



Ministry of Water and Environment

REPUBLIC OF UGANDA



UNFCCC

**The background, Achievements in
implementation, key emerging issues,
Recommendation**

Climate Change Department

11/12/2019 9:16:07 PM

Semambo Muhammad

Introduction and Background

- Weather, climate and climate change has been naturally occurring way back even before 1800s
- Starting with 1800's industrialization emerged and accelerated...and lots of anomalies noticed in temp and change in precipitation regimes/differences
- At Rio, 3 conventions where formulated (**CBD, UNCCD, and UNFCCC**)

Introduction and Background

- **From 1990's The UNFCCC, KP, PA**
- Uganda ratified the United Nations Framework Convention on Climate Change (UNFCCC) on 9th September 1993.
 - ❖ *the UNFCCC's ultimate objective is to achieve the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous interference with the climate system.*
- Acceded to the Kyoto Protocol (KP) on 25th March 2002
- Paris Agreement (PA) in June 2016.
- **IPCC – Conduct the science to support decisions of the UNFCCC, COP**

Domestication of UNFCCC, KP & PA

ON institution arrangement for coordination of national CC actions

- Cabinet under Minute No. 241 (CT 2009) approved the establishment of a Climate Change Unit, MWE
- In July 2014, the Unit was upgraded to a fully-fledged stand-alone Climate Change Department (CCD)
- Parliamentary standing committee on climate change 2019
- NCCAC
- Climate Change Desk Officers

POLICIES, STRATEGIES, PLANS AND LAWS

- **National Adaptation Program of Actions (NAPA-2007)**, they communicate urgent and immediate actions for the country to promote adaptation to climate change. Uganda NAPA identified nine priority interventions.
- **National Climate Change Mainstreaming Guidelines (2014)**. Provides step wise approach for integration of climate change into sectoral plans and budgets
- **The National Climate Change Policy (NCCP 2015)**, to provides a harmonized and coordinated approaches towards promoting mitigation and resilience to climate change. The NCCP Identifies 13 adaptation sectors, 8 mitigation sectors and common policy priorities each at strategic level.
- **The Standard National Climate Change Indicators (2018)**. These are to help integration of climate change in Program Based Budgeting System (PBS) and for Local Government Performance Assessment (LGPA)

Policy, strategies and law cont....

- **Nationally Appropriate Mitigation Actions (NAMA 2014)** Referring to actions that reduces emissions from developing countries from various sectors such as waste, agriculture, energy, Transport among others.
- **The Strategic Program for Climate Resilience (SPCR 2017)**, identifies five priorities
- **Uganda Green Growth Development Strategy 2017/18 – 2030/31**, to catalyze low emissions development and climate change mitigation by 2030 with reduction of 71.2 MtCO₂e in areas of agriculture, natural capital management, planned green cities, sustainable transport, energy for green growth and cross-cutting actions estimated at USD 11 billion
- **National Climate Change Bill (2018)** was approved by Cabinet on the 29th July 2019 and now being gazetted for consequent laying to parliament.
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TOOLS TO SUPPORT EXECUTION OF THE MAINSTREAMING AND REPORTING

- Screening for climate change and disaster risk for development projects.
- The NCCP performance measurement framework 2016. This helps to track progress of the implementation of the National Climate Change policy
- National GHG Inventory for collection of sector data to profile National greenhouse gases emissions.

Reporting On Climate Change

- National communications (2002 and 2014). Every 4 yrs
- Uganda has embarked on the process of formulation of the Third National Communication. Work commenced in March 2019 and expected be accomplished in June 2022.
- First Biennial Update Report FBUR-2019. Every 2yrs
- NDC, every 5yrs

Mitigation

- **Basic infrastructure to manage GHG inventory system**, Key data providers include Ministry of Energy and Mineral Development (MEMD); (MoWT); (MAAIF (NFA), (NEMA), (KCCA); (NWSC); (UBOS); (UNMA); (URA); Kampala Capital City Authority (KCCA) and local governments.
- **National monitoring reporting and verification (MRV) framework** to guide mainstreaming and implementation of the transparency systems at national and subnational level. Sector specific MRV systems are being developed for the NDC sectors (Waste, Energy, Agriculture forestry and land use) with support from the capacity building initiative for transparency project and the NDC support programme.
- **Nationally Appropriate Mitigation Actions (NAMAs)** originating from the longer list of mitigation actions that were support by African Development Bank.

Summary of NAMAs that have received support for proposal development and funding.

Title	Stage/Outcome achieved	Sector name	Objective	GHG Reduction potential
Revolving Loan Facility for the Uptake of Improved Institutional Cook Stoves in Ugandan Schools (NAMA)	proposal done and submitted to NAMA facility for possible financial support	Energy	To ensure the reduction of GHG emissions by increasing energy efficiency of stoves by replacing the traditional stoves to Improved Institutional Cook Stoves (IICS)	The NAMA is expected to reduce about 17.41 million tCO ₂ e over 24 years
NAMA on Integrated Waste Management and Biogas Production in Uganda	Received funding for Implementation	Energy	To improve waste management practices in towns and municipalities through the introduction of integrated waste management, and deployment of biogas energy generation	The consequential GHG emissions reductions are estimated to be 3,771,000 tonnes of CO ₂ eq over a 20-year period
NAMA on Climate-Smart Dairy Livestock Value Chains in Uganda	Project proposal	Agriculture	To trigger resilient low-carbon development in the dairy sector through the introduction of climate-smart agricultural practices and to bring the dairy production sector of Uganda onto a low carbon and more resilient path	Emission reduction of about 402,500 tCO ₂ e annually from its enteric fermentation component.
NAMA on Vehicle Fuel Efficiency Initiative in Uganda	Project proposal	Energy and Transport	To improve the fuel efficiency and reduce emissions from vehicles through a holistic value chain approach	No emission reductions have been computed.
NAMA on Bus Rapid Transit for Greater Kampala	Feasibility study, detailed design and plan completed	Transport	To improve the efficiency of public transport, by moving commuters from private vehicles to public transportation to address both traffic and pollution problems.	Not estimated

Mitigation- Participation IN CDM

- In total Uganda has 20 projects registered and under validation.
- Focus areas on forestry (seven projects) and renewable energy, and for hydro power (six projects).
- Other standalone CDM projects include three biomass energy, one landfill gas, one wastewater treatment, one domestic lighting and one biodiesel project (UNFCCC, CDM Website, 2019).

