



Shared action on food and environments in East Africa

What does the future hold for food security and adaptation to climate change in East Africa? What if there was concerted action towards political and economic integration? What if the opposite happened, and the region became even more fragmented, with people in power focusing on their own narrow gains? The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS)¹ has explored how different political and socio-economic futures for East Africa may affect food security and environmental change in the region, and how this may affect the region's vulnerability to future climate change.² This briefing presents four possible scenarios and the insights gained during the process of developing them. It describes how stakeholders have used them to plan for the future, and explores emerging policy options.

CCAFS worked with East African governments, civil society including farmers' organisations, the private sector, researchers and the media as well as regional bodies such as the East African Community. The work involved developing and using 'scenarios', narratives describing plausible alternate futures. These scenarios were used to outline and test new policies and strategies among diverse actors in the region to improve East African food security, environments and livelihoods.

Four scenarios were created by the state and non-state actors

participating in the process and then quantified using two agricultural economic models: GLOBIOM³ and IMPACT⁴. These scenarios are organised according to two uncertainties: 1) will East Africa develop into an economically and politically integrated region or will the region be fragmented and divided? and 2) will governments and non-state actors deal pro-actively or reactively with issues of food security and livelihoods and environmental change? Though many other key changes shape the scenarios, the combination of these uncertainties leads to the four futures in Figure 1.

Key messages

There is an urgent need to bring people together to explore options for improving food security and reducing vulnerability to future climate change across East Africa.

The degree of regional political and economic integration in East Africa will strongly influence the consequences of climate change, changing food prices and foreign investments.

Because of rising regional and global demand, it will be challenging to achieve a more food-secure East Africa before 2030 even in the most proactive, regionally integrated scenario.

Natural environments are likely to suffer, even though it is possible to prevent ecosystem degradation while increasing food security.

Policy advisors and non-state actors are using the scenarios described in this briefing to explore new policy options for a more food-secure, environmentally healthy and adaptive East Africa. These include changing the role of farmers' organisations in policy and increasing knowledge and action links between ministries, governments, regional bodies and non-state actors.

1 CGIAR partners with the Environmental Change Institute on the CCAFS Programme. See the CCAFS scenarios website: www.ccafs.cgiar.org/scenarios

2 The countries involved in the research were Ethiopia, Uganda, Tanzania, Kenya, Rwanda, and Burundi.

3 Global Biosphere Management Model: www.iiasa.ac.at/web/home/research/modelsData/GLOBIOM/GLOBIOM.en.html

4 International Model for Policy Analysis of Agricultural Commodities and Trade: www.ifpri.org/publication/international-model-policy-analysis-agricultural-commodities-and-trade-impact-0

