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Capacity Development in Developing States in the Asia-Pacific Region: Some of the Issues

Contents

Preamble

1. What is the APN as it enters 20 years of work in global environmental change
2. Capacity development in the Asia-Pacific region
3. Science and policy interlinkages: experiences and capacity needs for the region

Preamble

In April 2015, APN entered its twentieth year since its establishment and is celebrating 20 years of achievement since being formed in 1996. Taking stock of what it has achieved in the past and focussing on the inter-dynamic play between global environmental change and sustainability, APN is embarking on an ambitious fourth strategic phase that will demonstrate its ability to contribute to a global effort vis-à-vis its Fourth Strategic Plan (2015-2020) and looks forward to contributing to supporting the citizens of the Asia-Pacific region in the future.

APN defines global change as the set of natural and human-induced processes in the Earth's physical, biological and social systems that, when aggregated, are significant at a global scale. These changes manifest themselves differently at regional and local scales and require place-based solutions. Recognising the interactive role of regional processes in the overall Earth system, APN also aims to link the initiatives it sponsors; in particular collaborative regional research, capacity development and science-policy interlinkages with related projects conducted in other regions and under the aegis of global-scale programmes.

APN's guiding principles for the next 5 years, set against a strong vision and mission to accomplish them, includes strengthening APN's unique niche and shared ownership among its member countries, encouraging participatory processes involving scientists and policy makers, providing opportunities to for sharing best knowledge and best practices and recognising the special challenges of developing countries. As APN moves into its fourth Strategic Phase (2015-2020), it has become clearer than ever that science-based policy making is key to addressing future global change and sustainability challenges.

Guided by its fourth Strategic Plan, APN will continue to work closely with partners, engaging all stakeholders including champions and young researchers who are passionate and ambitious in joining global efforts in addressing these challenges. With their support, APN will be able to carry on with its increasingly important role in transforming global change and sustainability science into solution-oriented knowledge that informs decision- and policy-making.

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1. What is the APN as it enters 20 years of global environmental change

The Asia-Pacific Network for Global Change Research (APN) is a network of twenty-two member governments in Asia and the Pacific whose vision is to successfully address the challenges of global change and sustainability. It does this through its mission statement, goals and *action agenda*, which includes four main agendas of research, capacity development, science-policy, and communications and outreach. Through its four goals, APN's key investment instruments are to underpin knowledge creation, develop local capacity, facilitate science-policy interaction and define the regional context of global issues. Some of the ways in which APN will facilitate this in the future in the context of capacity building and science-policy interlinkages via ambitious endeavours that include, but are not limited to activities such as:

- Supporting capacity development of early career researchers in global change and sustainable development
- Supporting capacity development of policy makers, community leaders, resource managers
- Cooperating with other international capacity development programmes
- Pursuing existing or creating new fora for discussion and interaction between scientists and policy makers
- Supporting training workshops for scientists to develop skills and techniques in providing science-based tools to support policy development
- Encouraging stakeholder involvement in all phases of projects that APN undertakes
- Conducting regular synthesis and assessment activities of projects to identify important outcomes, research gaps, and emerging issues that could be used to support policy development

In 2015, the APN is generously financially sponsored by the Governments of Japan (Ministry of Environment [MOEJ]; Hyogo Prefectural Government), New Zealand (Ministry for the Environment) and the Republic of Korea (Ministry of Environment [MEV]).

With the five scientific themes under its research agenda of *i) climate change and climate variability; ii) biodiversity and ecosystems; iii) changes in the atmospheric, terrestrial and marine domains; iv) resources utilisation and pathways for sustainable development; and v) risk reduction and resilience*, APN, at its recent 20th Inter-governmental Meeting in Nepal, March 2015, highlighted the following topics emphasised by its member governments as of particular interest:

- Increasing community resilience in coastal and mountain areas
- Energy, environment and ecosystems
- Extreme weather and its impacts
- Climate change and health
- Water, energy and food security
- Global change data management (data policies; access)
- Disaster risk resilience and reduction
- Sustainable consumption and production

With key phrases such as “policy-relevant science” and “science-policy interactions” being adopted broadly by the community at large these days, the APN's niche in the global community has received considerable recognition, particularly as other institutions strive to adopt similar practices that the APN has been built over the last 20 years. The APN looks forward to serving the Asia-Pacific region and partnering with the global change community to strive towards a better and more sustainable future for the people it serves. Moving into its third decade, the APN must continue to address the extent to which it has been effective. While this is clear in the scientific outputs of the APN in its last 5 years via over 250 peer-reviewed papers, there remains a challenge to ensure continuous monitoring of capacity building success and policy-relevance. It is clear that meaningful capacity building and policy-relevant work is being undertaken by the APN.

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The world is coming together with a consensus that we need to work together to take science-informed action, and the APN is part of that endeavour. APN has demonstrated its ability to contribute to this global effort and looks forward to contributing to support the citizens of the Asia-Pacific region in the future.

2. Capacity development in the Asia-Pacific region

a. Issues

With CAPaBLE, APN's capacity development programme, having been integrated into the APN as a core element, APN feels there is much more work needed to develop this important capacity development programme. In particular, policy-making bodies such as UNFCCC, IPCC and IPBES, among others, are increasingly seeing capacity building as one of the most important areas, particularly for developing countries to undertake meaningful research in global change. For this reason, in the next five years, APN aims to place more importance in this area and refine the capacity building needs and metrics for success in the region. APN underscores the importance of capacity building noting it as an area that cannot be underestimated in terms of its importance to the developing states in the Asia-Pacific region.

Communities, particularly poor and remote communities, are vulnerable to climate change and there is a need for capacity building in research, policy development and implementation to reduce these vulnerabilities. International cooperation exists in the development of mechanisms to promote systematic observations of geophysical variables. Further cooperation is needed to ensure that consistent high-quality socio-economic data are collected, archived and accessible. Continuous monitoring of the geophysical environment and associated socio-economic variables, and developing and analysing indicators of climate interactions with natural ecosystems and human societies is needed to fully interpret and respond to the complex socio-economic interactions with the Earth's climate.