Mitigation- Summary of CDM projects by sectors

Sector	Name of the Mitigation Action	Planned/ Implemented	Type of CDM Project	GHG emission reduction	Total CER's issued
Energy	Institutional Improved Cook Stoves for Schools and Institutions in Uganda	Implemented	PA	31,286 tCO ₂ e/year	0
	Up Energy Improved cook stove Programme, Uganda (PoA)	Implemented	PoA	53,9654 tCO ₂ e/year	131,057
	Secure Safe Water in Developing Countries	Implemented	PoA	36,340 tCO ₂ e/year	0
	Anaerobic digestion and heat generation at Sugar Corporation of Uganda Limited	Implemented	PA	46,974 tCO ₂ e/year	139,121
	Nakivubo Wastewater Treatment Plant Methane Capture and Utilisation Project	Implemented	PA	27,591 tCO ₂ e/year	0
	Production of biodiesel from non-food oil seeds	Implemented	PA	40,120 tCO ₂ e/year	0
	Nuru Lighting Project - Uganda	Implemented	PA	14,839 tCO ₂ e/year	0
	Bujagali Hydropower Project	Implemented	PA	858,173 tCO ₂ e/year	5,234,813
	Buseruka Mini Hydro Power Plant	Implemented	PA	31,468 tCO ₂ e/year	28,276
	Mpanga 18 MW Run-of-River Hydropower Project	Implemented	PA	36,839 tCO ₂ e/year	25,335
	West Nile Electrification Project (WNEP)	Implemented	PA	14,885 tCO ₂ e/year	49,262
	Ishasha 6.6 MW Small Hydropower Project	Implemented	PA	21,084 tCO ₂ e/year	44,502
Bugoye 13.0 MW Run-of-River Hydropower Project	Implemented	PA	51,074 tCO ₂ e/year	98,524	

Mitigation- Summary of CDM projects by sectors

AFOLU	Kachung Forest Project: Afforestation on Degraded Lands	Implemented	PA	25,702 tCO ₂ e/yr	30,492
	Namwasa Central Forest Reserve Reforestation Initiative	Implemented	PA	11,328 tCO ₂ e/yr	0
	Uganda Nile Basin Reforestation Project No 1	Implemented	PA	5,881 tCO ₂ e/yr	0
	Uganda Nile Basin Reforestation Project No 2	Implemented	PA	4,861 tCO ₂ e/year	0
	Uganda Nile Basin Reforestation Project No 3	Implemented	PA	5,564 tCo ₂ e/year	4,732
	Uganda Nile Basin Reforestation Project No 4	Implemented	PA	3,969 tCO ₂ e/year	0
	Uganda Nile Basin Reforestation Project No 5	Implemented	PA	5,925 tCO ₂ e/year	30,492
Waste	Mpererwe Landfill Gas Project	Implemented	PA	182,612 tCO ₂ e/year	0
	Uganda Municipal Waste Compost Programme (PoA)	Implemented	PoA	115,237 tCO ₂ e/year	16,549
Total CERs					5,833,155

Mitigation- Participation REDD+

- REDD+ program operational is operational in Uganda
- From REDD to REDD+
- REDD+ Strategy formulated
- Currently resource mobilization

Adaptation projects

- Strengthening Climate Information and Early Warning Systems project for Climate Resilient Development and Adaptation to Climate Change in Uganda. (UNDP and UNMA) GEF funded project
- Enhancing Resilience of communities to climate change through catchment based integrated management of water and related resources in Uganda- Sahara and Sahel Observatory (OSS) (4 years) (2017-2021) The Adaptation Fund - 7,751,000 US Dollars
The overall goal of the project: to increase the resilience of communities to the risk of floods and landslides in **Awoja, Maziba and Aswa catchments** through promoting catchment based integrated, equitable and sustainable management of water and related resources.
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- GCF approved project for Uganda –Wetland ecosystems and community resilience to climate change \$ 24.4 M - MWE and UNDP partnering. 760 sq. km of degraded sections of wetland in Eastern and Western Uganda in 20 districts. About 100,000 people, approx. 16,666hh are to be supported with wetland livelihood alternatives.

Adaptation Projects

- Global Climate Change Alliance (GCCA) –phase I (11M Euros) and Phase II (8M Euros) 2019 -2023. MAAIF, MWE, LGs and FAO as partner. Phase II is to scale up the adaptation initiative from phase 1- In six previous districts (Luweero, Nakaseke, Nakasongola, Sembabule, kiboga and Mubende) Plus 3 new districts Gomba, Kalungu and Butambala), livestock has better access to water, agriculture production are drought resilient and strengthening institutional capacity at both local and national.
- Climate Resilient Livelihood Opportunities for Women Economic Empowerment (CRWEE) Total cost is \$ 8,968,448 in Karamoja and West Nile Regions of Uganda Project. Project launched. Implemented through FAO in collaboration with MoGLSD, MWE, MAAIF and MoLG from October 2018 – 30 September 2023. To benefit 52,500 people of which 60% will be women and 25% will be refugees.
- Additional funds to climate proof water and sanitation infrastructure in East and North Eastern Uganda USD 8m
- NAP Process.
- The CCD with technical support from UN Environment has worked on the NAP preparation grant for Uganda to GCF. The Uganda NAP proposal was submitted to GCF, technical reviews and evaluation by the GCF approval committee and now review of comments is in advanced stages. The proposal is at final stage of evaluation after CCD's response to three rounds of comments from the GCF. The proposal amount is USD 2.856,651.

