

# "Experiences with forest and socio-economic scenarios in Africa"

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Regional Universities Forum  
for Capacity Building in  
Agriculture (RUFORUM)



Expert Meeting on A Strategy for REDD\*  
Scenarios

UNEP – Headquarters, Nairobi  
September 20 – 21, 2011



# Presentation Content

- On Climate Change, REDD and Scenario Applications
- Lessons from Past Scenario Exercises
- Developing REDD Scenarios
- Capacity Development Priorities
- Suggestion for Moving REDD Scenarios Forward





# Forests and the Carbon Equation

- Standing tropical forests absorb 20% of CO<sub>2</sub> released by burning fossil fuels. Tropical deforestation and forest degradation annually contribute 18-20% of CO<sub>2</sub> released.
- To slow global climate change, enlightened forest management must play an essential, two-pronged role :
  - Keep and expand forests to absorb CO<sub>2</sub> from other sources;
  - Minimize deforestation to reduce the carbon released when forests are converted to permanent agricultural uses.



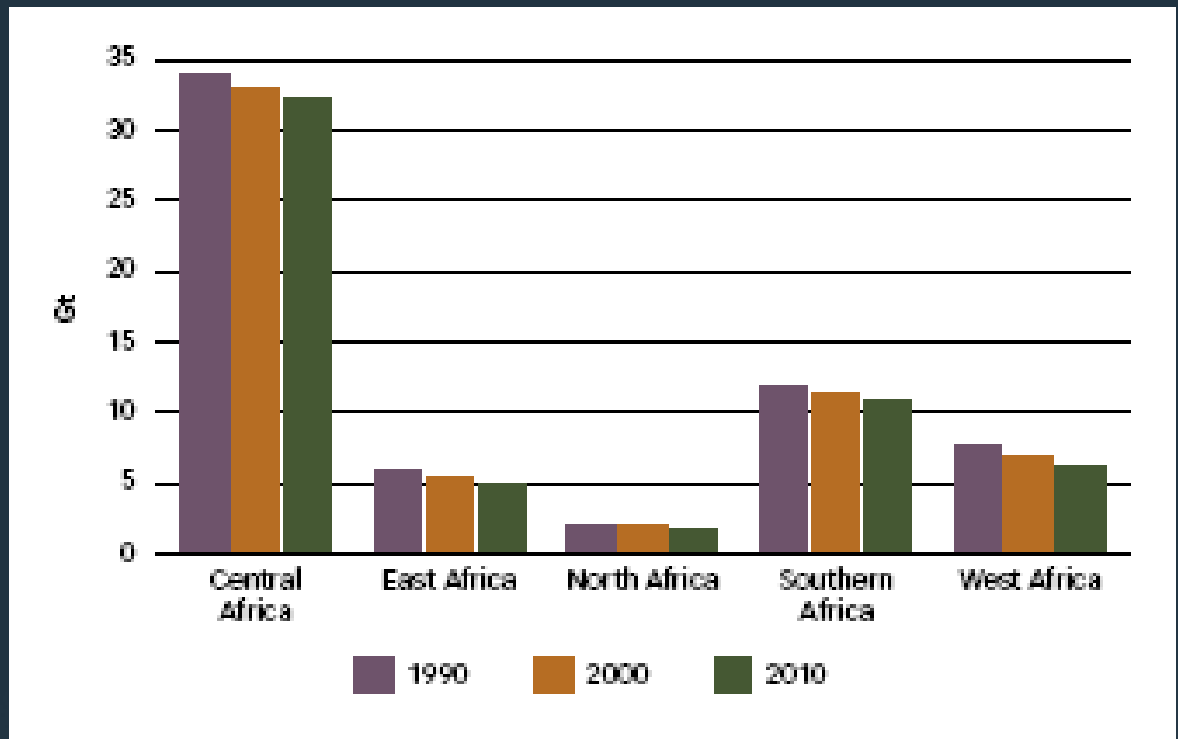
# Forestry and Climate Change Agenda

- Over the last few years, forestry has become a critical part of the international climate change agenda.
- Agreement on the potential importance of REDD+
- Large Financial Resources are being provided to initiate pilot activities
- Long-term sustainability of climate change and forestry activities must deal with uncertainty and will depend on many factors:
  - Effective forest governance;
  - Secure forest carbon tenure & equitable benefit sharing;
  - Integration of adaptation actions into climate change policies and projects.



# Value of African Forest Carbon Stocks

- Sustainable management, planting and rehabilitation of forests can conserve or increase forest carbon stocks
- **Deforestation, forest degradation and poor management practices reduce them.**



Source: FAO (2011)



# Experiences from Africa: Socio-Economic and Forestry Scenarios

## 1 Regional

Africa Environment Outlook

- AEO-2 of 2006
- AEO-3 – ongoing
- Sub-regional Forestry Scenarios



## 2 National Processes

Capacity Building for IEAR

- Technical backstopping Scenario  
Communication - Policy
1. Botswana
  2. Mozambique
  3. Malawi
  4. Kenya
  5. Ethiopia
  6. Mauritius
  7. Tanzania

## 3 Ecosystems and Sector

Socio-economic development planning  
**Climate Induced Water Stresses** in selected ecosystems – Nile River basin, Lake Victoria Basin  
Environmental Observatory – East African Great Lakes Observatory - EAGLO



# Drivers/Factors Impinging on Global Forest Sector

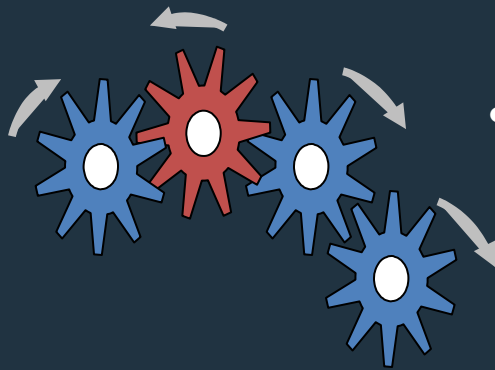
- A generalized view but drivers vary from country to country and between sectors

	Positive forces	Negative forces
External forces	<b>Opportunities</b> <ul style="list-style-type: none"><li>• demographics in low and middle-income countries</li><li>• economic growth</li><li>• globalization</li><li>• social trends</li></ul>	<b>Threats</b> <ul style="list-style-type: none"><li>• demographics in high-income countries</li><li>• competing materials</li><li>• competition for resources</li><li>• changes in forest ownership, control and management</li></ul>
Internal forces	<b>Strengths</b> <ul style="list-style-type: none"><li>• environmental attributes of product</li><li>• adaptability and management of raw material supply</li><li>• potential for innovation</li></ul>	<b>Weaknesses</b> <ul style="list-style-type: none"><li>• existing industry structure</li><li>• labour costs and working conditions</li><li>• social and environmental performance and perceptions</li><li>• maturity of existing product markets</li><li>• end use issues (durability, regulations, etc.)</li></ul>





# National Processes



**FACILITATION IS  
KEY AND NOT  
“FACIPULATION  
”**

- Identification thematic issues for which states, trends and future pathways are to be developed
- Development and grounding of the scenario framework based on country vision and other development goals.
- Execution of scenario sessions during the national integrated environmental assessment and reporting workshops.
  - Since the expertise, disciplinary influences, political visions and circumstances vary among sectors, the different perceptions were collected.
  - Experts and stakeholder facilitated through iterative sessions
  - Qualitative and quantitative storylines
  - Sensitivity analysis and policy analysis
  - Scenario communication
- Validation workshops with partners at national and sub-national levels





# Use of Modeling Tools

- The quantitative and intuitive scenario and policy analyses employed Threshold 21 (T21) as the basic analysis platform for some countries
  - Integrates economic, environmental, and social elements through a holistic systems approach;
  - Facilitates participation and builds consensus through an easy-to-understand, diagrammatic interface;
  - Adapts readily to country-specific issues by sophisticated processes that fit the model to country data and accommodate structural modification;
  - Informs long-term development strategy by simulating future impacts of alternative policy scenarios and demonstrating results transparently;
  - Produces output for key policy documents such as the National Development Strategy, the World Bank's Poverty Reduction Strategy Papers (PRSPs), the Millennium Development Goals (MDGs), and the UN Development Assistance Framework (UNDAF).



