



GREEN
CLIMATE
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GCF REGIONAL DIALOGUE

with LATIN AMERICA

Santo Domingo, Dominican Republic
15–17 September 2025





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Climate change, vulnerability and impact

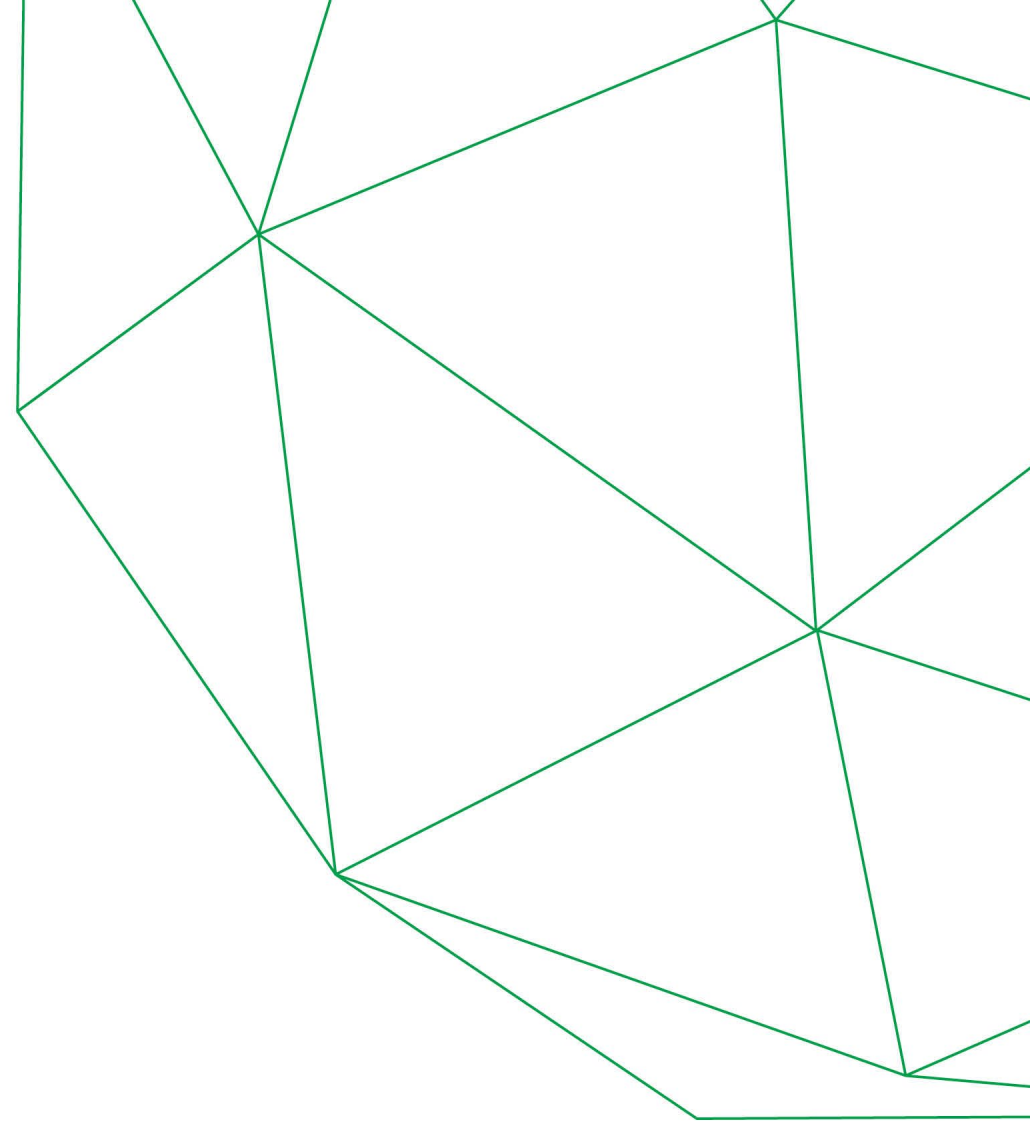
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Santo Domingo, Dominican Republic
15–17 September 2025



Open question to all



Santo Domingo, Dominican Republic | 15–17 September 2025



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Session 1 open question



What is the most significant climate risk in your country/region?

Choose a slide to present

What is the most significant climate risk in your country/region?

focus leader
creative
fast bold
transpiration inspiration

0/1



Colombian climate change priorities

Focus on adaptation to climate change:

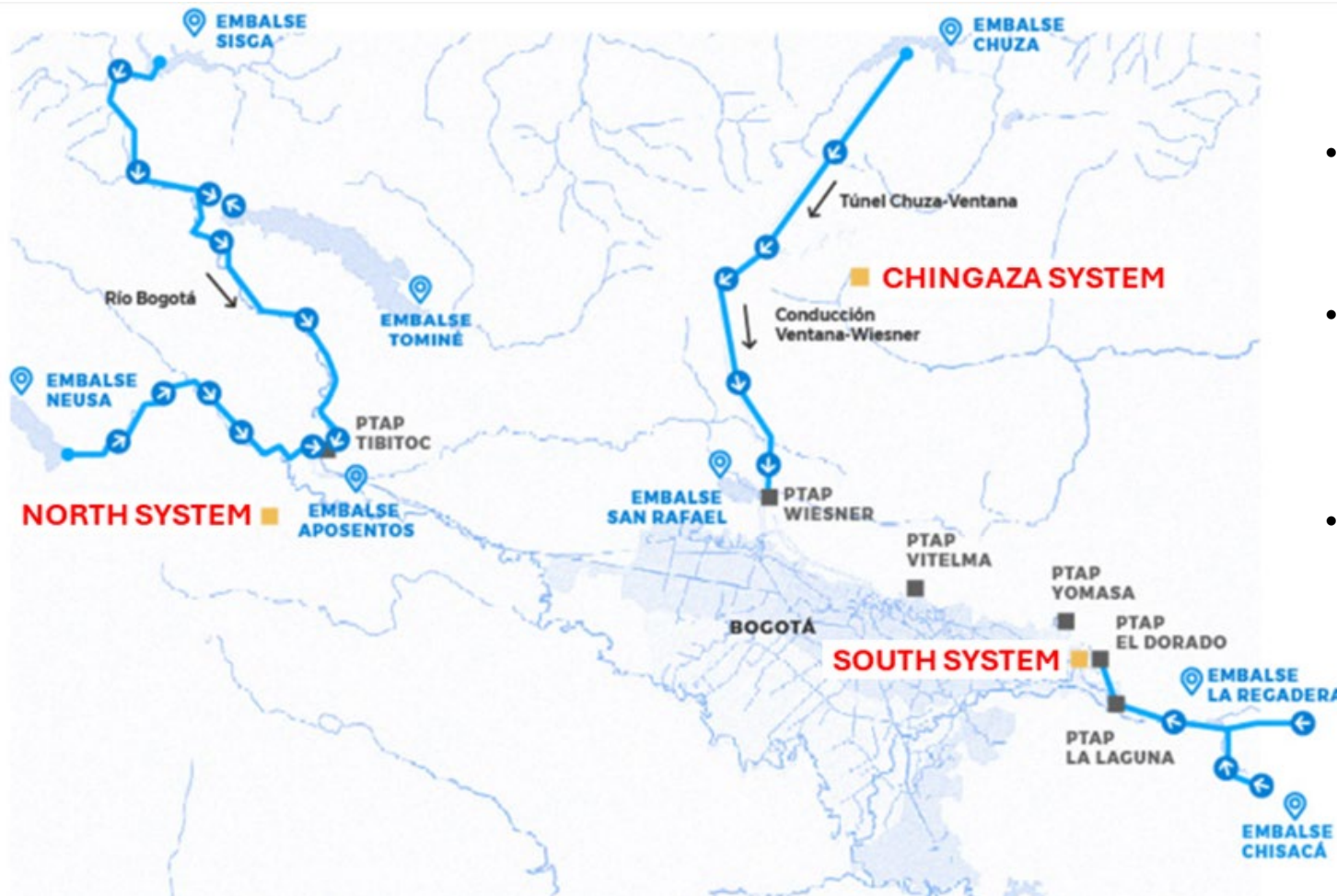
- Water
- Biodiversity
- Most vulnerable

STEP 1: Climate problem to be solved (1/3)