NDC

- In accordance with decision 1/CP.21, Paragraph 22 on adoption of the Paris Agreement, Uganda communicated its first Nationally Determined Contribution (NDC), on submission of instrument of ratification for the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) in 2016.
- Having ratified the Paris Agreement, the country is obliged to prepare, communicate and maintain successive NDCs, it intends to achieve every 5 years.



Overview of Uganda NDC



Adaptation

- reducing vulnerability
- addressing adaptation in key sectors
- increase resilience at the grassroots level

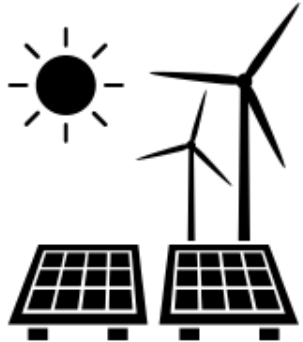
Mitigation goal

22%

Reduction of national GHG emissions **in 2030** compared to business-as-usual

the full implementation is **conditional** on accessing significant external support

Adaptation actions



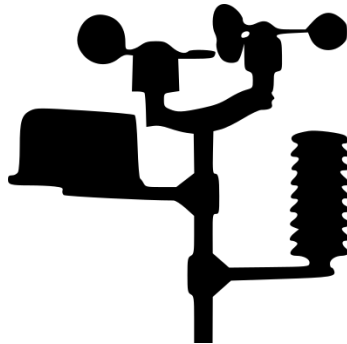
Energy

- Increase efficiency in biomass use
- Promote renewable energy and other energy sources
- Increase efficiency in modern energy sector
- Climate proofing investments in electricity power sector



Health

- Conduct vulnerability assessments
- Improve early warning systems for disease outbreaks
- Develop climate resilient health systems
- Strengthen public health systems
- Make provisions for safe water chain and sanitation facilities



Risk management

- Mainstream climate resilience in all sectors
- Develop vulnerability risk mapping
- Build effective early warning systems
- Support emergency related institutions



Infrastructure

- Ensure climate resilient public and private buildings
- Update transport codes and regulations
- Update of risk assessment guidelines
- Improve water catchment protection



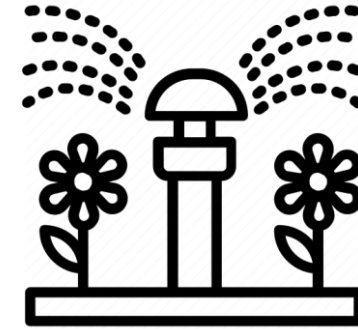
Water

- Improve water efficiency
- water supply to key economic sectors
- water resource systems, including wetlands
- clean energy water supply



Forestry

- intensified & sustained forest restoration efforts
- biodiversity & watershed consrvn
- agro-forestry
- efficient biomass energy production



Agriculture

- extension services
- climate information and early warning systems
- climate smart agriculture
- Diversification of crops & livestock
- Expand value addition, market access**
- Rangeland management
- small scale water infrastructure
- Research on climate resilient crops and animal breeds
- Solar irrigation

Mitigation measures



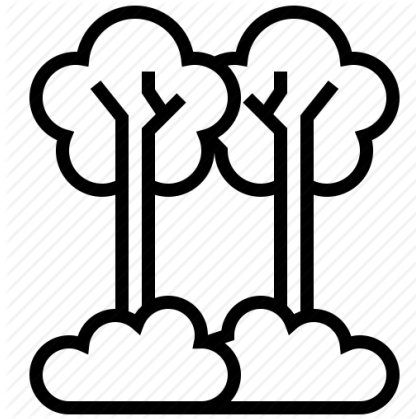
Energy (power supply)



Energy (transport)



Wetlands



Forestry



Energy (demand)

NDC Implementation progress

- **Support to the national MRV framework**
- **NDC Partnership Plan 2018-2020**, for strengthening gender responsive governance; institutionalization of effective MRV system, strengthen capacity of state and non-state actors, climate change reflected in relevant planning and budgeting frameworks at national and local levels and accelerated project financing for NDC Implementation.

Uganda Faith Network on Environmental Action (Farming Gods Way)



CSA Practices

1) Hoe Minimum Tillage -Planting Basins



Rippers & rip line making

The Conservation Farming ripper, along with a specially designed yoke and skye can be used by oxen to accurately mark the distance between the Conservation Farming rip lines. The ripper attachment is manufactured locally and fits on local beams.

Conservation Yoke and Skye **Making Conservation Farming rip lines** using an ox-drawn plough



Ripping – ADP and Mechanized



EBA- Better management of the ecosystems lead to various livelihood options, hence reduced pressures



Over 20 water source committees established and are functional

Over 10,000 Households directly participating in watershed management

Over 165km of river banks demarcated and restored



River bank rehabilitation through natural re-generation and planting of indigenous tree species



Community policing

Community by-laws developed to govern the Environment Fund and NRs



Flood management through construction of trenches, contour grass strips and tree planting

Over 1,800 households & land owners have adopted various soil and water conservation measures in the last 3 years



10% increase in household incomes as a result of increased yields and access to conservation fund



About 35 farmers adopted the use of simple and affordable irrigation technologies through the gravity flow scheme as an adaptation to the long dry spell in Sanzara parish

Catchment protection Interventions



River bank stabilization



Terracing



Elephant grass plantation along the shores of river

Strengthening local natural resource governance through creating multi-stakeholder platforms for joint planning, lesson learning and demonstration



