



2010-2015 Third Strategic Plan

Third Strategic Plan 2010/2015
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CONTENTS

Message from the Director	2
Rationale	3
1. Vision, Mission, Goals, and Core Strategies	4
2. Activities	6
3. APN Science Agenda	9
3.1 Scientific Research Agenda	
3.2 Scientific Capacity Development Agenda	
3.3 Science-Policy Agenda	
4. APN Institutional Agenda	12
5. Acknowledgements	14
6. Acronyms	15
7. Endnotes	16

MESSAGE FROM THE DIRECTOR

It is my honour to present the APN's Third Strategic Plan (2010-2015).

Societies' ability to respond to global and climate change depends on the resilience of human and environmental systems in the face of these changes. Improving understanding of the interactions and feedback of physical climate systems with human and environmental systems, improving predictions of longer-term causes and trends, and preparing nations for future events are grand challenges.

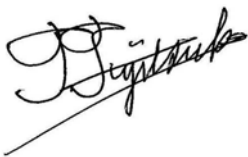
The Asia Pacific Network for Global Change Research (APN) continues its mission to enable countries in the Asia-Pacific region to address these challenges successfully. Projects funded by the APN are aimed at integrating across the natural, social and political science disciplines to find solutions to global change problems that are of major concern in the region.

To realise its mission, the APN's Third Strategic Plan (2010-2015) was developed based on the evaluation of its second strategic phase, which ran from 2005 to 2010, and focusses on two main agendas: Science Agenda and Institutional Agenda.

Under the Science Agenda, APN will focus on scientific research, scientific capacity development and science-policy interactions via activities organised within the APN, such as syntheses, workshops and assessments; and projects selected from the two main scientific pillars of the APN, which are the ARCP and CAPaBLE Programmes.

Under the Institutional Agenda, the APN will look at the involvement of its member countries; alignment with programmes of the global change community; financial resources; communications and outreach to the science and non-science communities; and developing the network and its institutional arrangements.

With the support from its members and key partners and guided by the strategies stipulated in the present document, the APN will continue to enhance collaborative scientific research capacity in the Asia-Pacific region, particularly in developing countries. The APN is also determined to bridge and close the gap among scientists and policy-makers by creating opportunities for them to interact effectively and by providing robust scientific input to policy decision-making and scientific knowledge to the public and other non-science communities.



Tetsuro Fujitsuka

Secretariat Director

Asia-Pacific Network for Global Change Research (APN)

RATIONALE

Countries within the Asia-Pacific region support more than half of the world's population, and changes in the Earth's bio-geophysical system are clearly impacting the societies and economies of these countries.

Recent research and supporting observations have provided new insights into some of these changes and their impacts but have, at the same time, opened a number of new and challenging scientific issues and questions. APN seeks to identify these scientific issues to promote, as well as encourage, regional cooperative global change research.

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*. APN strives to enable the developing countries of the region to participate increasingly in, and to benefit fully from, cooperative research in the region. APN assures that the research results contribute to the development of sound science-based response strategies and measures, policy- and decision-making processes, and scientific capacity development to address these important issues.

Finally, recognising the interactive role of regional processes in the overall Earth system, the APN also aims to link the initiatives it sponsors with related projects conducted in other regions and under the aegis of global-scale programmes.

1. VISION, MISSION, GOALS and CORE STRATEGIES

Vision

Enable countries in the Asia-Pacific region to successfully address global change challenges through science-based response strategies and measures, effective science and policy linkages, and scientific capacity development.

Mission

The mission of the APN is to enable investigations of changes in the Earth's life support systems and their implications for sustainable development in the Asia-Pacific region. The APN, therefore, supports investigations that will:

1. Identify, explain and predict changes in the context of both natural and anthropogenic forcing;
2. Assess potential regional and global vulnerability of natural and human systems; and
3. Contribute, from the science perspective, to the development of policy options for appropriate responses to global change that will also contribute to sustainable development.

