

UN-CECAR OBJECTIVES

- Collect knowledge on climate change adaptation accumulated at the international level, and synthesize and customize it to the local level;
- Assess existing and emerging climate change-related research and degree programmes in the region;
- Identify topics for development according to students and educators, while also ensuring that market demands for climate-change graduates are also being met;
- Initiate and support the development of educational programmes comprising of: joint or dual degree programmes; common courses open for credit sharing schemes
- Initiate and support the development of joint research programmes to promote: resource sharing (experimental fields and facilities, modeling and forecasting systems, short-term training, available funds, etc) frameworks and mechanisms for joint research programmes, existing and proposed initiatives, fundraising activities, etc.
- Initiate and support training programs that re-train professionals, specialists, policymakers, educators on emerging climate change issues, science and methodologies;
- Create direct links with, and contribute to, existing and emerging international and national processes and international conventions, such as the work of the IPCC, the Bali Roadmap and Nairobi Action Plan, and the various national adaptation plans occurring in each country; create a framework for a regional curricula on climate change adaptation

CONFERENCE/WORKSHOP



UN-CECAR conference in Thailand, 2012

Since its inception UN-CECAR has organized 7 international symposiums and workshops in Asia. The conferences has a special thematic focus each year such as working with local communities, traditional knowledge, sustainable disaster management, renewable energy, etc. The proceedings of these workshops as well as outputs of the network can be downloaded from the UN-CECAR home page <http://ceccar.unu.edu>.

THEMES OF UN-CECAR CONFERENCE

2009: ROLE OF HIGHER EDUCATION IN ADAPTATION (JAPAN, VIETNAM)

2010: WORKING WITH LOCAL COMMUNITIES (INDONESIA)
TRADITIONAL KNOWLEDGE (SRI LANKA)

2011: DISASTER RISK MANAGEMENT AND SUSTAINABILITY (JAPAN)

2012: RENEAWABLE ENERGY (THAILAND)

2013: LEADERSHIP IN SUSTAINABILITY (CHINA)



University Network for
Climate and Ecosystems Change
Adaptation Research

Established in 2009 as the first of its kind in the region, UN-CECAR is an institutional platform of universities across Asia that seeks to enhance education and research on adaptation to climate change and ecosystems change, and to build the emerging sustainability science discipline. Specific objectives of the Network are to:

- collect international-level knowledge on climate change adaptation and customize it to the local level;
- assess existing and emerging climate change-related research and degree programmes in the region, and identify areas of most need;
- initiate and support the development of joint- or dual-degree educational programmes, credit-sharing common courses, joint research and training programmes