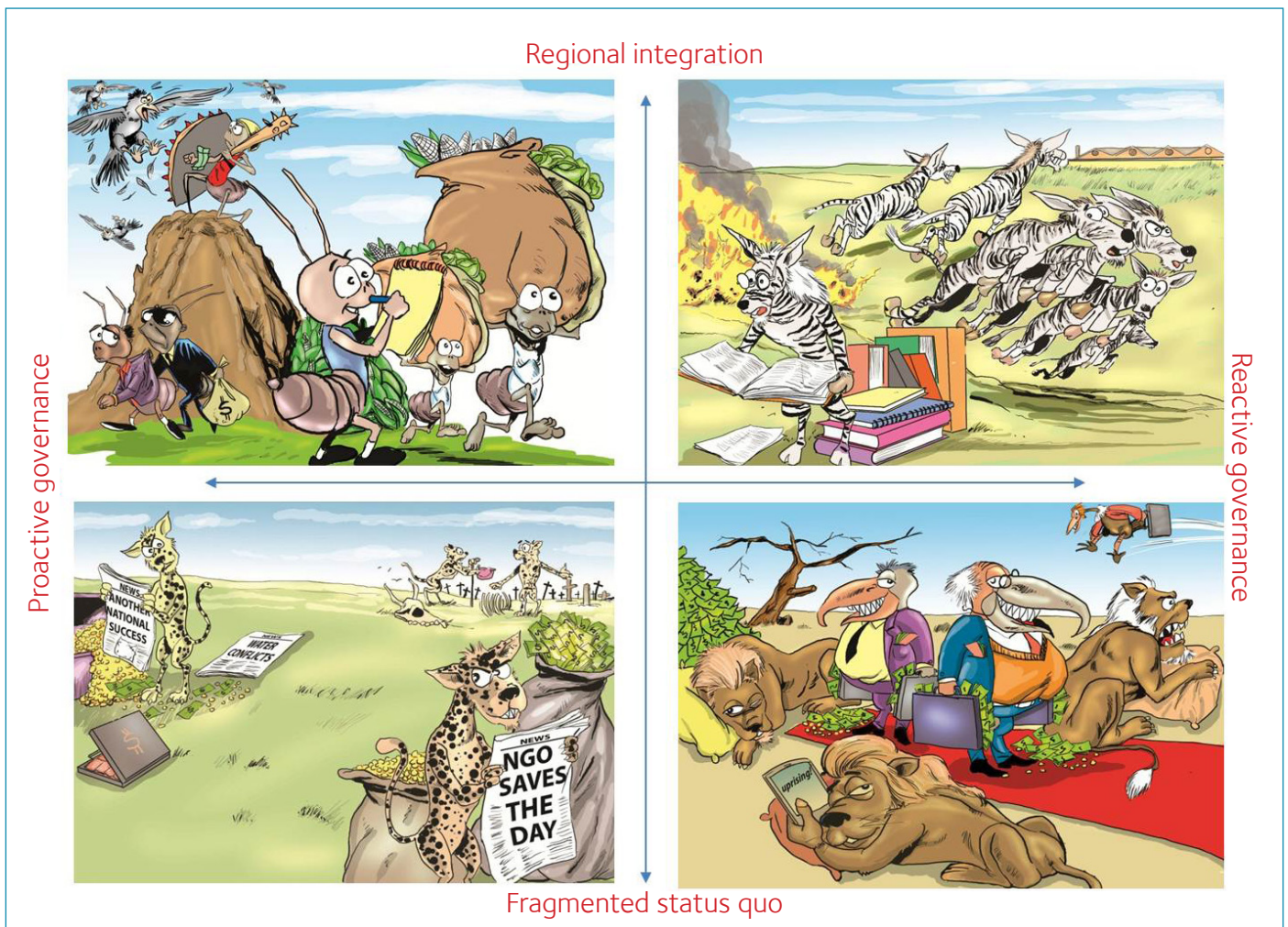


Figure 1: Four scenarios for East Africa (drawn by Mauvine Were)

‘Industrious ants’ is a world where state and non-state actors are proactive and committed to regionalisation. This scenario has many benefits for food security, environments and livelihoods, but new challenges emerge: there is a costly battle with corruption; the region struggles to create autonomous food security; and the emergence of East African power causes conflicts with global interests used to doing what they will in the region.

‘Herd of zebra’ is a world where regional integration has developed, but the focus is mainly on industrialisation and economic growth and little attention is given to food security, environments and livelihoods until crises occur.

‘Lone leopards’ is a world characterised by fragmented but proactive governments and non-state actors that achieve scattered successes regarding food security,

environments and livelihoods; however, there is much mistrust and instability.

‘Sleeping lions’ is a world that sees self-interested governments and non-state actors turning a blind eye or profiting from regional and international exploitation of land and resources. This leads to public unrest time and time again, but never to structural change.

New policies and partnerships

Using the scenarios to plan

To use the scenarios for better decision-making on food security, livelihoods and environments, the CCAFS programme – with regional partners the Society for International Development and the PANOS East Africa media network – organised workshops with policy advisors from six East African governments and with key regional non-state actors.

By starting with separate meetings between government actors on the one hand and non-state actors on the other, the process allowed each of these groups to make their strategic positions clear and to show where each group needed the other.

The participants in these workshops first outlined what the improvement of food security, livelihoods and environments in East Africa would look like. They then planned backwards from their desired goals, using the different scenarios as contexts, each with their specific challenges, limitations and opportunities. This adaptive planning process yielded diverse and creative strategies. It was important that these strategies would be put into practice collaboratively by the participants and their organisations and governments.

The policy advisors and other participants said that this process helped them to:

Key insights from scenarios

Stakeholders provided inputs for the IMPACT and GLOBIOM agricultural economic models in a process informed by scenario logics and a critical review of historic data and ranges of future plausibility. The models produced results for commodities, food security, land use change and emissions. In an iterative exchange between stakeholders and modellers, inputs were tested for consistency and the model results checked for regional appropriateness.

The quantitative analyses indicate that even with highly proactive policies, global market pressures and changing populations will make it difficult to improve upon the current level of food security (Figure 2).

Growing populations drive demand for many food products. Demand for poultry and milk increases with changing consumption patterns because of urbanisation in the region.

Foreign investments can either further damage or transform food security in East Africa, depending on how they are managed by regional actors.

In all scenarios – even the more environmentally friendly scenarios – regional policies prioritise food security and livelihoods over environmental health.

