

## SCIENCE-POLICY DIALOGUE

### ON CHALLENGES OF GLOBAL ENVIRONMENTAL CHANGE IN SOUTHEAST ASIA



## BACKGROUND



In light of the UNFCCC COP17 in Durban (December 2011), Planet under Pressure Conference in London (March 2012) and the Rio+20 Conference in Rio de Janeiro (June 2012), the APN-START Science-Policy Dialogue (SPD) on Challenges of Global Environmental Change in Southeast Asia aimed to promote informed decision-making on actions to reduce global environmental change vulnerability and promote climate adaptation strategies.

The SPD, held in Bangkok, Thailand, 19–21 July 2012, was attended by 98 scientists and mid-level policy makers from Southeast Asia, including invited experts on

global change science, senior policy makers in the region, and observers from Temperate East Asia and South Asia.

Hosted by the Southeast Asia START Regional Center with support from APN and START (through a grant from USGCRP), the three-day dialogue confirmed the need for fostering stronger partnerships between the scientific and policy communities, and the need to incorporate others from the private sector to help shape adaptation strategies. Such sustained partnerships would benefit from a range of science-based policy options for both short- and long-terms.

## SUMMARY

The SPD was designed to provide scientific input to policy decision-making and promote science-policy interaction through facilitated discussions and participatory game sessions on communicating recent advances in scientific knowledge pertaining to ecosystem services; climate change vulnerability and impacts; disaster risk reduction and management; and strategies for adaptation.

Participants considered implications for the decision- and policy-making communities, informed them of potential actions to reduce vulnerability and promote adaptation, and promote tools for decision-making under uncertainty and multiple stresses.

In a follow-up review, participants and organizers discussed the need for sustaining the momentum of these kinds of dialogues as well as other science-policy interactions in the future.



“New strategies and discussions are required to deal with uncertainty.”

## HOW ADEQUATE IS THE KNOWLEDGE BASE?



While scientists are still grappling with the challenge of modelling for extreme event conditions, the world is moving into climate regimes that have no comparisons with the past. Hence, the past may not be the guide for countries as they tackle climate **uncertainties and changing risks**. This will require new strategies and discussions to deal with uncertainty.

**Local community needs** have to be factored in by both the science and policy communities, so research can offer answers to what concerns these local communities have in this time of global change.

There is a need for more research and development to understand **extreme weather patterns**.

**Knowledge production** needs to be broadened, going beyond scientists and policy makers to **include other actors who matter**. This multi-stakeholder production of knowledge and dialogue should include the private sector, local communities, non-governmental organizations, and civil society organizations.

## TO WHAT EXTENT DO ACTORS MAKE USE OF THE KNOWLEDGE?

There is still a gap about what role science has and where it can fit in to implement **community-based adaptation**.

Knowledge generated by scientists is often challenged by those with strong views about **local knowledge**, such is the case in land use and forestry-related issues in Thailand. Therefore, there is a tendency by local communities to dismiss new, scientific knowledge as “not being from this place.”

There is concern about the gap between good **technical data** and using information for **action-oriented programmes**. Problems in producing action-relevant information, how data is gathered, how it is managed and the quality of that data exist. This matters since adaptation at both metropolitan and community levels give rise to politically-profound issues.

Countries need to **draw lessons from natural disasters** and rebuild their warning systems, disaster management systems, examine reservoir operations, improve capacity of flood retention areas and rethink land-use control policies.

“Public-private partnerships for integrated information systems help improve the flow of information and enable better-informed decision-making.”



---

## WHAT BARRIERS AND FAILURES LIMIT THE TRANSFER OF KNOWLEDGE?

**Barriers** exist when scientific information is needed to formulate policies that have to be implemented.

Scientists need to consider short- and long-term options and need to give policy makers **information that offers solutions**. They also need to realize that the people in the government who make decisions about what policies to implement are held accountable to those decisions.

Scientists face difficulties when policy makers ask for scenarios that are certain and can be implemented, when research shows that there is **uncertainty** about how the future will unfold.

Scientists also face difficulties conveying information to ministers and policy makers because of **communication gaps** — scientific information is not easily understood by the policy community — and the fact that government officials tend to move to other positions where their portfolio may no longer require scientific information on global and climate change.

“Scientists need to consider short- and long-term options and need to give policy makers information that offers solutions.”

Problems within government systems were highlighted as hurdles. This arose from the prevailing order of “**ministerial silos**”; where, say, the ministries of water, environment and agriculture are protective of their respective turf and do not meet. Cross-ministerial thinking is encouraged, focusing on issues across sectors, which requires re-imagining how countries are governed and systems of administration in these countries. For example, a watershed as a basic unit of governance could offer an option for physical integration across policy sectors and political boundaries.

Many countries in Southeast Asia place food security as their first priority, yet they also need energy for development. So they face questions about how best to manage their water supply between the needs of agriculture and hydropower. This is an example of where science can help by offering answers.

## HOW DO INSTITUTIONS SHAPE THE SCIENCE-POLICY INTERFACE?

The main benefit of a dialogue comes from **human interaction**. There is a need to test one's ideas with others who face similar situations and have an exchange about what does and doesn't work.

ASEAN already has the ASEAN Charter, which could help in the region by allowing countries to work across the board with **local communities**.

International organizations such as the United Nations Environment Programme (UNEP), the Asia-Pacific Adaptation Network (APAN), among others, have **information on good adaptation practices** that is open to the public.

