



CLIMATE CHANGE POLICY AND IMPLEMENTATION

PARTNERING WITH ACADEMIA ON CLIMATE CHANGE

Department of Climate Change (DCC), General Secretariat of the National Council for Sustainable Development (GSSD), with support of Cambodia Climate Change Alliance (CCCA), is establishing and operationalizing Climate Change Knowledge and Information System framework. Climate Change partnership is one of the major components to be implemented with universities, academy and research institutes to build capacity and knowledge on climate change in

Cambodia. As part of these efforts, DCC is working with the Secretariat to establish long-term cooperation agreements with academic and research institutions in Cambodia to foster knowledge creation and strengthen evidence based policy development in matters related to sustainable development, including climate change.

So far, GSSD has formalized partnerships with four academic institutions to foster

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NCSA's Secretary General and four academic institutions signed MoUs, Nov. 17, 2017 in Phnom Penh

INTERNATIONAL CLIMATE DIALOGUES

CAMBODIA'S POSITION FOR COP23 OF THE UNFCCC

The 23rd Conference of Parties (COP 23) took place in Bonn, Germany, on 06-17 November 2017, under the presidency of Fiji. The conference brought together all 195 state members, about 16,025 people including NGOs and media representatives, to address global climate change response. Fiji underlined their vision of a presidency that is transparent and inclusive of all, advances the Paris Agreement, and accelerates climate

action for vulnerable societies.

A total of 22 delegates led by Ministry of Environment together with National Council for Sustainable Development (NCSA) and Ministry of Agriculture, Forestry and Fisheries (MAFF), participated in the conference to convey the country's position on addressing climate change.

Cambodia is a strong commitment to

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EDITOR'S NOTE

Dear Readers,
We would like to welcome you to this issue of the Climate Change Newsletter. We intend to bring this newsletter to you every quarter to reflect on the new climate policy developments in Cambodia and to keep you updated on the work being conducted by Department of Climate Change at the General Secretariat of the National Council for Sustainable Development. Every other quarter, we will be sharing interesting examples of the work being done by many partners and communities to respond to climate change. We are counting on you, dear reader, to join us as a regular or occasional contributor – your Voices from the Ground are essential to the newsletter's success and to our work as climate change practitioners.

EDITORIAL BOARD

This newsletter is prepared, edited and produced by Department of Climate Change of the General Secretariat of the National Council for Sustainable Development with technical assistance from Cambodia Climate Change Alliance.

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research and build capacity in sustainable development related areas, including but not limited to climate change, biodiversity, green economy, and science and technology. The four academic institutions are Royal University of Agriculture, Royal University of Phnom Penh, Prek Leap National College of Agriculture, and Mean Chey University, signed the respective Memorandum of Understanding (MoU) in a joint ceremony held at the Ministry of Environment on 17 November 2017.

This is the first time NCSDD establishes formal long-term agreements with academic institutions to work on improving education, awareness-raising, knowledge and human and institutional capacity in the field of sustainable development. The forms of cooperation consist of development of policy-oriented research, improvement of data, information, and knowledge exchanges among academia, policy makers and practitioners, and capacity



NCSDD's Secretary General hands over the Lexicon of Climate Change books to Royal University of Phnom Penh, Nov. 17, 2017 in Phnom Penh

strengthening opportunities for students and lecturers.

The cooperation reflects the mandate of NCSDD to promote sustainable development and build capacity on climate change innovation, research and awareness raising, helping to bridge the gap between science and policy. GSSD plans to establish additional cooperation agreements with two other universities in 2018.

CLIMATE CHANGE POLICY RESEARCH PRIORITIES IDENTIFIED

As stated in the Cambodia Climate Change Strategic Plan 2014-2023 (CCCSP), research, knowledge and innovation are key building blocks of Cambodia's climate change response. Clear priorities for climate change response need to be established to assist in the coordination and targeting of current and future efforts in climate change research undertaken by academia and research institutions, and other government and non-government institutions through climate change related projects. This is expected to result in a stronger knowledge base on climate change issues in Cambodia, and thus in more informed decisions and greater impact on the ground, from the implementation of the national climate change response.

An in-depth discussion of research priorities was conducted during the last DCC/CCCA knowledge-sharing event held in Siem Reap on 05-06 December 2017. This event on "Research and Practice in Cambodia" brought together researchers, policy makers, and practitioners to share recent findings and lessons learnt from the climate change research and practice and to develop a common understanding on the priorities for climate change related research. Taking as a starting point an initial set of research and innovation priorities defined by GSSD in 2015, participants have discussed and identified 18 climate change policy research priorities (see the boxes).

