DEVELOPMENT CORRIDORS PARTNERSHIP

IMPACT ASSESSMENT FOR CORRIDORS: FROM INFRASTRUCTURE TO DEVELOPMENT CORRIDORS

Edited by:
Jonathan Hobbs and Diego Juffe Bignoli

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The Development Corridors Partnership

The Development Corridors Partnership (DCP) is a research and capacity development initiative. It is a collaboration between institutions from China, Kenya, Tanzania and the UK. The main objective is to deliver effective research and capacity-building to help improve corridor planning and management. It aims to ensure that development corridor decision-making is based on sound scientific evidence and effective use of available planning tools and procedures, to ensure that risks are avoided and opportunities exploited. The DCP comprises partners from the University of York, the University of Cambridge, London School of Economics, Sokoine University of Agriculture, the University of Nairobi, as well as the UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC), African Conservation Centre, the World Wide Fund for Nature (WWF), the Chinese Academy of Agricultural Sciences and the Chinese Academy of International Trade and Economic Cooperation (CAITEC).

DCP Partners:

For the purposes of this publication, DCP collaboration was extended to experts representing Netherlands Commission for Environmental Assessment, the Centre for Energy, Petroleum and Mineral Law and Policy at the University of Dundee, the University of Queensland, the Columbia Centre on Sustainable Investment, the GOBI Framework for Sustainable Infrastructure Initiative (comprising the University of Oxford, University of Central Asia and the Independent Research Institute of Mongolia), The Biodiversity Consultancy, the Wildlife Institute of India, the Endangered Wildlife Trust and Ecotecnia Ingenieros Consultores SRL.

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Foreword

In the course of a long and varied working life, I have been privileged to work with, or learn from, a stimulating panoply of individuals who are committed to contributing to the economic, social, and environmental development of all aspects of the United Nations Sustainable Development Goals.

Jon Hobbs and Diego Juffe-Bignoli are, thankfully, two of these individuals. I was delighted to learn that they had come together to produce, for the Development Corridors Partnership, a rich and stimulating collection of research reports, case studies and assessments relating to the array of efforts made under the rubric of 'development corridors'. They were determined to express the conviction that decisions made, primarily by governments, regarding the planning and building of Corridors, really must be informed by an evidence-based understanding of the consequences – positive or negative – of these decisions. And they have succeeded. But Jon Hobbs will never read these words. He was hospitalized after the bulk of the work was complete, and, to the deep sadness and regret of all who knew him, he passed away at the end of September, 2021.

Jon and Diego sought out and recruited a daunting array of researchers, scholars and stakeholders to shed light on the processes currently underlying the world of development corridors today. They certainly succeeded.

The work was initiated before the onset of the COVID-19 pandemic, and as governments turn to the formidable challenge of restoring economic vitality without further damage to the climate, it becomes even more imperative that impact assessment be understood, embraced and improved. Jon and Diego have shown us the way forward for a journey which absolutely must be embarked upon.

They would be first to recognise that the Development Corridors Partnership as a whole must be commended for showing – in many different ways and places – that, not only is the need for impact assessment clear and present, but so are the skills and commitment of researchers, scholars and stakeholders. These are to be found in an impressive coming together of universities, civil society organizations and business groups, and communities.

All are part of an outstanding initiative, funded by the UK Research and Innovation Council, and managed by the UNEP-WCMC. This initiative has been embraced by some of the best minds that have been turned to the task of ensuring that – while we attempt to bring economic and social benefits to people, in line with the United Nations Sustainable Development Goals – we do not risk significant environmental and social costs, and thus actually undermine long-term development successes.

So, I urge you to read this book, and figure out how you might improve your own contribution to the challenges ahead. Jon and Diego have set out a case. It needs to be taken up, not set aside; acted on, not just talked about. It is in your hands.

John Harker

Chair of the Development Corridors Partnership Independent Advisory Board,
Nova Scotia, Canada.