It is vital that APN developing states have the capacity to conduct high quality research regarding global change that provides underpinning scientific input for policy makers and policy-making processes. APN believes that research must involve local scientists and that their capacity must be built in order to develop and continue their research as well as analyse and utilise their research outcomes. It is with this in mind that APN's Second goal of "enhancing capabilities in research on global change and sustainability and to support science-based decision-making" has been integrated in the mission and goals of APN.

b. Impacts

Since the establishment of the CAPaBLE programme in 2003, APN has funded 129 CAPaBLE projects. During the third strategic phase, 60 CAPaBLE projects were completed as of 31st July 2014 and have undergone review. Considering the overall performance of the CAPaBLE programme, the quantitative data used to measure the impacts shows that the scientific capacity of the region has been developed under the CAPaBLE programme and that the projects conducted have

Scientific Capacity Building by Numbers

60
Completed Projects

223
Events Conducted

4,117
People Engaged:
Scientists, decision makers and general public

161
Publications:
Workshops/Conference proceedings, policy briefs, toolkits and manuals, synthesis reports

44
Peer-reviewed papers

83%
Projects produced publications in addition to APN Technical Reports

72%
Projects were policy-relevant and/or engaged policy makers via various approaches.

90%
Projects provided monetary co-financing

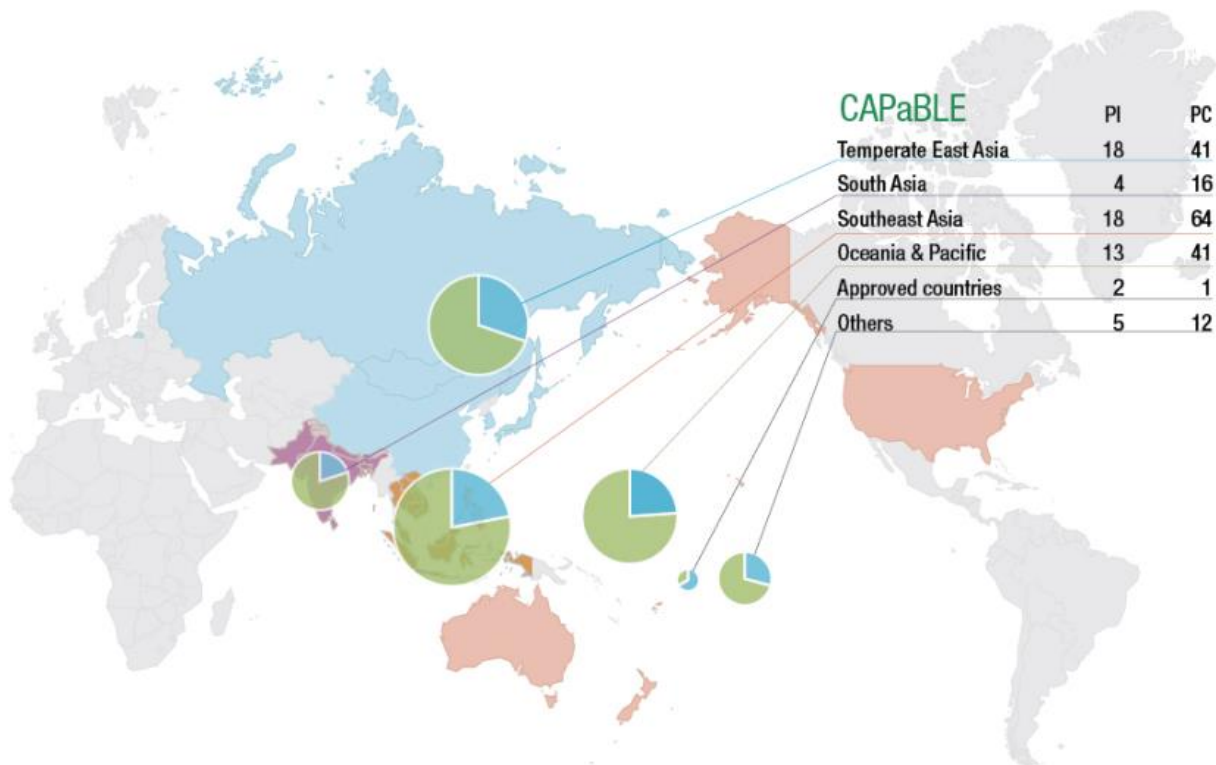
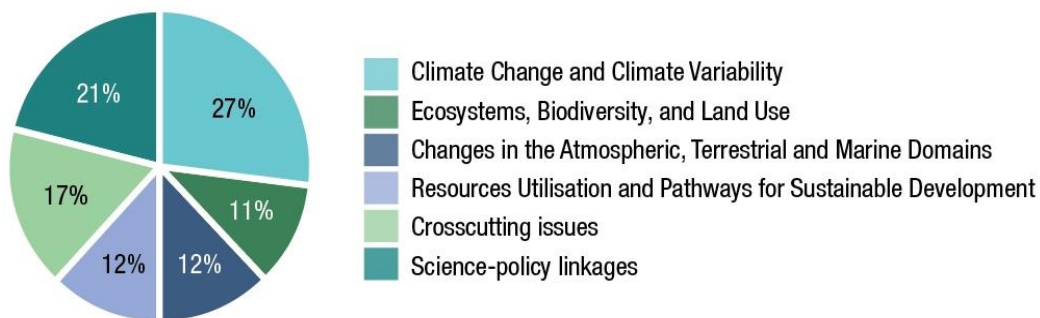
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contributed to strengthening the interface between scientists and policy makers. The observations in the grey box show that 4117 people were directly engaged in APN CAPaBLE activities, 95 of whom were decision makers from local to national levels.

Project activities included scientific capacity development through training workshops and field-based training activities; conferences, regional and local workshops, syntheses, awareness-raising programmes at local, national and regional levels, pilot projects, etc. Eighty-three percent of projects documented their activities through means other than the APN final reports.

In an effort to determine the impact and performance of the CAPaBLE programme, a summative synthesis was undertaken at the project level and, from this, 10 of the 60 projects completed were highlighted as best practices of the kind of work facilitated under the CAPaBLE Programme. In addition, the thematic and geographic areas where capacity building activities were undertaken are shown in the pie chart below.

CAPaBLE



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c. **Best Practices**

As informed earlier, the APN highlighted 10 specific capacity building projects from 60 performed over the past 5 years that have unique characteristics and developed the capacity of both scientists, local communities and decision makers in APN developing states. While these are highlighted in the APN 3rd Strategic Phase Report, five have been given special attention in this submission to SBSTA42 because of their uniqueness, ease of transferability to other communities/developing states and because of their relevancy to climate change. The highlights are given below, including web links to full project technical reports and other outputs. More summarised details are attached as **Appendix 1** the present paper:

Climate change and variability implications on biodiversity youth scenario simulations and adaptation in Pacific

More information: <http://www.apn-gcr.org/resources/items/show/1633>

- Improved skills of youth and community on climate change risk assessment and adaptation planning
- Identified coastal and marine rehabilitation and protection, waste management and food security and agriculture as highlighted areas where adaptation measures for climate change and sustainability of biodiversity are needed
- Effectively reached communities through an innovative way that involved cultural drama.