STATUS QUO

WATER SUPPLY SYSTEM



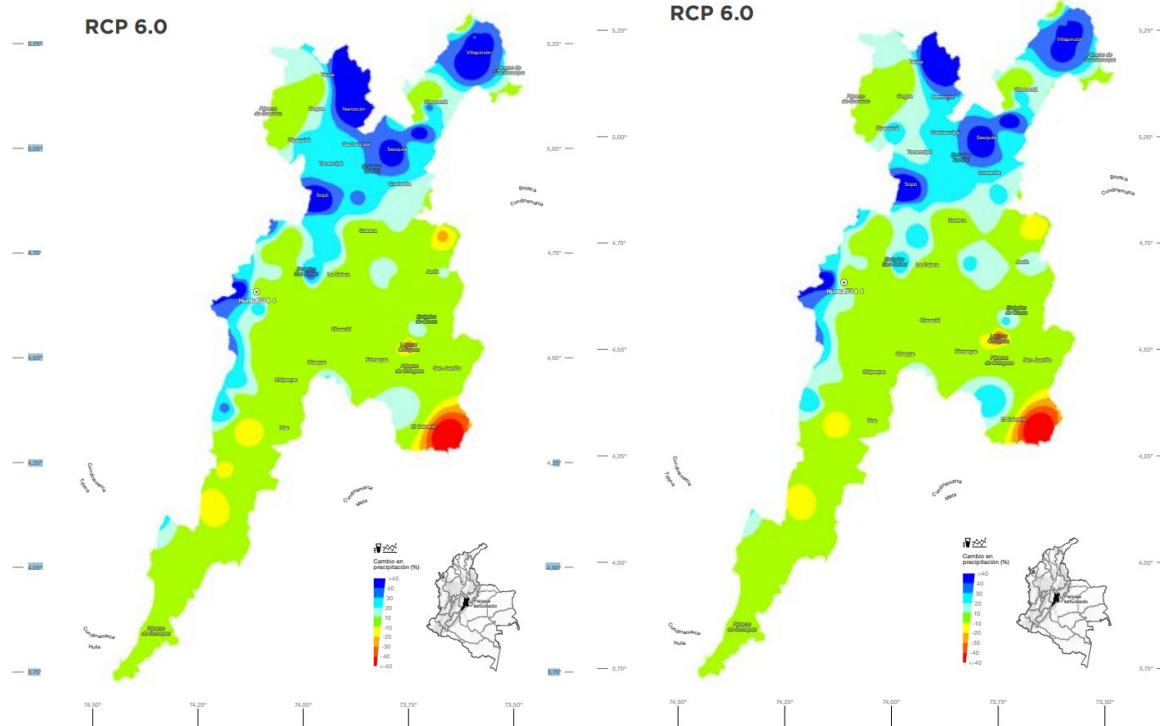
- The **capital city of Bogotá** and **neighbour municipalities** supplied by the Bogotá Aqueduct are facing water supply challenges exacerbated by climate change.
- The region's water generation and **hydrological balance depend critically on high mountain ecosystems**, biodiversity and land use patterns.
- Water sources: Chingaza (about 70%), the North System—linked to the Bogotá River (25%), and the South System—drawing from Sumapaz and Tunjuelo rivers (5%).
- In January 2024, Bogota and neighboring municipalities have endured the first-time water rationing programme.

STEP 1: Climate problem to be solved (2/3)

