



**SUSTAINABLE  
INFRASTRUCTURE  
PARTNERSHIP**



**DEVELOPMENT  
CORRIDORS  
PARTNERSHIP**



MIKINDANI TOWN IN SOUTHERN TANZANIA © STORYTELLER / ADOBE STOCK

# TANZANIA

**PROMOTING ADAPTIVE  
MANAGEMENT AND  
SYNERGIES IN THE  
INFRASTRUCTURE SYSTEM  
THROUGH DEVELOPMENT  
CORRIDORS IN TANZANIA**



2024

## The International Good Practice Principles for Sustainable Infrastructure

set out ten guiding principles that policymakers can follow to help integrate sustainability into infrastructure planning and delivery. They are focused on integrated approaches and systems-level interventions that governments can make to create an enabling environment for sustainable infrastructure. This case study illustrates specific aspects of one principle in a country context, showing good practices and challenges, and considering potential for advancement or replicability.

## GUIDING PRINCIPLE 2: RESPONSIVE, RESILIENT, AND FLEXIBLE SERVICE PROVISION

Infrastructure planning and development should be based on a good understanding of infrastructure service needs and informed by the diverse options available to meet those needs. This includes understanding and managing the changing demand, and meeting needs through renovating or rehabilitating existing infrastructure before investing in new infrastructure. Systems-level planning of infrastructure projects should promote synergies for improved integration, which can lead to improved productivity, efficiency,

sustainability, and spillover benefits of investment. Flexibility and resilience should be built into infrastructure plans to allow for changes and uncertainties over time, and plans should be updated.

## BACKGROUND

In the United Republic of Tanzania, improving the country's overall infrastructure system is a key priority for the government. This includes not only the physical or "hard" infrastructure such as the transportation infrastructure, but also "soft" infrastructure such as inclusive social infrastructure for broad-based economic development and poverty reduction (The Netherlands Enterprise Agency (RVO) 2018).

A "development corridors" approach can promote synergistic, systems-level infrastructure development by integrating fragmented landscapes, populations, investments and other potentials within a specific geographic area and its vicinities (Development Corridors Partnership 2019). The approach has played an intrinsic role in development practices in Sub-Saharan Africa and attracts significant national and international development finance (Gannon *et al.* 2022). Therefore, development corridors have been identified as a strategic focus of the Southern African Development Community (SADC) and

the National Development Corporation (NDC) of Tanzania to maximize multisector productivity with the corridors as enablers (Development Corridors Partnership 2019). The strategy aims to unlock the use of natural resources to contribute sustainably to economic and social development or other benefits in the United Republic of Tanzania (Development Corridors Partnership 2019).

Development corridors in general involve developing both decent hard infrastructure (e.g. transport, distribution, etc.), as well as establishing a soft infrastructure system of institutions, policies and services that create an enabling environment for enterprises and local beneficiaries (Gannon *et al.* 2022). When sustainable development considerations are effectively integrated, the planning and implementation processes of a development corridor can potentially harness synergies for sustainable development across corridor activities (Gannon *et al.* 2022), involving diverse stakeholders and geographic locations.



## THE SOUTHERN AGRICULTURAL GROWTH CORRIDOR OF TANZANIA (SAGCOT)

In the United Republic of Tanzania, the agriculture sector is a key driver for economic growth, representing nearly 30 per cent of the country's Gross Domestic Product and three quarters of the country's workforce (United States of America, Department of Commerce International Trade Administration 2022). Therefore, sustainable growth of the sector, and creating and improving supportive soft infrastructure, are essential for achieving the United Republic of Tanzania's overall objectives for inclusive economic development. The sector also interacts with a variety of infrastructure systems in different sectors. The Southern Agricultural Growth Corridor of Tanzania (SAGCOT), one of the five development corridors in the United Republic of Tanzania, is a public-private partnership (PPP) programme initiated at the World Economic Forum (WEF) Africa Summit in 2010 with the objective to boost agricultural productivity, improve food security, reduce poverty and ensure environmental sustainability through the commercialization of smallholder agriculture (The Southern Agricultural Growth Corridor of Tanzania n.d.). Along with four other corridors that emphasize hard infrastructure – Central Development Corridor, Mtwara Development Corridor, Tanga Development Corridor, and the Dar es Salaam Development Corridor – the development corridors in the United Republic of Tanzania aim to promote the synergistic development of the country's whole infrastructure system.

