

Integrating Climate Resilience into LEDS



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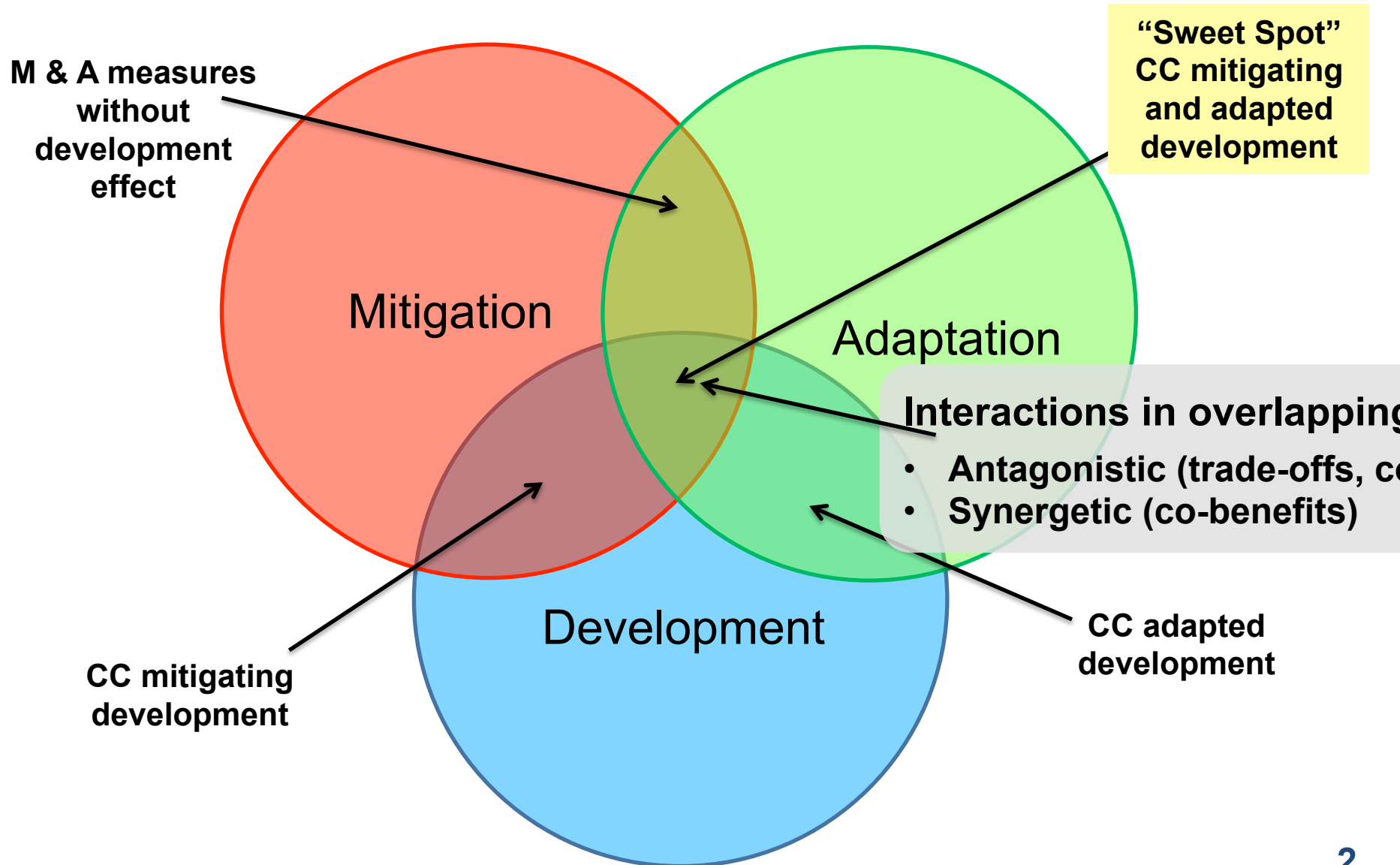