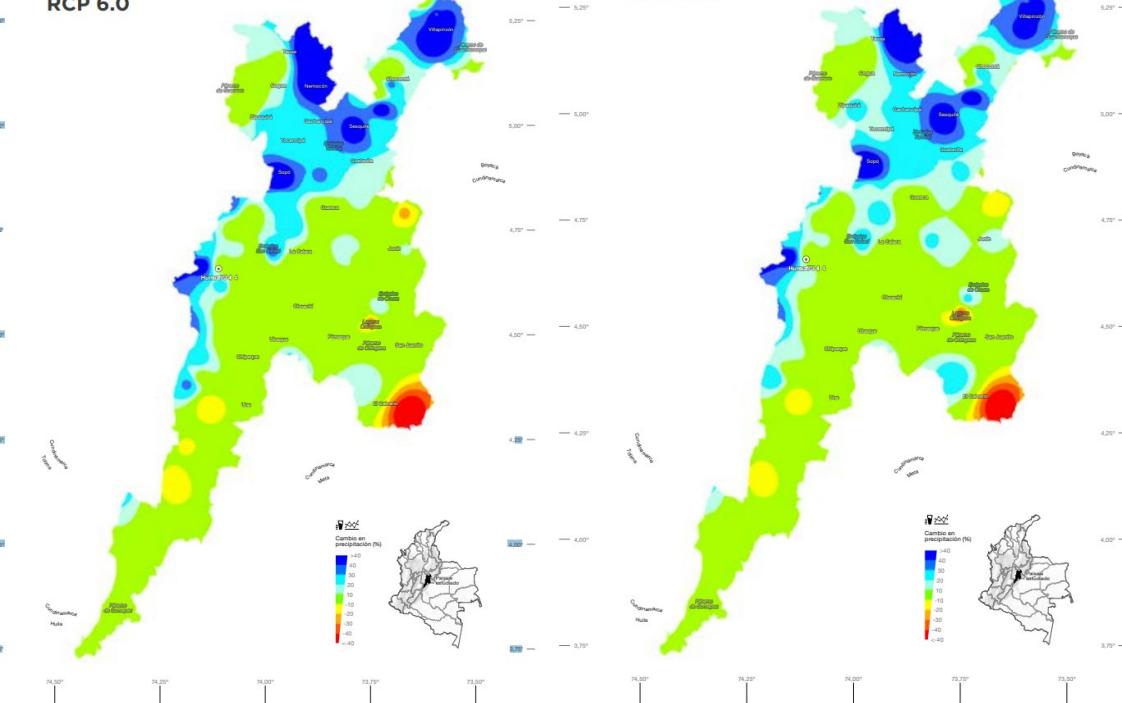


PROJECTIONS FOR THE FUTURE

PERCENTAGE CHANGE IN PRECIPITATION, RCP 6.0 2041-2070

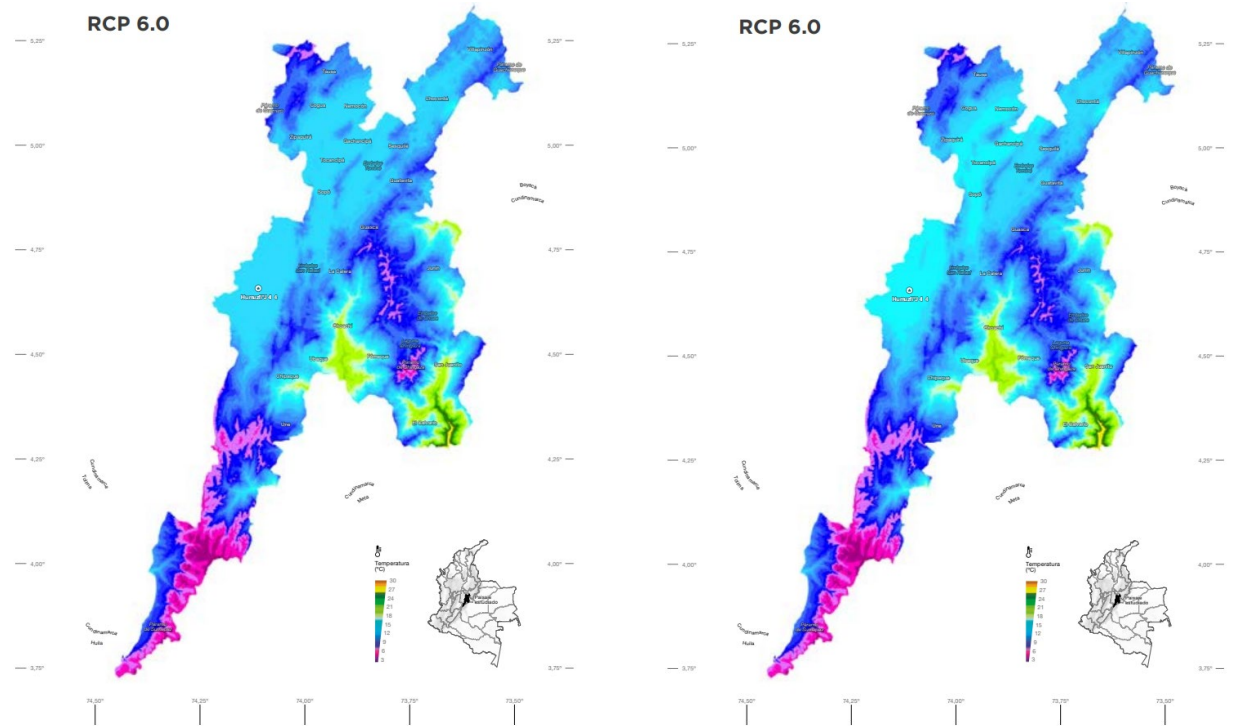


2071-2100 RCP 6.0

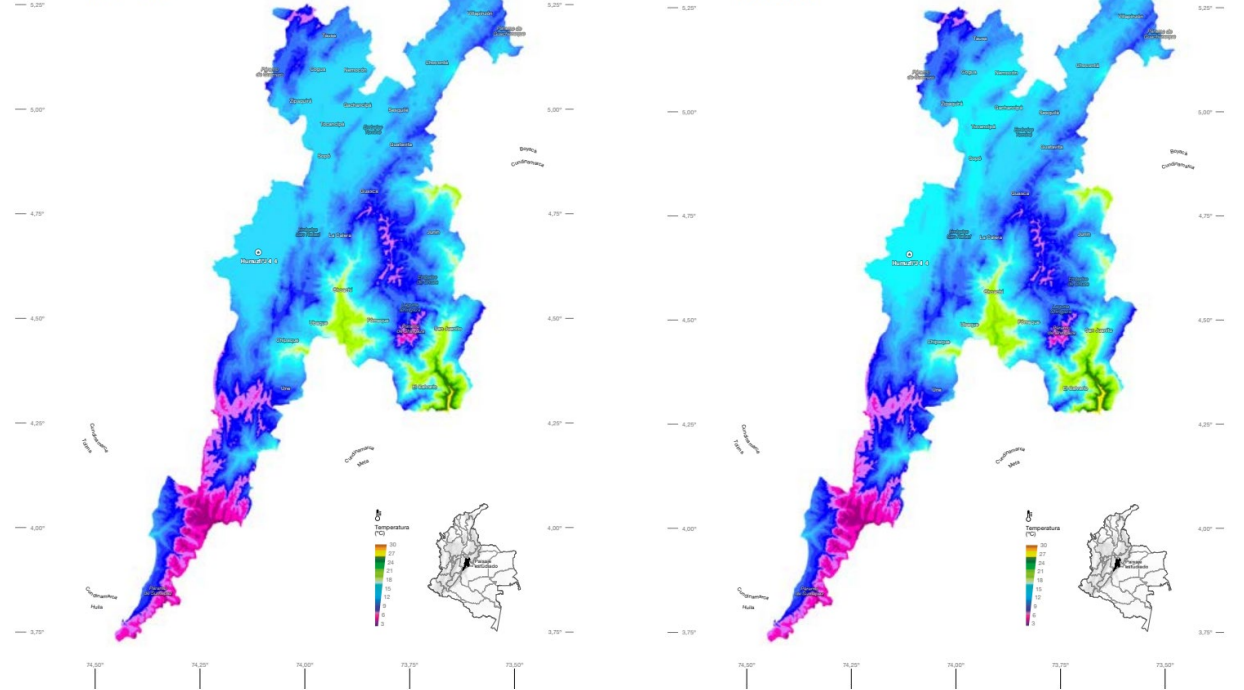


Increases of more than 20% for the north of Sumapaz and a reduction of at least 20% to the east and in the high part of Chingaza, as well as an increase of up to 30% in Guerrero.

PERCENTAGE CHANGE IN MEAN TEMPERATURE, RCP 6.0 2041-2070



RCP 6.0



RCP 6.0



Temperatures are projected to **increase by 1-2° C** for 2011-2040, between 2-3 °C for 2040-2070 and **2-5 °C** for 2070-2100.

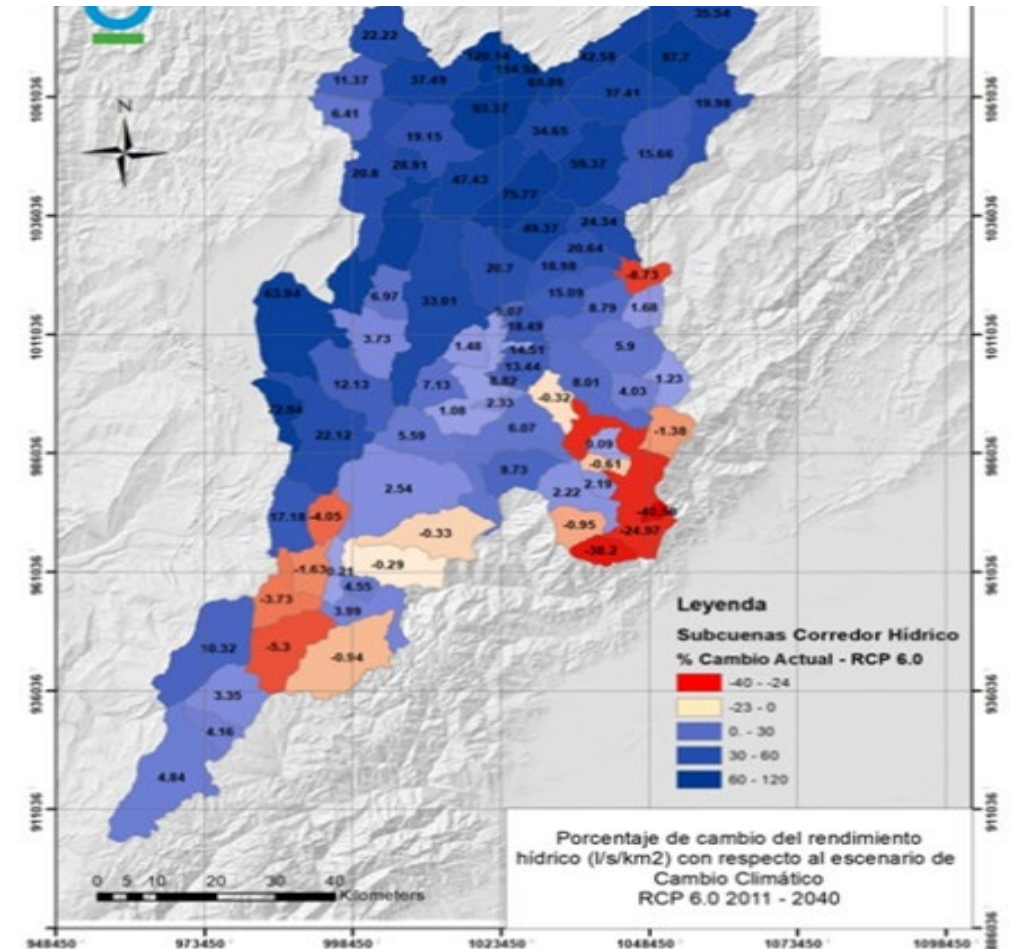
STEP 1: Climate problem to be solved (3/3)



CLIMATE PROBLEM

- **20% of the Country's population**, almost **1/3 of Colombia's GDP** and, ultimately, the economic stability of the country are being threatened by water availability.
- While areas such as Chingaza are expected to see a reduction in precipitation and water yield, others such as the upper Bogotá River basin and the Tunjuelo sector are projected to experience increases in flow of a similar magnitude.
- However, a temperature increase could result in the loss of 39%-52% of Páramo ecosystems, limiting the increase in projected waterflows.
- Climate threats are exacerbated by ongoing degradation of páramos, forests, and wetlands
- Rural communities living in high Andean ecosystems, whose livelihoods are already fragile, are both threatened by climate impacts and contribute additional pressure on water supply systems.

PERCENTAGE CHANGE IN WATER YIELD, RCP 6.0, 2011-2040



STEP 1: Climate problem to be solved (summary)



Identify a key climate change problem that needs to be solved:

1. Status quo as of today →

Bogotá and neighbouring municipalities are facing water supply challenges exacerbated by climate change. The region's water generation and hydrological balance depend critically on high mountain ecosystems, biodiversity and land use patterns.

2. Future projections for 30-50 years (selected period depends on the dynamics of change to be captured) →

Increases of more than 20% in precipitations for the north of Sumapaz and a reduction of at least 20% to the east and in the high part of Chingaza, increase of up to 30% in Guerrero. Temperatures are projected to increase by 1-2° C for 2011-2040, between 2-3 °C for 2040-2070, and 2-5°C for 2070-2100.

