

START ACTS TO SUPPORT THE NAIROBI WORK PROGRAMME

AN OVERVIEW OF STRATEGIC SUPPORT THROUGH
RESEARCH AND CAPACITY BUILDING ACTIONS





START and the Nairobi Work Programme

WHAT IS THE NAIROBI WORK PROGRAMME?

The UNFCCC Nairobi Work Programme on Impacts, Vulnerability, and Adaptation to Climate Change (NWP) was developed to assist Parties to the Convention – especially developing countries, including least developed countries and small island developing states – to improve their understanding and assessment of climate change impacts, vulnerability, and adaptation and to make informed decisions on practical adaptation actions and measures to respond to climate change.

The NWP is structured around nine areas of work that are recognized as vital to increasing the capacity to adapt. Parties, intergovernmental and non-governmental organizations, the private sector, communities, and other stakeholders implement activities that support the objectives of the NWP. Expected outcomes include enhanced capacity for adaptation; improved information and advice to the Conference of the Parties to the UNFCCC; enhanced dissemination and use of knowledge; enhanced cooperation to manage climate change risks; and enhanced integration of climate change adaptation with sustainable development. More information about the NWP can be found at <http://unfccc.int/adaptation/items/4159.php>.

START'S ACTION PLEDGES

The UNFCCC Secretariat has invited pledges of actions to support the objectives of the NWP. START is responding by reviewing its research and capacity building programs and realigning them to provide maximum support for the objectives of the NWP. This booklet highlights START activities and pledges of new actions that support each of the 9 work areas of the NWP. Persons wishing for more information about any of these activities should e-mail start@agu.org.

What is START?

START (the global change SysTEm for Analysis, Research, and Training) is a framework of collaborating organizations that develops scientific capacity and generates knowledge to support decisions for building resilience to global environmental change and enabling sustainable development. The START framework consists of regional science committees, research centers, research nodes and secretariats located in Accra, Bangkok, Beijing, Cape Town, Chung-Li, Dar es Salaam, Nairobi, New Delhi, Suva, and Washington, as well as participating scientists located throughout the developing and developed world. Through this framework, START:

- Conducts research on regional aspects of global environmental change, including climate change;
- Provides fellowship, training and education opportunities;
- Shares knowledge, expertise and data;
- Bridges science and society to support decision making; and
- Mobilizes financial, institutional and human resources to carry out research, capacity building and decision support activities.

START is sponsored by the International Geosphere-Biosphere Programme, the International Human Dimensions Programme on Global Environmental Change, and the World Climate Research Programme and is part of the Earth System Science Partnership. For more information about START, please visit www.start.org.



START and the NWP Areas of Work

AREA 1: METHODS AND TOOLS

NWP OBJECTIVE: Develop and disseminate methods and tools for impact and vulnerability assessments and for adaptation planning.

START ACTIONS: START is an established leader in developing methods and tools for vulnerability assessment and adaptation planning and in facilitating application and improvement of these methods by developing country organizations and researchers. Recent projects that have made important contributions to methods development include Assessments of Impacts and Adaptation to Climate Change (AIACC) and Climate Prediction and Agriculture (CLIMAG). Methods, tools and lessons from AIACC and CLIMAG are documented and disseminated in more than 200 publications produced by the projects and via our project websites (see www.aiaccproject.org and www.int-res.com/abstracts/cr/v33/n1/). Training in the use of these and other methods has been provided through Advanced Study Institutes and training workshops organized by START in collaboration with various partners.

START PLEDGES NEW ACTIONS TO:

- Better document and disseminate information about methods and tools for vulnerability and adaptation assessment from the AIACC and CLIMAG projects; and
- Seek opportunities and partnerships to build capacity for the use of vulnerability and adaptation assessment methods and tools through new education programs, advanced study institutes, fellowships and small grants.

AREA 2: DATA AND OBSERVATIONS

NWP OBJECTIVE: Improve collection, management, exchange, access to and use of observational data and other relevant information on current and historical climate variability and change.

START ACTIONS: START supports a number of activities to improve access to and use of observational climate and other data. The Climate System Analysis Group (CSAG) of the University of Cape Town, a research node in the START network, received support under the AIACC project to develop a database of long-term weather observations for stations across sub-Saharan Africa. The database is publicly available (see <http://data.csag.uct.ac/za/>) and access by research and stakeholder groups for planning adaptation is being facilitated under a new project, Advancing Capacity to Support Climate Change Adaptation (ACCCA; see www.acccaproject.org).

The Temperate East Asia START Regional Center (TEA-START), hosted by the Institute for Atmospheric Physics of the Chinese Academy of Sciences, maintains climatological data for the monsoon Asia region in support of the Monsoon Asia Integrated Regional Study (MAIRS), ACCCA and other projects (www.tea.ac.cn/english/index.asp).