It is possible to minimise the degradation of ecosystems and still increase regional food self-sufficiency.

Pastoralists face difficult prospects in all future scenarios and will increasingly move to other sources of income.

In all scenarios, there is a tendency towards increased mixed and intensive agriculture and livestock among small-scale farmers.

In all scenarios, East Africa's demand outstrips production due to increasing populations and GDP. This means that in all scenarios, East Africa will be importing many commodities (Figure 3, for example, for maize).

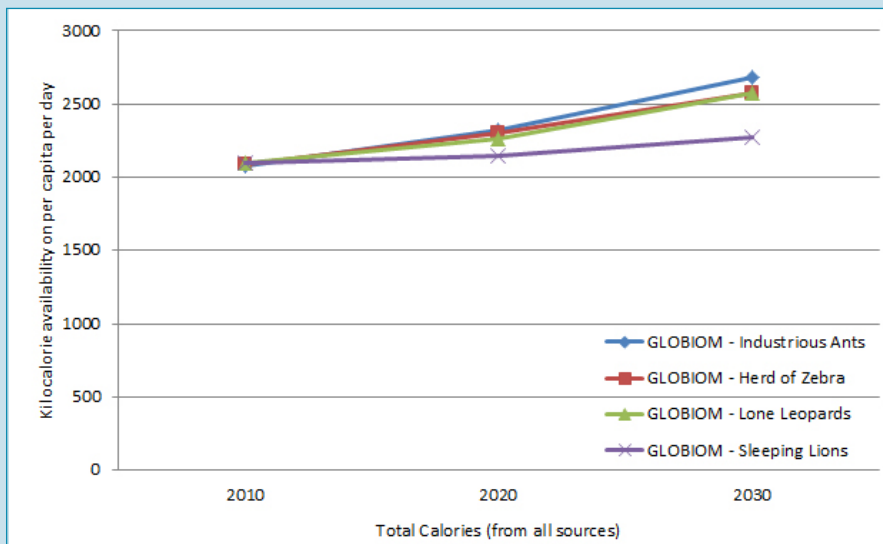


Figure 2: Calorie availability per capita per day for East Africa up to 2030 under four scenarios in the GLOBIOM model.

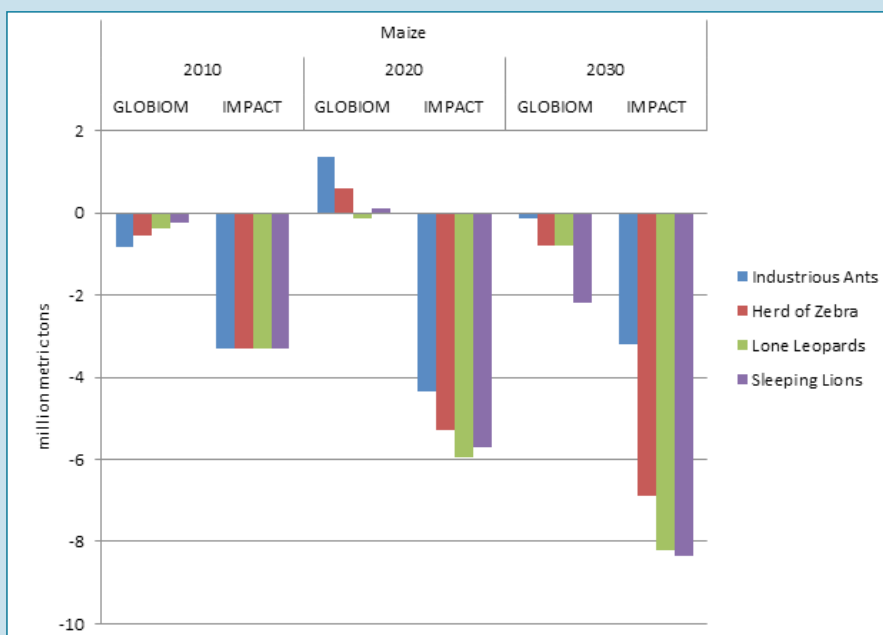


Figure 3: Trade balance for maize in East Africa under four scenarios (millions of metric tons). Under all scenarios and the two models (IMPACT and GLOBIOM), East Africa turns out to be a net importer of maize, though under GLOBIOM in the 2020s production temporarily outstrips regional demand.