# T21 National Scenario Platform

T21 Malawi

**T21**

INTEGRATED DEVELOPMENT MODEL

Malawi Version 3.3

For AEO Case Study

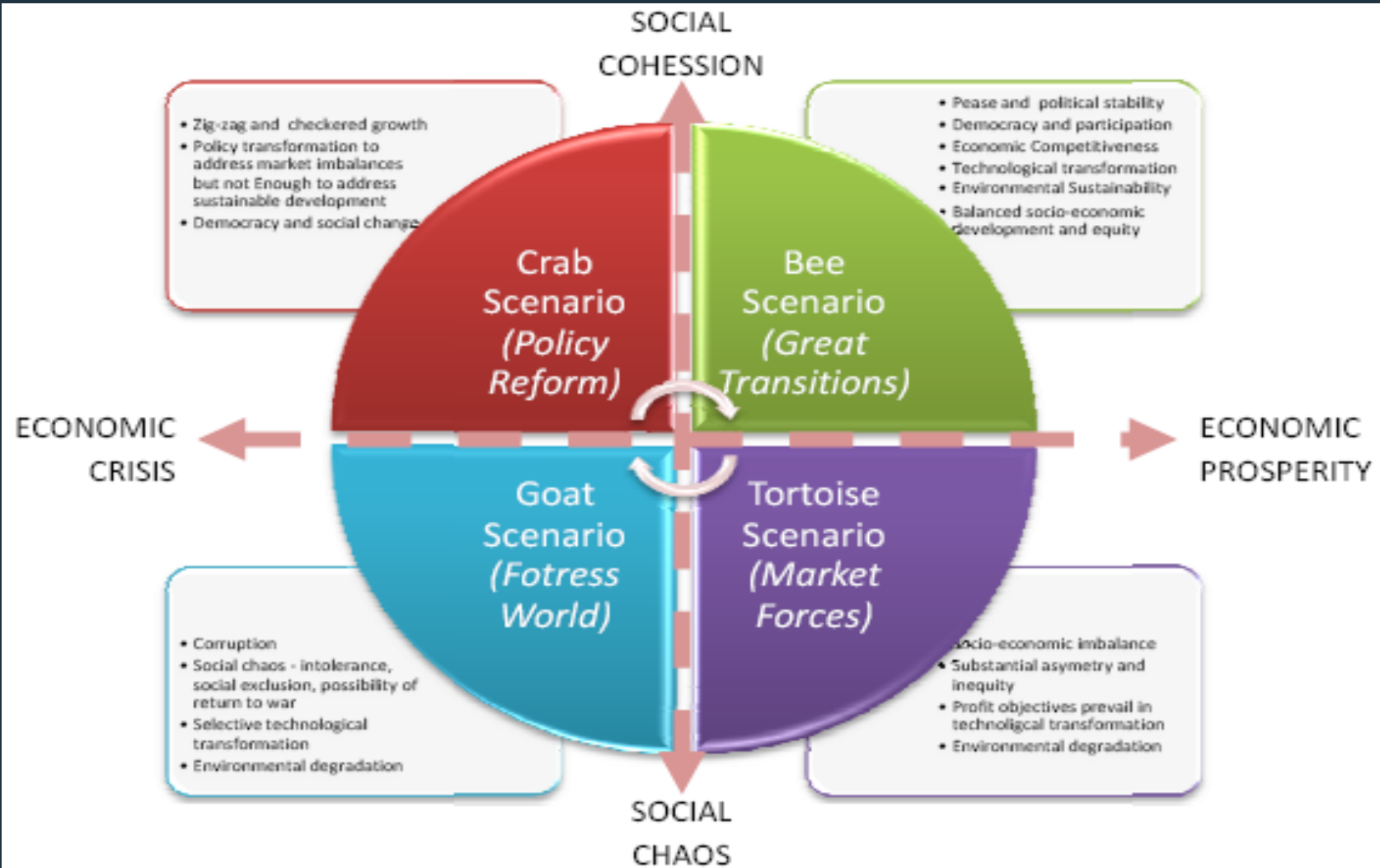
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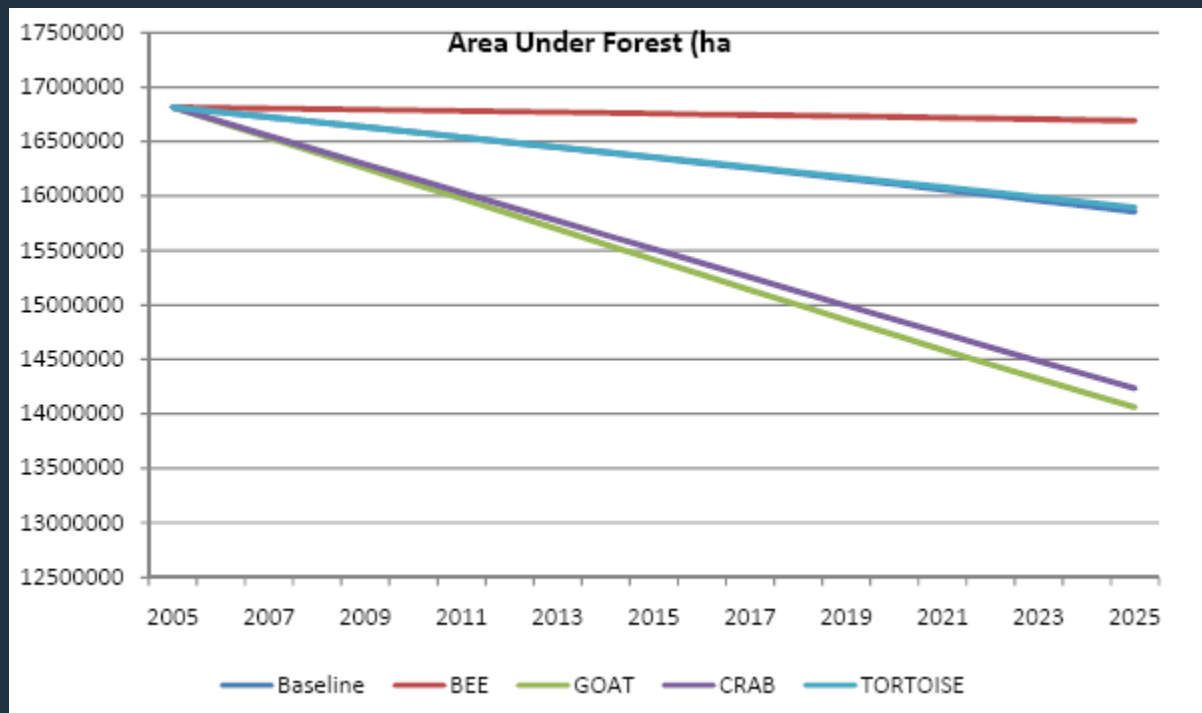