The Miombo Network, established with assistance from START, provides remote sensing and other environmental data related to land use and land cover change for the Miombo region of Africa (www.geog.psu.edu/geclab/miombo/). START also works with the US National Aeronautics and Space Administration (NASA) to facilitate the participation of developing country scientists in the Global Observation of Forest and Land Cover Dynamics (GOFc/GOLD) project (www.start.org/Program/GOFc.html).

START PLEDGES NEW ACTIONS TO:

- Seek support for and otherwise assist CSAG to identify and collect long-term observation data for additional weather stations in Africa, obtain permission from relevant authorities to integrate the data into its data archive, provide access to the data, develop tools for analysis of the data, and deliver training for tool usage; and
- Seek support for and otherwise assist other START research centers to provide similar data services for researchers and stakeholders in Asia and Oceania.

AREA 3: CLIMATE MODELING, SCENARIOS AND DOWNSCALING

NWP OBJECTIVE: Promote development of, access to, and use of information and data on projected climate change.

START ACTIONS: TEA-START, a center of regional climate modeling expertise, led the Regional Model Intercomparison Project to evaluate and improve regional modeling of monsoon climate in Asia and is now providing support for climate change scenarios for the MAIRS and ACCCA projects. CSAG, the leading regional climate modeling center in Africa, received support under the AIACC project to develop and disseminate climate change projections for sub-Saharan Africa and to assist other researchers in Africa to use and interpret climate change projections. A partner in the ACCCA project, CSAG is developing a tool for constructing envelopes of future climate exposures using statistical downscaling techniques, is making the tool available to others, and is providing technical support for its use.

The Laboratory for Atmospheric Physics at Cheikh Anta Diop University in Senegal received support through the AIACC project to improve their capabilities for regional climate modeling of West Africa. START has

also supported climate modeling and downscaling, including the African Monsoon Multidisciplinary Analysis (AMMA) project, through small grants and fellowships. START facilitated the nomination and selection of several developing country members of the IPCC Task Group on Data and Scenario Support for Impact and Climate Analysis (TGICA) and has collaborated with TGICA to support expert meetings and other activities (see http://ipcc-wg1.ucar.edu/wg1/wg1_tgica.html).

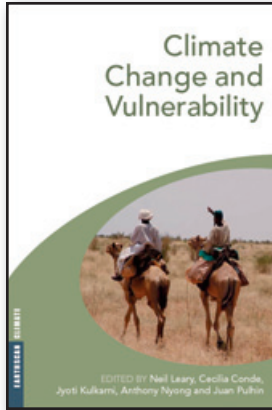
START PLEDGES NEW ACTIONS TO:

- Promote, develop, and implement a program to support climate science education in developing country universities in collaboration with the Stockholm Environment Institute; the Alliance for Earth Sciences, Engineering, and Development in Africa (AESEDA); the University of Cape Town; and other partners; and
- Work with IPCC-TGICA to identify and promote regional mechanisms for building institutional capacity for providing access to climate data and projections and assisting users to interpret and apply climate data and projections.

AREA 4: CLIMATE RELATED RISKS AND EXTREME EVENTS

NWP OBJECTIVE: Promote understanding of impacts of and vulnerability to current and future climate variability and extreme events and the implications for sustainable development.

START ACTIONS: The AIACC project made substantial advances in the understanding of impacts of and vulnerabilities to climate change, climate variability and extreme events, as evidenced by more than 100 peer-reviewed publications and more than 100 citations of AIACC publications in the IPCC 4th Assessment Report. The AIACC studies examined climate



threats to current and future development. The studies include, for example, flood risks for urban dwellers in Buenos Aires, rice farmers in the lower Mekong River basin, townships of Fiji, and economies of Central America; drought risks for subsistence farmers and livestock herders in Botswana, Nigeria, Sudan and Mongolia; human health risks in East African highlands and islands of the Caribbean; and threats to biodiversity in southern Africa. Findings are synthesized in 'For Whom the Bell Tolls, Vulnerabilities in a Changing Climate' (available at http://www.aiaccproject.org/working_papers/working_papers.html). More detailed results can be found in *Climate Change and Vulnerability* (2008; from Earthscan).

Risks associated with environmental change and climate change in monsoon Asia are being explored in the MAIRS project, while the ACCCA project is investigating climate risks and adaptation in selected decision-making contexts in Africa and Asia.