Over 370 community environmental action plans developed and implemented



NAP Pilot - Local Energy Efficient Stoves



Community –Ecosystem empowerment



Soil conservation & Agroforestry



GCCA 1 Construction of small scale water system and water catchments



Improved schools and households Food security

- Promoting Kitchen gardens in schools and households

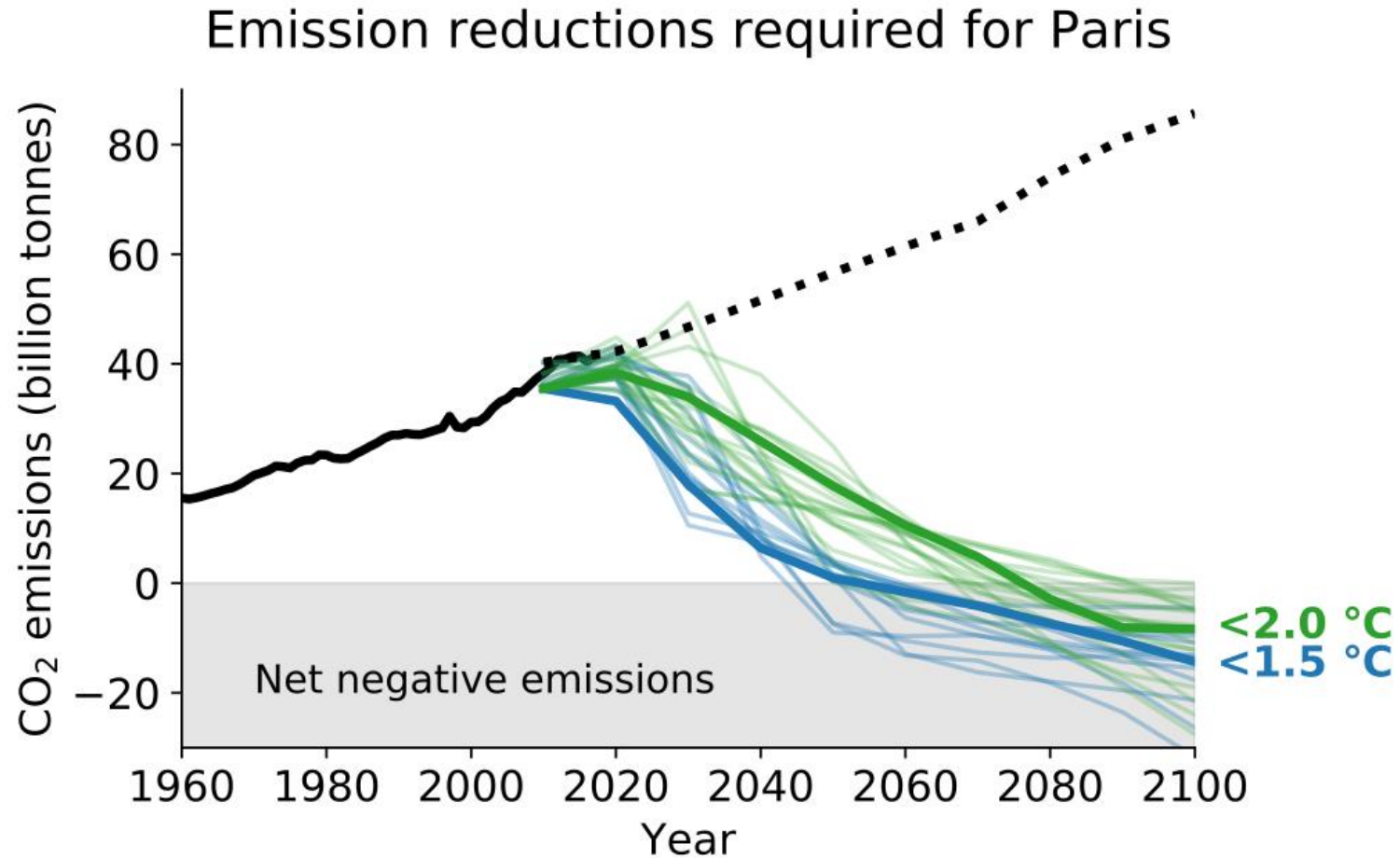


Livestock has access for water for production



Emerging issues

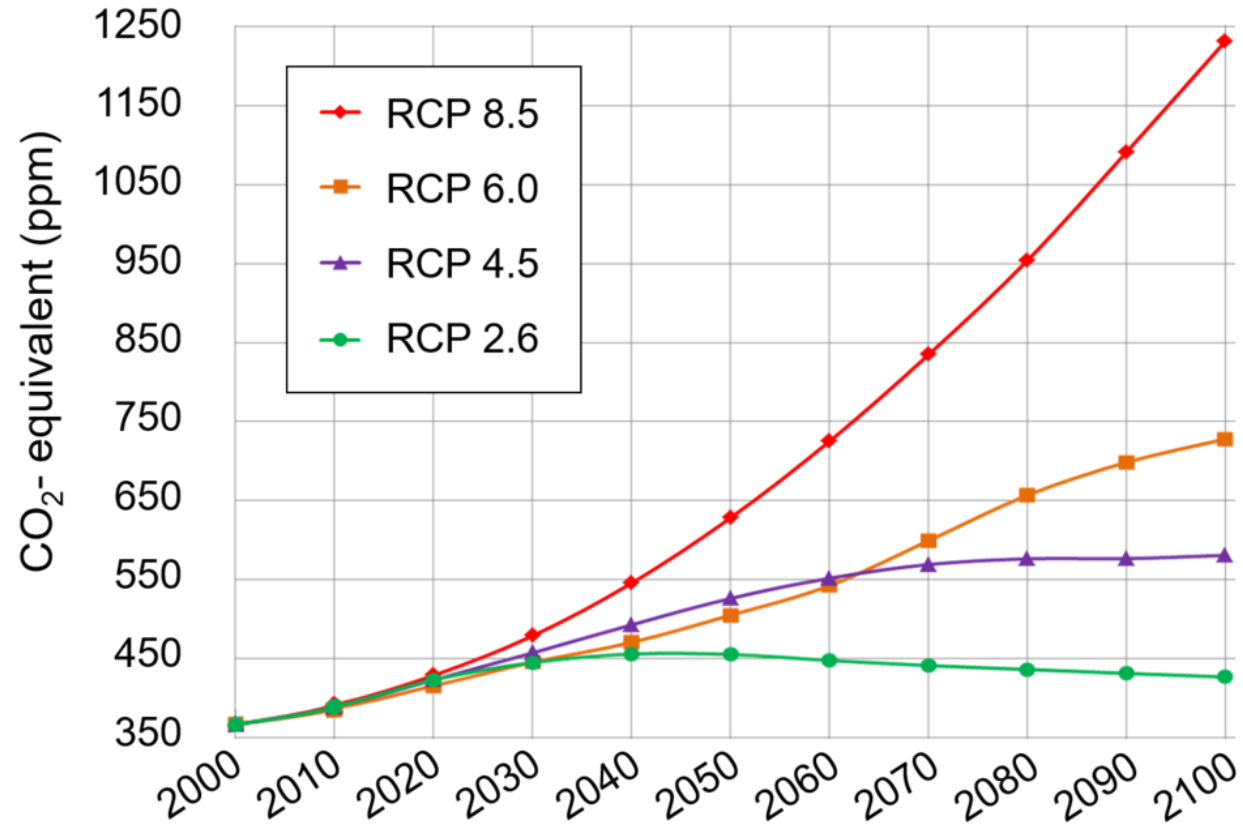
PA Requirement for emission