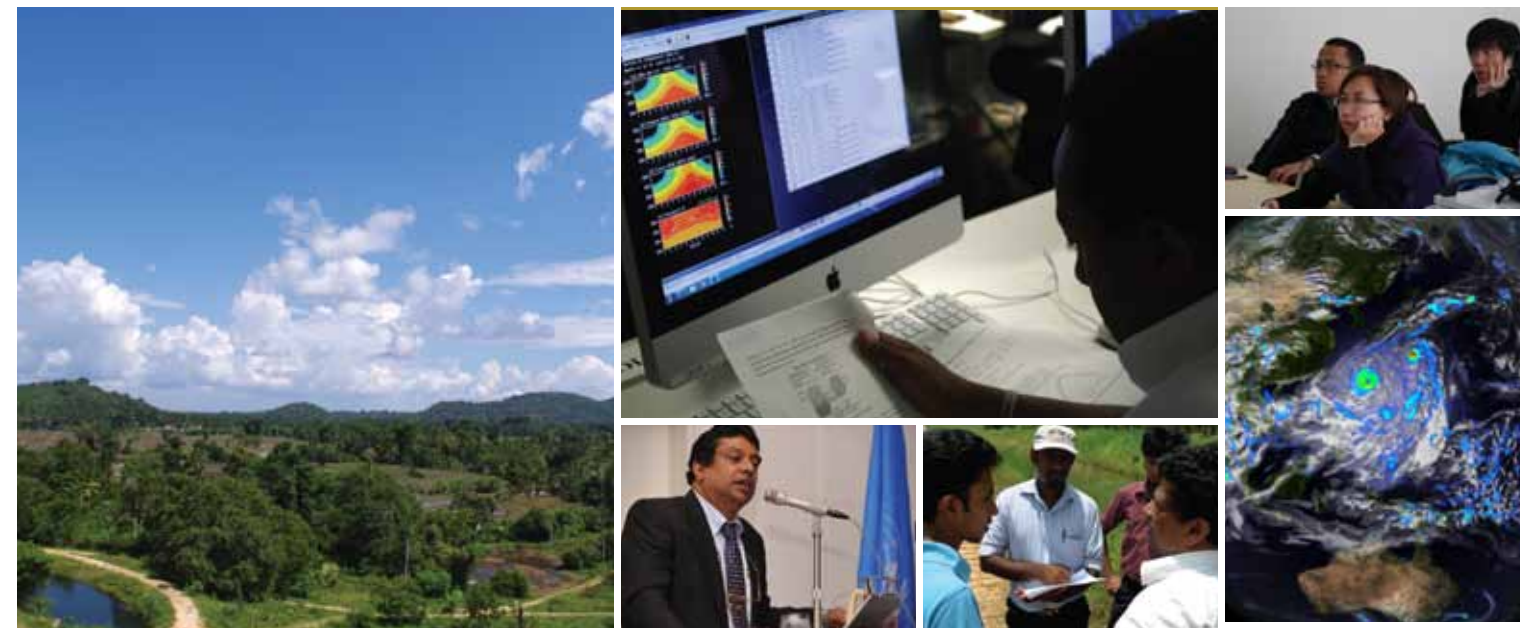
UN-CECAR SECRETARIAT



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University Network for
Climate and Ecosystems Change
Adaptation Research
UN-CECAR

Role of
higher education

The source of human knowledge and capital for tomorrow's sustainable & climate risk-resilient societies

Adaptation to climate change is very much a localized activity. It depends on the local hydrometeorological, geo-physical and socio-economic conditions. Solutions to overcome climate change adverse impacts have to be developed locally supported by global knowledge and experiences. For adaptation strategies to evolve locally, local capacity development is essential, especially in the developing countries, to customize available global knowledge for local conditions. This needs to be done in postgraduate education where necessary research can be conducted in applied research projects in partnership with implementing agencies and local communities. Higher education segment of the society has an important role to play in giving direction and leadership in assessing climate change impacts and establishing appropriate frameworks where affected communities can work with specialists in developing appropriate strategies. Taking up this challenge, leading universities in the Asia-Pacific region have agreed to establish **the University Network for Climate and Ecosystems Change Adaptation Research (UN-CECAR)**.

Research and education will be the main focus of the network that will bring together all available resources and expertise across disciplinary lines to work collaboratively to enhance understanding on how climate change is affecting roughly two-thirds of the world's population and advance adaptation research for the design of appropriate policy and development strategies.



Asia top academic societies

INTERNATIONAL COORDINATING COMMITTEE (ICC)

- Asian Institute of Technology, Thailand
- Australian National University, Australia
- BUET, Bangledsh
- Chinese Academy of Forestry, China
- Ibaraki University - ICAS, Japan
- Indian Institute of Technology, India
- University of Tokyo, IR3S, Japan
- Keio University, Japan
- Kyoto University, Japan
- National University of Malaysia, Malaysia
- Ritsumeikan Asia Pacific University, Japan
- Tribhuvan University - IE, Nepal
- Tsinghua University, China
- Universitas Gadjah Mada, Indonesia
- University of Peradeniya, Sri Lanka
- University of Philippines, Philippines
- Vietnam National University, Viet Nam
- Waseda University, Japan
- Yeungnam University, Korea

