

Coral Triangle Initiative on Coral Reefs, Fisheries & Food Security

Paper for the Climate Change Adaptation Technical Working Group on

‘Understanding Centers of Excellence on Climate Change Adaptation’

A. Background

WWF has been requested to initiate and take the lead in developing (with Development Partners) a concept note on Centers of Excellence (COE) focusing on the role of COE in advancing Climate Change Adaptation (CCA) actions and programs within the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF).

The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) Regional Plan of Action (RPOA) establishes the goal, targets, and actions for CCA. During the CTI Regional Exchange (REX 3) on ‘*Climate Change Adaptation: Status, Lessons Learned, and Roadmap for the Future*’, hosted by Timor Leste in May 2013 identified two CCA targets as shown in Figure 1. One of the targets is the establishment of National Centers of Excellence on Climate Change Adaptation to support CCA in the six Coral Triangle countries (CT6). This target was endorsed as part of the Regional CCA activities in 2014 during the Senior Officials Meeting (SOM9) in November 2013, Manila, the Philippines.

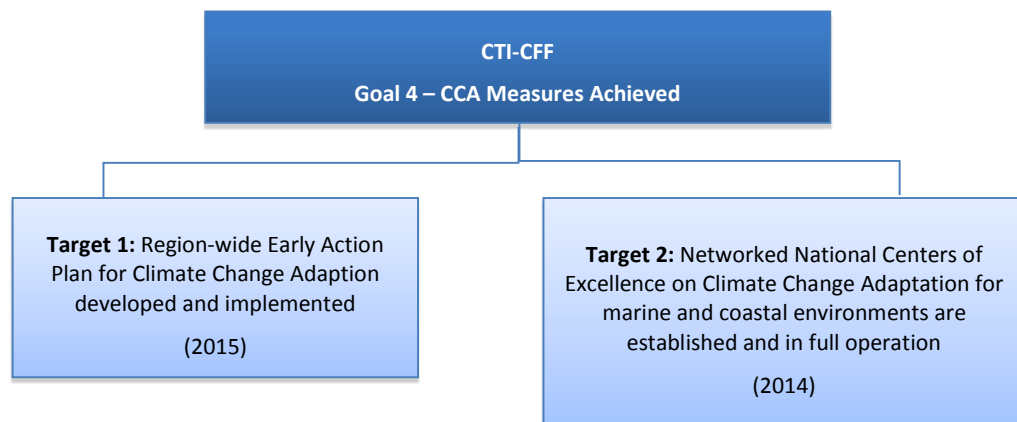


Figure 1: Goal 4 Targets set for CFI-CFF 2010-20 RPOA

This background paper provides information to further discussion on the role, criteria and Terms of Reference for National Centers of Excellence on Climate Change Adaptation (COE-CCA) and development of a Roadmap for the CT 6 countries to establish national COE-CAAs.

B. Centers of Excellence (CoE) - Desk Top Study

General Context, Concept and Purpose of CoEs

A Center of Excellence (CoE) may include a variety or combination of national, regional or international teams, shared facilities, entities or institutions that provide services to Countries, Member States or Regions. A CoE could be a research or training institution, a university or one of its departments, a laboratory, science museum or library, etc. Services provided by a CoE would include leadership, best practices, research, support and/or training for a focus area.

National Centers of Excellence in the Coral Triangle (not directly CCA related)

It should be noted that preliminary research revealed that there do not seem to be any CoE existing in the CT that are focused on CCA. The following are two CoE that operate within or near the CT.

1. **Coral Triangle Center (CTC)** http://coraltrianglecenter.org/wp-content/uploads/2015/01/Infosheet-CTC_2013_11JUNE2014_HIGH_RES.pdf

CTC considers itself a learning CoE in Marine and Coastal Resources Management, and was established to build local leadership for long-term conservation in the CT. CTC focuses on Marine Protected Areas in the 6 Coral Triangle Countries; however, both their project sites are only in Indonesia. The CTC Vision is to promote healthy seas that enrich people and nature, while its Mission is to inspire and train generations to care for coastal and marine ecosystems. CTC utilizes 5 Strategies: Training and Learning to Develop Capacity, Field Testing of Management Practices at Learning Sites (both in Indonesia),

Develop Learning Networks to Promote Regional Learning and Collective Action, Public-Private Partnerships, and Forming Regional Hubs to Inspire Stakeholders.

The CTC Goals/ToR are as follows:

- Collaborate with stakeholders to adapt the best available information on coastal ecosystems to the reality of the local communities and cultures, to inspire passion and build world-class competence in marine conservation and sustainable management;
- Learn from the knowledge and traditional practices of coastal people so that communications, training courses, and programs reflect local pride and ownership in heritage, culture, adaptability and long-term future;
- Stimulate partnerships with leaders in sectors such as tourism, fisheries, agriculture and business development, recognizing that holistic and inclusive approaches are necessary for the sustainability of coastal eco-regions and the health and economy of local communities;
- Provide trusted information, be transparent in actions, and be held accountable for the high-quality of programs; and
- Measure success, adapt strategies as needed and be proactive and responsive to changing circumstances, documenting impact over time.