Goals

- Goal 1.** Supporting regional cooperation in global change research on issues particularly relevant to the region
- Goal 2.** Strengthening appropriate interactions among scientists and policy-makers, and providing scientific input to policy decision-making and scientific knowledge to the public
- Goal 3.** Improving the scientific and technical capabilities of nations in the region, including the transfer of know-how and technology
- Goal 4.** Cooperating with other global change networks and organisations

Core Strategies

The core strategies of the APN are to:

1. Promote and encourage research that can improve understanding of global change and its implications for the region, and contribute to sound scientific basis for policy formulation and decision-making;
2. Promote and encourage activities that will develop scientific capacity and improve the level of awareness on global change issues specific to the region; and
3. Identify and help address, in consultation with policy-makers and other end-users, present and future needs and emerging challenges.

2. ACTIVITIES

In order to achieve its mission, APN has identified the four goals mentioned above. Each goal may be achieved through APN-funded activities outlined below. These activities are selected from the Annual Regional Call for Research Proposals (ARCP) process, as well as the APN's scientific capacity development programme, CAPaBLE.

Goal 1. Supporting regional cooperation in global change research on issues particularly relevant to the region

This is the highest priority goal of APN. It addresses the APN's core belief that international cooperation is essential to identify the causes and address the impacts of global change.

Key Investment Instrument: Underpinning knowledge creation

Examples of activities that may be conducted under this goal include:

- a. Facilitating and supporting collaborative global change research projects in the region;
- b. Organising regional meetings to highlight global change research and its possible implications for policy-making; and
- c. Systematically identifying key scientific priorities and emerging scientific issues for the region.

Goal 2. Strengthening appropriate interactions among scientists and policy-makers, and providing scientific input to policy decision-making and scientific knowledge to the public

As APN is an inter-governmental network, a high priority goal is to produce sound scientific results that can be made available as a supportive tool for policy-making processes. Accordingly, the APN will support research where knowledge gaps exist and where research outcomes can be used to support policy development. APN recognises that policy decisions are made in a complex environment where many factors must be considered; there is often no guarantee that the results of research can always be appropriately translated into policy. The APN's approach is, therefore, to focus on strengthening appropriate links between the science and policy communities. In addition, the APN realises the importance of raising public awareness of global change issues based on sound science. Accordingly, the APN will use public fora to raise public awareness of global change issues when appropriate opportunities arise.

Key Investment Instrument: Facilitation of appropriate science-policy interaction

Examples of activities that may be conducted under this goal include:

- a. Seeking out existing or creating new fora for discussion between scientists and policy-makers;
- b. Supporting training workshops for scientists to develop skills and techniques in providing science-based tools to support policy development;
- c. Providing scientific information to policy-makers in a suitable format;
- d. Identifying and maintaining databases of key policy bodies for the region;
- e. Improving communications and exchange of information with relevant governmental fora in the region and relevant inter-governmental bodies;
- f. Cooperating with other organisations to provide scientific information to the public;
- g. Improving access to APN products and activities through media by providing frequent press releases and enhancing communications with media groups; and
- h. Facilitating communications and interactions among APN members and the Secretariat.

Goal 3. Improving the scientific and technical capabilities of nations in the region, including the transfer of know-how and technology

It is vital that APN member countries have the capacity to conduct high quality research regarding global change that provides underpinning scientific support for policy-makers and policy-making processes. APN believes that research must involve local scientists and that they must be given the capacity to develop and continue their research as well as analyse and utilise their research outcomes.

Key investment instrument: Indigenous capacity development

Examples of activities that may be conducted under this goal include:

- a. Supporting global change research and other activities, particularly by developing country scientists;
- b. Providing financial support for capacity development projects, particularly in developing member countries;
- c. Cooperating with international capacity development programmes; and
- d. Providing opportunities for all APN member countries, especially developing member countries, to participate in APN-sponsored projects.

Goal 4. Cooperating with other global change networks and organisations

It is vital that the APN continues to develop strong partnerships with other global change networks and organisations and, as a network, be aware of current and emerging research and related activities in the region and throughout the world. This goal supports each of the first three goals above and enables the APN to operate efficiently and effectively within the global change community.