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Climate Change

I. Interactions between Mitigation and Adaptation in a Climate Change compatible Development



Climate Compatible Development Context: Moving Away from the Status Quo

**Long-Term, Socially
Inclusive Economic
Growth**

**Address Major
Environmental
Problems**

Growth

Social Equity

Resilience



Air Pollution

Water Stress

Biodiversity Loss

Global Warming

**Low Emissions Climate
Resilient Development**

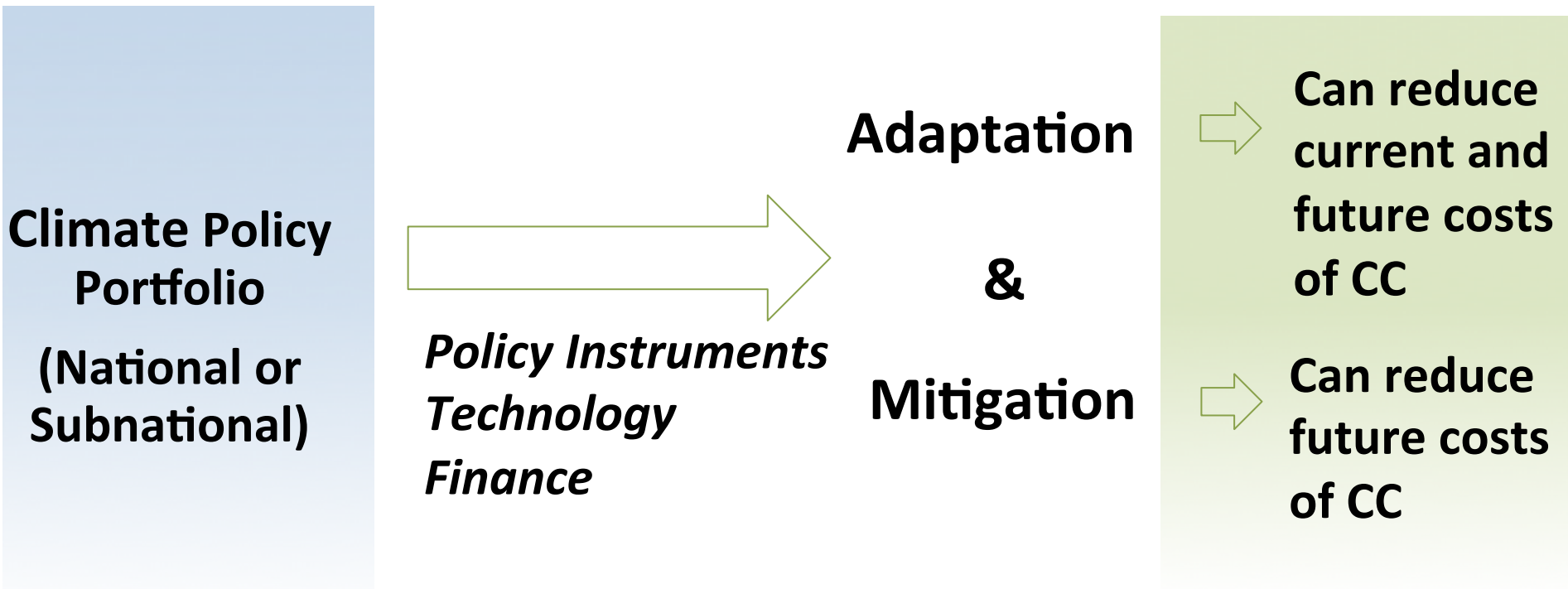


II. Integrating Climate Resilience into LED

- 1. Establish National/ Sub-National Climate Action Plans with clear mitigation and adaptation targets**
- 2. Identify Programs and Projects that maximize Synergies**
- 3. Mainstream proposed Climate Actions**



II.1. Establish National/ Sub-National Climate Action Plans with clear Mitigation and Adaptation Targets



Challenge: Communication between different actors at national/sub national/civil society is key but can be a challenge.

Adaptation and Mitigation Strategies are often part of the same “Policy Package”, but risk to “separate” during implementation

II.2. Identify Programs and Projects that maximize Synergies : Sweet Spot (big win) Opportunities in Kenya



National Climate
Change Action Plan
2013-2017

- 1. Geothermal power generation**
- 2. Distributed clean energy solutions**
- 3. Improved water resource management**
- 4. Restoration of forests on degraded lands**
- 5. Climate smart agriculture and agroforestry**
- 6. Infrastructure**

**Capture over 2/3 of the
mitigation potential
identified in NCCAP !!**




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II.2. Identify Programs and Projects that maximize Synergies : Tools: Using & combining platforms for developing better solutions

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Climate Change Knowledge Portal

For Development Practitioners and Policy Makers


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The Climate Change Knowledge Portal (CKKP) Beta is a central hub of information, data and reports about climate change around the world. Here you can query, map, compare, chart and summarize key climate and climate-related information. [Read More](#)

Click on an area of the map to get started >



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Welcome to **Open Energy Tools**, a collaborative resource for energy modelling and evaluation to provide a neutral, open access platform for the dissemination and development of energy models. This website provides a powerful platform for collaboration and development. It will be publicly accessible to registered users.

