



Supporting adaptation planning through the Myanmar Climate Change Alliance: Experience from The Republic of the Union of Myanmar



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Outline



- **Challenges: observed and projected climate change results in high vulnerability, and development under threat**
- **Key achievements: Climate Change Policy, Strategy and Master Plan**
- **Way Forward: Implementation**

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Observed climate changes: temperatures



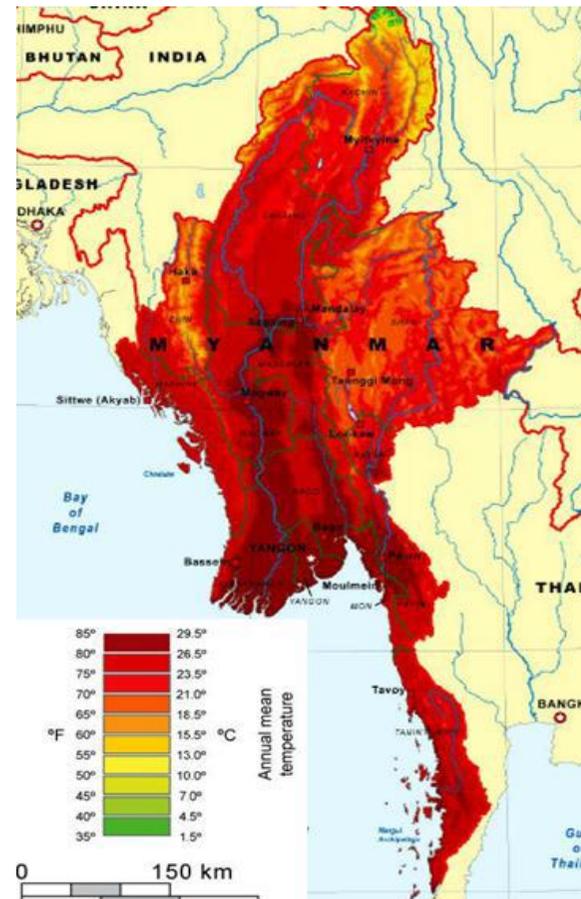
1981 - 2010

Annual average temperatures

+ 0.25°C per decade

Daily maximum temperatures

+ 0.40°C per decade



Annual average temperatures
(Source: NAPA)

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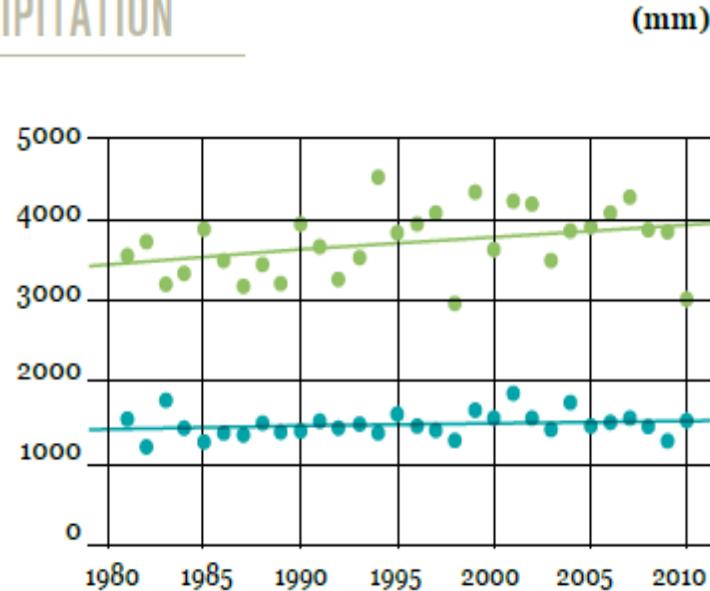
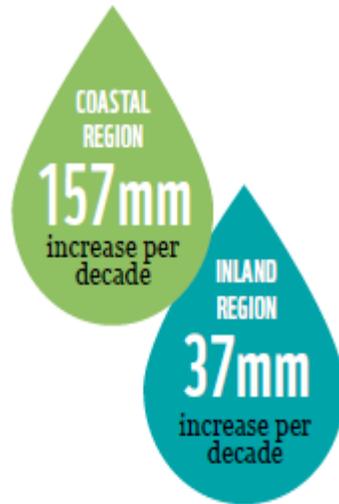