Dedicated to the memory of Jon Hobbs
who was the architect and driving force of this book

Executive Summary

Driven by increasing globalisation, the development aspirations of nations, and the need to access resources, an infrastructure boom is impacting many regions of our planet. New infrastructure projects are traversing diverse landscapes over hundreds of kilometres, often crossing international borders and penetrating into remote areas previously unaffected by industrialisation and urbanisation. These large-scale projects, mostly spanning several regions in a same country, but often linear and transnational in nature, are generically called corridors. Depending on the nature and objectives, they can be transport, infrastructure, growth, resource or economic corridors.

The rapid development of corridors globally presents environmental planning professionals with numerous challenges. **The primary need is to ensure that decisions about these developments are informed by an evidence-based understanding of their consequences – both positive and negative.** This will enable infrastructure development to meet development needs without adversely impacting ecological systems or human welfare. Improving the quality of infrastructure policies, plans, programmes and projects, by ensuring they include the necessary environmental and social scrutiny, is urgently required now - and will be for the foreseeable future. This challenge is the unifying theme of this publication.

Using insights from Africa, Asia and South America, this sourcebook compiles 24 contributed papers written in 2021, covering many facets of the opportunities and challenges presented by the rapidly growing number of infrastructure and corridor developments around the world. Prevailing planning practices are reviewed through case studies along with the efficacy of some of the available tools to conduct systematic and comprehensive impact assessments. The latter includes Strategic Environmental Impact Assessment (SEA) and Environmental Impact Assessment (EIA).

As the title suggests the underlying thesis of this publication is that, where they are justified, **there are significant benefits in ensuring that corridors that contain single purpose infrastructure developments (utility, infrastructure or transport) progress through a carefully planned sequential process of diversification and expansion to ensure the maximisation of benefits in full-blown 'development corridors'.** In this book, development corridors are therefore aspirational. They comprise areas identified as priorities for investment to catalyse economic growth and development. They should be developed with multiple stakeholders and social, economic and environmental interests and interdependencies in mind. With the integration of sustainability principles and appropriate environmental and social standards, development corridors could become true '(sustainable) development corridors'. They should be planned to maximise positive opportunities and minimise negative risks. Without this, today's short-term successes will become tomorrow's challenges and long-term human welfare and ecosystem integrity will be undermined.

Overview of contents

This book brings together a wide range of perspectives from experts, researchers, and practitioners around the world with the purpose to foster greater collaboration and increase our global understanding of corridors and their benefits and potential negative impacts. 13 of the 24 chapters are written by independent experts and researchers from Australia, Bolivia, Brazil, China, India, Kenya, Mongolia, South Africa, Tanzania, UK, and the USA. The book also includes 11 chapters containing material gathered by the Development Corridors Partnership, a programme of work led by UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) and funded by the UK Government via their Global Challenges Research Fund.

The collection of papers in this sourcebook is divided into five sections. First an introductory section where we introduce some key terms and definitions that underpin this work (Chapter 1). We then explore some key principles and aspirations of corridors such as delivering the Sustainable Development Goals (Chapter 2), ensuring theory and practice align (Chapter 3), ensuring financial sustainability (Chapter 4), properly assessing environmental sensitivity (Chapter 5) respecting human rights (Chapter 6), or maximising, co-benefits (Chapter 7).

In the next three sections, we present 15 case studies from three continents: Africa, Asia, and Latin America. These case studies explore key challenges and lessons learned from specific planned, ongoing, and already implemented developments. They are presented as individual stories that readers can explore.

The final and fifth section aims to summarise lessons learned from a 4-year research and capacity building programme specifically aiming to understand the key challenges and opportunities around corridors and that has been the major driving force of this work: The Development Corridors Partnership project (DCP). DCP is a collaborative partnership across UK, Kenya, Tanzania and China, funded by the UK Research and Innovation Global Challenges Research Fund (see Chapter 23).

The book finishes with an overview of the lessons learned from the contributed papers included in this book and develops ten principles for corridor planning and delivering a meaningful and comprehensive impact assessment (Chapter 24), which we summarise here as ten key messages.