Diverse perspectives: Involved in the process were 120 stakeholders from Kenya, Tanzania, Ethiopia, Uganda, Rwanda and Burundi as well as regional and global actors, including:

- Policy advisors from agriculture, environment, and meteorology and planning departments
- Farmers' organisations under the East African Farmers' Federation
- Private sector organisations such as the EHPEA (Ethiopian Horticultural Producers and Exporters Association) and the Entrepreneurship & Leadership Foundation
- Regional governance bodies: the East African Community and the Lake Victoria Basin Committee
- Regional research initiatives such as ASARECA
- Regionally active NGOs such as CARE, OXFAM and CARITAS
- Researchers from the CGIAR Climate Change, Agriculture and Food Security programme and the University of Oxford
- Regional media, represented by the PANOS development journalism network
- Intermediary civil society organisations such as the Society for International Development

- Take an integrated systems perspective on the future of East Africa.
- Get a better understanding of future challenges for food security, livelihoods and environments and how to design strategies to address these challenges, in spite of uncertainty over the future.
- Learn about new regional linkages and find out what is being done in other countries – and recognise the need for more interaction between organisations in different sectors and different countries.
- See the need for collaboration between state and non-state actors facilitated by regional bodies.

Participants said they thought the model outputs were tangible and practical and would be useful at a regional, national and local level. In particular, they felt the outputs

would be useful and credible tools for planners and decision makers seeking legitimate information before making choices. After working with the scenarios they found them to be highly plausible. Participants said they will take back what they have learnt to their ministries or agencies and they were keen to advocate the use of scenarios in their planning processes.

Action points

To turn these policy options into realities, CCAFS and its partners the Society for International Development and PANOS are facilitating further collaboration between the ministries, regional bodies and non-state actors identified in the scenarios process, focusing on:

1. Changing the role of the East Africa Farmers Federation in regional policy.
2. Setting up a regional strategic futures unit for ongoing support to the EAFF, the EAC and other regional bodies.

3. Helping to develop knowledge exchange links between government agricultural, environmental and planning ministries and between governments in the region.
4. Ensuring the usefulness of the scenarios process for national and sub-national decision-making.

We are seeing encouraging signs of new joint efforts being made to tackle the complex challenges of agricultural development and food security in the face of many changes, including that of a changing climate.

For further information please contact lead author Joost Vervoort:
joost.vervoort@eci.ox.ac.uk

Environmental Change Institute,
Oxford University Centre for the Environment,
South Parks Road,
Oxford, OX1 3QY, UK

t: +44(0)1865 275848
f: +44(0)1865 275850
e: enquiries@eci.ox.ac.uk
www.eci.ox.ac.uk

Emerging policy options

A diverse set of policy options, feasible in most scenarios, emerged from the workshops. Most featured collaborations between national agriculture, environment and planning ministries, regional civil society and private sector platforms in the food security and environment sectors together with the East African Community (EAC) and the Lake Victoria Basin Committee. They also linked to ongoing CCAFS research.

- Helping the East Africa Farmers Federation (EAFF) to have a more proactive voice in agricultural and food security policy processes, in order to more effectively serve their member farmers.
- Setting up a permanent scenarios unit reporting to the EAFF and EAC and providing continuous strategic insight at the regional level in the way that the CCAFS scenarios process has done.
- Designing exchange programmes between East African agriculture ministries on:
 - Farmers' schools and associations (organise exchange programmes

between ministries themselves and then between the farmers' associations). This links to the CCAFS 'Farms of the Future' exchange programme (<http://ccafs.cgiar.org/our-work/research-themes/progressive-adaptation/farms-future>).

- Indigenous, alternative, climate resilient crops.
- Urban/peri-urban agriculture programmes in EAC countries.
- Developing more inclusive, multi-sector climate communication outlets between the agriculture ministries, the government met offices and the regional media attending the workshop, as well as linking to ongoing CCAFS efforts.
- Inaugurate a tree planting scheme to be run jointly by the agriculture ministries, the environmental ministries, the private sector and CCAFS.
- Proposing to the EAC to organise a regional ombudperson to help ensure more transparent institutions.
- Linking existing Early Warning Systems for food security to regional food reserve planning.

- Producing a television programme portraying a young dynamic woman leader of a vibrant EA federation, similar to the farm reality show 'Shamba Shape-up' which features agricultural researchers sharing their scientific knowledge with a vast East African rural TV audience.

Other general policy themes discussed included investments and efforts towards improving institutional transparency and accountability, media empowerment, civic education, gender roles, agricultural markets infrastructure, alternative energy sources, infrastructure in rural areas to reduce migration, food quality and safety standards and the independence of environmental agencies.

Participants considered the policy options to be realistic and implementable, though some would need more support from top officials and additional work to encourage widespread buy-in, as well as appropriate financial resources. New partnerships were established during the workshops which will help to take these policy options forward.