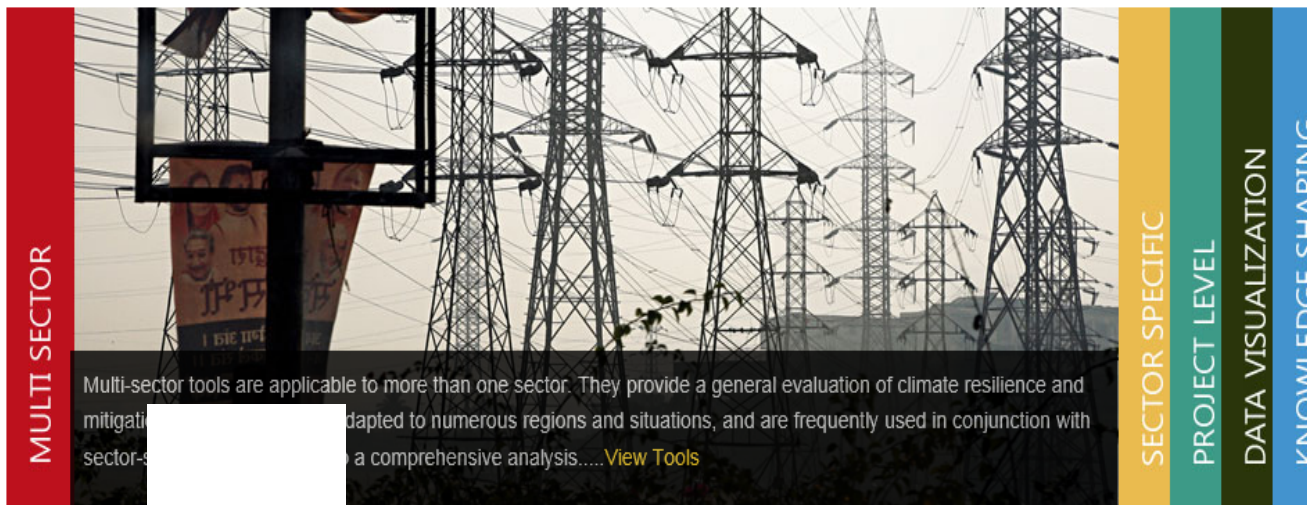
JAR P

Platform for Climate-Smart Planning

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Preview the downscaled climate data enhances our information and modeling changes in water, flood and drought stress, and changes in agricultural productivity. www.worldbank.org/



MULTI SECTOR

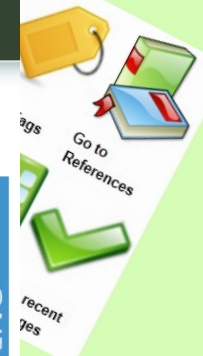
Multi-sector tools are applicable to more than one sector. They provide a general evaluation of climate resilience and mitigation options, adapted to numerous regions and situations, and are frequently used in conjunction with a comprehensive analysis.....[View Tools](#)

SECTOR SPECIFIC

PROJECT LEVEL

DATA VISUALIZATION

KNOWLEDGE SHARING



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Climate Change

II.2. Identify Programs and Projects that maximize Synergies : Screening Tools for Vulnerability

Ghana Dashboard

Overview

Overview Climate Baseline Natural Hazards Climate Future Impacts & Vulnerabilities Adaptation [Print](#) [References](#)

Recent Trends

Mean annual temperature	1.0 °C since 1960	▲
'hot' days per year	13.2 %	▲
'hot' nights per year	20 %	▲
'cold' days per year	3.3 %	▼
'cold' nights per year		
Explore Further		

Key Sectors

Agriculture/Food Security
Coastal Zones/Marine Ecosystems
Water Resources
Energy Production [Explore Further](#)