The graph shows multiple pathways to limit climate change to 1.5 °C or 2 °C. All pathways include negative emission technologies such as afforestation and [bio-energy with carbon capture and storage](#).

IPCC AR5 Greenhouse Gas Concentration Pathways

Representative Concentration Pathways (RCPs) from the fifth Assessment Report by the International Panel on Climate Change



Future CO₂ projections, including all forcing agents' atmospheric CO₂-equivalent concentrations in [parts-per-million](#)-by-volume (ppmv) according to four RCPs ([Representative Concentration Pathways](#))

Global Annual Climate Change

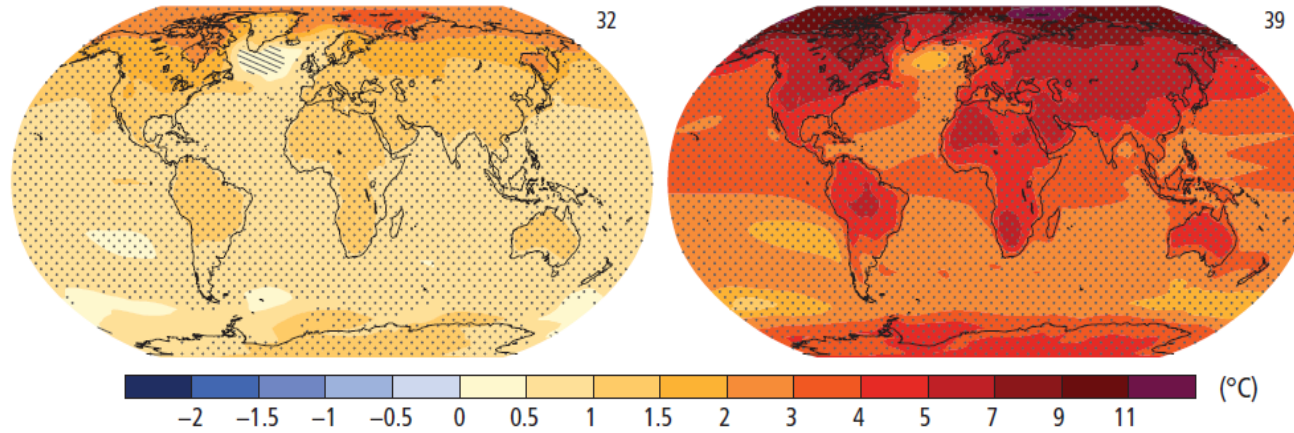
projections

RCP2.6

RCP8.5

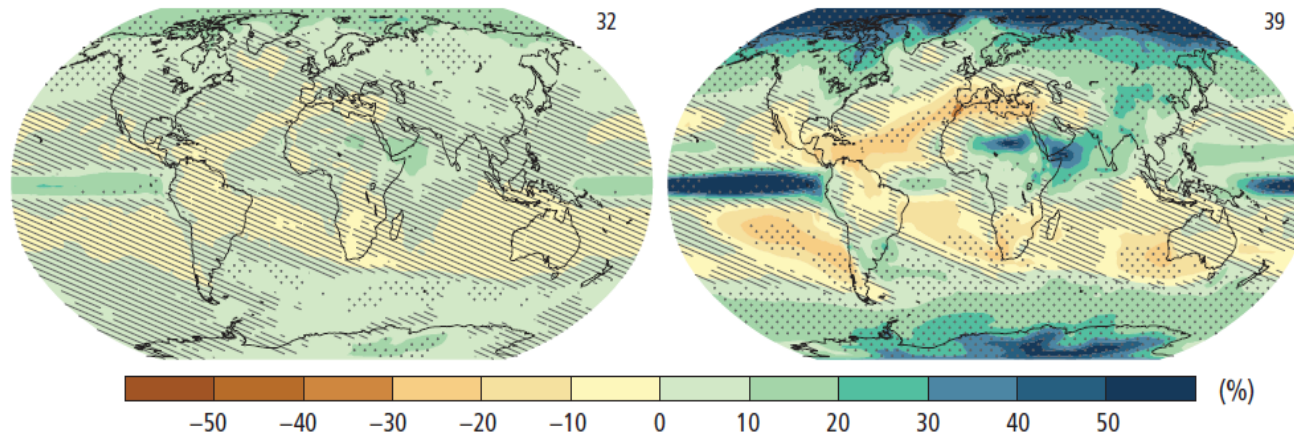
(a)