Observed climate changes: Precipitation



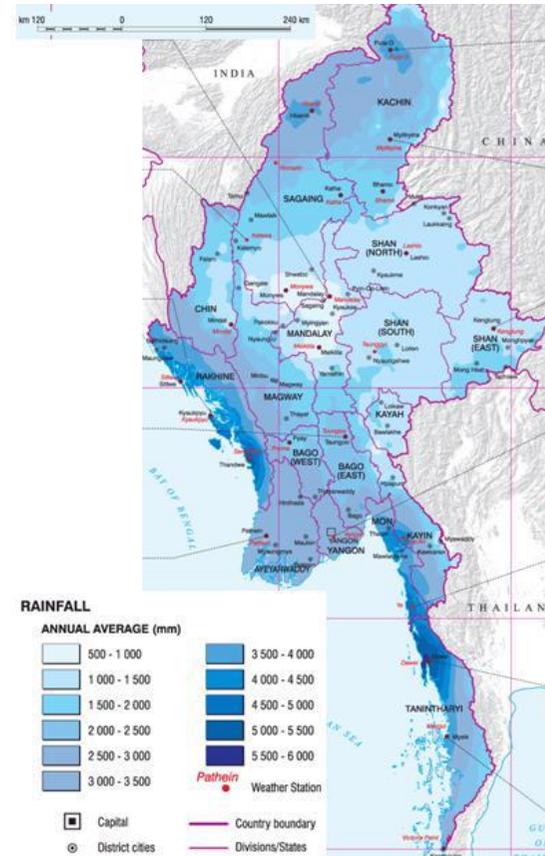
Change: 1981 - 2010

ANNUAL TOTAL PRECIPITATION



(Source: Horton R., et al. (2016))

Annual average precipitation



(Source: NAPA)

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Climate Change Projection in Myanmar

Heavy rain

	Model baseline* (1980 to 2006)	Precipitation range 2011-2040	Precipitation range 2041-2070
Annual	2000 mm	+1% to +11%	+6% to +23%
Hot Season	300 mm	-11% to +12%	-7% to +19%
Wet Season	1700 mm	+2% to +12%	+6% to +27%
Cool Season	100 mm	-23% to +11%	-12% to +11%

Temperature increase

	Model baseline* (1980 to 2006)	Warming by 2011-2040	Warming by 2041-2070
Annual	23.6 °C	0.7-1.1°C	1.3-2.7°C
Hot Season	25.1°C	0.8-1.2°C	1.4-2.9°C
Wet Season	25.1°C	0.6-1.1°C	1.1-2.4°C
Cool Season	20.5°C	0.7-1.2°C	1.3-2.8°C

Sea level rises

Timeslice	Middle range of future sea level rise
2020s	5 cm to 13 cm
2050s	20 cm to 41cm
2080s	37 cm to 83 cm

Risk of Climate Change

- Myanmar is highly vulnerable to climate change and one of the countries most affected by extreme weather events.
- In the past 20 years (1997–2016 period) it has been exposed to a total of **43 extreme weather events** resulting in:
 - death toll of **7,097 (annual average)** inhabitants,
 - annual average of **0.69 per cent loss per unit in GDP**



This makes Myanmar the **third-most affected country** to extreme weather events (Global Climate Risk Index 2018, German Watch)

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Climate change implications on development aspirations



Main climate-related drivers to affect Myanmar's development will include: increasing temperature trends; extreme temperature and precipitation events such as heatwaves, droughts and floods; damaging tropical cyclones; sea level rise; salinity intrusion; and ocean acidification.

