

A Review on the Current Climate Change Impact in Cambodia and Government Efforts to Strengthen Resilience of Local Communities

ASEAN Forum on Water Management and Climate Change towards
Asia's Water-Energy-Food Nexus and SDGs

23-25 January 2019

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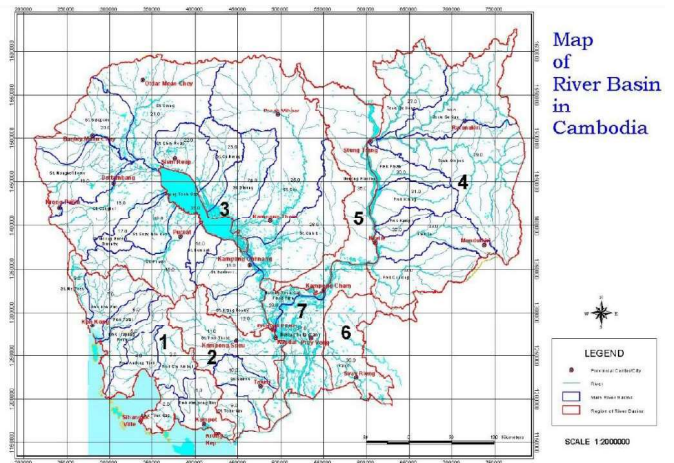
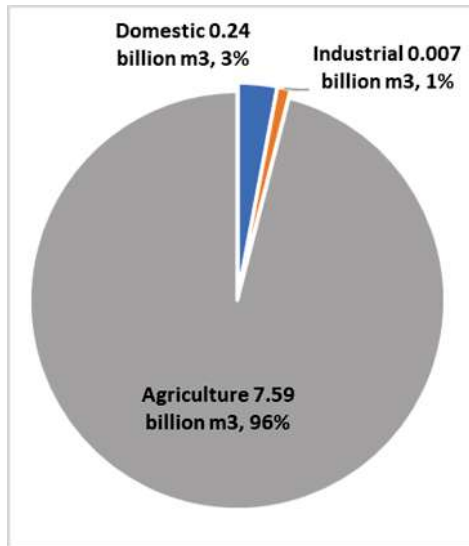
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Uses of water in Cambodia

Annual water availability:

- 75 billion m³ of surface water runoff
- 17.6 billion m³ of aquifer ground water.



Total uses of water of all purposes were amounted to **7.9 billion m³**

Water uses is about **2%** of Mekong Annual flow!

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The trend of Changing Climate in Cambodia

■ Temperature:

- Increase in average temperature of 0.8°C since 1960,
- The rate of increasing about 0.18°C per decade
- Average temperature of Cambodia will increase by 0.7 - 2.7 °C by 2060, and 1.4 to 4.3°C by 2090.

■ Rainfall:

- Rainfall is observed to increase in intensity over the country
- Total rainfall during heavy events is forecasted to intensify by +14 % by the 2090s
- Annual Rainfall increase with the projected rise in wet season rainfall from -11 to +31% by the 2090s.
- Increase of 1 and 5-day rainfall of up to 54 and 84 mm, respectively, by the 2090s

Consequences

Droughts and flood are recognized as the leading factors in poverty in rural area, because they are the major cause of economic loss and lives.

Flood:

- About 100 people were killed by flood and it causes damages to agriculture from 100 million to 170 millions USD each year.
- In 2013 there were 1.8 million victims of flood such as damage of houses, destroying poultry, farming, crop
- 2013 flood damaged 440 km of national road, 1557 km of rural road

Drought:

- In 2016 cause 250,859 people effected through lacking of domestic water use, crop destroyed, poultry, fishery
- About 5% of total rice land in Cambodia is affected by drought each year