3. Summarize the climate problem, incorporating the most probable changes presented in the climate predictions →

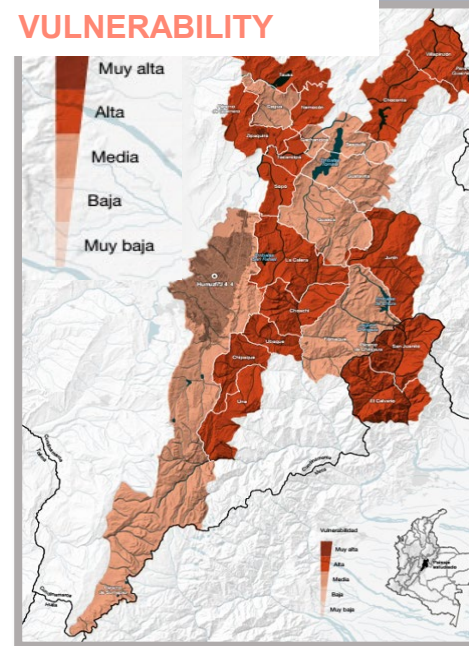
20% of the Country's population, almost 1/3 of Colombia's GDP threatened by water crisis. Temperature increase could result in the loss of 39%-52% of Páramo ecosystems, limiting the increase in projected waterflows. Climate threats are exacerbated by ongoing degradation of páramos, forests, and wetlands

STEP 2: Drivers of the problem (1/2)

CLIMATE DRIVERS

- **Decrease in average annual precipitation** between 10-20% in 70% of the landscape area → decrease water yield → Impact on water availability for population, agriculture & industry → rationing and water conflicts, impacts on economic competitiveness, GDP
- **Increase of more than 10% in average annual precipitation** in other areas → floods and landslides
- **Temperature increase** between 2 and 5 °C → more frequent droughts → loss between 39% and 52% of the Páramo, crop loss → less water regulation → threatens water availability & food security → rationing and water conflicts, impacts on GDP

VULNERABILITY



The municipalities most vulnerable to climate change are characterized by high ecosystem impacts, low water availability, and low adaptive capacity.

STEP 2: Drivers of the problem (2/2)



NON-CLIMATE DRIVERS

- **Unsustainable agriculture and livestock** in fragile areas → Soil erosion and degradation, of high Andean paramos, forests and wetlands → Reduced water infiltration, retention & regulation capacity → impact on water availability
- **Disorderly urban growth** → less forest coverage → muddy torrents down during storm, poorer-quality, sediment-laden water in wetlands → landslides and flash floods are more frequent



STEP 2: Drivers of the problem (summary)



- Define the drivers of the problem
- Separate climate and non-climate drivers
- For climate drivers – move from the root cause driver into the secondary and tertiary effects if needed, to understand the adverse impact, e.g. hurricane causes wind, wind damages electricity lines; high temperatures cause droughts, droughts cause fires, fires destroy high mountain eco-systems preserving water resources

As presented on previous slides.

Separate climate drivers with secondary and tertiary effects, as needed to understand the problem.

Separate developmental drivers with secondary and tertiary effects, as needed to understand the problem.

STEP 3: Remaining gaps to be addressed (1/1)



- Strategic and at scale **conservation, restoration, recovery, and ecological rehabilitation** to reduce climate impacts on water regulation, biodiversity, and rural production.
- Adoption of sustainable production systems to reduce impact on water production & regulation and to strengthen local adaptation
- Enhancing and diversifying income through sustainable value chains and complementary alternative livelihoods
- Long-term, regional integrated water management
- Long-term, sustainable finance



STEP 3: Remaining gaps to be addressed (summary)



- For the climate-related drivers, define what still needs to be done
- Present gaps to non-climatic drivers only if solutions to these drivers are indispensable to achieve the climate impact which is needed.
- Connect the missing solutions to the drivers (solutions can address multiple drivers)

- Decrease in average annual precipitation between 10-20% in 70% of the landscape area
- Increase of more than 10% in average annual precipitation in other areas
- Temperature increase between 2 and 5 °C □ more frequent droughts
- Unsustainable agriculture and livestock in fragile areas
- Disorderly urban growth → less forest coverage

Strategic and at scale **conservation, restoration, recovery, and ecological rehabilitation** to reduce climate impacts on water regulation, biodiversity, and rural production.

Adoption of sustainable production systems to reduce impact on water production & regulation and to strengthen local adaptation

Enhancing and diversifying income through sustainable value chains and complementary alternative livelihoods

Long-term, regional integrated water management

Long-term, sustainable finance

STEP 4: Identify barriers hindering actions towards identified gaps (1/1)



SUPPLY SIDE

- Investment in transforming productive systems and conserving ecosystems is not a priority
- Multiple institutions at different levels are responsible for water management; there is fragmentation of responsibilities and weak coordination
- EbA measures are expensive to maintain and monitor
- Low empowerment from local aqueducts and authorities to incorporate climate impacts & EbA measures in management and investment decisions

ENABLING ENVIRONMENT

- Insufficient climate information for decision-making
- Shortfall of economic/market instruments for financing EbA solutions to be adopted by communities and companies
- Weak public-private coordination and capacities for water resilience management.
- Regulatory/legal requirements to public institutions and public-private water utilities hinder long-term, large scale, regional EBA investments
- Outdated Environmental Management Plans – no climate considerations

DEMAND SIDE

- Benefits of transforming productive systems and conserving ecosystems are not clear for rural communities - Social and cultural resistance
- Communities have limited capacities, tools and knowledge to participate in conservation, adoption of sustainable practices and alternative economic activities
- Market fails to recognize the added value of rural products that contribute to the provision of ecosystem services
- Gender roles limit women's participation in income diversification activities.

STEP 4: Identify barriers hindering actions towards identified gaps (summary)



For the solutions identified, define the barriers that prevent climate solutions (why the gap has not been addressed)

- Present the barriers that represent a supply side (providers of solutions)
- Present enabling environment barriers
- Present the barriers that represent the demand side (recipients of solutions)

As presented on previous slides:

Supply side barriers
Enabling environment barriers
Demand side barriers

**TO INFORM PROJECT
OUTPUTS/
ACTIVITIES AND
THEIR SCALE TO
CALCULATE BUDGET**

- **IMPORTANT! If the existing barrier is beyond possible action to be undertaken under the project, you may need to wait until the barrier is removed before the project becomes possible! Do not fall into Mission Impossible!**

- Regulatory/legal requirements to public institutions and public-private water utilities hinder long-term, large scale, regional EBA investments
- Outdated Environmental Management Plans – no climate considerations

STEP 5: Present activities that will address the gaps and remove the barriers – EXAMPLES (1/2)



(ACTIVITY - Demand

Provide funding and technical assistance to promote sustainable smallholder farming production, increased productivity, and develop complementary economic alternatives to reduce ecosystem degradation and diversify sustainable production in high-mountain regions

ACTIVITY - Demand

- Design business models and marketing strategies that account for the water-related benefits of rural products, and additional production and sustainability costs

ACTIVITY – Supply

- Coordinated implementation of PES programs to allocate 1% of public funding towards climate efforts.
- Development of financial mechanisms to mobilize private sector funding.

ACTIVITY – Enabling environment

Introduction of a water tariff to fund conservation and sustainable production systems.

(BARRIERS) Benefits of transforming productive systems and conserving ecosystems are not clear for rural communities - Social and cultural resistance

(BARRIERS) Market fails to recognize the added value of rural products that contribute to the provision of ecosystem services

(BARRIERS) Investment in transforming productive systems and conserving ecosystems is not a priority

Shortfall of long-term economic/market instruments for EbA solutions to be adopted by communities and companies

(GAP) Enhancing and diversifying income through sustainable value chains and complementary alternative livelihoods

(GAP) Long-term, sustainable finance

STEP 5: Present activities that will address the gaps and remove the barriers - EXAMPLES (2/2)



ACTIVITY – Demand side

- Ecological restoration and rehabilitation in the most degraded areas within strategic high Andean ecosystems and urban wetlands
- Network of community and commercial nurseries for the propagation and supply of native species for ecological restoration

(BARRIERS) Limited access to tools and knowledge within the community to implement conservation, restoration, and sustainable practices; Limited technical support

ACTIVITY – Enabling environment

Integration of climate change and risk reduction strategies into existing environmental management plans (EMPs) and development of new EMPs

(BARRIERS) Limited capacities and planning instruments that incorporate climate impacts in management and investment decisions

(GAP) Strategic and at scale **conservation, restoration, recovery, and ecological rehabilitation** to reduce climate impacts on water regulation, biodiversity, and rural production.