Change in average surface temperature (1986–2005 to 2081–2100)



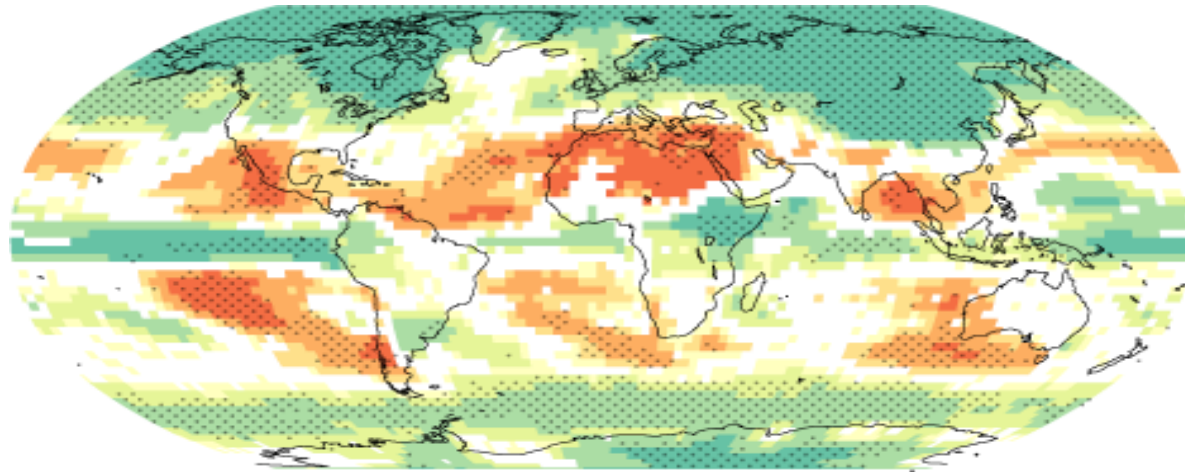
(b)

Change in average precipitation (1986–2005 to 2081–2100)

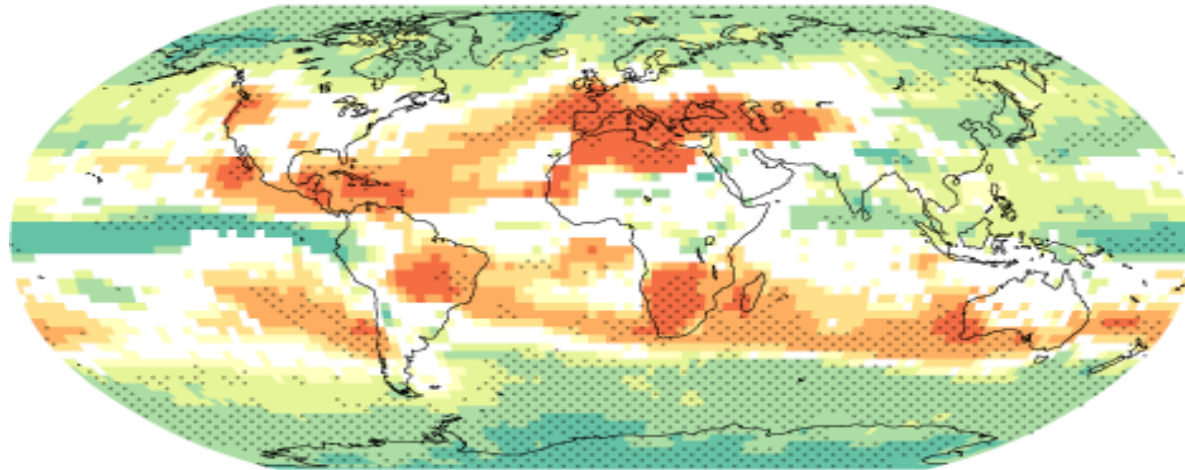


Projections

Projection Cont..