Enhancing the climate change adaptation capacity of local government units and scientists in the Philippines

More information: <http://www.apn-gcr.org/resources/items/show/1646>

- High level of local policy makers participation led to enhanced capacity on vulnerability assessment and climate change adaptation planning
- Effectively disseminated project outcomes at science, policy and community levels
- Influenced local level policy makers (Local Government Units) to integrate climate risk management and climate change adaptation plans into annual investment and land-use plans for municipalities
- Built partnerships among local institutions

Promoting sustainable use of waste biomass in Cambodia, Lao PDR and Thailand: Combining food security, bio-energy and climate protection benefits

More information: <http://www.apn-gcr.org/resources/items/show/1662>

- A detailed country-level analysis and results comparison among participating countries
- Closer collaboration between national, local policy makers and municipal staff from project implementation stage
- Produced local language guides and distributed among local government officials
- Identified potential donors to continue project activities in other cities

National dialogues in Viet Nam and Bhutan on adapting biodiversity management to climate change

More information: <http://www.apn-gcr.org/resources/items/show/1683>

- Effective knowledge and skill transfer activity using developed country's capacity and knowledge
- Identify correct audience who are engaged in improving national level policies
- Effective use of available data and resources
- Stronger co-financing mechanism

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Dryland development paradigm (DDP) application for most vulnerable to climate & land use change of pastoral systems in southern Khangai mountains of Mongolia

More Information: <http://www.apn-gcr.org/resources/items/show/1663>

- Stronger community level involvement
- Effective use of traditional knowledge
- Identified future research gaps and policy needs
- Developed stronger partnerships with Tuin River Basin Consul and produced Tuin river basin sustainable management plan

d. Current Projects

ACRE SE Asia – towards new weather and climate baselines for assessing weather and climate extremes, impacts and risks over SE Asia: USA, New Zealand, Indonesia, Malaysia, China, Philippines, Vietnam, Japan
Strengthening the adaptive capacity of local agricultural communities through the development of seasonal climate prediction system Thailand
Collaborative Monitoring System for Enhanced Watershed Management Services in the Philippines: Philippines
A comprehensive capacity building program on “Urban climate resilience in India: India
Capacity Building for Conservation of Biodiversity and Ecosystem Services of Wetlands in Relation to Global Change: Bhutan, India, Nepal
Scientific Capacity Building in Climate Change Research Techniques for Non-Governmental Organisations (NGOs) in Viet Nam: Viet Nam
International training on regional ecosystem-climate interactions in Monsoon Asia Sub-regions: China, Australia, Japan, USA, Developing countries
WCRP-ICTP Summer School on Climate Extremes: Australia, Canada, France, Malaysia, Spain, Switzerland, USA (APN funds supporting developing nations in the APN)
Training workshop and edited volume on “Green Growth: Political Ideology, Political Economy and Policy Alternatives”: Brazil, Germany, India, Japan, Republic of Korea
Capacity Development of Local Climate Change Communicators in Southeast Asia: Indonesia, Lao PDR, Philippines, Vietnam
IMBER ClimEco4 Summer School - Delineating the Issues of Climate Change and Impacts to Marine Ecosystems: Bridging the Gap between Research, Assessment, Policy and Management: Australia, China, USA
Capacity Building for Mitigation of Climate Change by use of Precision Agriculture: Bangladesh, India, Thailand, Vietnam, USA
Pan-Asia Risk Reduction (PARR) Fellowship Program: USA, Thailand, Philippines, Japan, Taipei
Scientific Capacity Development to Strengthen Informed-decision Making for Improved Climate Policy Formulation and Implementation in South Asian Countries: Sri Lanka, Bangladesh, Nepal, Bhutan
Building Capacity for Urban Climate Change Adaptation in Southeast Asia: Indonesia, Thailand, Viet Nam, Philippines, Cambodia, Lao PDR, Malaysia, USA

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Developing a Training Module to Monitor Forest Cover and Deforestation using Advanced Remote Sensing Techniques under UN-CECAR Framework in support of REDD+ MRV System: **Japan, Cambodia, Sri Lanka, India**

International Geosphere-Biosphere Programme (IGBP) Landmark Synthesis Event: **All APN Developed Countries**

Escalating small hydropower development and aquatic biodiversity of mountain streams in Sri Lanka: **Sri Lanka**

Biodiversity Conservation in Western Ghats, India. Capacity Building in harnessing geospatial data Management: **India**

Integrated, Resilience-based Planning for Climate Change Mitigation and Adaptation in Asia-Pacific Cities: **Thailand, USA, Australia, China, Japan**

On-the-ground Promotion of Climate Change Adaptation Strategies via Establishment of Local Agroforestry Learning Laboratories in Southeast Asia: **Viet Nam, Philippines, Indonesia**

Enhancing Capacity of policymakers and practitioners in India, Sri Lanka and Nepal on Loss and Damage related to slow onset events in the region: **India, Sri Lanka, Nepal**

Capacity Building for National, Provincial Stakeholders and Local Communities on Loss and Damage related to Disaster Risk Reduction and Climate Change Adaptation: **Viet Nam**

Building capacity for reducing loss and damage resulting from slow and rapid onset climatic extremes through risk reduction and proactive adaptation within the broader context of sustainable development: **Malaysia, Vietnam, Cambodia, Lao PDR**

Can traditional livelihoods and mining co-exist in a changing climate: strengthening public-private partnerships in Mongolia to reduce risk and address Loss and Damage: **Australia, Mongolia**

Capacity Building for Resilience Planning in Fiji: Bridging the science-policy-practice interface in Climate Change Adaptation (CCA), Disaster Risk Reduction (DRR) and Loss and Damage (L+D): **Fiji, New Zealand**

Assessment and mapping of iTaukei (indigenous) communities in Fiji: **Fiji**

3. Science and policy interlinkages: experiences and capacity needs for the region

Countries need effective science-policy interaction to make effective and practical policies that address the global change and sustainability challenges we are facing. With this in mind, the APN promotes and facilitates direct engagement of scientists, decision makers and practitioners from the grassroots level to the regional level at different stages. This is deeply rooted in the heart of APN's institutional design, which is equally true in the activities under Climate Change and Climate Variability, a key thematic area under APN's science agenda.

Identified as an important niche of the APN is science-based evidence and underpinning information that might be useful for policy- and decision-making processes. As such, APN is expected to respond to the needs of its member governments and decision-making bodies at all levels, including the general public. The APN has continued to incorporate effective methodologies and procedures in its science thematic areas and has attempted to transfer this knowledge and information to the science, non-science (public, civil society, etc.) and decision-making communities.