Key messages

1

Corridors must seek to achieve positive sustainability outcomes:

The mindset underwriting environmental planning of most infrastructure developments has been to mitigate negative impacts. The planning of few existing corridors is based on their role in supporting a sustainability vision for a country or region in which they are situated. Corridor developments must therefore be based on sustainability principles and support progress towards national, regional and international sustainable development goals. A true development corridor will seek to do good, as well as to mitigate negative impacts.

2

Integrated and inter-disciplinary approaches are needed:

Corridor developments are extensive, complex, multifaceted features traversing many landscapes. They can bring about significant transformational change to physical, economic, social, and cultural systems, and serve as interconnecting features. Yet engagement in corridor planning is often constrained by limited disciplinary and institutional involvement, with projects often superimposed upon communities. Corridor developments need diverse expertise and experience in their planning and management, including local stakeholder knowledge, avoiding disciplinary, institutional, or sectoral silos, that can result in policy conflicts, contradictions, and inconsistencies.

3

Corridor proponents should clearly demonstrate consideration of alternatives:

Corridor options should not be limited to a preferred proposal favoured by an elite. Corridor developments must consider all feasible alternatives (including maintenance of the status quo and no corridor development) and make the risks and opportunities of each option explicit and transparent through meaningful consultation. An important requirement in all corridor planning is to justify the need for a wide choice of options and an explanation of the potential benefits it will bring and to whom, in comparison with the alternatives. Any necessary trade-offs and how any significant potential negative impacts will be effectively managed, and opportunities created must be explained.

4

Public participation and stakeholder engagement should be at the core of corridor planning:

Corridor planning frequently fails to include meaningful participation of all stakeholders. Corridors can profoundly affect the lives and rights of indigenous peoples and local communities, potentially for generations. A common failing is that the first opportunity for local stakeholders to engage arises only after all strategic decisions have already been made and the only option remaining is for them to react negatively to a fait accompli. The meaningful engagement of all stakeholders is necessary to ensure their role is more than reactive. The way corridors are viewed by different stakeholders must be identified, understood, and addressed. Corridor developments must ensure that all interested and affected people are provided with adequate information about a proposal and have meaningful ways to engage in decision-making processes from the outset of strategic planning.

5

Mainstreaming and tiering are fundamental for corridor success:

Corridor planning requires a tiered assessment process, ensuring that environmental and social issues are considered alongside financial and technical considerations from the start of strategic planning or programme development, right though to project specifics. Conceptual corridor planning is frequently dominated by technical and financial suitability criteria with environmental, social, cultural, and human rights sensitivity issues being considered, at best, as externalities, retrospectively, once issues and problems arise. Strategic planning is important because it is when the full range of options is still open for discussion. It also establishes the parameters that will frame and implement a corridor plan or programme. Environmental and social considerations (and the interactions between them) should be considered early in strategic decision-making alongside (and to inform) technical, financial, and economic considerations.

6

An iterative process is needed:

Corridors exist in dynamic environments and need to be responsive to changing circumstances and priorities. Planning must adjust as circumstances and available information changes. The process should identify, map, and engage all interested and affected stakeholders from the earliest stage of corridor planning and throughout the planning and management of the corridor. New concerns and evidence will likely emerge as a corridor development progresses. Corridor planning frequently places undue emphasis on the production of a report (Environmental Impact Report) and its influence on the decision to proceed. The process may not be so linear in nature. It may involve many adjustments and decisions as new evidence emerges and predictions improve. A good-quality report and recommendations is necessary, but they are dependent upon a comprehensive process of ongoing dialogue and engagement with all stakeholders.