Agriculture, livestock and fisheries	Natural resource management	Energy, transport and industry	Cities and human settlements	Health and wellbeing	Education, science and technology
<ul style="list-style-type: none">• Slow onset phenomena and extreme events adversely affecting these sectors.• Loss of agricultural productivity among smallholders.• Example: when Cyclone Nargis damaged 57 % of Myanmar total rice production, negative growth in agricultural production	<ul style="list-style-type: none">• Changes in climate affect ecosystem functions and service provision.• Increased moisture stress resulting from increased evapotranspiration can increase incidence of forest fires• Impacts on water availability• Loss of agro-biodiversity	<ul style="list-style-type: none">• Sectors that are traditionally defining factors of economic growth• Energy, transport and industry sectors are both exposed to negative effects of a changing climate and have the potential to negatively affect Myanmar's net GHG sink status• Future investments can affect Myanmar's ability to meet SDGs and NDC targets	<ul style="list-style-type: none">• Rapid future rate of urbanization as only approx. 30% population lives in urban areas• Cities and towns exposed to hazards that can affect capacity to support sustainable and inclusive development and welfare of residents• Economic impacts• Impacts of slow-onset phenomena on rural-urban migration	<ul style="list-style-type: none">• Increased spread of disease following larger areas for vectors• Projected climate change impacts can cause more human and economic losses in years to come, undermining GDP growth and social prosperity	<ul style="list-style-type: none">• These sectors play an important role in driving development and knowledge for a low carbon and resilient society• Children are hardest hit by climate change impacts, including from damaged school infrastructure as a result of floods• These sectors can play an important role in formal education and professional development

Myanmar Climate Change Alliance (MCCA: 2013-2018)



Mainstream climate change into the Myanmar policy development and reform agenda

Overall Objective

Three Expected Results

- ER1:** Government, civil society and the private sector are more **aware of the implications of climate change**.
- ER 2:** Government has the capacity and support needed to integrate climate change considerations in **policies, strategies, plans and operations**.
- ER 3:** Lessons drawn on climate change from Sub-national and **local level activities**.

Implementation Arrangements

- Funding from EU under GCCA
- Implementing partners: UN-Habitat and UN Environment
- Oversight – Programme Steering Committee headed by MoNREC
- Myanmar Climate Change Alliance Unit – housed at ECD
- Technical Working Group and 6 Sectoral Working Groups
- Local Government (regional and township)

Key Achievements under MCCA



Increased awareness

- High-level advocacy
- Policy briefs on sectoral impacts & cross-cutting
- CC documentary, website, social media
- Mentoring of journalists

Institutional capacity

- Support on Global Climate Diplomacy
- Coordination mechanism: TWG and PSC
- Climate Change Policy, Strategy and Master Plan
- Capacity-building support for implementing MCCSMP

Local level interventions

- Climate Change VA and Social Sustainability Plan
- Local Climate Resilience Planning
- Implementation of prioritized adaptation actions
- Training toolkit to upscale and replication across Myanmar townships

Myanmar Climate Change Policy, Strategy and Master Plan



Vision: Myanmar's vision is to be a *climate-resilient, low-carbon society that is sustainable, prosperous and inclusive, for the wellbeing of present and future generations.*

Goal: By 2030, Myanmar has achieved climate-resilience and pursued a low-carbon growth pathway to support inclusive and sustainable development.

STRATEGIC OBJECTIVES

Increase adaptive capacity and resilience of communities and sectors

Maximise opportunities for low carbon development in potential sectors

FOCUS AREAS (KEY ENTRY POINTS)

Climate smart agri, fisheries and livestock for food security

Sustainable management of NR for healthy ecosystem

Resilient and low-carbon energy, transport and industry

Resilient, inclusive and sustainable cities and towns

Climate risk management for health and wellbeing

Education, science and technology

STRATEGIC PRIORITIES (FOR EACH FOCUS AREA)

Policy
Climate smart initiatives into policies and plans

Institution
Operational arrangement, coordination mechanism

Finance
Climate finance, climate smart investment

Capacity and technology
Climate-smart responses

Awareness
Capacity for climate-smart decision making

Partnership
Multi-stakeholder partnership

Key Challenges encountered in the process

- Political support
- Limited Capacity
- Need Strong Coordination Mechanism
- Financial Needs
- Technology Needs

Lessons learned

1. Need to **mobilize diverse stakeholders**;
2. Building an **evidence base for adaptation** action is crucial;
3. Need to facilitate the mainstreaming of climate change impacts through its **integration into national processes** such as the EIA process;
4. Need to enable ECD (as the key government focal agency for climate change) to contribute to policy approval of other ministries;
5. Undertaking a gender analysis when planning adaptation actions enables equal benefits for both men and women but this needs to be done consciously from the start