December, January, February



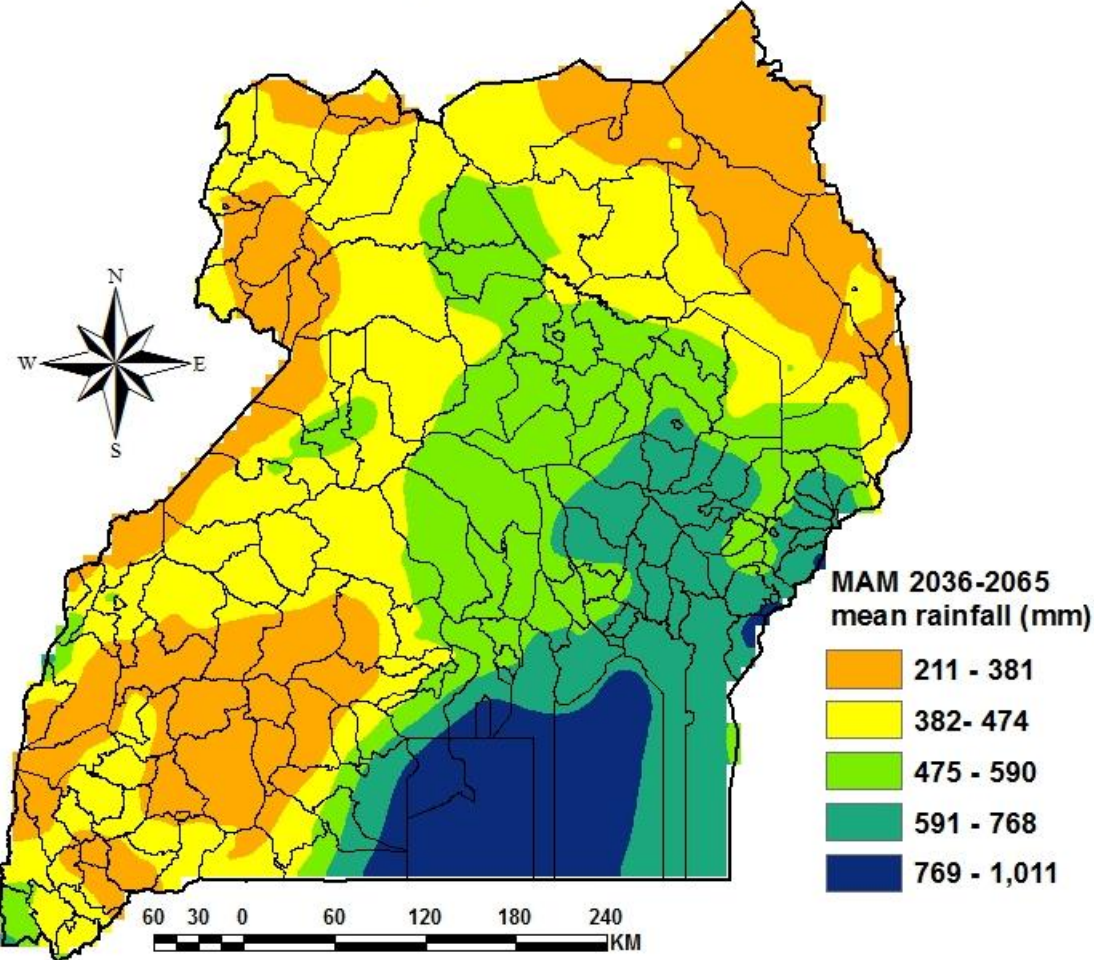
June, July, August



For most places, global warming will result in more frequent hot days and fewer cool days, with the greatest warming occurring over land. Longer, more intense heat waves will become more common. Storms, floods, and droughts will generally be more severe as precipitation patterns change. Hurricanes may increase in intensity due to warmer ocean surface temperatures.

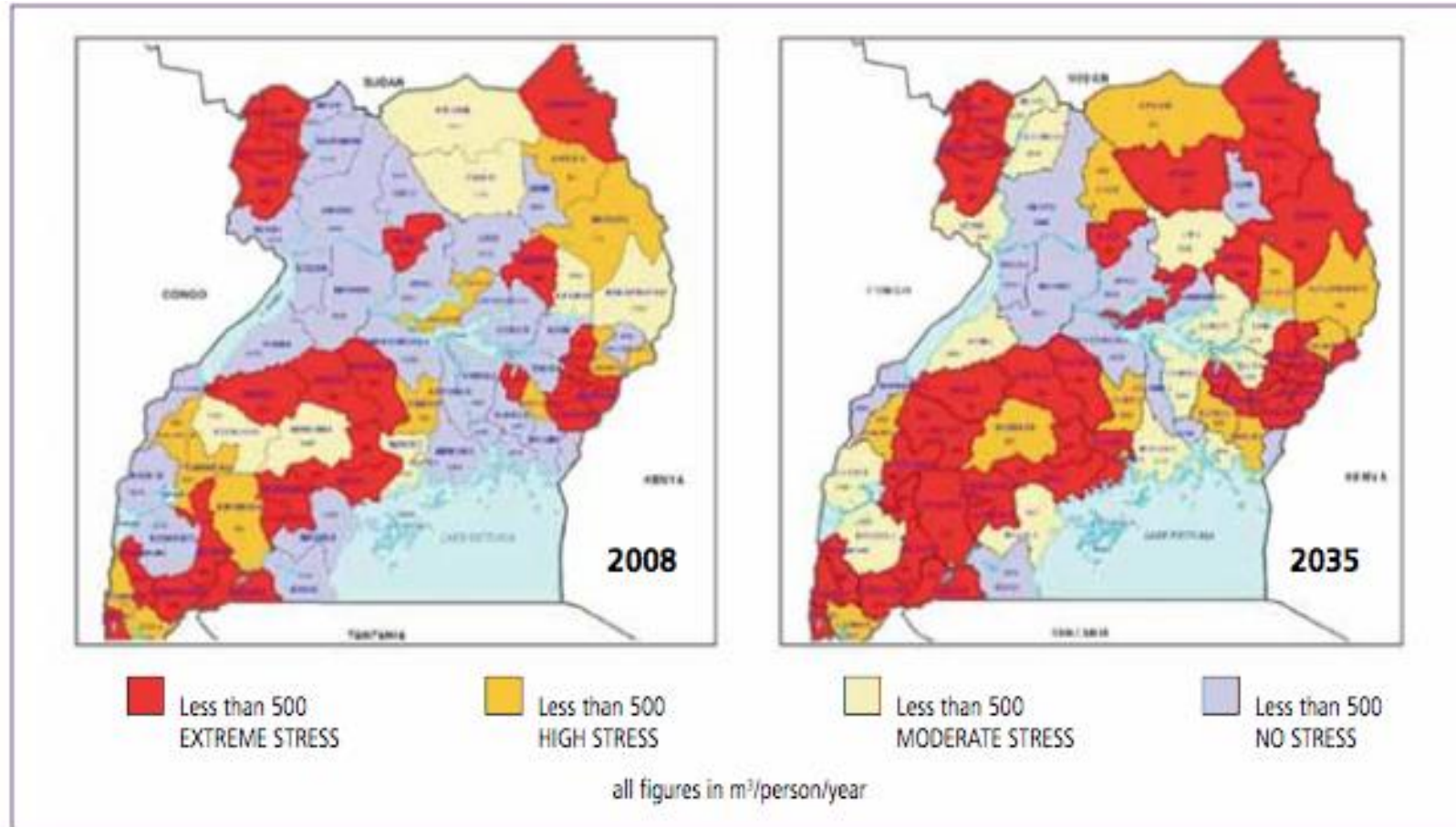
Mid-21st Century Rainfall projection-Uganda