Inputs from this event will be used to guide further discussions on the formulation of a national research agenda in support of the national climate change response. Way forward and recommendations for future implementation include:

- ▶ Formulate a national research agenda in support of the national climate change response, based on national policy priorities and existing gaps;
- ▶ Gather existing research findings relevant to the research

Greenhouse Gas Inventory and Mitigation

1. Research & Development of low-cost, low carbon, appropriate technologies for energy, industry and waste management
2. Decoupling development from carbon-reducing uncertainties in estimating national greenhouse gases (GHGs) emissions and removals from key emitting
3. Improving activity data and emission factors for the key sources of national GHG Inventory
4. Assessment of green building standard and clean city on GHG mitigation/resilient capacity

Adaptation

5. Climate resilience of food production systems for increased food security
6. Policy-relevant health risk assessment from short and medium-term climate variability and the effects of gradual climate change (with a focus on vulnerable groups exposed to climate hazards)
7. Understanding the role of social protection and early warning schemes in reducing vulnerability to climate variability and change (including analysis of the gender dimension)
8. Developing bottom-up, participatory approaches to community/ecosystem-based adaptation
9. Developing methodologies for assessing adaptation technologies and the costing of adaptation measures for local level planning
10. Quantifying ecosystem services – methodological contributions to the establishment of natural resource accounting systems in the context of climate change
11. Effects of El Niño on water and sanitation in Cambodia
12. Identify technology/method to reduce water loss for medium-large scale irrigation system
13. Study on groundwater availability for sustainable use
14. Research methodology and VA approaches cost-benefit/adaptation costs analysis

Low Carbon Resilient Development

15. Understanding the role of land use planning in climate change adaptation and mitigation responses
16. Understanding urban resilience – technical and policy recommendations for low carbon urban resilient development (including governance, management, planning and design dimensions)
17. Assessment of sustainable land use management
18. Assessment of green building standard and clean city on GHG mitigation/resilient capacity

areas identified as priority;

- ▶ Implement climate change partnerships with universities to define better mechanisms for research in Cambodia;
- ▶ Improve knowledge management system so that all research findings are made available.

Proceedings of the DCC/CCCA knowledge-sharing event are available at [this link](#) or www.camclimate.org.kh.

CAMBODIA NAP FINANCING FRAMEWORK AND IMPLEMENTATION PLAN LAUNCHES

Based on Cambodia Climate Change Strategic Plan 2014-2023 (CCCSP) and corresponding sectoral Climate Change Action Plans (CCAPs) of 14 relevant line ministries/agencies, the National Adaptation Plan Financing Framework and Implementation Plan (NAPFF) was officially launched with high level representation from the Ministry of Environment and with participation of 110 representatives from line ministries and agencies, development partners, academia and media on 12 October 2017 at Phnom Penh Hotel.

NAPFF aims at increasing the possibilities for Cambodia to access additional adaptation financing and provides an analysis of both the financial demand and gaps. It examines the international climate finance landscape and gives medium- and long-term recommendations, as well as short-term suggestions for 40 priority climate change actions.

In the NAPFF, the 40 CCAP Priority Actions (PA) that are prioritized for implementation are categorized in three “groups”.



H.E. Eang Sophallet, Ministry of Environment's Under Secretary of State, hands over NAPFF book to representative of MoE's Department of Planning and Budget, Oct. 12, 2017 at Phnom Penh Hotel

Some of the key recommendations in the NAPFF include:

- ▶ Priority actions should pursue sector-wide or programmatic approaches rather than small-sized projects;
- ▶ Continuous need to strengthen project and budgeting capacities;

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INTERNATIONAL CLIMATE DIALOGUES

CAMBODIA'S POSITION FOR COP23 OF ...

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address climate change, having promptly ratified the Paris Agreement on Climate Change and submitted its Nationally Determine Contribution (NDC). Cambodia called all parties to provide support to the government to achieve their target in reducing greenhouse gas 27% by 2030, and its pledge to increase forest stock between 47 to 60%.

Key measures that Cambodia has been taking to contribute to the global climate change response include (1) institutional capacity building, (2) development and implementation of strategic plans to respond to climate change, (3) mainstreaming climate change into development plans, (4) mobilizing resources for climate action, (5) development of renewable energy and energy efficiency policies, (6) forest conservation, and (7) implementation of climate change related projects aimed at building sustainable resilience of communities and livelihoods.

COP23 President has called for a grand coalition of governments at every level, civil society, faith communities, the private sector and ordinary men and women across the world to unite for climate action – Uniting for climate action – Further, Faster Together. Parties to the Convention have worked on a number of issues that are key to accelerate climate change action at the global and local level. Important outcomes and decisions of COP23 are highlighted in the box.