2. **ARC Centre of Excellence for Coral Reef Studies** <http://www.coralcoe.org.au/about-us>

The **ARC CoE** for Coral Reef Studies undertakes integrated research for sustainable use and management of coral reefs. Funded in July 2005 under the Australian Research Council (ARC) Centres of Excellence program this centre is headquartered at James Cook University, in Townsville. The ARC Centre is a partnership of James Cook University (JCU), the Australian Institute of Marine Science (AIMS), The Australian National University (ANU), the Great Barrier Reef Marine Park Authority (GBRMPA), The University of Queensland (UQ) and the University of Western Australia (UWA).

The ARC CoE is Australia's leading contribution to coral reef sciences, and fosters stronger collaborative links between the major partners and 24 other leading institutions in nine countries. Collectively, the ARC Centre creates the world's largest concentration of coral reef scientists. The ARC CoE focuses on 3 research programs: i) People and Ecosystems, ii) Ecosystems Dynamics, and iii) Responding to a Changing World. The Responding to a Changing World program focuses on reef resilience to climate change and reef use.

The Centre of Excellence takes a leading role in multi-national research programs. It is the largest single institutional contributor to the Global Coral Reef Targeted Research Program, funded by the World Bank, and is an Institutional Member of the Resilience Alliance. The Centre of Excellence has strong links to the Census of Marine Life project, and to coral reef management agencies worldwide, particularly the Great Barrier Reef Marine Park Authority in Townsville.

Regional or Multinational Centres of Excellence on Climate Change (not in CT)

1. Caribbean Community Climate Change Center

<http://www.caricom.org/jsp/community/ccccc.jsp?menu=community> AND
<http://caribbeanclimate.bz/>

The CCCCC CoE aims to support the people of the Caribbean as they address the impact of climate variability and climate change on all aspects of economic development. This is done through the provision of timely forecasts and analyses of the potentially hazardous impacts of both natural and man-induced climatic changes on the environment, and the development of special programmes that create opportunities for sustainable development.

The CCCCC coordinates the Caribbean region's response to climate change. Officially opened in August 2005, the Centre is the key node for information on climate change issues and on the region's response to managing and adapting to climate change in the Caribbean.

It is the official repository and clearing house for regional climate change data, providing climate change-related policy advice and guidelines to the Caribbean Community (CARICOM) Member States through the CARICOM Secretariat. In this role, the Center is recognised by the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Environment Programme (UNEP), and other international agencies as the focal point for climate change issues in the Caribbean. It has also been recognised by the United Nations Institute for Training and Research (UNITAR) as a Center of Excellence.

2. Asia-Pacific Network for Global Change Research <http://www.apn-gcr.org/>

The vision of the APN is to enable an Asia-Pacific region that successfully addresses the challenges of global change and sustainability. 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 through support for research and science-based response strategies and measures, effective linkages between science and policy, and scientific capacity development. The APN, therefore, supports investigations that will:

- Identify, explain, project and predict changes in the context of both natural and anthropogenic forcing;
- Assess potential regional and global vulnerability of natural and human systems; and

- Contribute, from the science perspective, to the development of policy options for appropriate responses to global change and sustainable development.

The Goals for the APN are as follows:

- Supporting regional cooperation in global change research on issues particularly relevant to the region
- Enhancing capabilities to participate in global change and sustainability research and support science-based decision-making
- Strengthening appropriate interactions among scientists and policy makers, and providing scientific input to policy decision-making and scientific knowledge to the civil society and the public
- Cooperating with other global change and sustainability networks and organisations

The guiding principles are as follows:

- Strengthen APN's unique niche and shared ownership among members.
- Broaden APN's financial base.
- Encourage participatory processes involving scientists and policy-makers to identify emerging issues and support decision-making.
- Ensure both high scientific quality and regional relevance.
- Provide opportunities for sharing knowledge and best practices.
- Recognise the special challenges of developing countries.
- Encourage stakeholder engagement throughout projects from design to implementation and evaluation.
- Emphasise interdisciplinary and transdisciplinary research.
- Communicate Network results broadly to scientific communities, policy makers and the general public.

3. **NORD-STAR** <http://www.nord-star.info/>

NORD-STAR is the Nordic Center of Excellence for Strategic Adaptation Research. They aspire to create a Nordic region that can adapt to the impacts of climate change and the unintended consequences of climate policy. They attempt to do so by pursuing innovative science, sound economic analysis and effective communication, all in an effort to enable Nordic stakeholders to design and implement successful adaptation policy and practice.

NORD-STAR presents two key innovations:

- State-of-the-art climate visualisation techniques and policy-analysis tools to help bridge the gaps between adaptation science, practice and policy; and
 - NORD-STAR results that link climate adaptation with mitigation, and will help public and private stakeholders at all levels to improve strategy development and decision-making.

NORD-STAR focuses on three research issues: land-use change, energy transitions, and insurance and finance. NORD-STAR researchers analyse and communicate needs and opportunities for strategic adaptation using two methodological approaches: scientific visualisation and modelling, and policy analysis.