Supporting pillars of the Myanmar Climate Change Strategy and Action Plan



Policy framework

- Policy frameworks: CC Policy (MCCA); National Urban Policy Framework National Environmental Policy & Strategic Framework, NEP, NWMMP
- Green Economy Policy Framework (WWF)

Multi-stakeholder institutional mechanism

- NE5C, WCs, S/R- C, National Adaptation Plan: institutionalization and enhancing coordination mechanisms for long-term adaptation planning (supported by GCF readiness)
- TWG to be consulted continuously

Climate finance mechanism

- Environmental Management Fund under development and can have windows for climate change action (e.g. adaptation, supported by NAP)
- Myanmar accessing LDCF, AF, funding
- Domestic resources for climate change action: prioritization of activities

Capacity-strengthening framework

- Capacity-building streams under MCCA
- Several GEF (incl LDCF) and AF projects delivering specific capacity-building interventions and frameworks; upcoming GCF proposals
- NDA capacity-building under GCF readiness (UN Environment)

Monitoring evaluation and learning framework

- Second National Communication – emissions baseline development
- GCF readiness: National Adaptation Plan – Monitoring & Reporting framework for adaptation

NAP (National Adaptation Plan) process in Myanmar

- NAP established by UNFCCC in 2010 as a multi-sectoral process to enhance climate resilient country-driven development planning
- NAP process initiated through stock-taking exercise in 2015
- MCCA supported solid foundation for the NAP process through:
 - **Multi-stakeholder coordination mechanism (TWG)**
 - **Key policy documents' development** guiding mitigation and adaptation activities till 2030
 - Technical support to include **adaptation in Myanmar's INDC submission (2015)**
 - **Prioritization exercise** of MCCSMP activities
- These elements have been used as a baseline for developing a proposal for advancing Myanmar's NAP process, submitted to the Green Climate Fund (Preparatory and Readiness window) – anticipated for approval in 2019



National Adaptation Plans in focus:
Lessons from Myanmar

The Republic of the Union of Myanmar covers an area of approximately 676,600 km² with a population of over 53 million.² This vast country comprises the central lowlands of the Ayeyarwady, Chindwin and Sittoung River valleys, highlands in the north, east and west, and the coastal belt in the south and southwest of the country. It can be divided into three main agroecological zones; Central Dry, Coastal and Hilly.

Myanmar has a tropical climate with three seasons; a cool winter from November to February, a hot summer in March and April, and rains from May to October, dominated by the southwest monsoon. Lowest mean annual rainfall is observed in the central dry zone, while highest is in the southern and western coastal regions, with the eastern and northern hilly regions in between.

Agriculture contributes to around 23 percent of GDP (2013-2014) and employs about 61 percent of the labour force.³ Almost half (48.2 percent) of the country's land mass is under forest cover.⁴

Myanmar is a Least Developed Country (LDC), ranked at 148 out of 188 countries globally in terms of its Human Development Index (2018).⁵ Myanmar has achieved significant and rapid growth in recent years, following a series of political and economic reforms, which was preceded by a period of long isolation. However, regional and social inequalities persist.

We acknowledge that climate change is not within the capacities of any one single actor, and in this respect we must strengthen coordination and cooperation across ministries, cities, the civil society and the private sector.

H.E. U Ohn Win, Union Minister, Ministry of Natural Resources and Environmental Conservation, Republic of the Union of Myanmar

Climate change risks

Myanmar is extremely vulnerable to the impacts of climate change, due to its exposure and sensitivity to projected weather and climate patterns. Between 1997-2016, 43 extreme weather events have occurred, resulting in an annual average death toll of 7,097.75 inhabitants (equaling 14.55 deaths per 100,000 inhabitants), and an annual average loss per unit GDP of 0.70 percent.⁶

This makes Myanmar the third most affected country globally to extreme weather events (Global Climate Risk Index, 2017). Mean annual temperatures across Myanmar are projected to increase by 0.8°C-1.5°C by 2040. Extremes are expected to intensify, and the annual number of hot days to increase.

