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Regional Scenario Analyses

Scenario analyses conducted at regional level help to systematically explore policy and technical options for improving food security in the face of environmental and other stresses. They provide a suitable framework for (i) raising awareness of key environmental and policy concerns; (ii) discussing viable adaptation options; and (iii) analysing the possible consequences of different adaptation options for food security, livelihoods and environmental goals – the three areas of interest for CCAFS.

Working closely with regional partners, and in close collaboration with ASARECA, CCAFS has developed a set of prototype scenarios for researching the interactions between food security and environmental change at the East African regional level. The exercise involved four steps.

Food Security, Environment and Livelihoods (FSEL) variables of interest to CCAFS

Workshop participants derived a list of key variables (outcomes) for analysis for each scenario

Food security	Environment	Social/livelihoods
food affordability	water quality	financial wealth
regional production	soil quality	social capital
food distribution	forest cover	health
nutritional value	biodiversity status	knowledge and skills
	water sufficiency	

Step 1

Identify key drivers of regional development pathways by 2030 through stakeholder consultation workshops involving regional scientists and policymakers

Important and highly uncertain

- the extent of **regional integration** (both political and economic): 'Status Quo' or 'More Integrated'
- the **proactive/reactive stance** of governments (and other regional actors) at the regional level in relation to environmental management and food security.

Important but less uncertain

- Climate change** (+1°C ; increased variability & extreme events)
- Population increase** up to ~360 million in East Africa
- The influx of **foreign investment**, trade and influence from the East

Step 2

Draft a set of four prototype regional scenarios based on the key uncertainties identified in Step 1

Scenario	Essential features
1. Regional integration and proactive	Political stability and major investment in regional infrastructure and telecommunications has led to sustained economic growth. Governments have focussed on improving food security and reducing poverty, but pastoralists, small-scale farmers and fishers have been marginalised. Already-agreed afforestation programme has finally been implemented and regional water resource management has improved.
2. Regional integration and reactive	Regional economic and political integration has realised substantial gains and trade is booming in the region. However the region is only reactive to shocks, so growth has been at expense of the environment and food security. Water shortages are common and soil erosion has reached alarming proportions.
3. Status quo and proactive	The competitive interests of individual states prevail at the expense of the region. Excellent progress has been made in managing the region's water resources, underwritten by donors. Some growth has been the norm, yet progress on poverty reduction has been slow. Civil society and NGOs are filling many of the gaps created by weak states.
4. Status quo and reactive	Poor governance, lack of integration, fragile political environments, and exposure to waves of globalisation to 2030; limited planning of interventions for addressing poverty, food insecurity, livelihood diversification, markets access and environmental degradation. Political instability means population growth leads to conflicts around water.

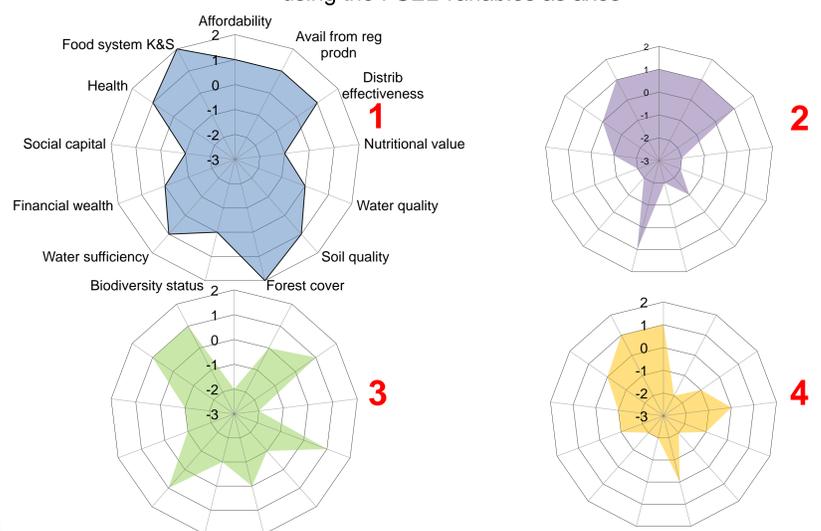
Step 3

Describe and systematically assess developments for a range of elements of all 13 FSEL variables for each scenario
Examples for 'Food affordability' and 'Forest Cover'

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
Food Affordability	+	+	--	-
	Economic integration increases employment (+) Exports increase food prices (-) Governments subsidise staple crops (+)	Increased exports elevate food prices (-) 40% population still poor (-) Governments import cheaper food (+)	Production of staples is down by 30% (- -) Loss of markets decreases rural incomes (-) Some countries increase food imports (+)	Foreign investment bolsters employment (+) Exports increase food prices (-) Instability increases prices (-)
Forest Cover	++	--	0	0
	Afforestation increases forest cover by 15% (+) Improved electricity grid reduces demand for fuelwood (+)	Land demand increases deforestation (-) 60% of the population are still dependent on fuelwood (-)	Slow implementation of agreed forest strategies (- -) Civil society and NGOs promote some forest management (+)	Land demand relentlessly reduces forest cover (-) Increased forest cover due to participation in REDD (+)

Step 4

Plot and compare developments for scenarios 1 - 4 using the FSEL variables as axes



The position on each axis represents the change in that variable by 2030 from current (the zero line)

Key Outcomes

- Raised awareness by researchers, policy-makers and other stakeholders of interactions between multiple goals in the context of climate change
- Raised awareness of policy issues and process by researchers
- Integrated information from different fields to explore possible developments
- Systematically structured debate relating to environmental issues and food security
- Science-policy regional "team" built based on shared vision, understanding and trust
- Preliminary analyses of Food Security, Environment and Livelihoods outcomes for a range of plausible futures