START PLEDGES NEW ACTIONS TO:

- Make widely available lessons from AIACC and other START projects about climate related risks through new publications and the weADAPT platform (www.weADAPT.org);
- Promote, develop, and implement a program to integrate climate risks and adaptation into graduate and undergraduate education in developing country universities in collaboration with the Stockholm Environment Institute (SEI); the Alliance for Earth Sciences, Engineering and Development in Africa (AESEDA); the University of Cape Town; and other partners; and

- Work with the IPCC to plan and develop donor support for a successor to the AIACC project that will build on the achievements of AIACC to address remaining knowledge gaps and target Least Developed Countries for scientific and technical capacity building.

AREA 5: SOCIO-ECONOMIC INFORMATION

NWP OBJECTIVE: Improve knowledge of the socio-economic aspects of climate change and promote the integration of socio-economic information into impact and vulnerability assessments.

START ACTIONS: The AIACC project advanced the use and integration of socio-economic information in assessments of impacts and vulnerability and demonstrated that social, economic, institutional and governance processes strongly shape the character and degree of vulnerability to climate hazards. Similar methods are being applied in the ACCCA project. The MAIRS project is emphasizing the development and use of socio-economic scenarios to analyze the driving forces of environmental change in Asia.

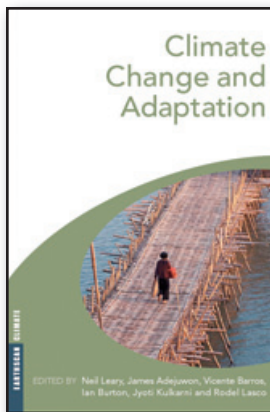
START PLEDGES NEW ACTIONS TO:

- Assist the UNFCCC Secretariat to plan an expert workshop on socio-economic information for early 2008;
- Join with UNESCO, SEI and AESEDA to organize an International Symposium on Climate Change in Sub-Saharan Africa and a Pan-African Workshop on Strategic Planning for Future Social and Economic Development; a range of trajectories for future social, economic and environmental development will be constructed and will be used to structure and guide discussions in the Symposium; and
- Assist the Joint Global Change Research Institute and the US Environmental Protection Agency in planning workshops in Africa and Asia that will provide developing country input to the development of socio-economic scenarios and integrated assessment modeling.

AREA 6: ADAPTATION PLANNING AND PRACTICES

NWP OBJECTIVE: Collect, analyze, and disseminate information on past and current practical adaptation actions and measures, including projects, short and long-term strategies, and local and indigenous knowledge.

START ACTIONS: Adaptation planning is the main focus of the ACCCA project. Stakeholders and scientists are working together to evaluate and prioritize climate risks, assess adaptation options, communicate information about risks and options to at-risk populations and decision-makers, and identify preferred options to be promoted. Examples of decision contexts in which pilot adaptation actions are being implemented include: community-led adaptation for sustainable livelihoods in south-western Nigeria, water management in Mali, subsistence farming in Malawi, fisheries management in Lake Victoria, reducing risks from weather related disasters in Nepal, rangeland management and institutions in Mongolia, and integration of development and adaptation policies in India.



Adaptation was also a major focus of the AIACC project, and practices and recommendations for adaptation planning are synthesized in 'A Stitch in Time, Lessons for Climate Change Adaptation from the AIACC Project' (available at http://www.aiaccproject.org/working_papers/working_papers.html). More detailed analysis can be found in *Climate Change and Adaptation* (2008; from Earthscan). Many of the institutions, investigators and stakeholders that participated

in the AIACC project are working together to apply some of the lessons in planning and promoting adaptation actions.

START PLEDGES NEW ACTIONS TO:

- Join as partner of weADAPT and contribute information about methods, tools, experiences, and lessons to the knowledge base; weADAPT is a new web-based platform being developed by the Stockholm Environment Institute and others to enhance the knowledge base of the adaptation community (see www.weADAPT.org);
- Implement a new African Climate Change Fellowship Program in partnership with the University of Dar es Salaam, the African Academy of Sciences and the International Development Research Centre; the program will award fellowships to help African professionals, researchers and students gain capabilities for planning and implementing adaptation actions (for more information, visit <http://pass-africa.org>); and
- Implement an education program with the University of Dar es Salaam targeted to conservation professionals that will help them to integrate climate change risks and adaptation measures into conservation planning and practices.

AREA 7: RESEARCH

NWP OBJECTIVE: Promote research on adaptation options.

START ACTIONS: Since 1990, START has promoted and enabled global environmental change research in the developing world through a network of regional science committees, research centers, research nodes, and secretariats in Africa, Asia and Oceania. START activities engage more

than 1000 developing country scientists annually in climate change and other global change research through multi-institutional research initiatives; advanced study institutes and training workshops; small research grants; doctoral fellowships; awards to young scientists, visiting scientists and senior scientists; and scientific conferences and workshops.