The SAGCOT corridor covers nearly one third of the United Republic of Tanzania's geographic area, extending from Dar es Salaam in the east to the northern areas of Zambia and Malawi in the southwest. SAGCOT pursues a cluster approach that aims to integrate value chains and nucleus farms in supportive "eco-systems" and along

FIGURE 1 MAP OF SAGCOT CORRIDOR



Source: The Southern Agricultural Growth Corridor of the United Republic of Tanzania n.d.

a backbone of hard infrastructure, including rail, road and power infrastructure (Gannon *et al.* 2022). Furthermore, the SAGCOT Centre Ltd. aims to contribute to resolution of policy and infrastructure constraints with support of innovative financing mechanisms (The Southern Agricultural Growth Corridor of Tanzania n.d.).

At the core of SAGCOT's approach is the engagement with smallholder farmers and ensuring sustainability in their investment activities (The Southern Agricultural Growth Corridor of Tanzania n.d.). In addition, promoting a harmonized approach and improving synergies within and across priority value chains is one of SAGCOT's main partnership principles (The Southern Agricultural Growth Corridor of Tanzania n.d.).





## ADAPTIVE MANAGEMENT THROUGH THE INCLUSIVE GREEN GROWTH (IGG) TOOL

SAGCOT has demonstrated concrete efforts in understanding and managing the needs of local agricultural producers in its social and environmental impact management process, evident from the creation of the Inclusive Green Growth (IGG) tool. IGG is an impact assessment tool designed to complement and supplement existing traditional impact assessment tools to better reflect the perspectives of local stakeholders. It was created as a guiding tool for investments by SAGCOT stakeholders (e.g. investors and farmers) in part to share a common understanding of social, economic and environmental sustainability (Tam *et al.* 2022).

The IGG was developed as a self-assessment tool to both 1) allow small-, medium-, and large-scale producers and processors to evaluate their own progress with inclusive green growth and do adaptive management accordingly; and 2) help the SAGCOT Centre tailor its support efforts to facilitate uptake of good practices to minimize negative impacts and maximize community and nature benefits (Tam *et al.* 2022). This not only allows the key agriculture sector stakeholders to analyse their own areas for improvement but also enables them to express their needs and reflect the challenges they face to SAGCOT. Through incorporating the inputs of local stakeholders and beneficiaries of SAGCOT with the self-assessment process, the IGG Tool enables an adaptive sustainability management approach that empowers local stakeholders.

Officially launched in 2020,<sup>1</sup> the IGG covers three major sections: environmental management, inclusivity and business sustainability (Tam *et al.* 2022). The tool allows for the assessment of the strengths and weaknesses of these three aspects from the perspectives of ground-level actors (i.e., small, medium and large producers

<sup>1</sup> The tool was initially conceived in 2015/2016 and underwent a series of modifications with testing from 2017–2019, and was finally officially launched and rolled out in March 2020 (Tam 2023b).

and processor companies) (Tam 2023b), which enables a more need-based and targeted sustainability management approach at the SAGCOT programme level. For example, as the local farmers expressed their main concerns around soil health (Figure 2), SAGCOT Centre made efforts to raise the profile of soil health and help the farmers address relevant concerns (Tam 2023a). SAGCOT has demonstrated management of acidic soil by agricultural lime application to raise soil pH from below 5 scale to 6.5, hence improving nutrient uptake by crops by 60 per cent. This ultimately increased crop productivity and restored soil ecosystem health (SAGCOT Centre 2023). For instance, a maize farmer in Geita has achieved to get 4 metric tons (MT)/hectare (ha) in 2022 harvest compared to 1.5MT harvested in 2020 season due to agri-lime application (*ibid.*). Accessibility of agri-lime remains a challenge as lime deposits are more than 100 kilometres away for some farm fields (*ibid.*).

**FIGURE 2** SOIL TESTING FOR SMALL HOLDER FARMERS TO INFORM DECISION-MAKING ON INPUT SUPPLY AND SOIL HEALTH MANAGEMENT



Source: the SAGCOT Centre 2023





SAGCOT Centre has prioritized rolling out the application of the IGG tool among its partners. This included the formation of a multi-stakeholder IGG Task Force which visited 40 companies/farmers/farmer groups to explain the tool and the assessment process and support its initial completion (Tam 2023b). As a result, many of these organizations began adopting the tool and the process has supported their improvement of sustainability practices. The tool has also provided a framework for some companies and government extension officers to have more systematic two-way exchanges with smallholder producers (Tam 2023b). From the results of the IGG analysis, the SAGCOT Centre helps analyse needs of different companies and identify technical and financial resources to support increased compliance (Tam *et al.* 2020). Users' feedback from November 2020 have suggested that there is a general appreciation for the way the IGG Tool assists in the identification of gaps and associated mitigation measures, how it provides insights into how they compare with other companies and guidance for their own adaptive management measures (Tam *et al.* 2022). The development and adoption of IGG, therefore, showcases SAGCOT's effort in understanding and managing local, on-the-ground demands for sustainable infrastructure throughout the project implementation process.