CURRICULUM DEVELOPMENT



Educational programs for climate change adaptation with curriculums for each major component cover various disciplines. Higher educational institutions would be able to mix different modules to suit various degree programs, by sharing ore mechanisms and resources building as follows:

1. Mechanisms to share or exchange credits among participating universities,
2. Mechanism to exchange teaching materials, lecture notes, study and reference materials freely among UNCECAR partners for use by others in class room teaching as well as practical (after suitable modification as required by others).
3. A critical mass of specialists on climate change adaptation trained.

BUILDING RESILIENCE FOR CLIMATE CHANGE

POSTGRADUATE PROGRAMME

The courses, conducted at UNU-ISP, cover a range of issues on sustainability and adaptation to climate and ecosystems change. Topics include climate and atmospheric science, impacts assessment, climate and society, ecosystems resilience, risk and uncertainty, integrated solutions for mitigation and adaptation, mainstreaming adaptation into development planning and community-based adaptation. Students also will receive practical training in the use of remote sensing and Geographic Information Systems (GIS) for climate and ecosystems change research.

RENEABLE ENERGY

POSTGRADUATE PROGRAMME

This pioneering course cover a range of issues on the science, technology, economics and policies of renewable energy. It includes such hard topics as small hydropower, solar, geothermal, bio-, wind, marine, fuel cell and hydrogen energy, and such soft topics as energy demand and supply, economics, security, and policy. Students also receive practical training with clean-energy software (RETScreen and HOMER).

LEADERSHIP FOR SUSTAINABILITY

POSTGRADUATE PROGRAMME

The LS course aims to educate and develop leaders with the ability to understand sustainability and sustainability leadership, align business, government and civil society actions with sustainability principles, make informed choices of organizational and leadership models and strategies to realize sustainability and relate emotional intelligence with effective sustainability leadership.