Key Investment Instrument: Defining regional context of global issues

Examples of activities that may be conducted under this goal include:

- a. Organising collaborative projects in areas of common interest;
- b. Inviting other global change research organisations to be involved in APN meetings and committees and for the APN to be represented at relevant meetings organised by others;
- c. Exchanging publications with relevant organisations; and
- d. Setting common agendas and initiating cooperative arrangements where appropriate.

3. APN SCIENCE AGENDA

3.1 Scientific Research Agenda

APN fosters the understanding of global environmental change by conducting regional research through collaboration and capacity development. APN's activities promote research that improves understanding of the physical, biological and human dimensions of change in the Earth system and science that informs adaptation and mitigation decision-making in the following specific areas:

1. Climate Change and Climate Variability;
2. Ecosystems, Biodiversity, and Land Use;
3. Changes in the Atmospheric, Terrestrial and Marine Domains; and
4. Resources Utilisation and Pathways for Sustainable Development.

The above themes are interrelated and involve the interface of natural, social and political sciences. Thus, APN will also support research on crosscutting issues, science-policy linkages and the human dimensions of global change.

APN supports a range of research topics and other scientific activities as shown in the examples listed, although not exhaustive, in Section 7 'Endnotes.'

APN serves the scientific and decision-making communities and other users in the Asia-Pacific region. APN will invest in the identification of existing methodologies and the development of new methodologies and tools to improve the effectiveness of necessary scientific knowledge transfer to decision-makers in Asia-Pacific communities.

Examples of activities that APN might support are:

- a. Promoting and strengthening global change research, including addressing and identifying gaps via syntheses and assessment work, particularly under the four thematic areas identified in the Scientific Research Agenda. This will be across all communities of natural, socio-economic and political sciences, and non-science stakeholders including decision-makers, managers and the public.
- b. Identifying and developing existing methodologies and developing new methodologies and tools for improving the effectiveness of scientific knowledge transfer to user communities;
- c. Strengthening the interface of policy- and decision-making processes and society in general for mainstreaming environmental concern, in order to develop pathways and effective mechanisms to approach economic and industrial planning processes, adaptation strategies, and enhancing practical research activities, in keeping pace with progress in international policy processes;
- d. Encouraging initiatives from developing countries, especially for place-based (site-specific) integrative research that includes interdisciplinary analyses of the effects and consequences of development pathways, and potential coping strategies pertinent to the region; and
- e. Aligning with global change scientific programmes (refer to Section 4 under 'Alignment with Programmes of the Global Change Community').

3.2 Scientific Capacity Development Agenda

The Scientific Capacity Building/Enhancement for Sustainable Development in Developing Countries programme (CAPaBLE), which was launched in April 2003, is an initiative to realise parts 107 to 114 of the Johannesburg Plan of Implementation (JPOI) for the World Summit on Sustainable Development (WSSD) and is registered as a WSSD Type II Partnership Initiative.¹

The CAPaBLE programme is enhancing scientific capacity in developing countries to improve decision-making relating to issues that are directly linked to their sustainable development. This effort is being achieved through a two-track process of *capacity enhancement* for experienced leading scientists and *capacity development* for early-career scientists. An evaluation of Phase One of CAPaBLE (2003-2006) was conducted in 2008, the results of which reaffirmed the urgency and need for a programme like CAPaBLE as an integrated pillar of APN activities focussing on scientific capacity development, particularly for developing countries.

The APN's strategies are to:

1. Strengthen the profile of the CAPaBLE programme to ensure that it continues to be a strong pillar of APN activities that stands alone from the first pillar (the ARCP programme);
2. Recognise that scientific capacity development is needed for both the science and non-science communities;
3. Establish specific criteria and a set of metrics for evaluating successful capacity development for short- and long-term outcomes;
4. Widen its scientific capacity development activities in the broader context of global change and the scientific themes identified in the present Strategic Plan;
5. Continue its scientific capacity development efforts in science and education at all levels from the local and community levels (grass roots), to the national, regional and global levels, particularly in developing countries. This is distinct from the APN's ARCP programme, where activities must involve the participation of at least three APN-approved countries in the Asia-Pacific region; and
6. Commit the necessary time and funds to attract investment into the CAPaBLE programme. The "partnership" approach of the CAPaBLE programme will be used as the major key for seeking and securing investment from other stakeholders. In so doing, the APN will endeavour to show current investors that there is a good reason to continue investing in the CAPaBLE programme.