7

Corridors must ensure effective use of available tools:

Many corridor environmental impact assessments fail to meet required international standards. Corridor planning and management should make systematic and adequate use of available impact assessment procedures, methods, techniques, and tools to ensure good-quality decisions. The available procedures discussed in this publication (notably Strategic Environmental Assessment and Environmental Impact Assessment) and their associated methods, tools and techniques should be used when appropriate to help ensure that a systematic process identifies all significant potential benefits and development outcomes, and that they outweigh the costs and risks to affected people and their livelihoods and environments. The objectivity and quality of corridor decisions are dependent upon the effective use of the available tools.

8

Plan corridors with resilience and adaptability in mind:

Prevention will always be better than cure in addressing the negative impacts of corridors, and this should be the priority. However, some circumstances dictate an inevitability of negative impacts. Corridors, therefore, need to be designed to be made resilient to anticipated changes and adaptation measures may be necessary as 'coping' mechanisms or to offset unavoidable impacts, such as the impacts caused by climate change. The suitability of measures will require ongoing monitoring and adaptation as needs arise.

9

Seek impact, influence, and implementation capacity:

The decision to proceed with a corridor is ultimately the responsibility of decision makers. They are usually the representatives of all stakeholders' interests and custodians of their natural resources. Any impact assessment report must provide adequate information to ensure sufficiently good-quality decisions. If they are to be effectively implement the recommendations provided. Attempts to improve the performance of planning and associated assessment processes of corridors must tackle the ways in which outcomes are shaped by political contexts and institutional capacities. Approaches to working on assessment processes should integrate political economy analyses and institutional capacity assessment from the outset and on an ongoing basis. Resulting insights should inform the design and implementation of interventions intended to improve planning practice.

10

Evolve from Infrastructure to Development Corridors:

The prospects for linear infrastructure projects to evolve into comprehensive development corridors are often left to chance and spontaneity. Infrastructure projects are often developed in isolation and in an incremental way. For infrastructure projects to progress and become true development corridors, the transition must be systematically sequenced into planning from the start. Assessments must include consideration of potential induced, secondary, synergistic, transboundary, and cumulative impacts likely to result from the corridor development. The progression from infrastructure to development corridors must be based on a systematic, comprehensive, and integrated assessment of the potential positive environmental, social and economic opportunities and the rigorous avoidance or management of negative impacts.

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Managing the Environmental and Social Impacts of Agricultural Transformation: Southern Agricultural Growth Corridor of Tanzania

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ABSTRACT

Managing social and environmental impacts within a development corridor focused on agriculture involves multiple levels of assessment and action. Traditional tools such as Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) are designed to deal with these impacts from the programme and policy to project levels. However, the reality of application is often hampered by governance, finance and practical challenges, particularly in a developing country context with large numbers of smallholder farmers spread across a broad investment area. In this chapter, the case of the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) is studied to evaluate application of these tools for managing environmental and social impacts for a development corridor, and to analyse the origin and application of a new corridor-level tool. SAGCOT's new Inclusive Green Growth (IGG) tool, which was born of the ongoing need to manage for impacts, complements and supplements existing traditional impact assessment tools by empowering small- and large-scale producers and processors to track their own progress and identify areas of improvement for further support and attention, while providing a pathway to consolidation and action across the development corridor. Development corridors, as neither ecological nor administrative entities, present special challenges to practical implementation of impact assessment and management. This analysis explores how these issues have unfolded in one agricultural growth corridor, with lessons learned that can be applicable to other development corridors, particularly with substantial agricultural focus.

9.1 Introduction

SAGCOT is a public-private partnership initiated in 2010 at the World Economic Forum, with the aim of agricultural transformation in Tanzania that is commercially viable, while enhancing food security, improving livelihoods and ensuring environmental sustainability (World Economic Forum 2016). SAGCOT covers a region stretching over 300,000km^2 from Dar es Salaam to the border of the Democratic Republic of Congo, Zambia and Malawi, linking key areas within Tanzania. This region encompasses the Southern Highlands, which are also of significant ecological importance for biodiversity and critical ecosystem services, including water provisioning to millions. The initial focus has been on three priority clusters of the original six identified – Ihemi, Mbarali and Kilombero – where agricultural transformation activities are either planned or ongoing.

