local

capacities, there is a need to extend capacity building process to officials of climate-change-related government offices. The lack of officials from related government agencies to regularly participate in national communication preparation could hinder the process in the future. For long-term development, it is essential to have officials from related agencies to actively participate in research and development related to national communication preparation.

### ***Regional Cooperation***

During the course of national communication work, Thailand hosted a visit of the experts from Malaysia and attended ASEAN-NC workshop organized by Malaysia. The visit and workshop allowed the related personnel to exchange experiences in NC preparation process. It is also envisaged that sharing research results and experiences could substantially enhance local capacities in the ASEAN sub-region.

### **Problems and Limitations**

There were various problems and limitations in preparation of Thailand's national communication. These problems and limitations are also common among Non-annex I countries.

### ***Data and Methodologies***

Well-established information system and database are important for climate change research. To sustain the national communication, such systems are needed to support its future work on national communication and other climate change issues. Since national communication covers various aspects on climate change studies, strong database for statistics and methodological tools should be regularly updated.

As experienced, the main problems encountered in the preparation of inventory were the lack of appropriate activity data and local emission factors, especially on agriculture and forestry sectors. The past studies suggested that default emission factors provided by IPCC were not appropriate to the tropical region in general and Thailand in particular. It is important to develop emission factors suitable for this region probably with certain adjusting factors to suit the national characteristics.

More difficulties were encountered in the vulnerability and adaptation studies in Thailand. The results of the studies were highly uncertain. Several factors contributed to such uncertainties, particularly the results of the GCMs and the downscaling method used, the limited areas and activities covered, the lack of appropriate sectoral models. Moreover, to meaningfully carry out adaptation analysis, reliable socio-economic scenarios must be developed in parallel with climate change scenarios. Appropriate models for such long-term socio-economic scenarios have yet to be developed.

### *Capacity Strengthening*

Good tools and data are not adequate to produce good products. Human factor is vital to such achievement. The experiences in the initial national communication indicated that despite the accumulative experiences from previous studies, national capacities to address climate change issues, especially on vulnerability and adaptation are lacking. Thailand still needs capacity building in various areas, especially on development of appropriate climate scenarios for the country. More support from Annex I to Non-annex I countries for research cooperation, especially for on-the-job training is vital for development of adaptation policies and measures.

Another critical issue on capacity development is its sustainability. National communication preparation is a continued process. During the preparation of the initial national communication, officials from related government offices were also trained on inventory estimation. But it is more critical to maintain these people in the climate change area. Lack of resources is the main constraint in keeping them<sup>1</sup>.

### **Beyond the Initial National Communication**

Given the fact that national communication is a continued process, issues of the above problems and constraints should be addressed critically.

### *Data and Technical Issues*

Basically, database system should be established to facilitate research development on climate change in the future. Development of local emission factors is important for the national estimation of greenhouse gas inventory. Appropriate tools and information for the countries and regions need to be developed.

Not only data could be exchanged through the network, technical information exchange could enhance capacities of the researchers of the countries in the region. Regional and sub-regional cooperation should be developed to enhance capacity building among nations in their regions. This would increase information flow and enhance efficiency of resource utilization.

### *Capacity Strengthening*

Strong participation of officials from government agencies and specialists from academic institutes is important to sustain climate change research and national communication preparation in the long-run. Strong information system and database need to be developed. Such system could also expand to the sub-regional or regional network level.

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<sup>1</sup> The Enabling Activity II project supported by GEF could reduce the problem only temporarily.

Thailand is looking forward to establish climate change information system and to encourage more participation from related government agencies while mobilize the expertise of the local experts in research and development of the climate change issues. Thailand also supports sub-regional cooperation in research and development of climate change issues among ASEAN members.

### ***Technical and Financial Support***

Financial and technical supports are important for development of national communication. As experienced in Thailand, bilateral and multilateral programs are highly important for capacity building in Non-annex I countries. The existing supports are still inadequate for Non-annex I countries to prepare their national communications efficiently. More emphasis should be placed upon the vulnerability and adaptation.

### ***Regional Cooperation***

Strengthening regional cooperation, especially on information and data networking, will enhance the capacity development in the region. Countries with similar national circumstances, natural resources and environmental structure will substantially benefit from experiences of each other. Research results and data as well as experiences are more applicable among them. Regional networking on national communication should be established or strengthened.

## **Conclusion**

Thailand has gained experiences on climate change from the preparation of its initial national communication and its engagement in climate change research earlier. Under the process, information and data have been accumulated. National capacities to address climate change have increased. Increasing regional cooperation on climate change has also been observed.

Amidst such development, it was observed that there were various problems and constraints in preparing the initial national communication. Activity data, local emission factors and appropriate methodologies to estimate greenhouse gas inventory were lacking. High uncertainties were observed in vulnerability and adaptation, due mainly to the limitation of climate scenarios and the lack of appropriate models for the sectors. National capacity to address climate change issues was enhanced, yet inadequate. The issue of sustaining the capacity of the personnel is critical and need to be addressed quickly.

As preparation of national communication is a continue process, it is important that sufficient financial and technical support, through bilateral and multilateral programs, should be enhanced to ensure that the problems and constraints in preparing national communication in Non-annex I countries are minimized and capacity and their capacities are maximized.