STEP 5: Present activities that will address the gaps and remove the barriers (summary)



- For each gap and related barrier, explain how specific activities will address the gaps and connected barriers (how the project addresses gaps and removes barriers)
- Present a logical sequence of actions, e.g. some gaps can be addressed only once barriers are removed (this logic will impact your project timeline)
- Divide the presented activities into the supply and the demand side activities.



As presented on previous slides:

- Ensure connections between gaps/ barriers and activities
- **Do not propose activities** which do not clearly address gaps and barriers
- **Precise activities to enable concrete scope of potential capacity needs (e.g. do not propose general training if you need specialised engineering certification for 5 experts)**
- Keep the logical sequence as this will inform your project timeline

STEP 6: Key sectoral expertise needed



- **Identify sectoral expertise needed based on selected activities in STEP 5**
- **Specify concrete competencies needed within the sector to ensure quality preparation and implementation of project**

STEP 6: Key sectoral expertise needed



(ACTIVITY) Network of community and commercial nurseries for the propagation and supply of native species for ecological restoration

Experts in nursery management in high mountain ecosystems, community engagement and training on species propagation

(ACTIVITY) Ecological restoration and rehabilitation in the most degraded areas within strategic high Andean ecosystems and urban wetlands

Experts on hydrological function analysis, Erosion control and soil stabilization techniques, Soil fertility restoration

(ACTIVITY) Sustainable smallholder farming production, increased productivity and complementary economic alternatives to reduce ecosystem degradation and diversify sustainable production in high-mountain regions

Experts in medicinal plants, beekeeping, ecotourism strategies, crop and livestock management in high Andean ecosystems, soil health and fertility, sustainable farming practices

(ACTIVITY) Business models and marketing strategies that account for the water-related benefits of rural products, and additional production and sustainability costs

Experts in Market Analysis & Research to understand demand trends, buyers' requirements, competitor and pricing strategies, product branding and storytelling

STEP 7: Key public and private beneficiaries and immediate stakeholders



- **Identify key beneficiaries of the proposed activities, present how they will be impacted and if they will be involved in delivery of solutions based on STEPS 1-6**
- **Identify key stakeholders that emerge necessary to involved based on STEPS 1-6**

STEP 7: Key public and private beneficiaries and immediate stakeholders



BENEFICIARIES

- Local rural communities, family units inhabiting high Andean Paramos and Forests, including women and young people
- Residents near urban wetlands
- Small-scale producers/rural associations
- Water use associations/ Rural aqueducts

STAKEHOLDERS

- EAAB (Empresa de Acueducto de Bogotá)
- CAR, Corpoguavio, Corporinoquia autoridad ambiental en la cuenca.
- IDEAM → generación de información climática e hidrológica.
- IDIGER → gestión del riesgo y adaptación urbana.
- Secretaría Distrital de Ambiente y Alcaldías Locales → gobernanza territorial
- Ministerio de Ambiente y Desarrollo Sostenible → marco normativo y coordinación nacional.
- MinAgricultura- temas de reconversión productiva e innovación.
- Parques Nacionales
- ANDI
- Fondo de agua BID
- FONDO ACCIÓN, WRI, TNC, Instituto Humbolt, AGROSAVIA

STEP 8: Key paradigm shift elements



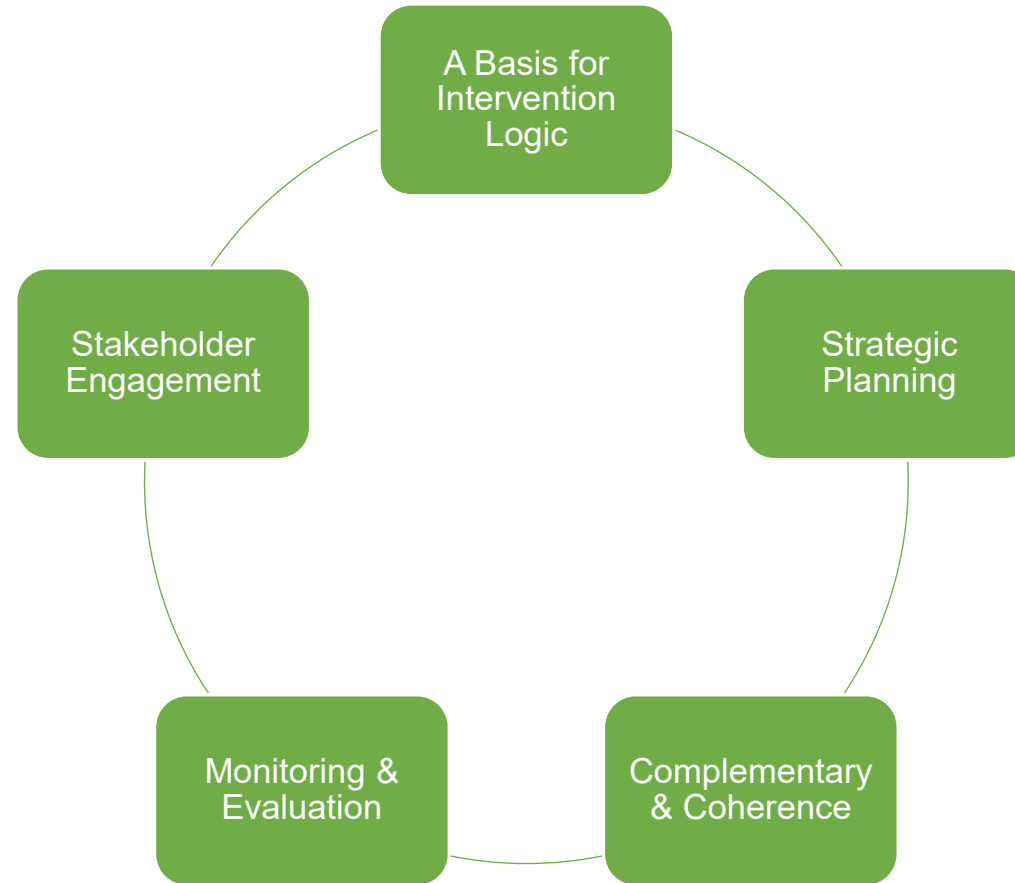
Identify key paradigm-shifting elements arising from the narrative of your project. What shift, or change in behaviours, actions, customs, regulations, or approaches are arising from defined activities?

STEP 8: Key paradigm shift elements

- Water security for the capital city based on scaled NbS and diversification of agricultural activities, and not on grey infrastructure, causing maladaptation (e.g. dams, concrete water channels)
- Capital city co-financing solutions for water security based on the watershed hydrological systems, and not the city administrative boundaries
- Efficient monitoring of newly protected areas as a cornerstone for Paramos ecosystemic functions
- Market access to the capital city of diversified agriculture production as a strategic goal to achieve agricultural land use diversification promoting water security
- Successful exit strategy of this based on the most sustainable solution – access to the market enabling smallholder farmers sufficient revenues to be interested in diversified production