H.E. Khut Chandara, MoE's under-secretary of state, head of Cambodia delegation, delivers Cambodia statement to combat climate change, Nov. 17, 2017, Germany

COP23 Outcomes: Achieved ambitions before 2020

- ▶ Urge Paris Agreement on Climate Change Implementation by COP24, December 2018;
- ▶ Launch of the 2018 Talanoa Dialogue, allowing countries, as well as non-state actors, to share stories and showcase best practices in order to raise ambition – including pre-2020 action relative to nationally determined contributions (NDCs), with a report to be submitted at COP24;
- ▶ Request the Kyoto Protocol Members to ratify the Doha Amendment to Kyoto Protocol as soon as possible;
- ▶ Organize a meeting to collect information on practices and ambitions before 2020 on Mitigation Efforts and Financial, Technology and Capacity Building support in COP24 and COP25;
- ▶ Under “Fiji Momentum for Implementation”, Parties decided to allocate funds earmarked for implementation of the Paris Agreement to operate the Local Communities and Indigenous Peoples Platform, develop the gender action plan, assess the review of the Adaptation Fund, and to develop capacity and raise awareness on loss and damage;
- ▶ COP24 will be held in early December 2018 in Poland.

CLIMATE CHANGE POLICY AND IMPLEMENTATION

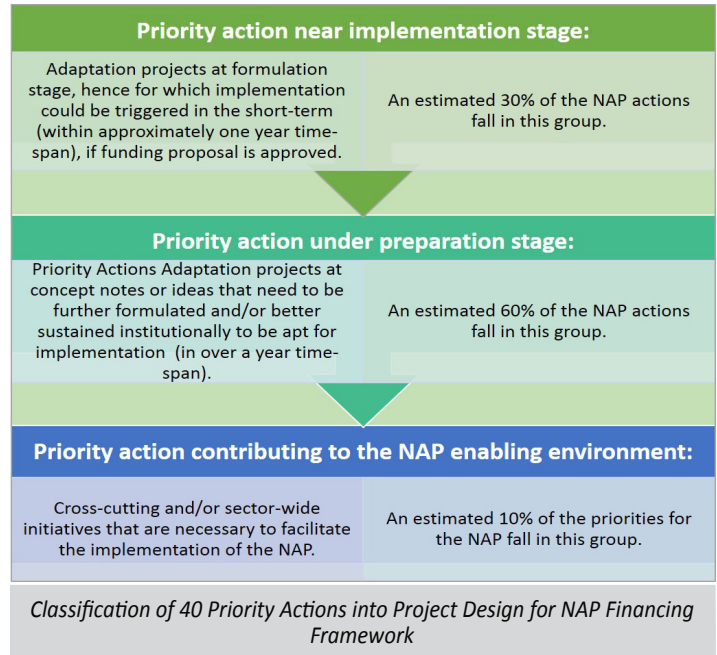
CAMBODIA NAP FINANCING FRAMEWORK ...

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- ▶ A national repository on climate science/knowledge/development needs further development;
- ▶ Strengthening of sectoral coordination;
- ▶ Mainstream climate proofing into ministries' plans and budgets;
- ▶ Increasing the integration of gender dimensions in climate responses.

Based on the recommendations in the NAPFF and after discussion with NCS, Climate Finance Readiness Programme will support one selected climate change sensitive ministry with Climate Finance Training and by using a priority action, develop a wealthier project proposal more ready for international funding. Additional and sustained efforts will however be needed from both domestic and international stakeholders to implement the recommendations in the NAPFF.

The NAP Financing Framework was developed by the NCS with support from the Climate Finance Readiness Programme (CF Ready). CF Ready is implemented by GIZ, in cooperation with and financed by USAID, and is supporting the National Council for Sustainable Development (NCS) to institutionalize Cambodia's National Adaptation Plan (NAP). The goal of the



NAP process builds on the objectives set by the National Strategic Development Plan (NSDP) and the Cambodia Climate Change Strategic Plan (CCCSP) 2014–2023 and focuses on strengthening and better integrating already ongoing processes.

The NAPFF can be downloaded from [this link](#) or www.camclimate.org.kh. A Khmer version is expected to be available in January 2018.

VOICES FROM THE GROUND

LIVELIHOOD VULNERABILITY OF FOUR COMMUNES IN STUNG TRENG RAMSAR

Stung Treng Protected Area was designated a Ramsar Site in June 1999, becoming part of the list of wetlands of international importance for the conservation of global biological diversity, where conservation and the wise use of these critical wetlands are paramount. The management of Stung Treng Ramsar Site requires a delicate balancing of the requirements of ecosystem and species conservation, and the needs of local communities. Many of its over 13,000 residents, whose livelihoods depend heavily on this wetland, are growing increasingly concerned about the threat that climate change poses to the future of the wetland and to their lives.