The APN has strived to achieve a good track record of strengthening appropriate science-policy interactions during the 3rd strategic phase. The APN's strategies and responses to those strategies are outlined:

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STRATEGY	EVIDENCE-BASED RESPONSES
1. Strengthen science-policy interactions/linkages for ARCP and CAPaBLE projects funded under the annual Calls for Proposals. In so doing, develop a set of metrics for science-policy interactions/linkages and define specific criteria for successful science-policy linkages.	While there are no specific metrics established, all projects attempted to engage decision-making bodies at various levels. This tended to be more successful at the local and international levels.
2. Encourage projects to adopt interdisciplinary approaches that include natural, social, and economic and political sciences.	Evident in most regional research activities and there is an increasing trend in conducting interdisciplinary science and engaging stakeholders from the outset of project activities
3. Increase the number of policy publications, including policy-briefs, synthesis reports and assessments, etc. In so doing, APN will disseminate scientific results to non-science audiences in order for policy-makers, end users and the public to have a better appreciation of global change issues.	Increasing evidence that APN is performing well in this area and policy-relevant publications have been produced for various forums at various levels. Communications have been from local through international levels with some of the local-level briefs being written in local language. What is evident is that there has been greater interaction between science communities and decision-making bodies at all levels, through interactive dialogues and workshops.

As a unique network of scientists and policy makers in the region, the APN has been exploring ways to foster more effective linkages between these two communities since its inception. Part of this effort resulted in a Science-Policy Dialogue series, with the first Dialogue (co-organised with **START** Southeast Asia Center and International Secretariat), was held in Bangkok, Thailand, in July 2012, where frank discussions took place on issues related to climate change adaptation, including the current state of the knowledge base, the barriers for knowledge transfer, and the development and improvement of effective science-policy interfaces. A policy brief was published as a result of the dialogue and is available in [APN's E-Library](#).

The need for climate change adaptation and increased resilience to risk has become so paramount in the Asia and Pacific Region in the face of climate change and with this as a key theme, the APN with main partners **LoCARNet** and **CDKN**, undertook the second activity in its Science-Policy Dialogue series and title *Global Climate Change: Reducing Risk & Increasing Resilience*. This second and most recent Science-Policy Dialogue was for the South Asia sub-region of Asia and the Pacific and was hosted by the Government of the Royal Kingdom of Bhutan, in January 2015.

The main aim was to promote, through active engagement of participants, informed decision-making on action to reduce global and climate change impacts, and to reduce risk and increase resilience to the adverse impacts of climate change, especially in developing countries in the region. It is with this background that a series of talks, carousel kiosks and “serious fun” gaming sessions took place over three highly interactive days. The second in a series of three sub-regional dialogues, the ultimate objective was to talk, in a relaxed atmosphere, about the environmental issues we are facing. The second dialogue engaged 50 scientists, communicators and policy makers from the South Asia and shared recent advances in scientific knowledge in climate change as published in the IPCC Fifth Assessment Report (IPCC AR5); identified the gaps in the communication channel of science to policy makers; identified the research and capacity development needs in the region and aims to produce a policy brief with a list of recommendations based on discussion (this is work in progress).

With a 3rd Dialogue for Temperate East Asia (China, Japan, Mongolia, Republic of Korea and Russia) planned for November, 2015 and focusing on land management practices and climate change, a synthesis activity for the Asia-Pacific region that draws on the key challenges and opportunities for promoting science and policy interlinkages will be undertaken that draws on the challenges, knowledge and best practices gleaned from the 3 sub-regional dialogues and results of that synthesis will be published and widely disseminated in 2016.

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Key Messages to Date:

The key messages we have so far from the South and Southeast Asia dialogues, not surprisingly, overlap in many ways and are summarised as follows:

Southeast Asia (2012): How Can the Science-Policy Interface Best be Improved (updated version)?

- 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, Twitter, etc., needs to be incorporated as part of advocacy and awareness raising efforts to get community support.
- 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.
- Need to become more aware of new trends in **action-oriented research** introducing interdisciplinary and transdisciplinary approaches to global change and sustainability.
- Management of risk requires **innovative planning**, both in the urban and rural context.
- 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 private sector and development communities need to be included.

South Asia (2015): How Can the Science-Policy Interface Best be Improved?

- There are **gaps in transferring scientific finding in to policy planning**. Scientists need to present their finding in a format that policymakers can easily understand. More evidence-based science and action research needed to attract policy makers.
- Researchers needed to identify **short-term and long-term actions** when delivering scientific outcomes to policy makers.
- To motivate scientists to policy-related studies, there needs to be a mechanism to **monitor and evaluate research activities that have been effective on the ground in policy developments** and reward such incentives.
- The best approach to transfer scientific findings to policy planning is to **hold face-to-face discussions** between scientists and policy makers and identify specific persons required for such dialogue.
- Climate change research needs to be considered together with **development issues, gender balance and poverty**.
- Communication gaps exist between scientists and policy makers, **intermediate agents** need to take an active role to overcome the gaps.
- Knowledge gaps and communication gaps are interrelated. To address those gaps approaches need to be combined.
- **Engaging media** in science policy dialogues (as participants as opposed to reporters) will help scientists and

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- policy makers understand how key science or policy issues will attract the public (i.e. be **newsworthy**).
- Although media engagement is an important factor to enhance communication between scientists and policy makers, **media should be engaged carefully and have a proper understanding of the issues.**
 - To attract media to science or policy studies, modified approaches are needed. Scientists and policy makers should relate their findings with real situations or give sensational value to the outcome.
 - Even with limited resources, science can reach end users in two ways: i) work closely with **intermediary agents** such as media; and ii) **articulate the impact of scientific findings with human issues** so that policy makers and communities can easily absorb.
 - There are many forums, dialogues, workshops in the region to enhance communications between science and policy. To effectively use outcomes, **participants must be responsible for disseminating findings.**
 - Policy communities lack interest in science-policy dialogues compared with scientists. To make it more attractive **involvement of a science champion** or respected person in the country is recommended.

South Asia (2015) Capacity Needs in Science-Policy Interfacing

The most recent science-policy dialogue went one step further and aimed at identifying particular capacity needs for such science-policy dialogues. This is what we found:

- Capacity building of policy makers to **understand new scientific knowledge and its usage for policy planning.**
- Although scientists and policy makers understand the importance of communication, they do not have **proper understanding on communication tools and their usages to reach end users.**
- There is a need for **training to improve the understanding of communication tools.**
- **Media workshops are needed** to increase media attention of scientific activities.
- **Long term capacity development projects** are curial to maintain an effective mechanism in science-policy engagement for disaster risk reduction and to build resilience.