In START's first decade, our research emphasized physical and biological aspects of climate change and other global environmental changes to improve understanding of their causes and consequences. In our second decade, social sciences and the integration of social and natural sciences have figured more prominently in START research as we have sought to support decisions for adapting to climate change and global environmental change, building resilience and enabling sustainable development. This growing emphasis is exemplified by the AIACC, CLIMAG, MAIRS, and ACCCA projects and START's co-sponsorship with the IPCC of the conference Integrating Analysis of Regional Climate Change and Response Options in June 2007.

START PLEDGES NEW ACTIONS TO:

- Continue and expand START research activities designed to support decision-making about climate change adaptation, environmental risk management and integration of environmental risk management with sustainable development; and
- Strategically plan future education, fellowship and capacity building programs to develop the next generation of vulnerability and adaptation researchers.

AREA 8: TECHNOLOGIES FOR ADAPTATION

NWP OBJECTIVE: Promote development and diffusion of technologies, know-how, and practices for adaptation; address identified adaptation priorities; and build on lessons learned from current adaptation projects and strategies.

START ACTIONS: START's actions to support the other eight areas of work – methods and tools • data and observations • climate modeling, scenarios and downscaling • climate related risks and extreme events • socioeconomic information • adaptation planning and practices • research • economic diversification – are contributing to the development and diffusion of technologies, know-how and practices for adaptation. For example, the use of seasonal forecasting to improve farm management was advanced by the CLIMAG project; practices for managing climate risks to subsistence and smallholder farmers, pastoralists, fishers, and urban dwellers were evaluated and lessons disseminated to stakeholders in the AIACC project; stakeholders and researchers are learning from each other about good practices for managing climate risks in the ACCCA project.

START PLEDGES NEW ACTIONS TO:

- Review future research and capacity building programs to assure that they allocate human and other resources to the development of technologies, know-how and practices for adaptation, and to their dissemination to relevant stakeholders.

AREA 9: ECONOMIC DIVERSIFICATION

NWP OBJECTIVE: Promote understanding and the development and dissemination of ways to increase economic resilience and decrease reliance on vulnerable economic sectors.

START ACTIONS: Diversification of livelihoods and economic activities emerged from the AIACC project as a key strategy for building resilience and reducing risks where economies are highly dependent on climate sensitive natural resources. Diversification strategies for managing current climate risks are in use in settings as varied as subsistence agricultural communities in northern Nigeria, Sudan, Mexico, Lao PDR, and the Philippines; smallholder commercial farms in Argentina, Mexico, and Thailand; and pastoral systems in Mongolia. Recommendations from these and other studies urge further economic diversification as important for future adaptation to climate change. However, there are signification constraints on diversification that are identified in several AIACC studies. Success will require integration of development strategies with adaptation planning. Findings related to economic diversification are included in AIACC Working Paper No. 48, “A Stitch in Time, Lessons for Climate Change Adaptation from the AIACC Project.”

START PLEDGES NEW ACTIONS TO:

- Develop research activities to explore the barriers to economic diversification as an adaptation strategy and strategies that have proven effective in diversifying economic activities.

START'S Partners

START works with numerous partners, including:

African Academy of Sciences • Asia-Pacific Network for Global Change Research • Chulalongkorn University • Chinese Academy of Sciences • CPTEC/INPE Brazil • Earth System Science Partnership • East-West Center, University of Hawaii • Global Water System Project, UNESCO-IHE • Inter-American Institute for Global Change Research • Intergovernmental Panel on Climate Change • International Council for Science • International Foundation for Science • International Geosphere-Biosphere Programme • International Human Dimensions Programme • International Institute for Applied Systems Analysis

- International Institute for Environment and Development
- International Research Institute for Climate and Society

University of Buenos Aires • University of Cape Town • University of Dar es Salaam • University of Ghana • University of Nairobi • University of the South Pacific • National Center for Atmospheric Research • National Central University, Taiwan • National Physical Laboratory, India • Potsdam Institute for Climate Impacts Research • Stockholm Environment Institute • The Academy of Sciences for the Developing World • Tyndall Centre

- United Nations Environment Programme • United Nations Institute for Training and Research • United Nations University
- Vrije University • World Climate Research Programme • World Meteorological Organization

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- UK Department of Environment, Food, and Rural Affairs
- UK Department for International Development
- US Agency for International Development
- US Climate Change Science Program
- US National Aeronautics and Space Administration
- US National Science Foundation

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This booklet was created to complement the UNFCCC booklet entitled, *The Nairobi Work Programme on Impacts, Vulnerability and Adaptation to Climate Change*. Some description of the NWP areas of work and objectives provided herein are reproduced from that booklet.

Additional information about the Nairobi Work Programme may be found on the web at:

http://unfccc.int/adaptation/sbsta_agenda_item_adaptation/items/3633.php.

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