# Mozambique National Environmental Scenario Framework



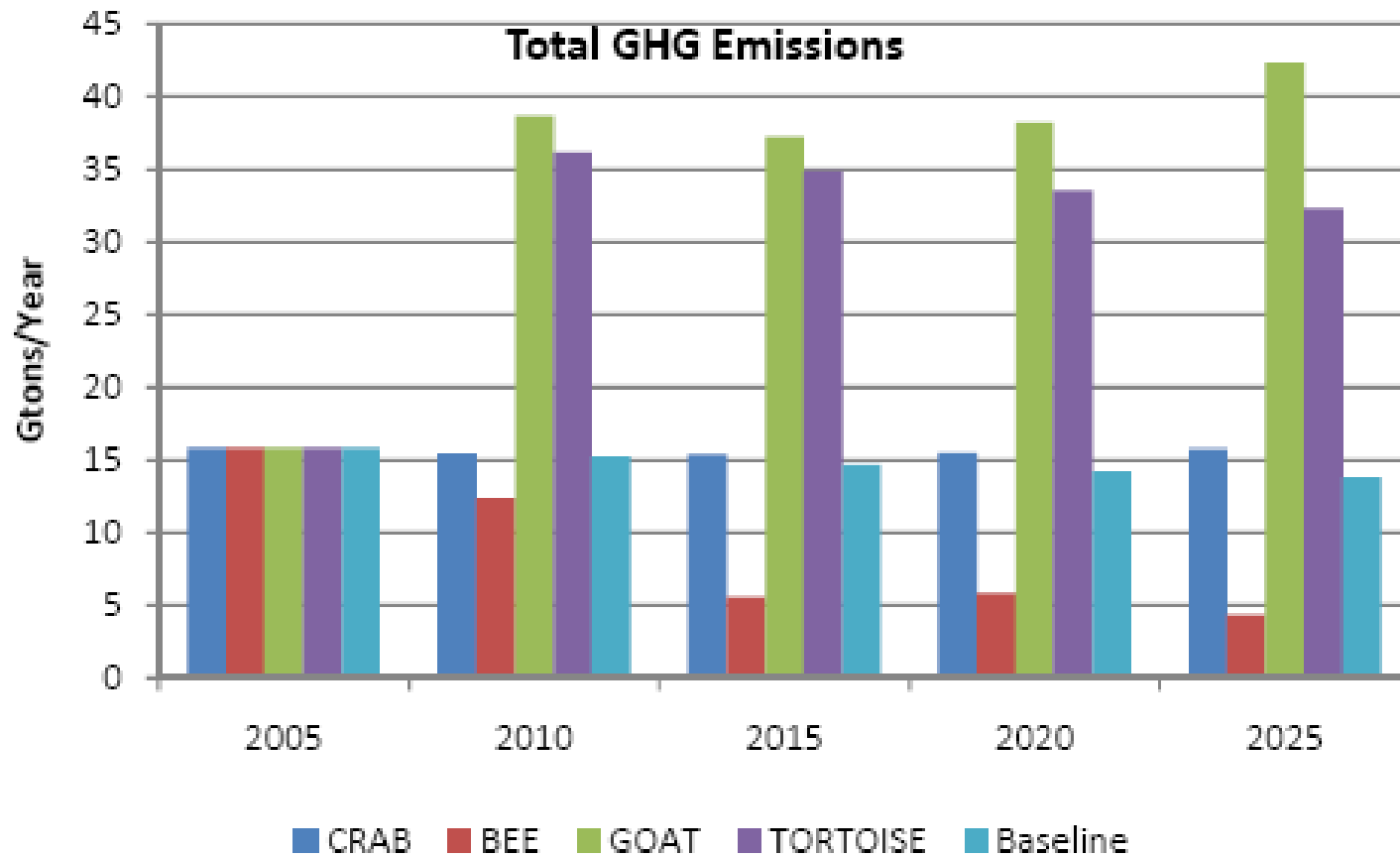


# T21 Output – Area Under Forest - Mozambique





# Total GHG Emissions



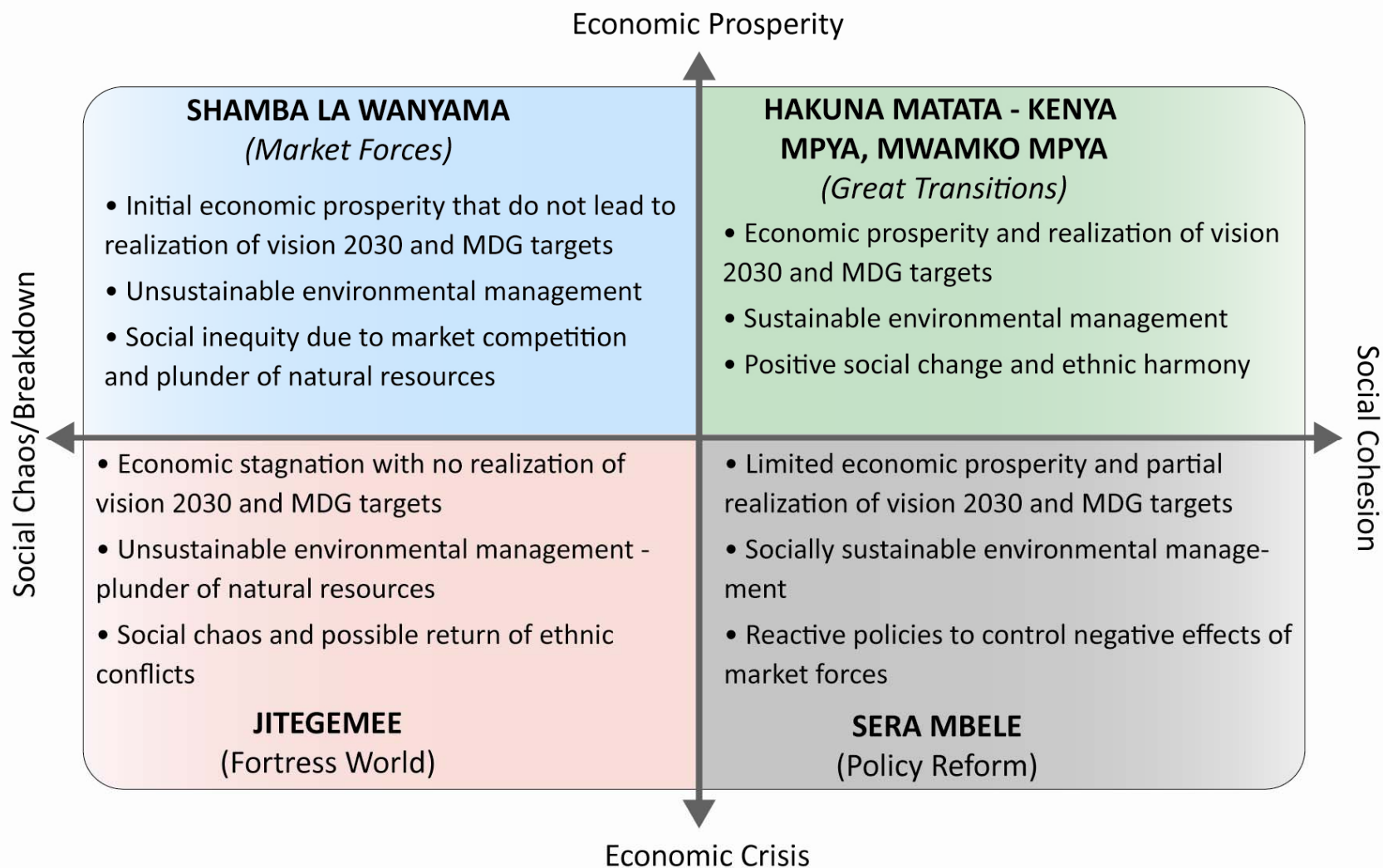


# Using Scenarios to Track Selected MDGs

MDG 7 Target for 2015	Selected Indicator	Tortoise Scenario	Crab Scenario	Goat Scenario	Bee Scenario
Target 7.A: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources	7.1 Proportion of land area covered by forest	Orange	Light Green	Dark Orange	Dark Green
	7.2 CO2 emissions, total, per capita and per \$1 GDP (PPP)	Dark Orange	Light Orange	Light Orange	Light Green
Target 7.B: Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss	7.3 Consumption of ozone-depleting substances	Dark Orange	Light Green	Dark Orange	Light Green
	7.4 Proportion of fish stocks within safe biological limits	Light Orange	Light Green	Dark Orange	Light Green
	7.5 Proportion of total water resources used	Light Orange	Light Green	Dark Orange	Light Green