**BEST PRACTICE 1:
CLIMATE CHANGE AND VARIABILITY IMPLICATIONS ON
BIODIVERSITY YOUTH SCENARIO SIMULATIONS
AND ADAPTATION**

More information: <http://www.apn-gcr.org/resources/items/show/1633>

Project Reference: CBA2006-05NMY-Aalsbersberg and CBA2007-02CMY-Aalsbersberg

Project Leader: Prof. Bill Aalsbersberg, University of South Pacific, **FIJI**

Project Summary: This project aimed to identify the impacts of climate change on Pacific Islands' biodiversity that can threaten their sources of sustenance, economy and maintaining their tradition and culture. It also aimed to determine how communities can ensure the sustainability of biodiversity, and how community youth can contribute to resource management to ensure sustainability and maintaining abundance of biodiversity. The project used drama as an innovative tool to raise public awareness and undertake adaptation implementation as a base step to increase community and environment resilience and ensure food security and sustainable livelihoods. As a result, coastal and marine rehabilitation and protection, waste management and food security and agriculture were highlighted and implemented as adaptation measures for climate change and sustainability of biodiversity. Enhancement of awareness on climate change and variability impacts on sustainable biodiversity and practical applications of soft measure adaptation practices were highlighted and implemented with youth contribution.



Activities

- 4 Drama workshops in Tuvalu, Solomon Islands and Fiji
- 51 climate change theatre performances
- 10 soft measure adaptation activities

Outputs

- 138 youth and 127 people have gained knowledge in climate change risk assessment
- Outreach to audiences that totalled 9,130

Impacts

- Enhanced awareness of CC&CV impacts on sustainable biodiversity and soft measure adaptation practices
- Tuvalu community identified flooding, drought and tidal waves as major climate change threats on their biodiversity.
- Solomon Islands community identified soil and coastal erosion due to heavy rainfall, storm surge and cyclone as major climate change threats on their biodiversity

WHY IT'S HIGHLIGHTED (STRENGTHS)

- Improved skills of youth and community on climate change risk assessment and adaptation planning
- Identified coastal and marine rehabilitation and protection, waste management and food security and agriculture as highlighted areas where adaptation measures for climate change and sustainability of biodiversity are needed
- Effectively reached communities through an innovative way that involved cultural drama.

BEST PRACTICE 2: ENHANCING THE CLIMATE CHANGE ADAPTATION CAPACITY OF LOCAL GOVERNMENT UNITS AND SCIENTISTS IN THE PHILIPPINES

More information: <http://www.apn-gcr.org/resources/items/show/1646>

Project Reference: CBA2008-09NSY-Peñalba

Project Leader: Dr. Linda Peñalba, College of Public Affairs, University of the Philippines Los Baños, PHILIPPINES

Project Summary: This Project aimed to create awareness and develop the capacity of LGUs, communities and regional universities to effectively respond to climate change for sustainable development. Five vulnerable municipalities in four provinces were chosen as study sites namely: Kawit and Rosario, Cavite, Guagua, Pampanga, San Juan, Batangas and Ilagan, Isabela. Hands-on training on vulnerability assessment and climate change adaptation plan preparation were conducted using data from the most vulnerable barangays within the municipalities. Every learning and alliance building opportunities were maximized through participatory research, coaching and interactive discussion about climate change issues. To further amplify the awareness-raising objectives, vulnerability assessment was done through public consultations. Some of the lessons that can be learned from this project are: 1) hands-on and output-oriented training can yield significant tangible results; and 2) project-introduced interventions can be institutionalized and sustained.



Activities

- Climate change awareness raising seminar
- Hands-on training on vulnerability assessment and climate change adaptation plan preparation
- Five mini-workshops to discuss adaptation plan preparation with LGUs
- Six dissemination forums

Outputs

- 61 local governmental representatives are participated
- Share the project outcome at dissemination forums where 555 local people participated
- A booklet on Climate Change and Municipal Level Adaptation Planning and three journal articles were produced

Impacts

- Enhanced vulnerability assessment and climate change adaptation planning skills of LGUs
- Build the partnership between UPLB, other public educational institutions, communities and LGUs towards science-based climate change adaptation planning
- Climate risk management and climate change adaptation plans mainstreamed and integrated into the development plans of the partner LGUs

WHY IT'S HIGHLIGHTED (STRENGTHS)

- High level of local policy makers participation led to enhanced capacity on vulnerability assessment and climate change adaptation planning
- Effectively disseminated project outcomes at science, policy and community levels
- Influenced local level policy makers (Local Government Units) to integrate climate risk management and climate change adaptation plans into annual investment and land-use plans for municipalities
- Built partnerships among local institutions

BEST PRACTICE 3: PROMOTING SUSTAINABLE USE OF WASTE BIOMASS IN CAMBODIA, LAO PEOPLE'S DEMOCRATIC REPUBLIC AND THAILAND: COMBINING FOOD SECURITY, BIO-ENERGY AND CLIMATE PROTECTION BENEFITS

More information: <http://www.apn-gcr.org/resources/items/show/1662>

Project Reference: CBA2009-11NMY-Sang-arun & CBA2010-01CMY-Sang-arun

Project Leader: Dr. Janya Sang-arun, Institute for Global Environmental, JAPAN

Project Summary: This project's aims were to promote the use of waste biomass for food and energy production, and identify viable approaches for utilizing biomass conversion technology in Cambodia, Lao PDR, and Thailand. Based on the project's reviews and surveys, composting and biogas generation were found to be viable technologies for converting waste biomass to a useful resource. The project developed country-specific guides for technology selection and implementation of urban organic waste utilization projects in the 3 countries. The guides were translated into local language: Khmer, Laotian and Thai and distributed to participants at respective national-based workshops. Other potential donors were identified to implement the pilot projects in selected cities and continue the training on GHG calculation at the national level in Cambodia and Thailand.