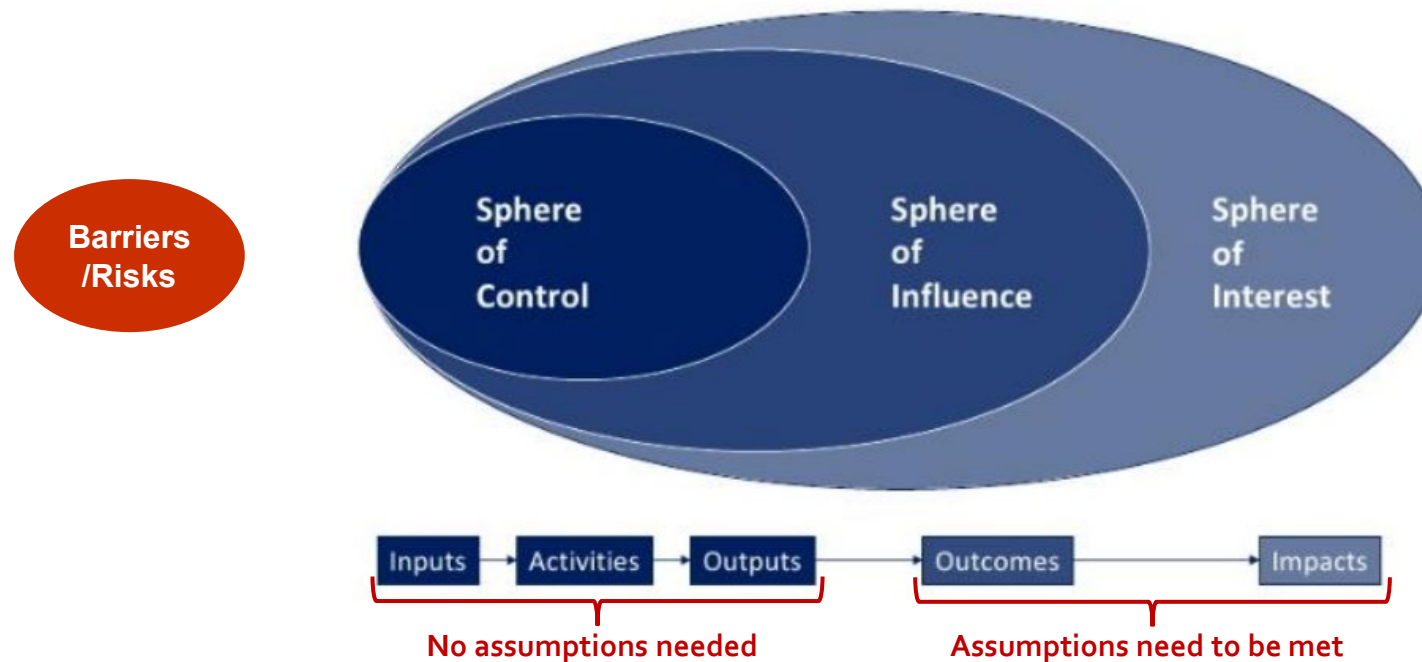


Why do we need ToC

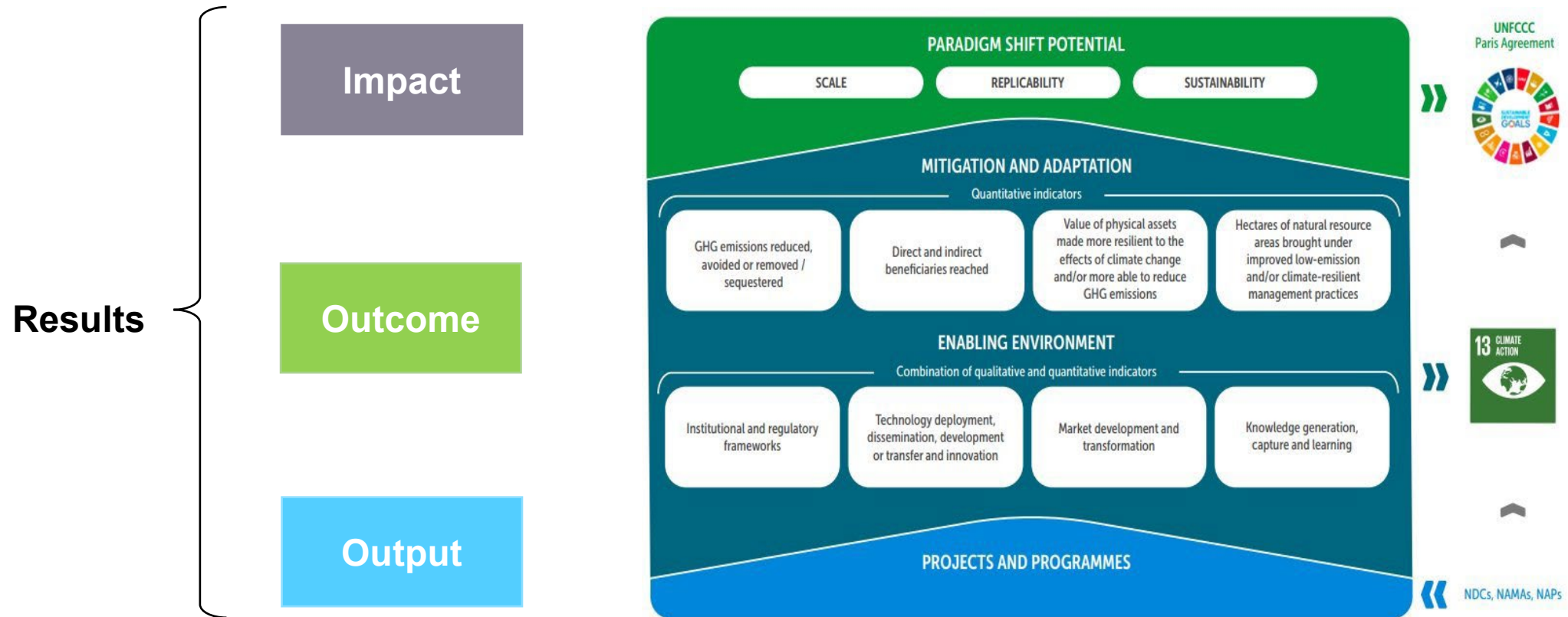


Key Component of ToC

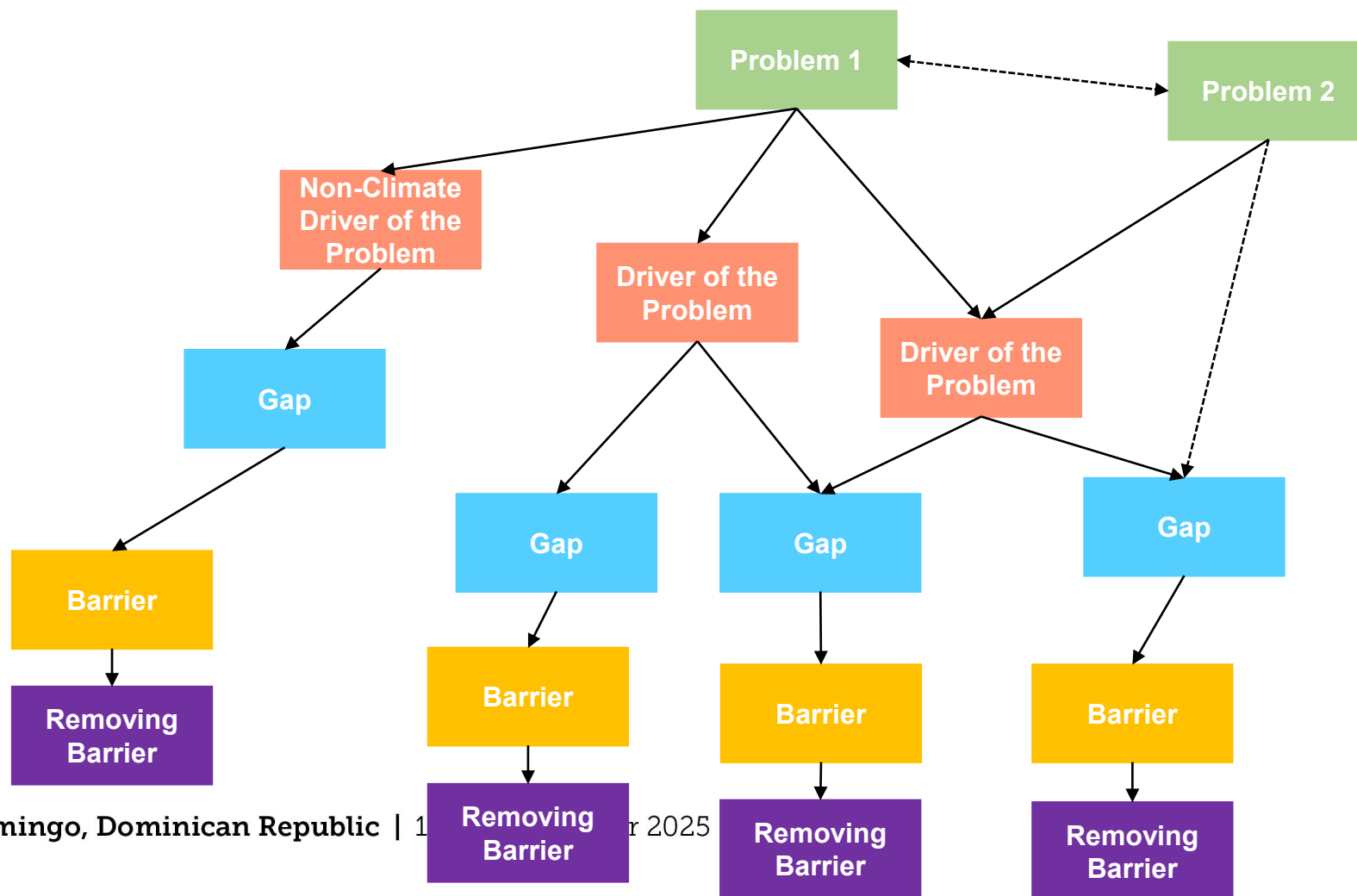
- Results can be categorized into three levels: Impact, Outcome, Output.
- Activities address identified barriers and can generate changes (results).