	7.6 Proportion of terrestrial and marine areas protected	Light Orange	Light Green	Dark Orange	Light Green
	7.7 Proportion of species threatened with extinction	Dark Orange	Light Orange	Dark Orange	Light Green
Target 7.C: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation	7.8 Proportion of population using an improved drinking water source	Light Orange	Light Green	Dark Orange	Dark Green
	7.9 Proportion of population using an improved sanitation facility	Light Orange	Light Green	Dark Orange	Light Green
Target 7.D: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers	7.10 Proportion of urban population living in slums	Dark Orange	Light Green	Dark Orange	Light Green



# Scenario logic for Kenya Environmental Futures - 2010







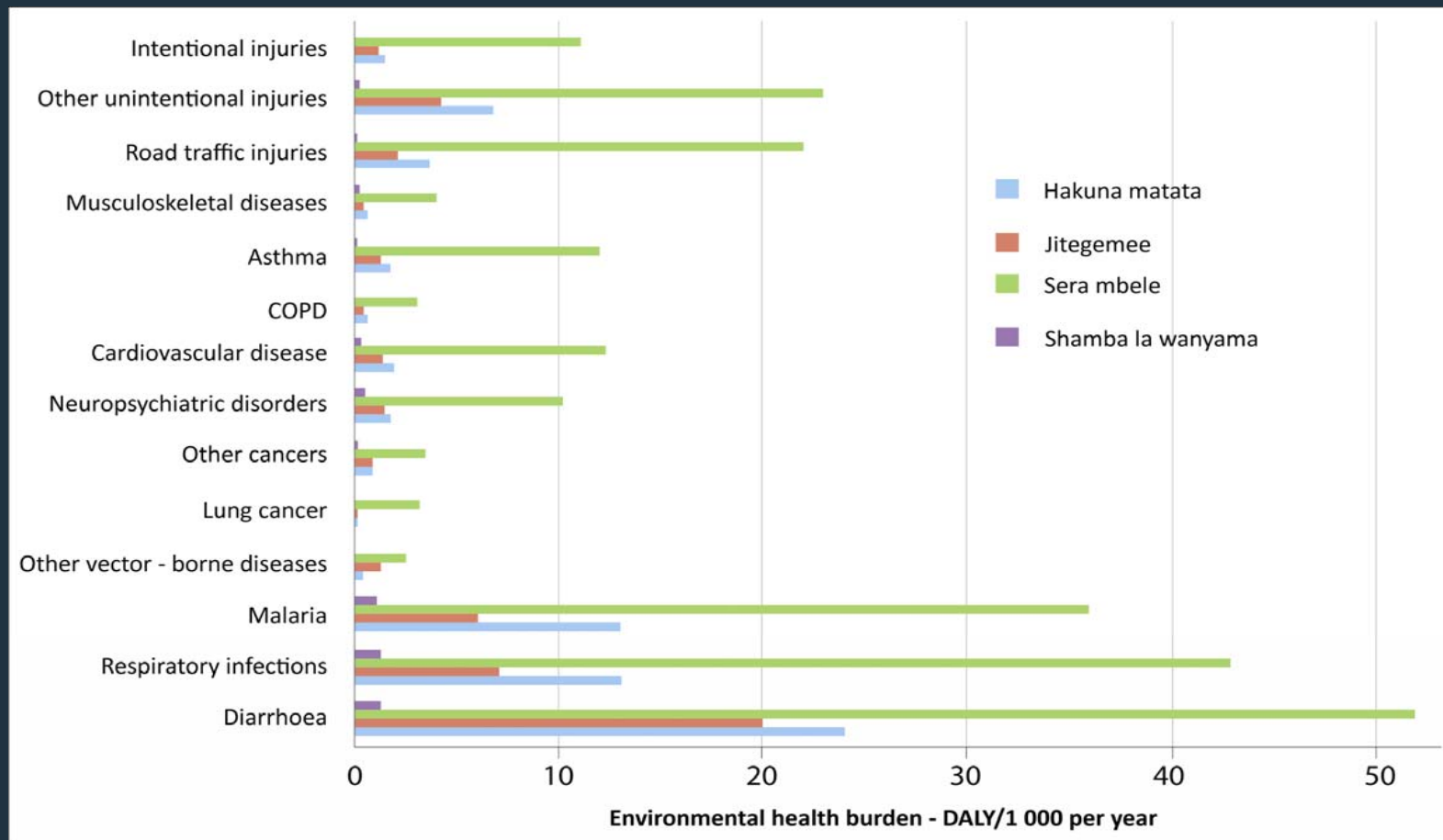
# Lessons from Politically Sensitive Scenario Processes – The Mau

- If allowed to continue, forest encroachment will negatively affect the attainment of Vision 2030 targets
- Process and product used to engage political class