Activities

- Analysed waste composition in four major cities in Cambodia and Lao PDR
- Surveyed the current status of municipal solid waste management and organic waste utilization in Cambodia, Lao PDR and Thailand
- Conducted a pilot experiment on organic waste utilization for energy purpose
- Conducted 3 national capacity building workshops

Outputs

- Composting and anaerobic digestion are identified as the most promising technologies in the studied countries
- Developed country specific guides for technology selection and implementation of urban organic waste utilization for food production, energy use, and climate change mitigation
- 256 participants attended the capacity development workshops
- Produced a journal article

Impacts

- Identified that urban organic waste utilization project could largely contribute to improved solid waste management, increase food and energy security, reducing the potential health hazards, and creating job opportunities in Cambodia, Lao PDR, and Thailand
- Share the guiding document with national governments of Cambodia and Lao PDR and influence to implement the project at city level
- Participants understood the linkage between waste management and climate change and also the benefits of waste management
- Identified other financial resources to continue project activities in other cities

WHY IT'S HIGHLIGHTED (STRENGTHS)

- A detail country level analysis and result comparison among the participating countries
- Closer collaboration between national, local policy makers and municipal staff from project implementation stage
- Produced local language guides and distributed among local government officials
- Identified potential donors to continue project activities in other cities

BEST PRACTICE 4: NATIONAL DIALOGUES ON ADAPTING BIODIVERSITY MANAGEMENT TO CLIMATE CHANGE

More information: <http://www.apn-gcr.org/resources/items/show/1683>

Project Reference: CBA2011-05NSY-Schang

Project Leader: Dr. Scott Schang, Environmental Law Institute, USA

Project Summary: This project sought to build national capacity in Viet Nam and Bhutan to make biodiversity laws, policies, and management more adaptable to climate change. A National Dialogue was organized in each country to bring together 91 participants including scientists, policymakers, academics, resource managers, and civil society groups to identify climate change impacts, prioritize biodiversity adaptation needs, and discuss steps for developing and implementing a plan of action. Five representatives of each country attended both national workshops, in order to facilitate regional exchange and cooperation around climate change adaptation measures. The Dialogues were guided by two publications on climate change adaptation released by Environmental Law Institute, USA. Each National Dialogue helped build the capacity of scientists, resource managers, academics, and civil society members to understand and begin to apply the concepts of adaptive management to biodiversity protection, management, and sustainable use.



Activities

- Two National level workshops /dialogue in Viet Nam and Bhutan



Outputs

- 91 stakeholders from scientific and academic institutions, government agencies and ministries, and nongovernment organizations were trained at the National Dialogues.
- Produced a list of priorities and needs for using and strengthening national and local biodiversity management systems to respond to climate change.
- Established a template for similar workshops in other countries, especially in Asia



Impacts

- Build the capacity of scientists, resource managers, academics, and civil society members to understand and begin to apply the concepts of adaptive management to biodiversity protection, management, and sustainable use
- Fostered stronger, more institutionalized relationships between scientists and policymakers, and helped build a national “community of practice” to eventually educate others about the nexus of climate change and biodiversity management and the role of ecosystem-based adaptive management.
- Strengthen the understanding of policymakers of the status and priority areas for reform in existing legal and policy frameworks

WHY IT'S HIGHLIGHTED (STRENGTHS)

- Effective knowledge and skill transfer activity using developed country’s capacity and knowledge
- Identify correct audience who are engaged in improving national level policies
- Effective use of available data and resources
- Stronger co-financing mechanism

**BEST PRACTICE 5: DRYLAND DEVELOPMENT PARADIGM (DDP)
APPLICATION FOR MOST VULNERABLE TO CLIMATE & LAND USE CHANGE
OF PASTORAL SYSTEMS IN SOUTHERN KHANGAI MOUNTAINS OF MONGOLIA**

More Information: <http://www.apn-gcr.org/resources/items/show/1663>

Project Reference: CBA2009-12NMY-Togtohyun and CBA2010-02CMY-Togtohyun

Project leader: Dr. Chuluun Togtohyun, Institute for Dryland Sustainability (IDS), National University of Mongolia, **MONGOLIA**

Project Summary: The project objectives was to develop policy framework for sustainable development of Dryland in the Tuin and the Baidrag river basins of Bayanhongor aimag, located in the Southern Khangai Mountains, in order to increase its adaptive capacity and resilience to climate change. The project has conducted Dryland Development Paradigm (DDP) for analysis of pastoral social-ecological systems in the Tuin and Baidrag river basins. Ecological vulnerability (drought, stocking rate relative to carrying capacity) and social vulnerability (livestock number per capita, distance to the market, livestock loss during zud) assessment trends showed that social-ecological vulnerability has increased in the desert-steppe region, compared to other ecological zones in Mongolia. Results indicate that the desert-steppe region is becoming more vulnerable to climate change, land-use change and transition in market economies. In coping with greater socio-ecological vulnerability due to both climate-related disasters and market forces in Mongolia, project identified the need of adaptive policy regulation and innovative solutions.



Activities

- Dryland Development Paradigm (DDP) for analysis of pastoral social-ecological systems in the *Tuin* and *Baidrag* river basins
- Conducted social surveys
- Held community and regional level workshops
- Conducted participatory workshops

Outputs

- Eight key implications for research, management and policy implementation for the *Tuin* and *Baidrag* river basin social ecological systems were identified
- Developed management plan of social-ecological system of *Tuin* river basin (2010-2015)
- Identify adaptation options of the *Baidrag* river basin
- Produced adaptation based-new proposal on administrative-territorial division
- Produced 21 publications based on project outcome

Impacts

- Study has concluded that social-ecological vulnerability have increased in desert steppe region compared to other ecological zones.
- Identified importance of local knowledge in achieving sustainable development in the *Tuin* and the *Baidrag* river basin.
- Project outcomes have used to creating a *Tuin* river basin sustainable management plan
- Shared the project outcome with international community through more than 20 national, regional, and international events

WHY IT'S HIGHLIGHTED (STRENGTHS)

- Stronger community level involvement
- Effective use of traditional knowledge
- Identified future research gaps and policy needs
- Developed stronger partnerships with *Tuin* River Basin Consul and produced *Tuin* river basin sustainable management plan

BEST PRACTICE 6: DEVELOPING THE CAPACITY FOR TEACHING BIODIVERSITY AND CONSERVATION IN THE ASIA-PACIFIC REGION

More information: <http://www.apn-gcr.org/resources/items/show/1664>

Project Reference: CBA2010-03NSY-Indrawan

Project leader: Dr. Mochamad Indrawan, University of Indonesia, **INDONESIA**

Project Summary: The project aim was to develop the capacity to conduct research on environmental issues and to teach advanced courses in related to environmental resource management in the Asia Pacific Region. A training programme was conducted during summer 2010 involving young scientists from 11 countries. The training consists of three workshops: Experimental Design & Data Analysis (6 days), Scientific Paper Writing (1 day), and Field course on Biodiversity, Conservation and Sustainable Development (6 weeks). Considering sustainability of the training programme a website was developed that serves to advertise programme activities and handle the application process. The project established stronger partnerships between potential donors and institutions to continue its activities. Through this partnership, the training programme has successfully continuing it activities up to present (July 2014).