MAFF, 2010-2016

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Issues to be addressed

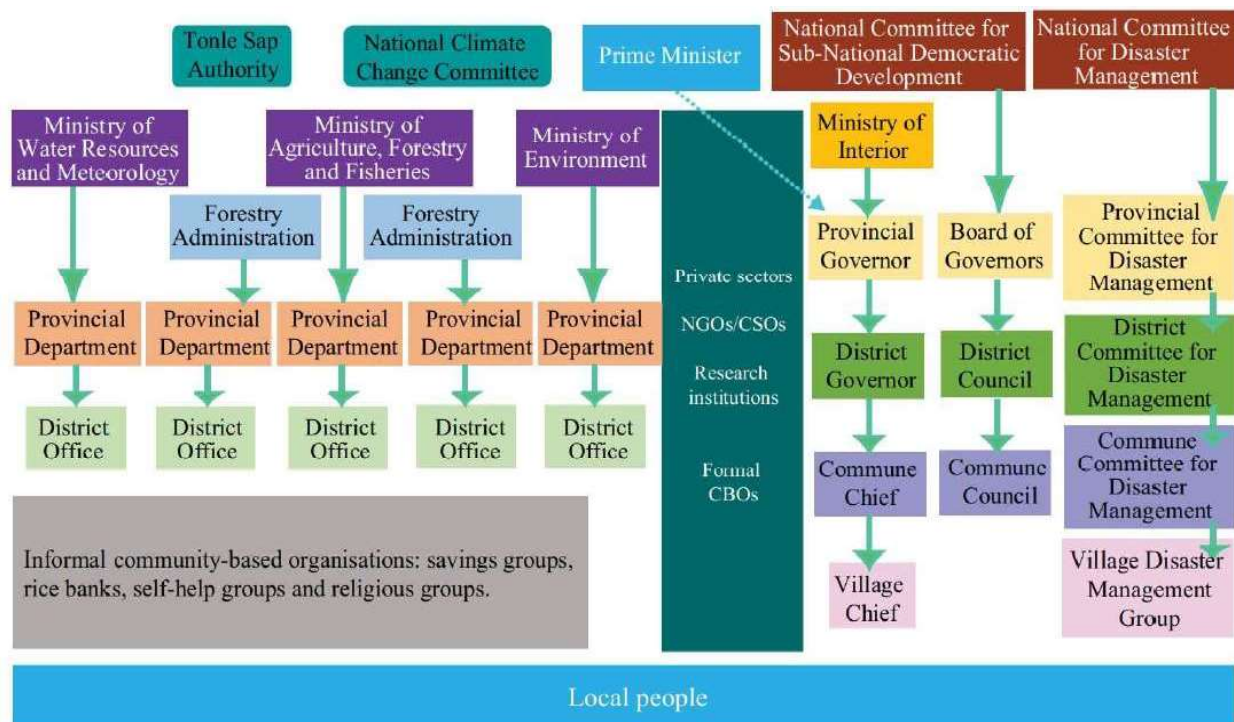
Extremes of rainfall, flooding, droughts and hot weather take a huge lost on Cambodia's water infrastructure and agriculture, livelihood, and increasingly severe climate change impacts are being observed and need government take serious action in all levels.



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Actors in water governance and climate change



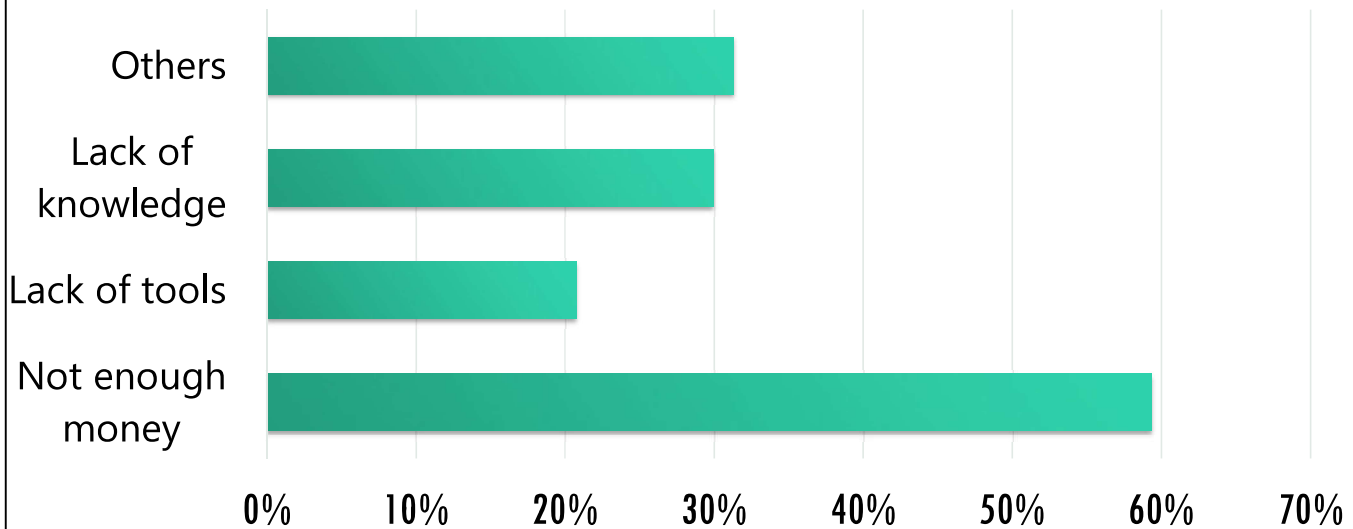
Sources: Pech 2015; interviews 2014-2015

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National and sectoral strategies and action plans for climate change adaptation

- Based on NSDP, Cambodia aims to have fully climate-resilient infrastructure by 2030, in accordance with its SDG9.
- MPWT developed flood risk management interface (FRMI) software to provide access to information about roads, floods and flood risk maps – a tool for designing roads able to resist flooding and submergence.
- Cambodian Climate Change Strategic Plan (CCCSP) 2014-2023
- Sectoral climate change strategic plans (for 15 sectors) (2013)
- Climate Change Strategic Plan for Water Resources and Meteorology 2012

Barriers of Adaptation at the sub national level and local communities



Source: MOE ,2016

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Barriers of Adaptation: from Local Community's perspective

- Insufficient experiences in climate change adaptation
- Limited participation from local people (time, resource, and commitment)
- Development plan, proposal writing
- Neither technical nor financial supports
- Lack of agricultural techniques
- Lack of knowledge
- Lack of irrigation system
- Lack of water for farming in dry season
- Lack of materials (pumping machines,...)