March to May season Regional-model-downscaled rcp8.5 scenario average rainfall projection for Uganda (2036-2065)



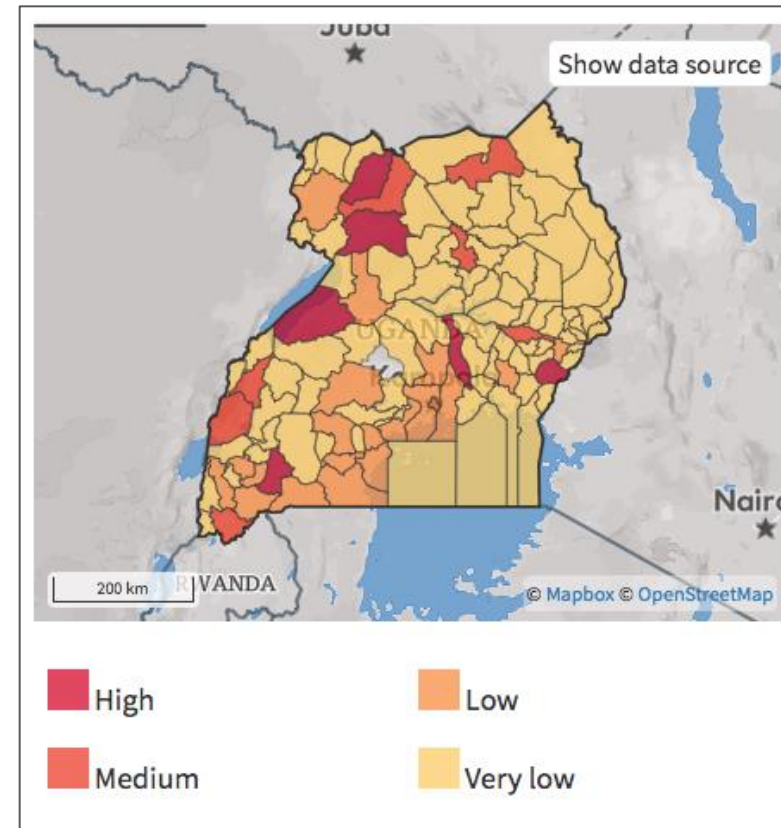
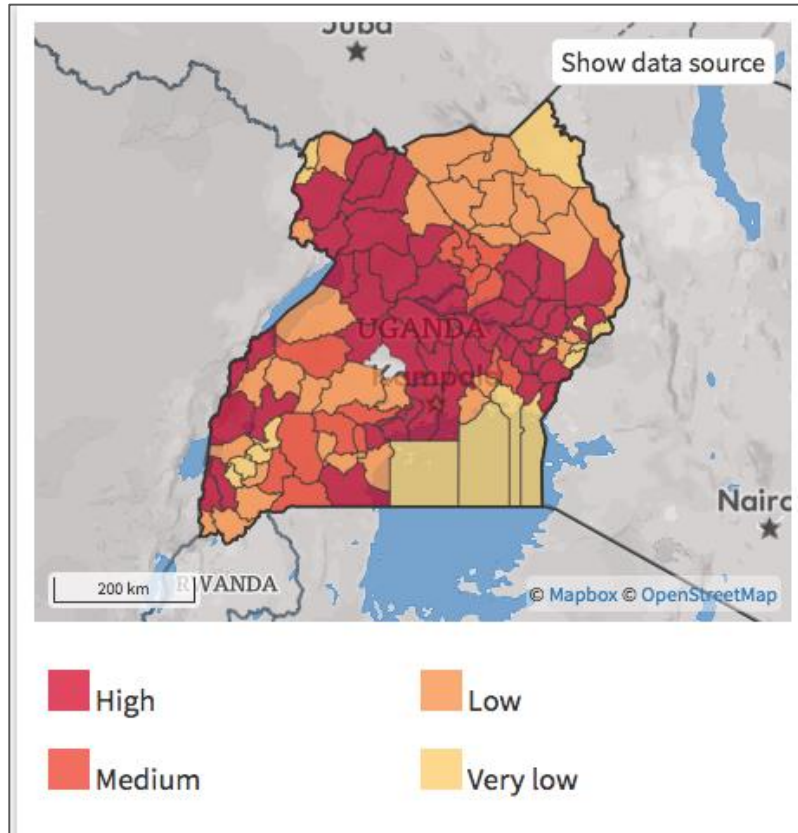
(CMIP5-RCP 8.5 Scenario)

Distribution of water stress in Uganda for 2008 and projected for 2035



- Department of Disaster Preparedness and Management, 2012. *The 2010-2011 Integrated Rainfall Variability Impacts, Needs Assessment and Drought Risk Management Strategy*.
http://qfdr.org/sites/qfdr/files/UGANDA_PDNA_Report_2012.pdf http://qfdr.org/sites/qfdr/files/UGANDA_PDNA_Report_2012.pdf

Uganda Flood Risk (L) and River Flood Risk (R)



- ThinkHazard!, 2018. Uganda River Flood. <http://thinkhazard.org/en/report/253-uganda/FL>
- ThinkHazard!, 2018. Uganda Urban Flood. <http://thinkhazard.org/en/report/253-uganda/UF>

Moving forward

- GoU-MWE Accredited as NIE for GCF and AF
- Trainings and or capacity building activities in climate change on Science, Mitigation, Adaptation and Finance have been conducted but still more to cover up bigger capacity gaps
- Mainstreaming cc in NDP and BPS thru Budget appropriation
- BCC circular calls for integration of climate change
- **Problem-Challenge, information sharing** **End of Slides**
Thanks !!!!!