# Extending to Socio-Economic Analysis and Scenario Evaluation

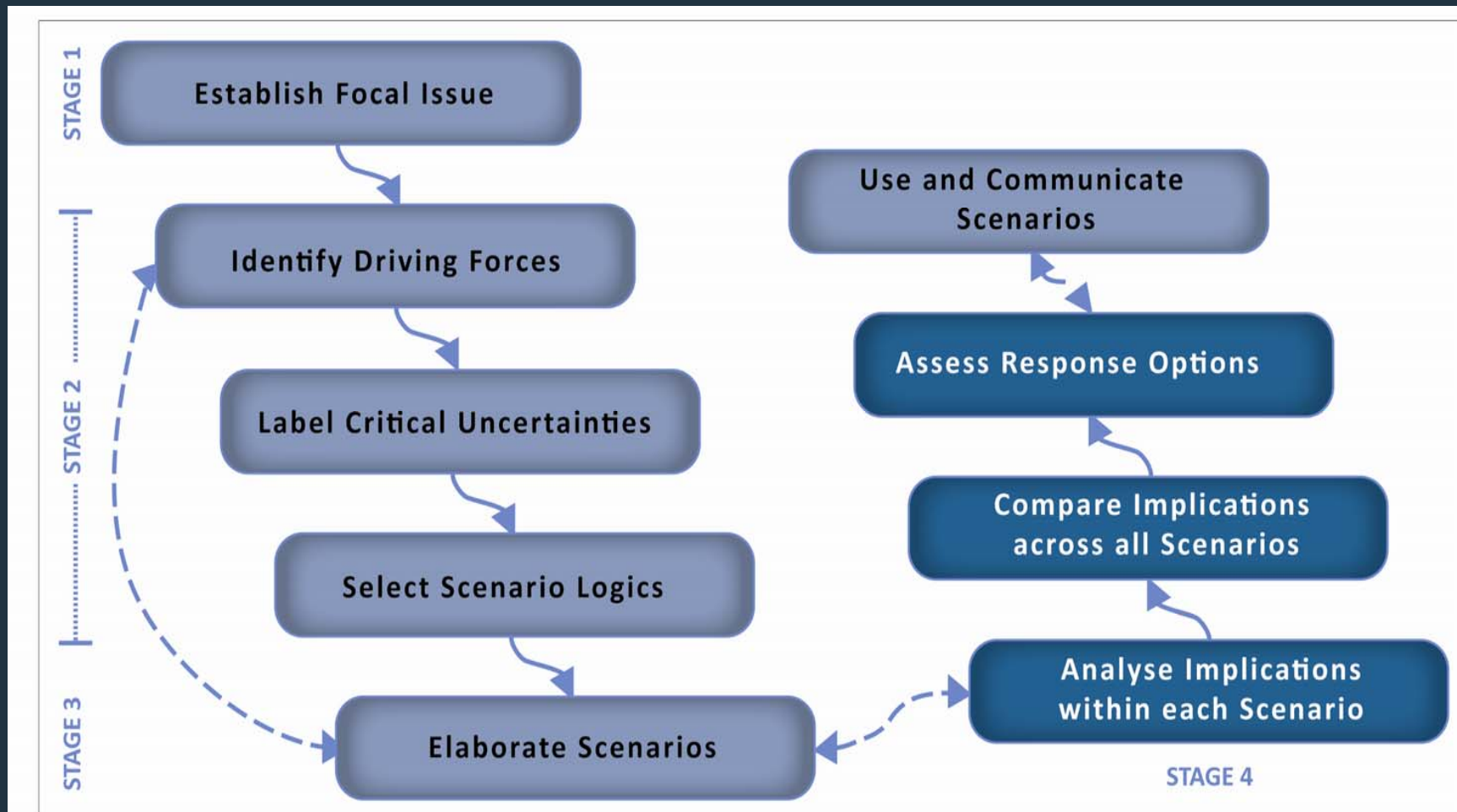


- Health and Environment – Current Theme of AEO-3 used for analysis in Kenya Environment Outlook



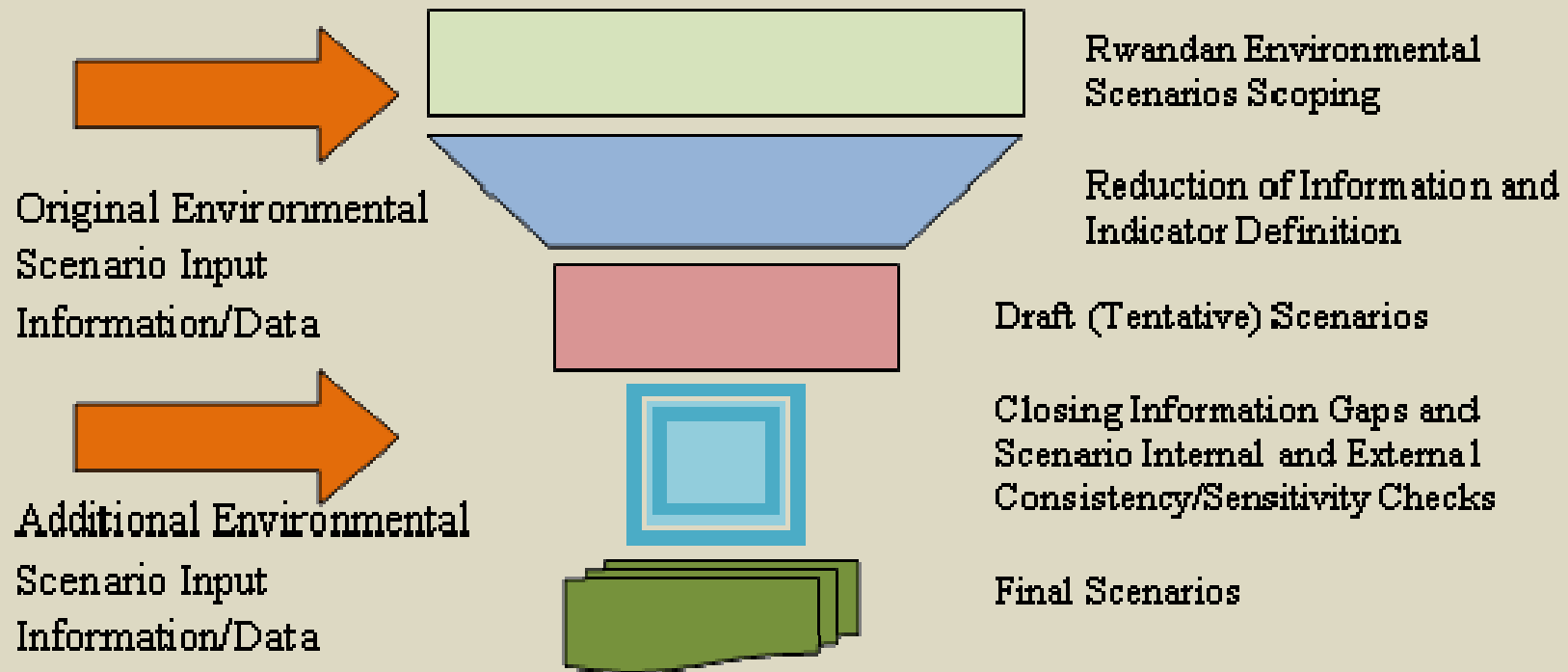
# Procedure Adopted

- Adopted from Alcamo & Henrichs (2008)