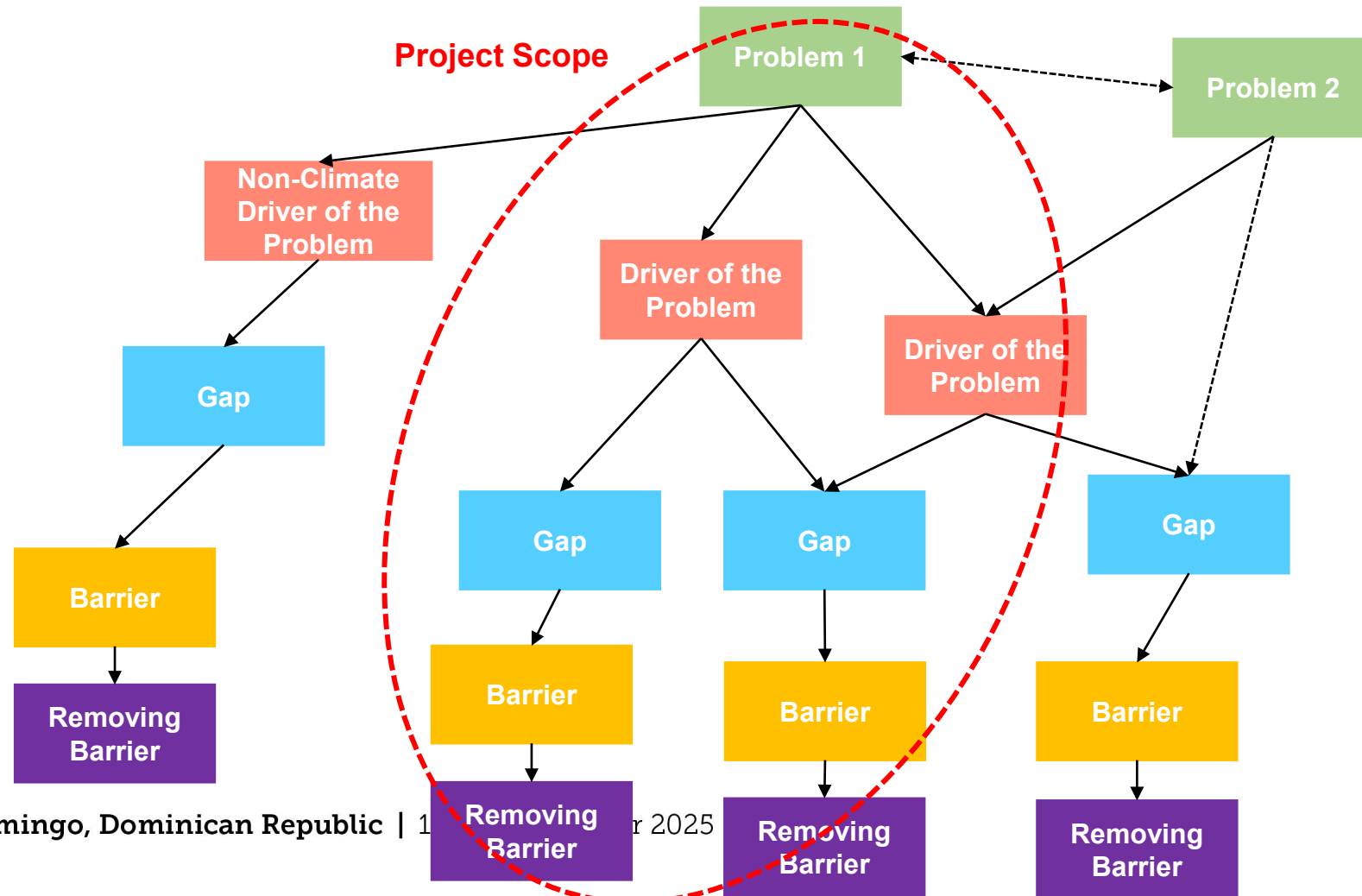
GCF IRMF Result Structure



Climate Narrative



Climate Narrative with Project Scope



Things to Consider:

- Budget/Time
- Who are working to solve the Problems?
- What have been achieved so far?
- Which entities are best suited to manage/implement the project?
- Which financing modality is more appropriate for the project: public or private?

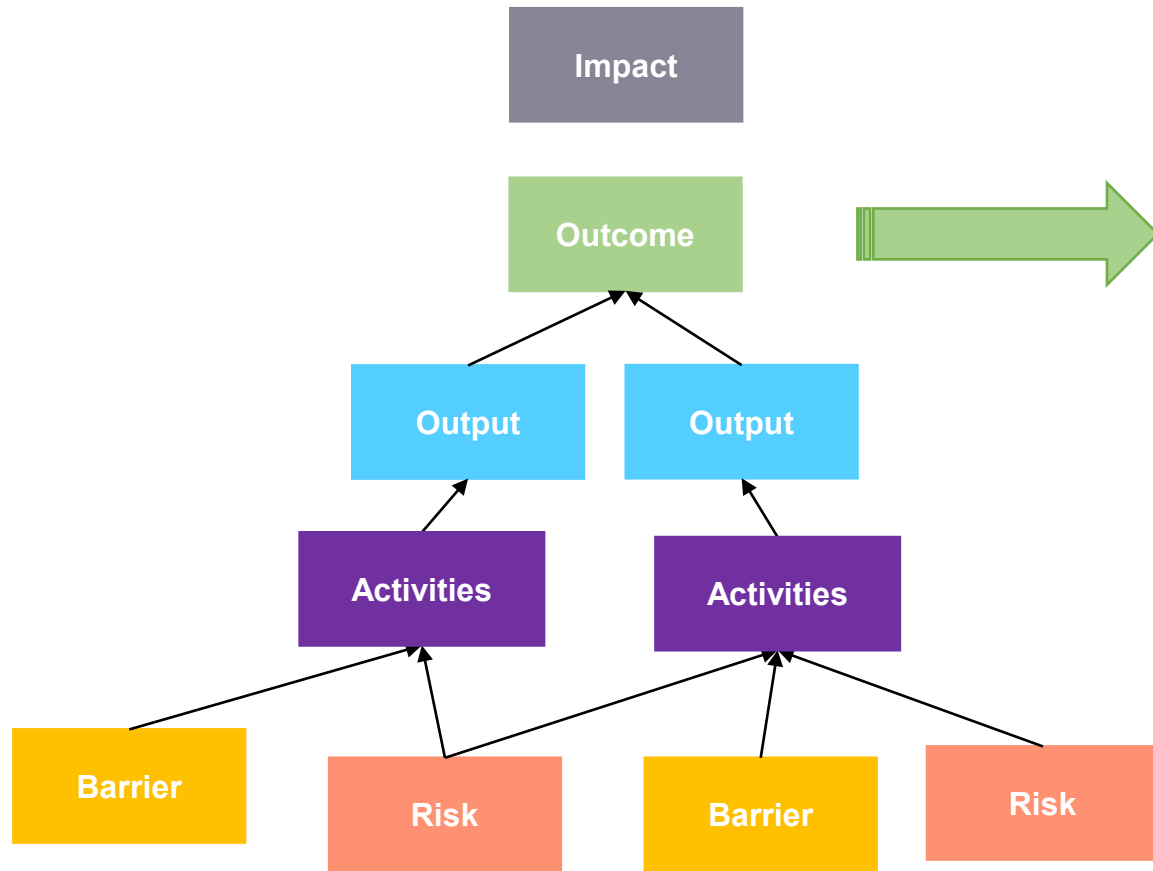
How to Convert Climate Narrative into ToC

- Determining the scope of a project
- Converting Problems into Outcomes
 - => *Outcomes need to represent specific measurable mitigation and adaptation benefits.*
- Converting Gaps into Outputs
 - => Outputs are direct consequences of activities
- Converting Drivers into Climate Risks
- Identifying Activities (Removing Barriers)