## PROMOTING SYNERGIES AND FACILITATING CONFLICT MITIGATION

SAGCOT also effectively promotes synergies for improved systems-level integration of infrastructure projects, which can lead to improved productivity, efficiency, sustainability and spillover benefits of investment (United Nations Environment Programme [UNEP] 2022). The partnership consists of private sector agribusiness companies, apex organizations and farmer organizations, development partners, foundations, research organizations and civil society organizations (CSOs), the Government of the United Republic of Tanzania, government agencies and regulatory bodies and public finance institutions (The Southern Agricultural Growth Corridor of Tanzania n.d.). Every partner must commit to SAGCOT's partnership principles, which include (The Southern Agricultural Growth Corridor of Tanzania n.d.):

- Agreement on the overall SAGCOT objectives;
- Agreement to engage with the partnership, maintain communication and support the SAGCOT Centre;
- Agreement to consider new and innovative financing mechanisms;
- Agreement to work with other members to promote a harmonized approach and strategy;
- Agreement to contribute to the resolution of policy and infrastructure constraints;
- Agreement to adhere to the Inclusive Green Growth principles.



These principles suggest that the promotion of synergies between multi-level and multi-lateral stakeholders is at the core of SAGCOT's mission. The partnership model seeks to catalyze responsible agribusiness investments in the country's southern corridor and facilitate socially inclusive and environmentally sustainable value chain investment (The Southern Agricultural Growth Corridor of Tanzania n.d.). Through facilitating concentrated efforts of diverse partners into socially and environmentally sustainable value chain investments (Figure 3), resource mobilization and innovative finance mobilization, the SAGCOT corridor aims to create synergies and diverse benefits along the SAGCOT corridor, focusing initially on priority clusters.

**FIGURE 3 A GROUP OF HORTICULTURAL FARMERS ARE CAPACITATED TO INVESTING IN DIVERSE ENTERPRISES TO ATTAIN INCLUSIVE ECONOMIC GROWTH**



Source: The SAGCOT Centre 2023

A SAGCOT “Green Reference Group” (GRG)<sup>2</sup> also developed an investment guiding tool in 2017, which was used to assess 15 commercial investments on how their operations are compliant with SAGCOT Green Growth Principles (The Southern Agricultural Growth Corridor of Tanzania n.d.). The results were used to design training modules to create awareness on regulatory compliance with SAGCOT partners (The Southern Agricultural Growth Corridor of Tanzania n.d.).

Through GRG, SAGCOT also facilitated conflict resolutions between stakeholders. During the process of corridor development, there are inevitable conflicts of interests between different stakeholders such as farmers and pastoralists<sup>3</sup>. SAGCOT proactively facilitates solutions through multi-stakeholder processes and actively encourages engagement of vulnerable groups, including pastoralists (Tam 2023b). These include facilitating multistakeholder groups and processes such as the GRG and cluster compacts which provide opportunities to bring different voices to the same table, discussing the profile of issues, and increasing the attention to potential solutions, including by the Government of the United Republic of Tanzania (ibid.).

- 2 The GRG is a platform of multiple stakeholders, including representatives from the government, private sector, development partners and civil society actors, established as an informal advisory body to the SAGCOT Centre Ltd., operating at both national and local cluster levels.
- 3 In the United Republic of Tanzania, conflicts between farmers and pastoralists have been recurring due to various socio-economic and environmental factors, such as overstocking, insufficient policies, increased human and livestock populations, inappropriate approaches to conflict management (such as use of force), etc. (Matimbwa and Mwalimu 2019).



**FIGURE 4** SAGCOT CENTRE CONVENING LOCAL COMMUNITIES FOR DECISION-MAKING ON ADOPTION OF NEW FARMING TECHNIQUES TO RESOLVE CONFLICTS BETWEEN FARMERS AND PASTORALISTS, DUE TO COMPETITION AROUND WATER AND PASTURE



Source: The SAGCOT Centre 2023

## CHALLENGES – BALANCING TRADE-OFFS

Nevertheless, due to the geographic breadth and the diversity of stakeholders involved in development corridors, there are often inevitable social, political, economic and environmental trade-offs involved (Gannon 2022). However, addressing such trade-offs is often constrained by the lack of policies that consider the development trade-offs and impacts (*ibid.*). In the case of SAGCOT corridor, trade-offs are observed among upstream and downstream farmers, with upstream farmers opting to do agroforestry to maintain waterflow while downstream farmers preferring rice farming (The SAGCOT Centre 2023).