¹ Of particular relevance to the CAPaBLE programme is part 111 of JPOI: *Establish regular channels between policy-makers and the scientific community for requesting and receiving science and technology advice for the implementation of Agenda 21, and create and strengthen networks for science and education for sustainable development, at all levels, with the aim of sharing knowledge, experiences and best practices, and developing scientific capacities, particularly in developing countries.*

3.3 Science-Policy Agenda

The APN is committed to achieving its second goal of strengthening appropriate interactions among scientists and policy-makers, and providing scientific input to policy decision-making and scientific knowledge to the public and other non-science communities. One important role of science is to provide the underpinning information for policy- and decision-making, so it must respond to the needs of policy-makers and decision-makers. Conversely, it is important that those stakeholders indicate what their needs are. The APN will continue to develop effective methodologies and procedures in its science thematic areas identified under its Scientific Research Agenda, and transfer this knowledge and information to the science, non-science (public, civil society, etc.) and decision-making communities. The APN will strive to achieve an excellent track record of strengthening appropriate science-policy interactions by the end of the period covered by the present Strategic Plan.

The APN's strategies are to:

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.
2. Encourage projects to adopt interdisciplinary approaches that include natural, social, economic and political sciences.
3. Continue to empower APN members, who represent their governments, in APN activities, by seeking their guidance on best practices and opportunities to promote science and policy interactions.
4. 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.
5. Cooperate with other institutions and bodies (e.g. the global change programmes, Association of Southeast Asian Nations [ASEAN], Intergovernmental Panel on Climate Change [IPCC], United Nations Framework Convention on Climate Change [UNFCCC] and other UN bodies such as the United Nations Environment Programme [UNEP], United Nations Commission for Sustainable Development [UNCSD], and United Nations Education, Scientific and Cultural Organisation [UNESCO], and Subsidiary Body for Scientific and Technological Advice [SBSTA], etc), who, like the APN, address or face issues relating to science-policy interactions. Provide increasing opportunities for interactions between scientists and policy-makers, and through policy-based workshops where participants include policy-making groups and a cross-section of stakeholders.

4. APN INSTITUTIONAL AGENDA

Involvement of Member Countries

It is important that each member continues to recognise the APN as an inter-governmental network that belongs to all of its members and is actively involved in addressing regional and national global change research priorities.

The APN's strategies are to:

1. Continue to strengthen member countries' sense of ownership and assist them in facing the challenges presented by global change;
2. Encourage member countries' representatives to play an active role in promoting the APN programmes at the national, regional and international levels; and
3. Enhance year-round communications among all APN stakeholders.

Alignment with Programmes of the Global Change Community

The APN believes that working in partnership with other organisations involved in global change research and policy development is essential to maximise available resources and to deliver the best possible results. Currently, APN's key partners include: **1)** APN's sister organisation - Global Change SysTEm for Analysis, Research and Training (START); **2)** The International Council for Science (ICSU)'s Global Change Programmes – the International Geosphere-Biosphere Programme (IGBP), the International Human Dimensions Programme on Global Environmental Change (IHDP), the International Programme of Biodiversity Science (DIVERSITAS), the World Climate Research Programme (WCRP) and their Earth System Science Partnership (ESSP), and the ICSU Regional Office for Asia and the Pacific (ICSU-ROAP); **3)** APN's sister network(s) – the Inter-American Institute for Global Change Research (IAI) and, potentially, the African Network for Earth System Science (AfricanNESS); and **4)** Global Earth Observations. Moreover, opportunities inside and outside the Asia-Pacific region are constantly emerging for the APN to find new synergies (for funding, research, and network building, etc.).