Natural Hazards



Overview

Ghana is located in West Africa on the Guinea Coast. At latitudes of 4-12°N, it shares borders with Togo on the East, Burkina Faso on the North, La Côte d'Ivoire on the West and the Gulf of Guinea to the South. Ghana covers an area of 238,539 square kilometers. Extensive water bodies, including Lake Volta and the Gulf of Guinea, occupy 3,275 square kilometers, while seasonal and perennial rivers occupy another 10,000 square kilometers. Ghana's population is estimated at 23.8 million (2009) and is assumed to grow at a rate between 2.8 and 3.0 percent per annum. The birth rate (1999) is estimated at 28 per thousand and infant mortality rate is 66 per thousand life births. Ghana is a developing country with a per capita income GDP of US\$ 1098 (2009). Agriculture is the mainstay of Ghana's economy, accounting for 32% of GDP in 2009. Agriculture is predominantly rainfed and is economically active population. Agriculture is predominantly rainfed and is economically active population. Agriculture is predominantly rainfed and is economically active population. Climate change and variability are expected to have significant impacts on Ghana's resources, and often attributed to global warming caused by human activities over several decades. Their impacts on the country are expected to be more pronounced in the biological systems which increasingly exert control over the country's resources. Agriculture, Coastal Zones/Marine Ecosystems and Water Resources are the most vulnerable to climate change occurring in Ghana. The impacts of climate change are expected to be more pronounced in the biological systems which increasingly exert control over the country's resources. The impacts of climate change are expected to be more pronounced in the biological systems which increasingly exert control over the country's resources.

Ghana Dashboard

Climate Future

Overview Climate Baseline Natural Hazards Climate Future Impacts & Vulnerabilities Adaptation [Print](#) [References](#)

At a Glance

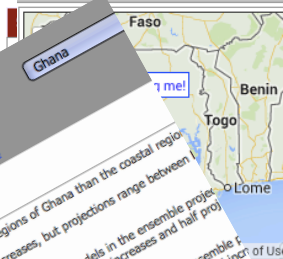
Temperature	Expected to increase by 2060 by 2090	1.0 to 3.0°C 1.5 to 5.2°C
Rainfall	Projections in rainfall are inconsistent	
Extreme	'hot' days will increase 'hot' nights will increase	18-59% (2060) 25-90% (2090) 28-79% (2060) 39-90% (2090)

Key Climate Changes

- The projected rate of warming is most rapid in the northern inland regions of Ghana than the coastal regions.
- Projected changes in 1- and 5-day rainfall maxima tend towards increases, but projections range from decreases to increases in all seasons.
- Projections of mean annual rainfall averaged over the country from different models in the ensemble range of changes in precipitation for Ghana, with around half the models projecting increases and half decreases.
- The proportion of total annual rainfall that falls in 'heavy' events tends towards increases in the future. Seasonally, there is a trend in the projections towards a decrease in January through June rainfall, and an increase through August rainfall.

Climate Charts

Move the marker to view the projected climate charts.



Choose your variable: Temperature Choose your time period: Future 2020-2039 View mean or change: Mean

GRAPH IT

PRINT IT

Legend

Global Climate

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II.3. Mainstream proposed Climate Actions

- **Mainstream NCCAP into National Medium Term Plans (e.g. 5 years plans)** = opportunity to incorporate CC activities into sectoral national development plans. Example: Mexico.
- **Set-up an Institutional Framework for Climate Governance**, e.g. National CC Council and National CC Secretariat
- **Coordinate high-level National CC Policy** (Cabinet of Prime Minister, leading Ministry)
- **Adjust the National/Sub-National Legislative Framework**
- **Provide for sufficient Budgeting** based on estimated costs of CC related activities

III. Opportunities of Activities that maximize Mitigation & Adaptation Synergies

Building Sector (Energy Efficiency & Stability)

Mitigation Activity <i>Mitigation Potential</i>	Resilience Synergies	Resilience Trade-Offs
Integrate commercial - residential buildings <i>Medium potential</i>	Savings in time, cost and risk of commuter traffic	Prevention measures against noise and pollution

Landscape Sector (Agriculture & Forestry)

Mitigation Activity <i>Mitigation Potential</i>	Resilience Synergies	Resilience Trade-Offs
Conservation agriculture / agroforestry <i>Medium ER & ES potential</i>	Stabilized, higher productive soil, increased income, improved food security under climate stress, diversified products (e.g. wood)	None known

Landscape: Mitigation & Adaptation Synergy-maximizing Programs



Ethiopia - Humbo Forest Regeneration Project resulted in increased production of wood and tree products, such as honey and fruit, which contribute to household budgets.



Agricultural Carbon Project for Smallholder Farmers in Kenya, participatory approaches leading to increased farm productivity in 45,000 hectares engaging 60,000 farmers.