In 2017, Stung Treng Provincial Department of Environment conducted a study to assess livelihoods vulnerability in the Stung Treng Ramsar Site. The study helped to understand the factors that were contributing to the vulnerability of the four communes located within the boundaries of the Site, and was the basis for the development of an adaptation plan that will help the provincial department, and in particular the manager of the Ramsar Site, to better address major components of climate change vulnerability.

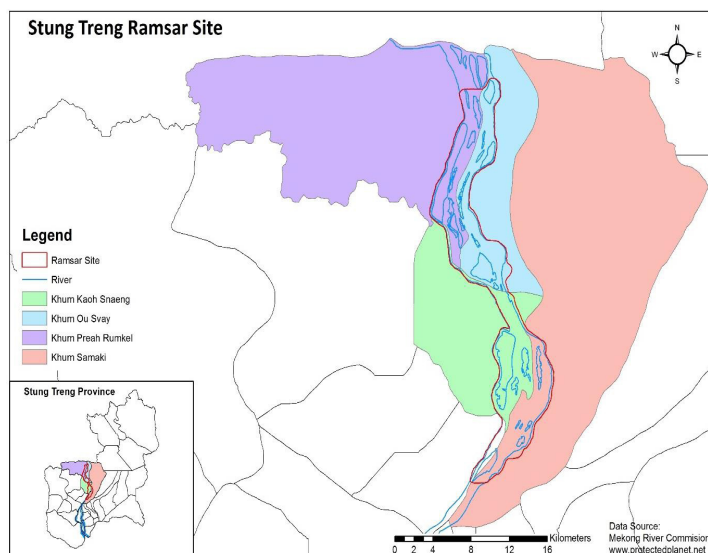
IPCC's livelihood vulnerability index (LVI), with its three

dimensions (exposure, sensitivity and adaptive capacity), is used in the study to assess livelihood vulnerability among 350 sampled households, including 105 female headed households, in the Site's four communes: Preah Rumkil, Koh Sneng, O'Svay and Samaki. Two climate models were used as an integral part of the exposure.

The study found that all four communes are vulnerable to climate change, with Preah Rumkil and Koh Sneang being the most vulnerable. Female-headed households are found to be vulnerable to climate change due to their lower capacity



An interview to woman headed household in Stung Treng Province's Preah Rumkil commune, November 2017



Study areas of the Stung Treng Ramsar Site

to adapt to climate change, based on the respective socio-economic profile, livelihood strategy and social network. These communes are particularly vulnerable to floods due to their high degree of exposure, lack of effective early warning systems, and low level of preparedness. The study found that most of the people living in the Ramsar site have never received training and do not know how to respond to these increasingly difficult conditions. For example, in spite of the difficult access to health services prevention of malaria and dengue is still a

concern; in spite of repeated devastating impacts of floods to crops, locals do not take advantage of more resilient farming techniques, nor have they adopted livelihood strategies that may help them cope better with these impacts.

To effectively reduce vulnerability, the study puts forth key recommendations including:

- ▶ Set up early warning system, including the use of community radio, emergency response and evaluation plan (e.g. shelters and escape routes, community response groups to help the vulnerable people);
- ▶ Provide training on health protection, e.g. food safety, sanitation, hygiene and first aid.
- ▶ Formulate a disaster management plan to minimize effects of floods and drought.
- ▶ Involve household groups, including male, female and the vulnerable persons, in risk reduction planning.

The study provides information on the degree and underlying causes of vulnerability of the communes located in the Ramsar Site, and its recommendations can be used to inform climate change adaptation planning. In turn, some of the lessons learnt from projects under implementation in areas facing similar challenges can also be of use to these communities, e.g. helping them to adopt more resilient water management and agriculture techniques.

MEDIUM SCALE BIODIGESTER INNOVATION AVAILABLE FOR SMART ENVIRONMENT

Cambodia has large technical potential for domestic biodigesters, up to 890,000 households, and for several hundred medium and large scale commercial biodigesters. The technology contributes to greenhouse gases (GHG) emission reduction by capturing methane (CH₄) emitted from animal manure converting it into biogas that can be burned to generate energy. However, commercial biodigesters have not yet been promoted in Cambodia.