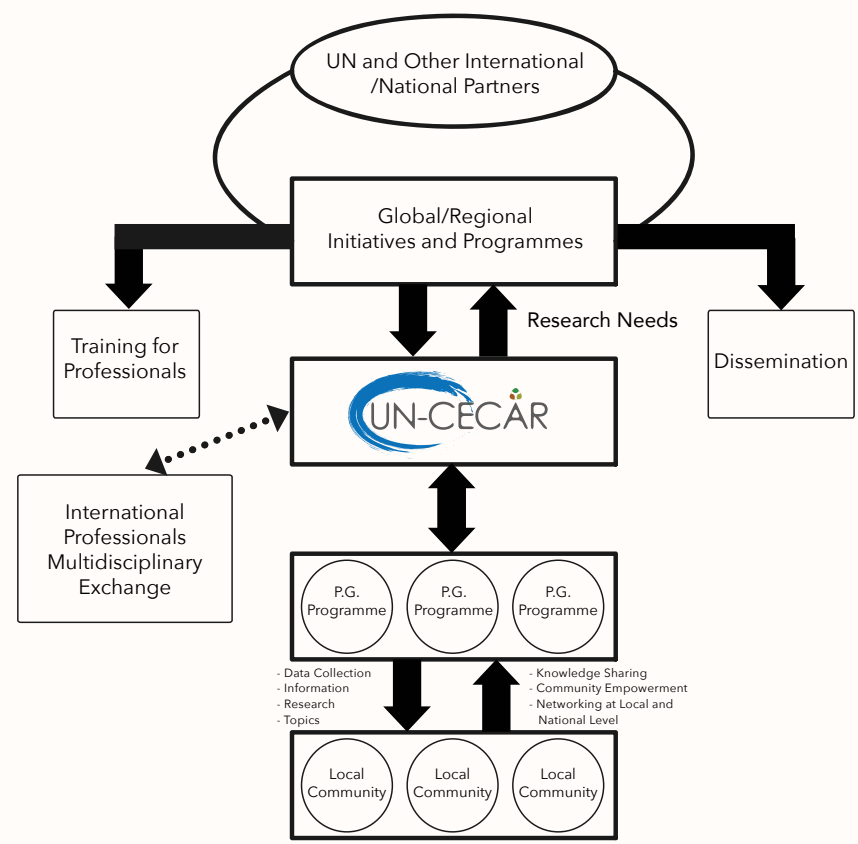
CLIMATE CHANGE DOWNSCALING

TRAINING PROGRAMME

The training course categories: science of climate change and downscaling, dynamical and statistical downscaling methods, impacts on rice production and impacts on floods. Participants will also receive practical training in the use of Geographic Information Systems (GIS) in downscaling and modelling extreme climatic events.

UN-CECAR FRAMEWORK

The activities of UN-CECAR are planned, developed and implemented by an International Coordinating Committee (ICC) comprising of representatives of leading post graduate universities in the region. United Nations University's Institute for Sustainability and Peace (UNU-ISP) is the secretariat of the network and coordinate and facilitates network activities. Furthermore, UNU-ISP acts as a repository for education programs and research outcomes of the network. MOUs between UNU-ISP, on behalf of the UN-CECAR network, and each member university was signed to acknowledge and agree to the network objectives, and its operational mode. The university network is designed to address global scale research needs and information dissemination to local communities in each country, through the post graduate programmes of the member universities.



JOINT RESEARCH PROGRAMME

The research programs related to climate change and sustainability issues are developed by the whole group as well as subsets depending on the similarities in impacts and vulnerabilities.

The joint research programs are broadly categorized into (a) Rapid Onset Changes such as floods, cyclones, landslides and (b) Slow Onset Changes such as Land degradation, bio diversity loss.



COMPARATIVE STUDIES ON DEVELOPMENT STRATEGIES CONSIDERING IMPACTS OF ADAPTATION TO CLIMATE CHANGE (CSDS-IACC)

A research project to assess climate change impacts on food security and flood management has been carried out with partner institutions in four countries: Sri Lanka, Vietnam, Thailand and the Philippines. It provides a framework for the implementation of adaptation strategies for climate change in these countries considering relation of adaptation to the development plans.

To carry out this research, the following actions were envisaged as needed to achieve the sated objectives:

- Downscaling future climate forecasts to local conditions
- Coupling weather forecasts to flood and rice yield models
- Assessing changes from baseline information and
- Proposing appropriate actions and policy strategies, and evaluating the relative benefits of proposed actions in relation to national development programs.

STRATEGY TO ENHANCE RESILIENCE TO CLIMATE AND ECOSYSTEM CHANGES UTILIZING TRADITIONAL BIO-PRODUCTION SYSTEMS IN RURAL ASIA (CECAR-ASIA)

This project aims to investigate strategies to enhance resilience to climate and ecosystems change by developing mosaic systems to strengthen resilience of bio production systems through the integration of large scale modern agriculture systems with traditional decentralised small scale systems.

In Sri Lankan context, Sri Lankan ancient irrigation systems and Kandyan home gardens were selected to conduct the studies on strengthening social resilience and promote sustainable development of communities. In Indonesia CECAR-Asia focuses on Pekarangan -the traditional homegarden system and the Kebun-talun -the combinational system of forestation and the slash and burn cultivation system. In Vietnam the focus is on VAC system which is a combination of agriculture and livestock farming. After the compilation of traditional knowledge and technologies it is expected to see how modern scientific methods can complement these technologies for the rural development in target countries. A mosaic system consisting of modern and traditional systems is expected to improve overall resilience of the system and improve livelihoods to all farmers through the increases in productivity. Collection of traditional knowledge and technologies are expected be jointly done with the counterpart universities in the three countries; namely the University of Peradeniya Sri Lanka, Gadjah Mada University in Indonesia and National University of Viet Nam in Hanoi.