Activities

- Six day workshops on Experimental Design & Data Analysis
- One day workshop on Scientific Paper Writing
- Six week field course on Biodiversity, Conservation and Sustainable Development
- Established a program website and alumni forum



Outputs-

- Provided training for young scientists from 11 countries (Experimental Design & Data Analysis -29 participants, Scientific Paper Writing-32 participants, and field course-20 participants)
- Established a website for future management of the program (www.pfs-tropasia.org) and a web-based alumni network
- Developed partnership with World Agroforestry Institute (ICRAF) and the Center for International Forestry Research (CIFOR)
- University of Gajah Mada signed an MOU with the Ministry of Forestry Indonesia to collaborate in running research activities and training courses at Alas Purwo.
- Four scholarships to attend the international meeting



Impacts

- Increased the capacity of participants on biological field research, data analysis and environmental resource management
- Increased the capacity of institutions in regional developing countries to conduct research on environmental issues
- Established partnerships with potential partners to continue the training program in the region

WHY IT'S HIGHLIGHTED (STRENGTHS)

- Sustainability of training programme
- Additional partners and donors identified to continue the training programme
- Effective use of APN funds and local resources
- Attracted local media attention and disseminated the project outcomes to general public

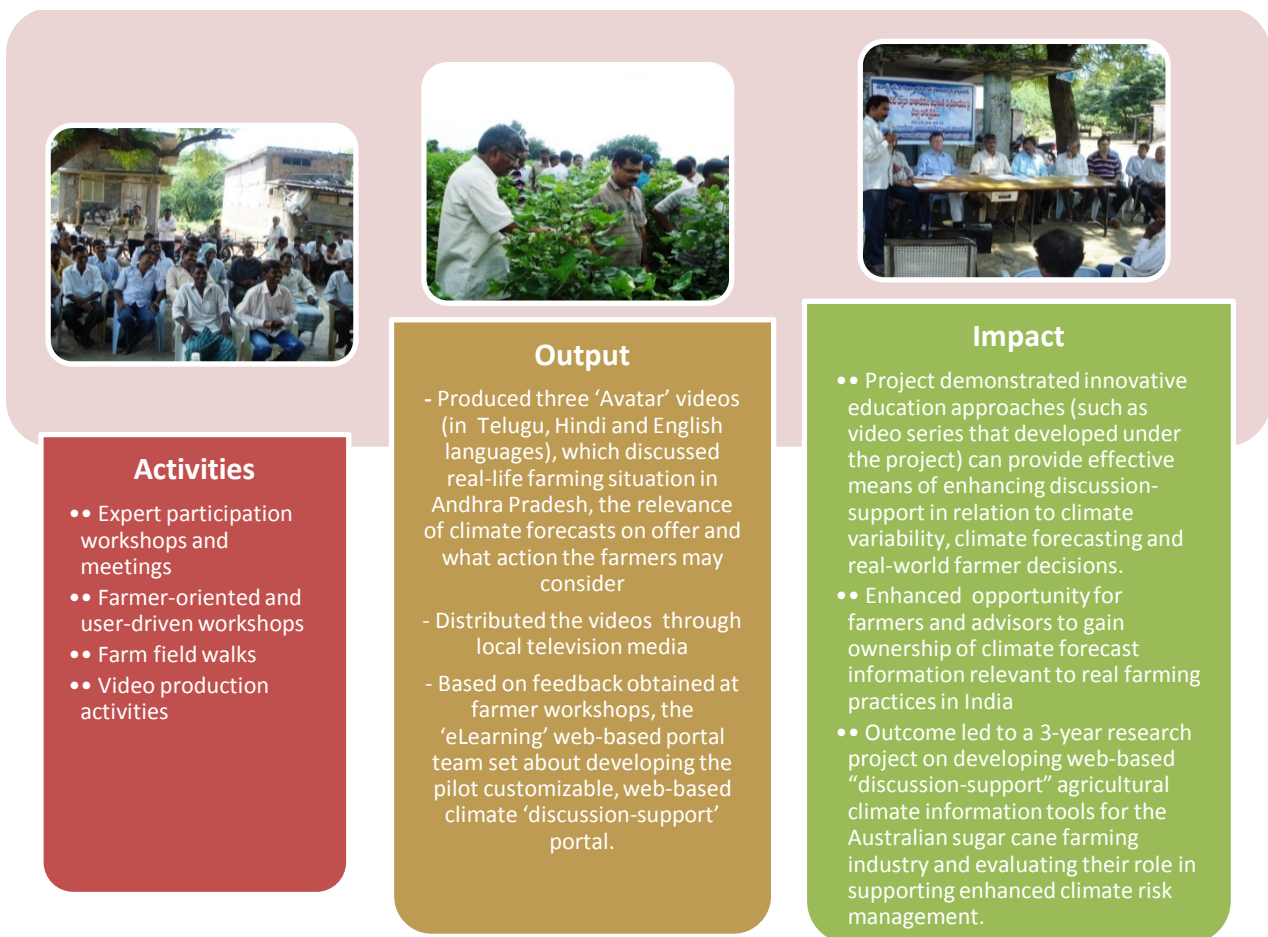
BEST PRACTICE 7: WEB-BASED 'DISCUSSION-SUPPORT' AGRICULTURAL-CLIMATE INFORMATION FOR REGIONAL INDIA

More information: <http://www.apn-gcr.org/resources/items/show/1668>

Project Reference: CBA2010-07NSY-Stone

Project leader: Prof. Roger Stone, University of Southern Queensland, AUSTRALIA

Project Summary: This project investigated and developed an innovative approach to the delivery of climate risk information for farmers in Andhra Pradesh. To capture the needs of the farmer/users and extension specialists, project has conducted expert participation workshops and farmer-oriented workshops. Following workshops three '2nd Life' videos have been created which captured farmer decisions plus actual climate forecasts relevant for the needs of the farmers. The project demonstrated that it is possible to provide video productions of discussion environments that contain real-world decisions and climate forecasts in real time. It is also suggested that in developing new technology to deliver climate forecasting and associated outputs for farmers, social aspects in relation to farmer discussions, as well as delivering the core climate science output, must be addressed.