NORD-STAR also hosts a graduate training programme involving a Nordic alliance of accredited universities and institutions that provide education through solutions-oriented and tool-based courses. Dialogue with Nordic stakeholders further ensures the societal relevance of NORD-STAR's research findings, and enables an effective response to new knowledge needs.

The NORD-STAR consortium consists of nine core partners from the five Nordic countries. Additional research organisations and non-academic stakeholders contribute financial, human, or other resources. The eventual aim of NORD-STAR is to serve as a model and retain its open-Center nature to allow for additional 'STARs' across the world. NORD-STAR has been awarded NOK 30.5 million in funding by the Norden Top-Level Research Initiative sub-programme [Effect Studies and Adaptation to Climate Change](#).

National Centers of Excellence (Not in CT)

1. Thailand—CoE for Climate Change Knowledge Management

<http://www.cckm.or.th/CCKM/webpage/en.html>

It is unclear if this CoE is still functioning, but the goals could be relevant to the CTI-CFF for a national CoE model. The CoE for Climate Change Knowledge Management is based in Thailand and is a joint collaboration between National Science and Technology Development Agency (NSTDA), Ministry of Science and Technology and Chulalongkorn University. It is executed by NSTDA, administered by National Electronic and Computer Technology Center (NECTEC) of NSTDA and is partnered with various international networks, include the International START Secretariat in Washington DC and the

Regional Climate Change Adaptation Knowledge Platform for Asia
(<http://www.climateadapt.asia/>).

The goal of this CoE is to be the national node for knowledge on climate change and vulnerability of development systems and sectors at various spatial and temporal scales. The Scope of Work is as follows:

- To compile, integrate and synthesize multi-scale knowledge on climate variability and climate change that are relevant to national and local development agenda
- To use long-term observation data and integrated system modeling tools to foresight and assess for strategic development visions in the context of future climate and other environmental regimes
- To communicate and identify new knowledge that may enhance awareness and support learning process of societies to cope with climate change and climate extremes in both immediate and long time scales
- To render support for science and technology capacity building at national and local level toward the climate resilience society
- To coordinate and engage in national and international research and development services and networks in the area of climate and development

2. Italy—Euro-Mediterranean Center on Climate Change <http://www.cmcc.it/about-cmcc-description>

The Euro-Mediterranean Center on Climate Change (CMCC) is a non-profit research institution established in 2005, with the financial support of the Italian Ministry of Education, University and Research. CMCC manages and promotes scientific and applied activities in the field of international climate change research. The Center has been fully operative since 2006. The CMCC network structure has offices in Lecce, Bologna, Capua, Milan, Sassari, Venice, Viterbo, and Benevento. It involves and links private and public institutions jointly investigating multidisciplinary topics related to climate science research.

This CoE focuses on integrated study of climate change related topics in Italy. CMCC represents at the national and international scale, an institutional point of reference for decision makers, public institutions, as well as private and public companies seeking technical-scientific support. CMCC's expertise and approach to climate science is strengthened by its capacity to develop research projects, which contribute to a national network of excellence. CMCC also collaborates with the best international centers specialized in advanced and applied research on climate change. The workflow within

the CMCC network fosters the integration of technological resources and skills needed to develop a global and extensive approach to climate research including: mathematics, physics, economics and computer science.

CMCC collaborates with experienced scientists, economists, and technicians, which work together in order to provide full analyses of climate impacts on various systems such as agriculture, ecosystems, coasts, water resources, health, and economics. CMCC also supports policymakers in setting and assessing costs, mitigation, and adaptation policies.

Additional Centers of Excellence (further research required)

1. Integrated Research on Disaster Risk (IRDR) International Centers of Excellence (ICoEs) <http://www.irdrinternational.org/about/structure/icoes/>

This CoE was established through the IRDR Scientific Committee (SC) and the relevant National Committee (NC), and will provide regional and research foci for the IRDR programme. The ToR can be found at http://www.irdrinternational.org/wp-content/uploads/2012/07/IRDR-ICoE-TOR_May-2012.pdf

2) International START Secretariat <http://start.org/>

This CoE may have the capacity to assist in building up the CTI-CFF national and regional CoE. Their specialty is capacity building and they operate in various countries and regions. Their base is in Washington DC.

3) Centers for Ocean Sciences Education Excellence (<http://www.cosee.net/>)

4) Regional Climate Change Adaptation Knowledge Platform (<http://www.climateadapt.asia/>)

C. Recommendations

As the CTI-CFF continues to explore the development of a CoE, the CTI-CFF should consider the following:

1. Conduct exploratory consultation with main stakeholders and figureheads from the target CoEs to capture lessons learned and best practices;
2. Conduct further research and compile information from the abovementioned exploratory series of consultations to :

- Define a common set of best practices and work standards, or governance standards for implementation;
 - Define what direct (i.e., in-person) and/or indirect (e.g., instructional content, tools & templates, etc.) guidance and support would look like to aid in the implementation of these best practices work standards.
3. Identify funding to conduct a Regional Exchange on Centers of Excellence for the CCA TWG and other stakeholders and development partners to develop a Roadmap for National Centers of Excellence on Climate Change Adaptation and potential for a regional Coral Triangle CoE on CCA.