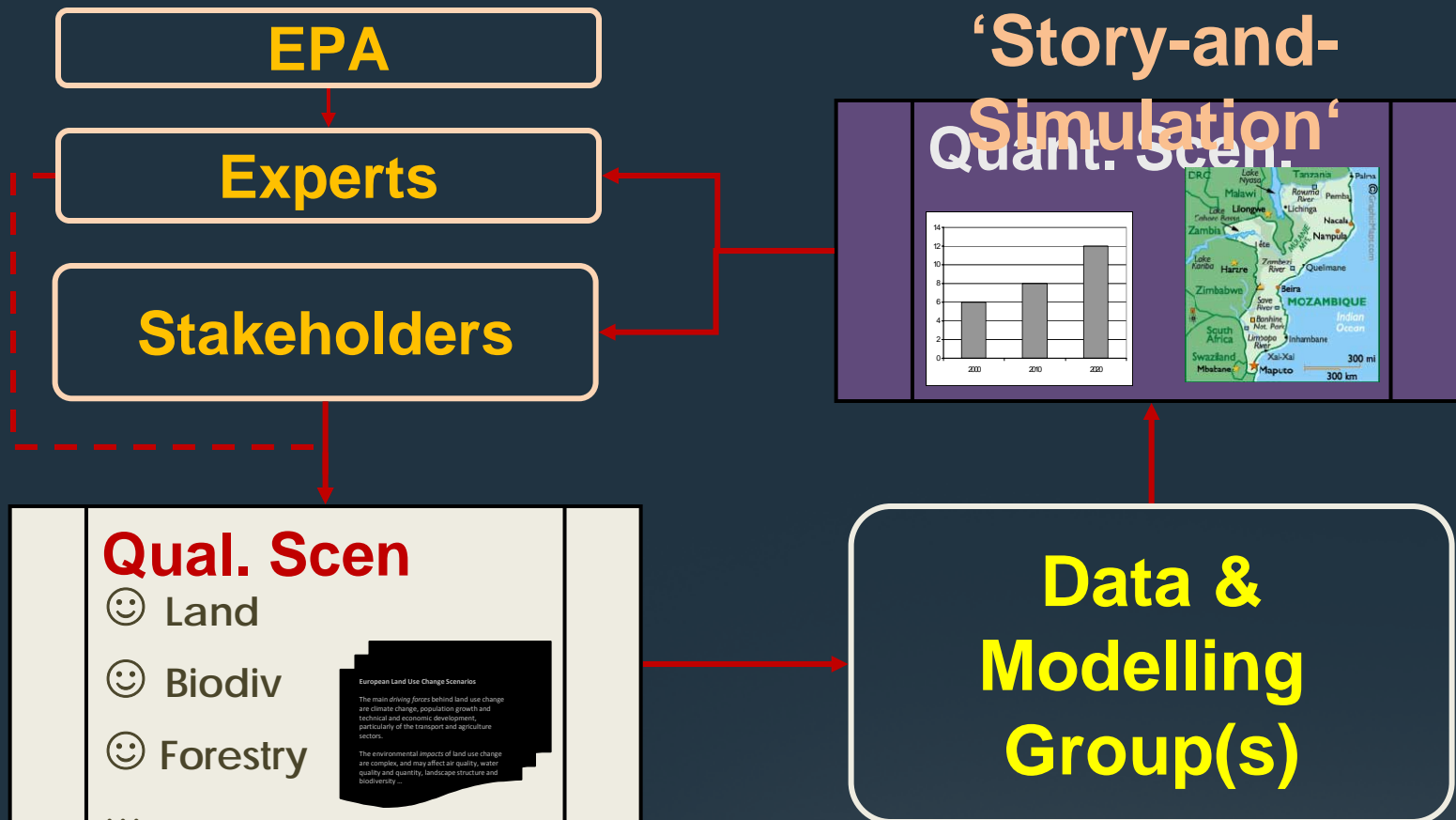


# Rwanda Scenario Process





# Combining Approaches







# Quality of Facilitation





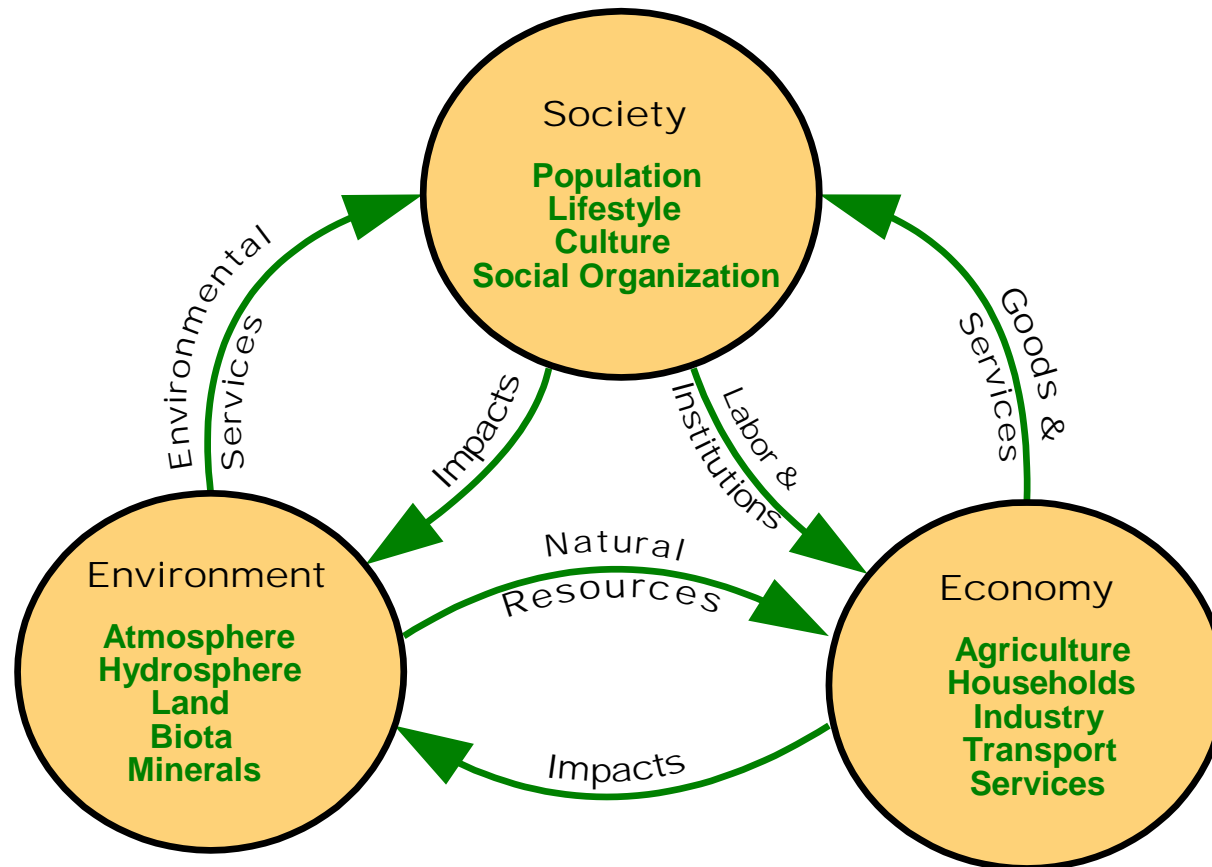
# Social-Economic Opportunities

- Social, economic and environmental issues in the forest industry – REDD related activities occur over relatively large areas & impact on large numbers of people
- Involves complex set of environmental and social issues that make designing REDD programs challenging
- Complicated by the diversity of stakeholder/ expert views