WHY IT'S HIGHLIGHTED (STRENGTHS)

- Improve the understanding and level of awareness of the farmers on climate forecast information and its benefit
- Effective use of international and local experts knowledge
- Identify key aspects that must consider when applying new technologies to deliver climate forecasting and associated outputs to farmers

BEST PRACTICE 8: GRADUATE CONFERENCE ON CLIMATE CHANGE AND PEOPLE

More information: <http://www.apn-gcr.org/resources/items/show/1673>

Project Reference: CBA2010-12NSY-Pradhananga

Project Leader: Mr. Dhiraj Pradhananga, The Small Earth Nepal (SEN), **NEPAL**

Project Summary: International Graduate Conference on Climate Change and People was organized in Kathmandu, Nepal from 15 to 19 November 2010. At the conference, 17 experts from fields as diverse as biodiversity, water resources, climate change science, natural hazards, anthropology, biogeography, policy, equity, and ethics shared their experiences and opinions with 117 representing from 15 countries of Asia Pacific region. The conference focused on multidisciplinary capacity building of graduate students and encouraged participants to engage actively in the lecture sessions, interacting with experts, in group discussions, in panel discussions, and in the formation of a network for communicating with one another beyond the conference on climate change issues. The technical sessions of the conference provided an opportunity for graduate and undergraduate students to gain first-hand experience on how to deal with global change issues on national and international levels and also it provided a platform for the graduate students' voices and ideas to be expressed and heard.



Activity

- Five days International Graduate Conference

Output

- 117 participants from 15 countries of Asia Pacific region were participated
- Shares of knowledge and experiences among students and experts
- Build a network among scientists, researchers and the students
- Published a declaration and shared in the 16th COP meeting at Cancun, Mexico.
- Established Eco Generation Network

Impact

- Initiate Highland to Ocean project (H2O)
- Create Bangladesh Youth Empowerment Society (BYES)
- Sensitizing the participants about the climate change issues
- Build the organizational capabilities on project management and successfully implement three APN funded projects

WHY IT'S HIGHLIGHTED (STRENGTHS)

- High level of youth participation
- Built strong networks among participants
- Organizational capacity development on project development and management
- Significantly advanced the careers of 2 young researchers – one from Cambodia and one from Nepal.

BEST PRACTICE 9: GLOBAL CHANGE AND CORAL REEF MANAGEMENT CAPACITY IN THE PACIFIC: ENGAGING SCIENTISTS AND POLICY MAKERS IN FIJI, SAMOA, TUVALU AND TONGA

More information: <http://www.apn-gcr.org/resources/items/show/1673>

Project Reference: CBA2010-15NSY-South

Project Leader: Prof G. Robin South, Institute of Marine Resources, University of the South Pacific,
FIJI

Project Summary: Integrating global change into policies across various national government sectors, and then translating this into actions that lead to sustainable management of coastal ecosystems is an enormous challenge. Under this project the above challenge was addressed through face-to-face dialogue between coral reef experts and government personnel responsible for coral reef management policies in Pacific Island countries. Four successful workshops on Climate Change Adaptation were held in June to August 2010. 130 senior officials from Fiji, Samoa, Tonga and Tuvalu were participated. For each country a national dossier was developed and it included a series of issues (including gaps) pertinent to each country which were used in the development of national coral reef plans. Countries were re-visited to review progress on established plans. Although progress varied in the four countries, it was evident that collaboration between relevant government departments needed to be improved and that there was a need for the establishment and implementation of management systems that will be on-going and self-financing given the resources available.



Activities

- Four workshops on Climate Change Adaptation
- Project progress review visit (after 8 months of workshop)
- Literature review



Outputs

- 130 senior officials from Fiji, Samoa, Tonga and Tuvalu were participated
- Identified common and recurrent themes in target countries related to coral reef and climate change issues and policies
- Make recommendations on the four themes (fisheries, marine managed areas, global change and multi-sectoral, multi stakeholder consultations) in Fiji, Samoa, Tonga and Tuvalu
- Identified challenges surrounding coral reef conservation and management
- Workshop report and four national coral reef action plans were formulated



Impacts

- Identified priority actions for coral reef management
- Governments recognize the need for integrated planning on addressing coral reef management
- Samoa and Tuvalu were requested technical assistance in development of national ocean policies

WHY IT'S HIGHLIGHTED (STRENGTHS)

- Engaged senior government and civil society representatives from four participating countries
- Detailed analysis of current and future research and policy needs, as well as challenges in coral reef management and policy implementation
- Identified clear future directions for effective coral reef management
- Conducted an assessment to measure the progress of workshops

BEST PRACTICE 10: CLIMATE CHANGE INTEGRATED EDUCATION MODEL: BUILDING ADAPTIVE CAPACITY FOR THE NEXT GENERATION (MALAYSIA, INDONESIA, THAILAND, PHILIPPINES AND LAO PDR)

More information: <http://www.apn-gcr.org/resources/items/show/1687>

Project Reference: CBA2011-09NSY-Aligaen

Project leader: Mr. Julito C. Aligaen, Southeast Asian Ministers of Education Organization Regional Education Center for Science and Math (SEAMEO RECSAM), **MALAYSIA**

Project Summary: This project on Climate Change Integrated Education was aimed to integrate climate change issues across learning areas in the basic education curriculum with the end goal of learners studying and solving real world issues, informing and developing them to be responsible enough to manage their own future without compromising the sustainability of the earth’s resources. The project conducted two series of workshops and 17 school-based learning projects involving 161 teachers, educators, and curriculum specialists. The project designed a learning curriculum to present real world issues (i.e. climate change issues) to learners in real context not only in the classroom but outside the classroom as well.



Activities

- Two series of workshops (total 10 national level workshops) in Malaysia, Indonesia, Philippines, Lao PDR and Thailand
- 17 School -Based Learning Projects (SBLP) were conducted



Outputs

- 161 teachers, educators and curriculum specialists from 22 secondary schools from 5 participating countries were involved
- Developed 22 school -based learning project proposals and implemented 17 projects (Malaysia (4), Indonesia (4), Philippines (3), Thailand (3) and Lao PDR (3).
- Identified and introduced two concepts; “Sustainability Science: an Organic Approach” and “Not Enough Time to Carry out Authentic Learning: The Economic Perspective of Learning”.
- Discovered four core competencies or skills that are needed to carry out lifelong learning process (communication skills, collaboration skills, problem solving skills and dialogue and negotiation skills



Impacts

- Provided an innovative learning approach to secondary schools student
- Educated the young people and improved their scientific literacy
- Real-life learning approach provides and helps to shape the students’ perspective on the accountability of their lifestyle and learning in the context of sustainability
- Developed capacity of teachers and curriculum specialists to develop and conduct school based projects
- Identified importance of Integrating of climate change issues into or across the school curriculum

WHY IT’S HIGHLIGHTED (STRENGTHS)

- Developed a high level of awareness among secondary school students on climate change issues
- Improved capacity of teachers and curriculum specialists to apply integrated learning approaches to develop and conduct school-based projects
- Strong regional collaboration
- Conducted a progress assessment of 17 School-Based Learning Projects (SBLP)