The Asian Development Bank (ADB) is working to develop **private-public partnerships**, such as the green business venture in the Pacific Islands. In addition, the ADB has shifted focus from having only an agriculture policy (seen as too narrow) to a broader policy that addresses food security. In supporting such programmes, the ADB does not just lend money, but it also helps to develop smarter strategies.



---

## HOW CAN THE SCIENCE-POLICY INTERFACE BEST BE IMPROVED?

In the area of implementing programmes suggested by scientists, participants emphasized the importance of having **local champions in the policy sector** who understand the issue and can help implement programmes that matter.

In order to get policy makers engaged and understand the methodology used, scientists need to convince them through case studies demonstrating meaningful actions. Another suggestion to improve science-policy interface was for scientists to produce **information that can lead to action**.

**Social media**, such as Facebook, needs to be incorporated as part of advocacy and awareness raising efforts to get community support. Social media played a major role in disseminating information to the public during the 2011 floods in Thailand.

In trying to build programmes for sustainable ecosystem services, an equally important component is to **build trust** among all those involved. One solution is to combine good local knowledge with scientific knowledge to shape policies.

A science-policy interface has to be actively managed, since governance is about who controls what and how such control is exerted. In this context, **science should be brought to local levels** to contribute critical inputs, so decision makers have a diversity of information to choose from to shape policies at the local level.

The SPD needs to be aware of new trends in universities, such as in Malaysia where universities are moving into **action-oriented research**.

Management of risks in urban setting requires **innovative urban planning**. Malaysia's SMART Tunnel, which gives way from motor traffic usage to a water transfer channel following periods of heavy precipitation, serves as a good example.

Partnerships between the science and policy communities need to be looked at with the aim of **identifying what works and what doesn't**.

There is a need to **expand partnerships** to other sectors not only the science community. The development community is one to reach out to.

# Speakers at the APN-START Science-Policy Dialogue on Challenges of Global Environmental Change in Southeast Asia

**Dr. Graeme Pearman**

Director, Graeme Pearman Consulting Pty Ltd; 60 Homestead Drive, Bangholme Melbourne Victoria 3175 Australia  
graemepearman@megalink.com.au

**Dr. Louis Lebel**

Director, Unit for Social and Environmental Research, Faculty of Social Science, Chiang Mai University, Chiang Mai 50200, Thailand  
llebel@loxinfo.co.th; louis@sea-user.org

**Ms. Liana Bratasida**

Expert Team to the Minister of Environment, Ministry of Environment, Jl. D.I. Panjaitan Kav 24, Kebon Nanas, Jakarta 13410, Indonesia  
lianab125@yahoo.com

**Mr. Suppakorn Chinvanho**

Advisor, Southeast Asia START Regional Center, Chulawich 1 Building, 5th Floor, Chulalongkorn University, Henri Dunant Road, Bangkok 10330, Thailand  
suppakorn@start.or.th

**Prof. Dr. Joy Jacqueline Pereira**

Proposal Fellow, Institute for Environment and Development (LESTARI)  
Deputy Director, Seadpri – Universiti Kebangsaan Malaysia (UKM), 43600 Bangi, Selangor, D.E., Malaysia  
joy@ukm.my, pereirajoy@yahoo.com

**Dr. Nares Damrongchai**

Senior Director of Policy Research and Management Department, National Science Technology and Innovation Policy Office, 319 Chamchuri Square Building 14th Fl, Phayathai, Rd, Patumwan, Bangkok, Thailand  
nares@sti.or.th

**Prof. Juan M. Pulhin**

Professor and Dean College of Forestry and Natural Resources Professor & Dean, University of the Philippines Los Baños College, Laguna 4031 Philippines  
jmpulhin@yahoo.com; jmpulhin@uplb.edu.ph

**Dr. Bach Tan Sinh**

Director, Department of S&T Human Resource Policy and Organization, National Institute for Science and Technology Policy and Strategic Studies, 38 Ngo Quyen, Hanoi, Viet Nam  
sinhanh@hn.vnn.vn; sinhbt@yahoo.com

**Dr. Wei-Sen Li**

Deputy Executive Secretary, National Science and Technology Center for Disaster Reduction (NCDR), 9F., 200, Sec. 3, Beisin Rd., Sindian District, New Taipei City 23143, Taiwan  
li.weisen@ncdr.nat.gov.tw

**Dr. Hassan Virji**

Executive Director, International START Secretariat; 2000 Florida Avenue NW, Washington, DC 20009; USA  
hvirji@start.org

**Dr. Anond Snidvongs**

Executive Director, Southeast Asia START Regional Center and Executive Director, Geo-Informatics and Space Technology Development Agency 120 The Government Complex Rattaprasanabhakti Building Chaeng Wattana Road, Lak Si, Bangkok, Thailand  
anond@start.or.th, anond@gista.or.th

**Mr. Luong Quang Huy**

Official, Department of Meteorology, Hydrology and Climate Change; Ministry of Natural Resources and Environment, Standing Office of Vietnam National Climate Change Committee, 8 Phao Dai Lang Street, Hanoi, Viet Nam  
huy1q98@gmail.com

© APN 2013. Published by the Communication and Scientific Affairs Division.

**Science-Policy Dialogue on Challenges of Global Environmental Change in Southeast Asia—A Policy Brief**

The Asia-Pacific Network for Global Change Research (APN) is a network of 22 member country governments that promotes global change research in the region, increases developing country involvement in that research, and strengthens interactions between the science community and policy makers.

**Author:** Marwaan Macan-Markar

**Managing Editor:** Linda Anne Stevenson/APN Secretariat

**Design and layout:** Xiaojun Deng/APN Secretariat

**Photos:** Southeast Asia START Regional Center