In one of the SAGCOT clusters, the Kilombero Cluster, a participatory scenario was conducted to assess the trade-off of the corridor’s development using the KESHO<sup>4</sup> scenarios tool (Thorn *et al.* 2021). The scenario planning tool is used for analysing the potential trade-offs between desirable and undesirable futures of the Kilombero Clusters from the perspectives of participants from diverse sectors, as well as “who benefits who loses” in each simulation scenario (Thorn *et al.* 2021). The KESHO tool uses the “lens of land use change” to analyse the potential land use futures in 2030 and 2063 (to resonate with the UN Sustainable Development Goals and the African Union Agenda 2063), identifying the potential impact of corridor development on ecosystem services and biodiversity (Burgess *et al.* unpublished). This was carried out by

4 Kesho means “tomorrow” or “later” in KiSwahili.

working with diverse stakeholders to envisage future land transformation and the subsequent environmental and socio-economic changes under targeted investments<sup>5</sup> (Thorn 2023). Results from the KESHO scenario analysis will be used to work with local government to influence the village land use planning process and the cluster development plans.

## REPLICABILITY

The SAGCOT corridor's emphasis on partnerships and adoption of various social and environmental assessment tools to tackle existing challenges can be replicated in other settings. The approach is also gaining attention from the national government. Since the United Republic of Tanzania is still largely an agricultural society<sup>6</sup>, the national government is interested in learning from the SAGCOT experience to promote the overall development of agricultural infrastructure in the country. SAGCOT may have strong potential for replicability in other countries in the region which share similarities in their local conditions and emphasis on agriculture. The partnership aspect of SAGCOT can provide inspiration in promoting more synergies between diverse stakeholders within different sectors in countries. It can be even scaled up to promote synergies between the agricultural and more traditional infrastructure sectors (e.g. the buildings sector, the logistics sector, etc.). However, for a similar programme to be successful, it is important that local governments and authorities share a similar vision for sustainable agricultural infrastructure, and a willingness to facilitate and participate in multi-stakeholder dialogues (Tam 2023a).

- 5 Some examples of stakeholders involved include sectors from environment, health, gender, water and sanitation, sports and recreation, conservation, tourism, private business, infrastructural development, activist organizations, housing organizations, education, agriculture and livestock, fisheries and social development (Thorn 2023).
- 6 The agriculture sector made up 24.27 per cent of the United Republic of Tanzania's GDP in 2022 (Statista 2023a) and more than 64 per cent of total employment (Statista 2023b)

Meanwhile, limitations in market participation for smallholder farmers is a common challenge in Sub-Saharan Africa due to poor market access and a lack of sufficient means to overcome the high cost of market entrance as their main constraints (Otekunrin, Momoh and Idris 2019). Therefore, SAGCOT's model focus on smallholder farmers and improving their market participation provides valuable insights into promoting more inclusive development of the agricultural sector across Sub-Saharan Africa. This also means that one local consideration for drawing on SAGCOT's experience is the degree to which small-scale farmers are prominent in a given setting. In the United Republic of Tanzania, smallholder farmers still make up the majority of the country's agricultural sector, contributing 75 per cent of total agricultural output (Food and Agriculture Organization of the UN [FAO] 2023). The particular characteristics and conditions of small-scale farmers (or other key stakeholders) should ultimately influence any infrastructure solution developed.





One challenge of broadly replicating the SAGCOT model may be limitations in green finance opportunities. To tackle the lack of funding — a common experience in the agriculture sector and some other infrastructural services — SAGCOT has focused on investment, including among service providers, development partners and non-governmental organizations (NGOs) in the priority clusters. For example, in 2019, SAGCOT facilitated USD 456 million of private sector investment, positively impacting 103,634 smallholder farmers working directly in the private company partner supply chains (SAGCOT Centre unpublished). However, due to the overall limitation of financial resources and still limited policy incentives, it is unclear whether the pie can be grown to the extent that is able to support the development of the agricultural sector across the country.

## KEY INSIGHTS



- ▶ SAGCOT created a sustainable “soft” infrastructure system for the United Republic of Tanzania’s development of the agricultural sector and the inclusive economy. It did so through focusing on managing local stakeholders’ demands and promoting synergies and a harmonized approach among smallholder farmers across the agricultural value chain throughout the corridor.
- ▶ Relevant tools and collaboration models, like the Inclusive Green Growth tool and the Green Reference Group, can facilitate a systematic approach to demand-based adaptive management of an infrastructure system, while promoting synergies and resolving conflicts.
- ▶ Managing trade-offs across development corridors, especially in the protection of local stakeholders’ interests, remains a challenge even in good practice scenarios. Though SAGCOT demonstrated concrete effort in implementing trade-off assessment scenarios, more explicit acknowledgement of trade-offs is needed in official policies to enable programmatic impacts.



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