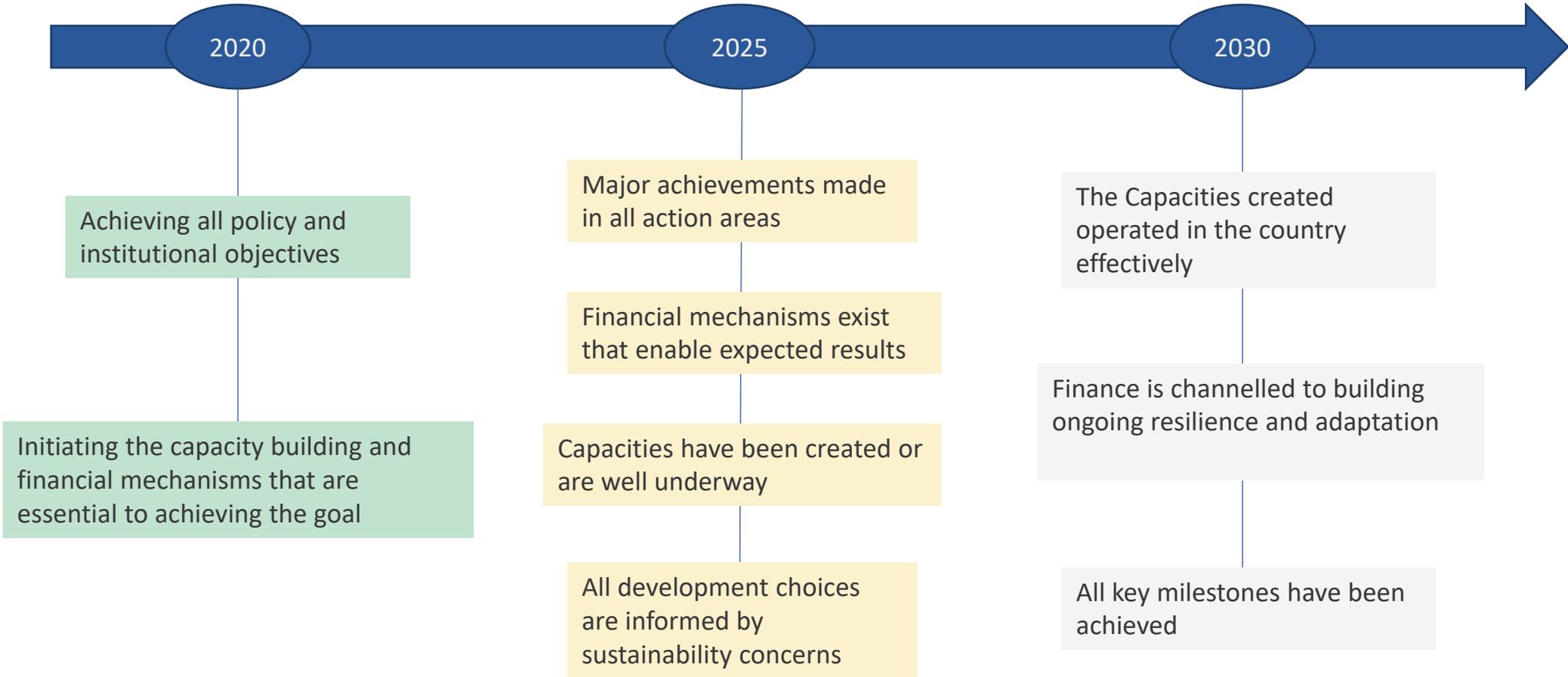
Total rainfall amount is projected to increase in the wet season. This could see increased wet season flooding in certain regions.⁷

These hazards are expected to increasingly affect highly climate-sensitive sectors in Myanmar, notably agriculture, natural resources, energy, industry and transport, as well as disaster risk management.

The majority of Myanmar's population resides on its coastline and central dry zone areas, exposing people, assets and the economy to gradual impacts of sea level rise and temperature increases, as well as the disastrous effects of rapid-onset extreme events, such as storm surges, cyclones and flooding.



Ways Forward



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