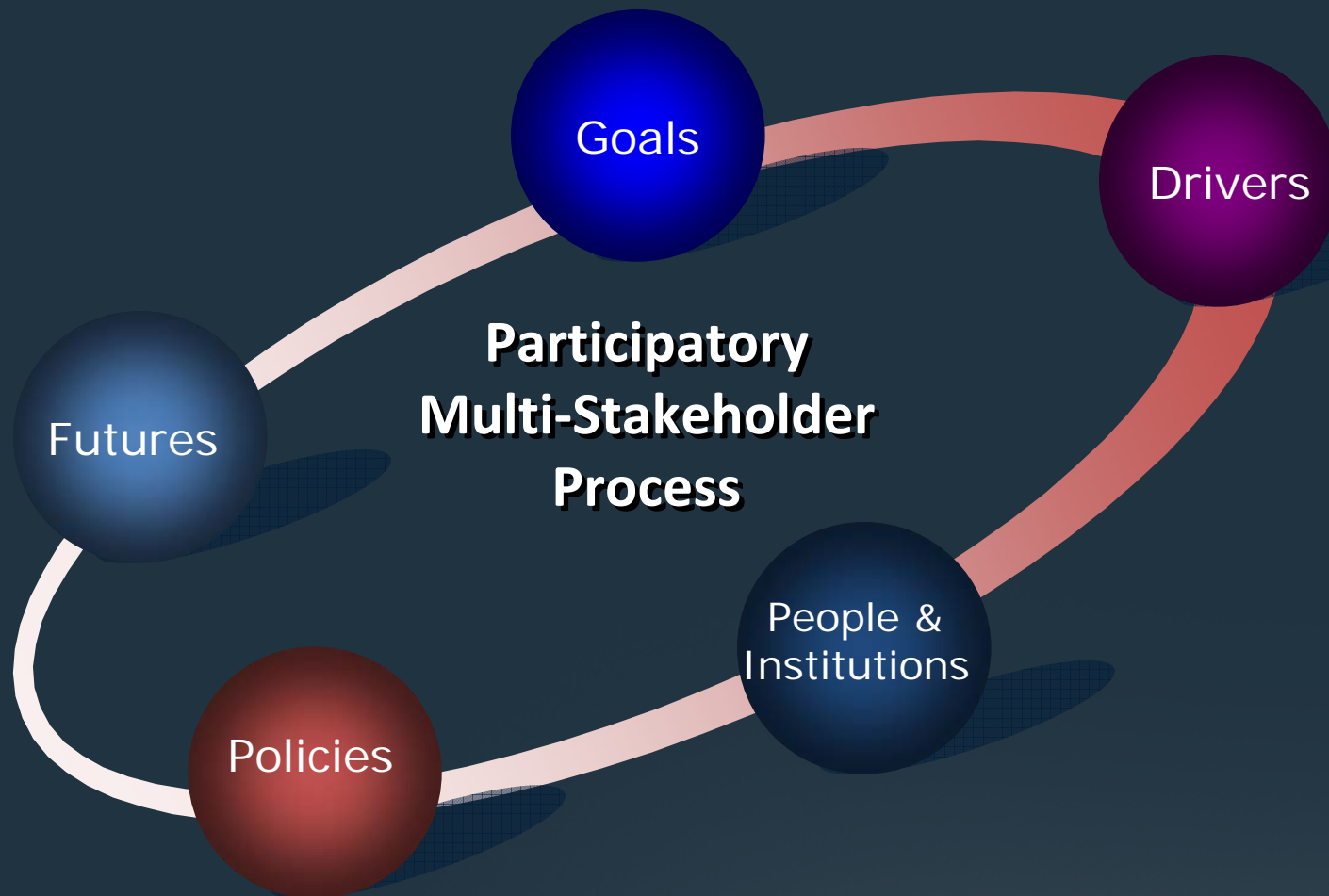


# Integrated Scenario Assessment





# Scenario Building





# From Cancun - The scope of REDD+



Reducing emissions from deforestation and forest degradation

Conservation, sustainable management of forests

Enhancement of carbon stocks

Principles and safeguards for REDD+

Work on methodological issues – MRV continues



# Challenge to Scenario Building

- Putting REDD in the Development Context
- Complexity in set of driving forces, their interactions, tipping points and managing socio-economic and ecological uncertainties
- Tools and methodologies
- Multi-Stakeholder processes management
- Facilitation of scenario processes
- Policy and stakeholder interesting scenario processes
- Capacity issues





# Scenarios: From REDD to Green?







# African Biocarbon Initiative

- Scenario Stakeholders Measuring Carbon Stocks



# Social-Economic Opportunities

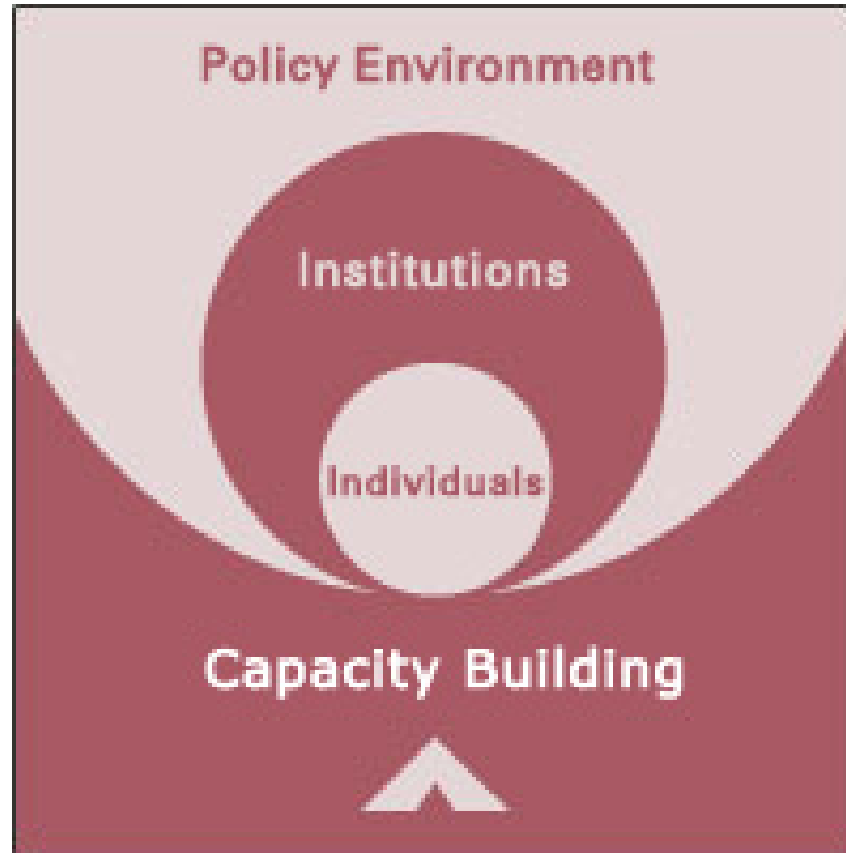
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# Using Scenarios in REDD

- Flagging goals and targets
  - reducing emissions from deforestation;
  - reducing emissions from forest degradation;
  - sustainable management of forest;
  - conservation of forest carbon stocks; and
  - enhancement of forest carbon stocks.
- Informing collaborating redress of safeguard:
  - consistency with existing forest programmes and international agreements;
  - forest governance;
  - rights of indigenous peoples and members of local communities