The APN's strategies are to:

1. Communicate and collaborate closely with organisations in the global change community to achieve shared goals. Such collaboration will include joint research projects, scientific capacity development activities, science-policy interfacing, enabling Asia-Pacific participation at international conferences, scoping workshops and developing and strengthening networks of scientists and policy-makers. In order to build momentum, whenever possible, the APN will plan joint activities using a multi-year timeframe (e.g. two to three years);
2. Encourage APN-initiated and APN-funded projects to proactively seek collaboration with institutes and organisations that provide co-sponsorship

- and in-kind contributions. APN will also seek the active involvement of host institutions;
3. Consider entering into formal arrangements with partners, where appropriate; and
 4. Consider establishing partnerships with institutions outside the Asia-Pacific region that have an interest in global change research and scientific capacity development being conducted inside the region.

Financial Resources

The APN's strategies are:

1. The APN will implement its Resources Development Strategy and the Steering Committee, in particular, will coordinate resources development and will look into diversifying APN funding resources, encouraging more financial and in-kind contributions from members, and strengthening the matching-fund mechanism.
2. With continued generous support (financial and in-kind contributions) from the Hyogo Prefectural Government, the APN Secretariat will remain in Kobe. APN will also continue to extend its relationship with Hyogo Prefecture in areas of common interest.

Communications and Outreach

The APN will implement its Communications Strategy including developing new communication tools, organising outreach activities, establishing/strengthening partnerships, and raising APN visibility.

Developing the Network and Institutional Arrangements

The APN will develop mechanisms that will strengthen the engagement/involvement of non-member countries and organisations in APN activities in an effective and efficient manner.

The Framework document will be updated as appropriate to address the development of APN.

5. ACKNOWLEDGEMENTS

The APN gratefully acknowledges the following for their generous support and valuable input to develop the present Strategic Plan:

- National Focal Points (nFPs) and Scientific Planning Group (SPG) Members from each member country.
- Project leaders/collaborators, scientific experts, and lead reviewers who contributed to the APN's scientific review and in the Augmented Steering Committee Meeting (August 2009).
- Global change programmes and international organisations (DIVERSITAS, ESSP, Global Change Impact Studies Centre [GCISC], ICSU-ROAP, IGBP, IHDP, Monsoon Asia Integrated Regional Study [MAIRS], START, UNFCCC, WCRP, World Health Organisation [WHO], and World Meteorological Organisation [WMO]).
- Individuals and organisations in the wider global change community who responded to the evaluation questionnaires.

6. ACRONYMS

AfricanNESS	African Network for Earth System Science
APN	Asia-Pacific Network for Global Change Research
ARCP	Annual Regional Call for Research Proposals
ASEAN	Association of Southeast Asian Nations
CAPaBLE	Scientific Capacity Building/Enhancement for Sustainable Development in Developing Countries programme
DIVERSITAS	International Programme of Biodiversity Science
ESSP	Earth System Science Partnership
GCISC	Global Change Impact Studies Centre
GEO	Global Earth Observations
IAI	Inter-American Institute for Global Change Research
ICSU	International Council for Science
ICSU-ROAP	ICSU Regional Office for Asia and the Pacific
IGBP	International Geosphere-Biosphere Programme
IHDP	International Human Dimensions Programme on Global Environmental Change
IPCC	Intergovernmental Panel on Climate Change
JPOI	Johannesburg Plan of Implementation
MAIRS	Monsoon Asia Integrated Regional Study
NFP	National Focal Point
OMZ	Oxygen Minimum Zones
SBSTA	Subsidiary Body for Scientific and Technological Advice
SPG	Scientific Planning Group
START	Global Change SysTem for Analysis, Research and Training
UNFCCC	United Nations Framework Convention on Climate Change
WCRP	World Climate Research Programme
WHO	World Health Organisation
WMO	World Meteorological Organisation
WSSD	World Summit on Sustainable Development

7. ENDNOTES

APN supports a range of research topics and other activities that help achieve its objectives. Without prejudice to the APN's decisions, the following list of indicative topics provides examples of the range of research that may be of interest to the APN.

The information outlined below is not in any order of priority and is not exhaustive. It is provided, essentially, to facilitate in-country discussions and to assist those interested in working with the APN. Please refer to the APN website (www.apn-gcr.org) for accurate and extensive information of projects that APN has funded in the past.