Source: VRA, 2018

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National and sub-national responses

- International funding and increased interventions
- Supportive policies and strategic plans
- National adaptation plan financing framework (sub-national level)
- CDP/CIP: Chapter 3: Natural Resources, Environment and climate change adaption

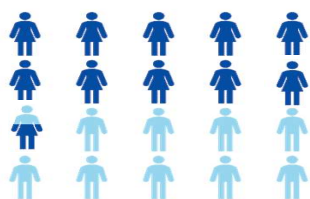
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Projects support to local communities

- Reducing the Vulnerability of Cambodian Rural Livelihoods through Enhanced Sub-National Climate Change Planning and Execution of Priority Actions, (**SRL**) 2016-2020
- National Development program Sub-National Democratic Development Secretariat (**NCDDS**) 2017-2019⁴
- Local Governments and Climate Change (**LGCC**) 2012 – 2018
- Scaling up climate change into sub-national planning and budgeting process (**SNC Scale-up**) 2013-2019
- Agriculture Services Programme for Innovation, Resilience and Extension (**ASPIRE**) 2015-2021
- Community-Based Disaster Risk Reduction (**CBDRR**) 2015-2018
- Green Climate Fund (GCF-NIE) 2018-2021
- LoCAL combines performance-based climate resilience grants (**PBCRGs**) from UN Capital Development Fund (UNCDF)

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Case of Project to Strengthening Resilient Livelihood (SRL)



6,000 household increase income 20%



100 Small irrigation schemes



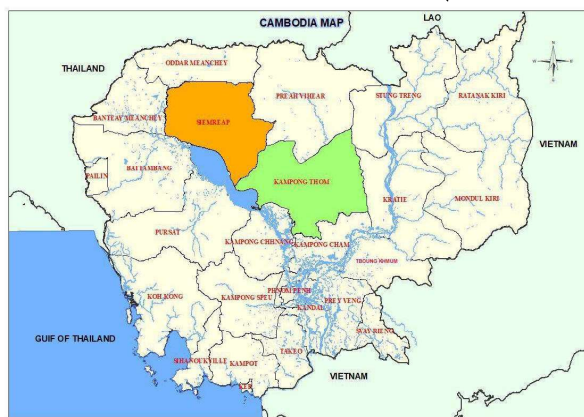
160 Village will be improve livelihood



89 Common will be mainstreamed on cc and vulnerability

10 Districts in 2 provinces

4.8 million USD from GEF & UNDP (2016-2020)



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What we do in the project

1)1.

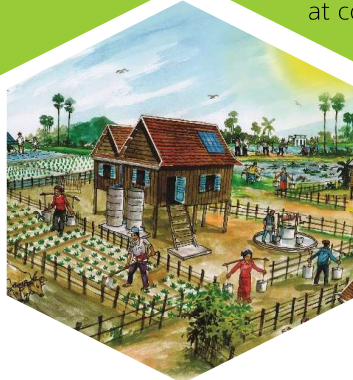
2)Financial plan and implement the priority action on cc adaptation at sub national level

2.

Resilient to cc on economic income and Adopt to rainfall intensity and natural disasters

1)3.

2)Incentive mechanism for sub-national level on financial management for cc adaptation project at community



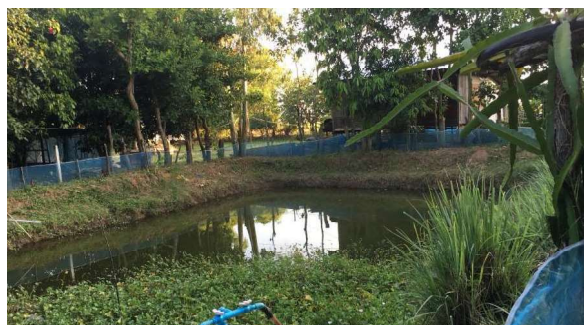
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Sub-national level training



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Farmer group formation and trainings



Identification and verification of infrastructure project



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Challenges at sub-national level

- The MOE has acknowledged that limited coordination and cooperation due to a **lack of communication and information** sharing among government agencies is a barrier to climate change adaptation
- **Young policy relevant** to climate change resilient and limited support to local community and sub-national level
- Local governor and staff has **limited capacity** in preparing development plan and project proposal on climate change adaptation
- Common and district has **small share investment budget** on infrastructure development
- No incentive mechanism from national level to local government staff at district and common
- Lack of scientific information and evidence-based policy for correct solution

Thanks for your kind attention