ToC Outcomes & GCF Result Areas



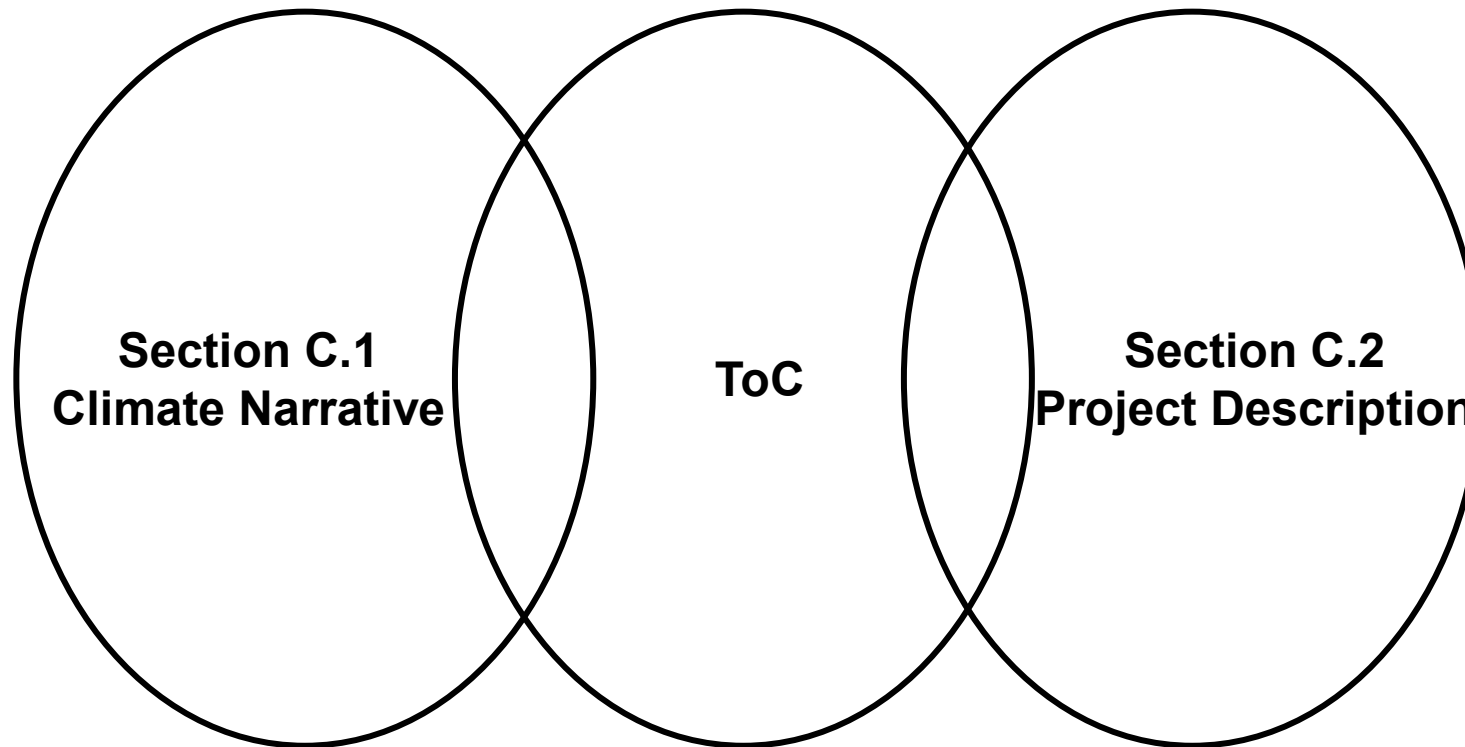
Mitigation results areas (MRA)



Adaptation results areas (ARA)



ToC as a link between Section C1 & C2



An example for group activity



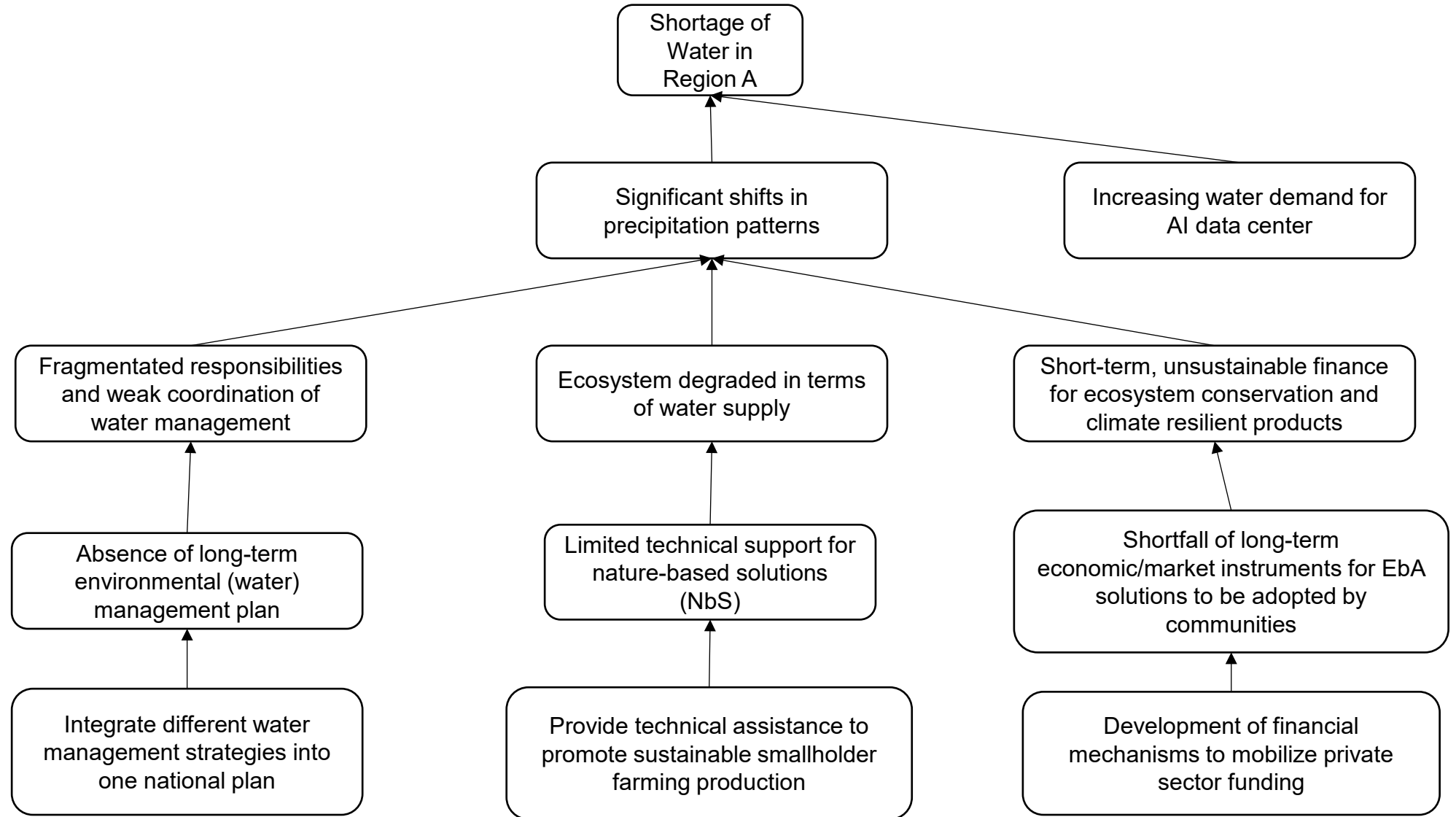
Problem

Drivers

Gap

Barrier

Removing barriers



Paradigm Shift

Outcome

Output

Activity

Barrier

Assumption

Long-term transformational change beyond a one-off project

Reduced GHG emission (Mitigation) & Increased Resilience (Adaptation)

Direct consequences of project activities

Specific activities to address identified barriers

Barriers to climate change problems

External factors that may affect the achievement of project results

Climate Narrative: General feedback

- The climate narrative is the problem statement
- The climate narrative should be succinct and relevant to the project
- Describe the problem, and how it is related to climate change with evidence
- Describe the adaptation or mitigation gap

A linkage to the Logical Framework

- Project results need to be monitored and reported by **SMART indicators** – Specific, Measurable, Attainable, Relevant, and Time-bound – in the logical framework.
- Relevant **GCF IRMF indicators** must be chosen from the list.
- **Detailed methodologies** should be presented for indicators along with baseline data and targets.
- **Project specific indicators** are to be developed to monitor output-level results and outcomes as well when GCF IRMF indicators cannot cover multi-faceted aspects of project outcomes.



Thank you

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