Medium Scale Biodigester for Smart Environment technology is being studied and tested in Cambodia since July 2016 by National Biodigester Program (NBP), with financial support from the Department of Climate Change and its Cambodia Climate Change Alliance (CCCA) programme. Its major aim is

to convert emissions from massive amounts of animal manure into bio-energy for electricity and to improve livestock health such as elimination of smell and no dung discharge into land or pond. Some activities of the NBP include:

- 1) Development of feasibility studies of medium scale models;
- 2) Selection of voluntary farm owners to be piloted;
- 3) Construction of biodigesters equipped with selected appropriate technology of electricity generators;
- 4) Proper monitoring and evaluation of the piloted models.

At present, medium scale biodigester units are being piloted by NBP in three different pig farms in Kampong Speu province, processing an estimated total of 6,132 ton of manure, with the potential to mitigate 3,400 ton CO₂eq per year.

Mr. Khut Tong who operates a pig farm with 1,200 pigs in the Baseth district, has volunteered to install a medium scale biodigester in 2017. "With partial financial support from the [NBP] project, I equipped one generator with capacity to produce 60 kVA, helping save around 30%-50% of monthly electricity payments" said Mr. Tong.

Mr. Tong also pointed out that the biodigester had solved one of his major problems – lack of space to discharge the growing amount of animal waste in his farm. He and neighboring farmers received training on how to use the biogas-slurry, a by-product of the biogas production process, to increase crop



Medium scale biodigester dome storing pig dung in Kampong Speu's Kong Pisey district, in December 2016

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MEDIUM SCALE BIODIGESTER INNOVATION ...

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Demonstration site using bio-slurry in horticulture in Kampong Speu's Borseth district, in August 2017

yields and improve long-term soil fertility. They have learnt that bio-slurry is a safe, organic, liquid fertilizer that can be applied to crops and trees alike, and that it can play an important role in improving soil structure and soil fertility, helping improve the quality of almost any type of soil.

Medium scale biogas technology is generating great interest amongst pig farm owners, as it can significantly reduce production costs (e.g. by reducing expenditures on energy or fertilizer). In addition, this technology contributes to the reduction of carbon emissions resulting from this type of economic activity. Despite the benefits, further support is needed to scale up the results of the project to other areas and accelerate the rate of adoption of this low carbon, environmentally friendly technology.

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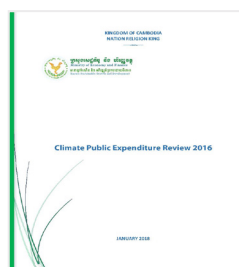
Integrating Climate Change Textbook into National Education Curriculum



The Climate Change Textbook for secondary school (grades 10-12) has already been tested in ten schools and is expected to be launched in April 2018. The Textbook was developed by the Department of Curriculum Development (DCD) of Ministry of Education, Youth and Sport (MoEYS) with the technical support from the Department of Climate Change and CCCA. The textbook, with its three sections separately written for grades 10, 11 and 12, will help education officials, teachers, and secondary school students to gain greater knowledge on climate change issues affecting Cambodia. The work is being carried out by DCD/MoEYS as part of the project "Mainstreaming Climate Change in Education", funded by the CCCA Grant Facility.

UP-COMING PUBLICATIONS

Climate Public Expenditure Review 2016



The study on Climate Public Expenditure Review 2016, conducted by Ministry of Economy and Finance, provides an update on climate change public expenditure for fiscal year 2016, by analyzing public expenditure data for the 15 ministries and agencies who have developed Climate Change Action Plans. The CPER 2016 shows a continued drop in climate change expenditure of 12% in 2016, following a 9% drop in 2015, noting that this is largely due to a sharp reduction in external climate change financing (21%), which is even more pronounced than the decrease in overall ODA (incl. NGO) to Cambodia (about 10% in 2016). CPER 2016 will be available in January 2018.

UP-COMING EVENTS

Jan: Dissemination Workshop on Joint Crediting Mechanism in Low Carbon Technology

Jan: National Training on Working with ALU Tool for Compiling and Analyzing GHG Emission Data from the Agriculture, Forest, and Land Use sector in Cambodia

Feb: Evaluation of the piloting of the climate change textbook for secondary school in 10 schools of 4 provinces.

Feb: 12th CCCA Programme Support Board Meeting

Mar: Stakeholder consultation on climate change textbook for secondary schools

For most updated climate change response related events or publications, keep following us at www.camclimate.org.kh

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Contact:

Department of Climate Change

General Secretariat of the National Council for Sustainable Development

c/o Ministry of Environment

No. 503, Road along Bassac River, Sangkat Tonle Bassac, Chamkarmon, Phnom Penh

Tel: +855-23 640 8370 | E-mail: admin@camclimate.org.kh

Website: www.camclimate.org.kh