1. Climate Change and Climate Variability

- **Regional scenarios for climate change including climate extremes**
- Implications of global change for predictability and stability of the Asian Monsoon, and societal consequences
- Synergies between adapting to current natural climate variability and that of future human-induced climate change
- Adaptation measures in the Asia-Pacific region
- Aerosols, clouds, climate, and human health
- Mitigation options and their implications for sustainable development
- Climate change and climate variability in cryosphere and water and food security

2. Ecosystems, Biodiversity, and Land Use

- Changes in the carbon cycle and the water cycle
- Research and information networks for land system change
- Assessment and enhancement of land use sustainability
- Nature, extent, causes and impacts of land use change
- Regionality of ecosystem services and their changes
- Global change and mountain systems
- Coastal marine ecosystem
- Freshwater ecosystems, lakes and rivers
- Agriculture ecosystems, forests, rangelands, watersheds
- Water quality and quantity, water reuse
- Bioenergy technology to offset fossil fuel consumption
- Applied agricultural technology
- Natural resources and environmental management
- Urban land use change
- Fish-stock/live-stock assessments, natural and cultured
- Invasive species
- Climate change and biodiversity

3. Changes in the Atmospheric, Terrestrial and Marine Domains

Atmospheric Change:

- Air quality changes at various spatial and temporal scales and their impacts
- Source and sink fluxes of greenhouse gases
- Impacts of increasing atmospheric carbon dioxide and air pollutants on agricultural and natural ecosystems in the Asia-Pacific region
- Downscaled climate change scenarios
- Uncertainty analysis
- Climate impacts on pollution

Changes in the Oceans and Coastal Systems:

- Structure and composition of the marine food web and its response to physical forcing and chemical regimes in coastal up-welling systems
- Aspects of physical and biogeochemical cycles and ecosystems in oxygen minimum zones (OMZ)
- Ocean acidification
- Decline and degradation of marine biodiversity, e.g., mangroves and coral reef ecosystems
- Impacts of developmental activities on the ecology and socio-economic systems of the Asia-Pacific region
- Understanding regional ocean climate variability and implications for fisheries and aquaculture
- Extreme weather events and water ocean hazards

4. Resources Utilisation and Pathways for Sustainable Development

- Environmental implications of regional policy aimed at energy security and carbon limited society
- Renewable energy systems and sources
- Economic impacts of global change on the Asia-Pacific region through the food trade chain
- Transfer of environmental burden (external cost) associated with enhancing regional material/products flow
- Environmental implications of trans-boundary trade of resources and wastes
- Regional strategies and initiatives to reduce, reuse and recycle materials
- Regional water resource issues related to international river flows
- Biofuels and bioenergy
- Risk management

- Prediction, analysis and responding to extreme events
- Climate change and hydrology and water resources at regional/provincial levels
- Risks assessment of coastal ecosystems
- Climate change and food systems
- Holistic assessment involving several issues in the same ecosystem
- Global environment change and land use planning

Crosscutting Concerns

Research on these topics transcend beyond disciplinary and thematic issues, thus APN also encourages proposals that address crosscutting issues covering research topics such as:

- Integrated assessment techniques
- Interactions between global change and regional change
- Global change impacts and sustainable development
- Global change and water, food and health management
- Institutional dimensions of global change
- Sustainable management of urban areas, coastal zones, etc.
- Globalisation (lifestyle, consumption patterns, transport systems, etc.) and global change
- Global change impacts of multilateral financial institutions
- Technology or equipment that are environmentally friendly (recyclables, biodegradable materials, life cycle analysis of materials, etc.)
- Global change implications of urban sprawl/urban development

APN recognises the importance of linkages between science and policy, i.e., two-way communications between the communities that use scientific information (policy-makers and decision-makers in society) and scientific communities. These are:

- Research of best practices in science-policy interface options potentially appropriate for APN (e.g., IPCC, science briefings, publications)
- Development of additional science-policy interface approaches potentially appropriate for the APN
- Publication of guidelines for APN scientists based on this knowledge/experience
- Training and capacity development for science-policy interfacing
- Science-policy interfacing relating to global change
- Transforming scientific knowledge to policy (e.g., communicating science, translating scientific knowledge into decision making processes, knowledge brokers, stakeholder involvement)

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