# Capacity Issues



# Capacity Matrix: Identifying Capacity Needs and Strategies to Strengthen

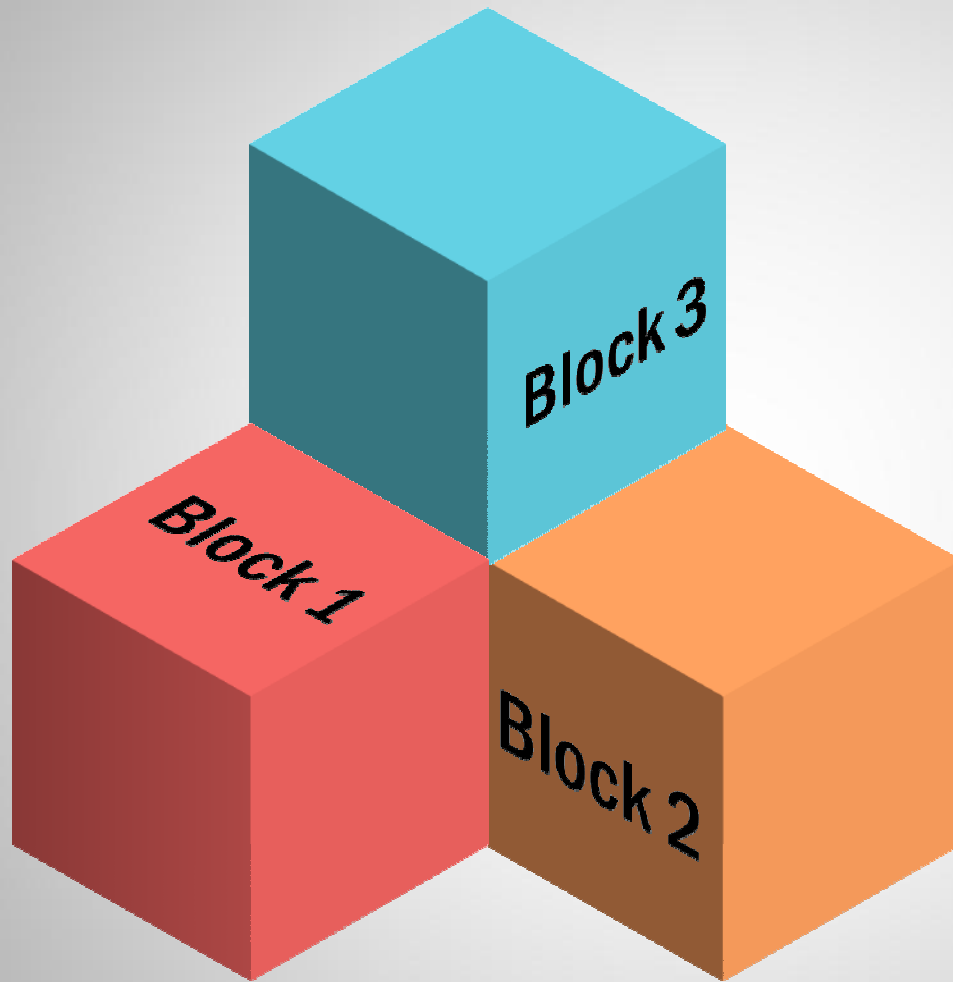
Level/CD Issue		Technical Skills	Cross-Cutting Professional Skills	Leadership and Management
Individual	REDD Project Partners			
	Communities			
	Policy Makers			
	Scenario Expert Group Other Individuals			
Organizational	REDD Institutions			
	Universities			
	Climate Groups CSO, Private Sector			
Enabling Environment	Carbon Systems			
	National Policy Systems			
	Regional/Continental/Global CD, REDD Implementation, Scenario Building Process support Systems			



Participatory Scenarios with  
Governments, Institutions, Communities  
and Scientists



Integrating traditional knowledge, local community and institutions with crucial role to play in REDD+. REDD Scenarios be focused and well aligned with broad forest governance reforms with effective participation of indigenous peoples and local communities in national REDD+ strategy and action plan formation.

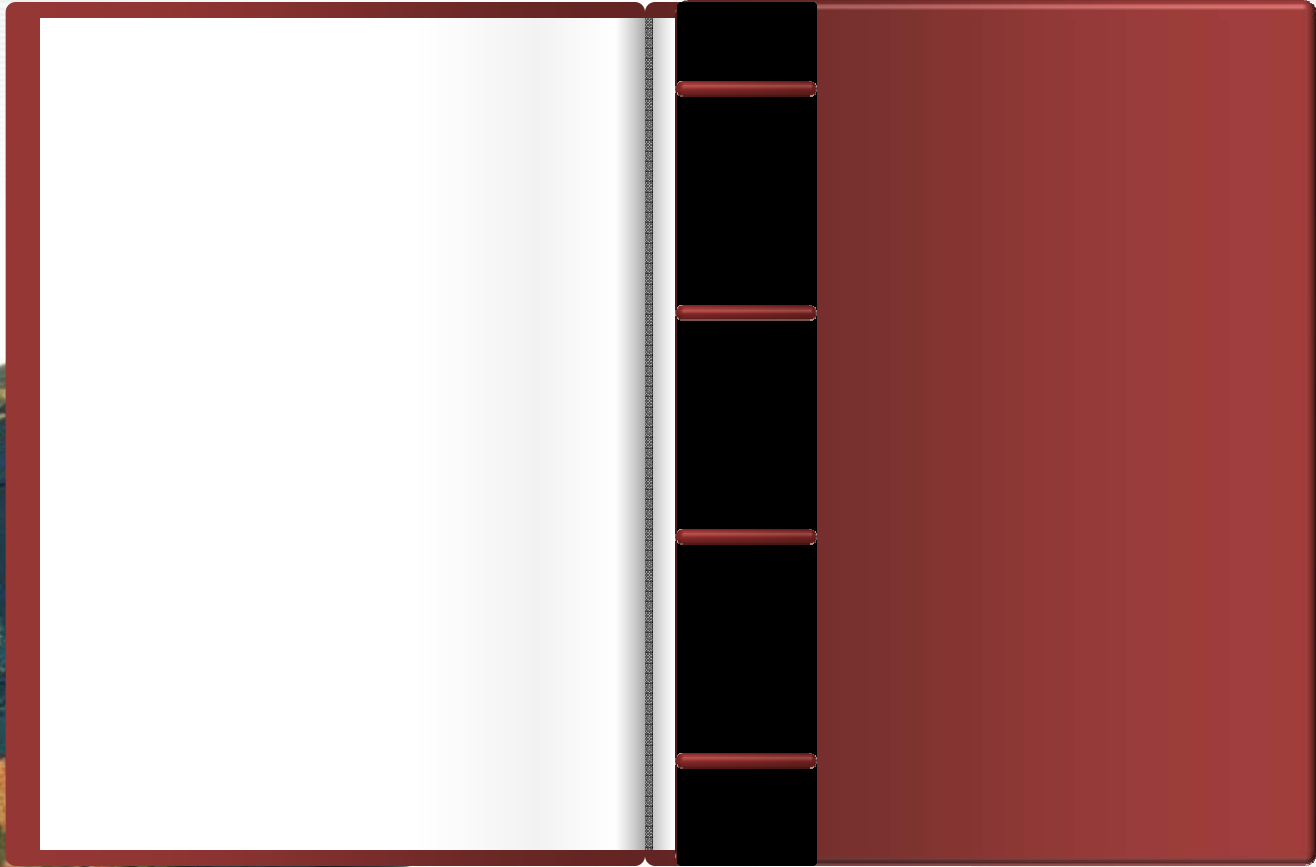


Eventually the pieces come together for a coherent, robust and internally consistent storyline



# Mixing Strategies and Capacities





**Forest carbon tenure:  
implications for  
sustainable REDD+  
projects –  
Implications for  
Scenario Application?**



*Let's  
Discuss*







Our Forests: Real Carbon Sinks