Agriculture is the backbone of Tanzania's economy, comprising roughly 25-30 per cent of gross domestic product (GDP) (Statista 2020), employing over 75 per cent of the workforce (Food and Agriculture Organization of the United Nations 2016), and contributing 95 per cent of the nation's food requirements (Munishi *et al*. 2010; Massoy 2016). Value-added agro-processing and increases in productivity are considered important contributors to Tanzania's goal of achieving middle-income status, as laid out in its Tanzania Development Vision 2025. Much potential still remains. Of Tanzania's total 945,000 km^2 land area, 620,227km^2 (70 per cent of the total) are considered suitable for agriculture, including cultivation and livestock. While 440,000km^2 of this is considered arable, only around 100,000km^2 of land (10 per cent) is actually in cultivation. In addition, of the 500,000km^2 of potential rangeland, only approximately 240,000km^2 is used for grazing (United Republic of Tanzania, 2009; Kimaro and Hieronimo 2014). Moreover, Tanzania's current agricultural systems are largely based on small-scale farmers with relatively low productivity and poor infrastructure, minimal use of modern techniques, and lack of access to financing (Majule *et al*. 2015). Thus, there is substantial potential for increased agricultural production and increased economic contribution of agriculture, particularly in the face of greater regional and international market access.

SAGCOT is a key initiative to grasp this agricultural opportunity. Key goals and objectives by 2030 include bringing 350,000 hectares of land into profitable production, helping 100,000 small-scale farmers transition into commercial farming. This will create 420,000 jobs, lifting 2 million people out of poverty. SAGCOT expects US$ 1.2 billion of private investment to match US$ 1.3 public sector grants in agricultural development funding. These ambitious goals are key to the fact that SAGCOT is considered a government priority to help Tanzania reach its agricultural potential and roll out climate-smart agriculture. Since the beginning, there has been international attention on SAGCOT for its innovative partnerships with strong support from the Alliance for a Green Revolution in Africa and publicity at the World Economic Forum. In addition to the Tanzanian government, international donors include the UK's former Department for International Development (now known as the Foreign, Commonwealth & Development Office), the United States Agency for International Development, the World Bank, the United Nations Development Programme and the Royal Norwegian Embassy, among others.

9.2 Key players and stakeholders

SAGCOT Centre Ltd, as the main corridor authority for the initiative, was established as a non-partisan partnership broker and catalyst, engaging multiple stakeholders in the SAGCOT region and facilitating partners to achieve sustainable, inclusive commercial agricultural transformation. The 43 partners in 2014 have since grown to 102 official partners in 2020. These include key ministries of the government of Tanzania, including: the President's Office and Vice President's Office; private sector companies ranging from large multinationals like Syngenta and Unilever, to local Tanzanian companies such as the Kilombero Sugar Company and Deka Foods; organizations representing small farmers; non-governmental organizations (NGOs) and other service providers; and public financing institutions such as the Tanzania Investment Bank and the Tanzania Agricultural Development Bank.

To advance collective efforts towards inclusive green growth, each partner (e.g. public entity or private investor) commits to general SAGCOT principles for sustainable and inclusive agricultural investment (see Box 9.1). Commitment can be either informal, or with a Letter of Intent including specific investments, projects, and targets.

In addition, a multi-stakeholder SAGCOT Green Reference Group (GRG) was established at both the cluster and SAGCOT-wide level to advise the SAGCOT Centre on inclusive green growth issues, including environmental and social aspects. The GRG works as an informal advisory body, bringing together a representative group of stakeholders from government (e.g. Ministry of Agriculture, Ministry of Water Resources, Vice President's Office and local government authorities), the private sector (including farmers), the donor community, academia and civil society/ NGOs (e.g. African Wildlife Foundation, Shahidi wa Maji, WWF- Tanzania) to ensure appropriate action at both scales.

The original concept of SAGCOT included US$ 60 million in support from the World Bank, including a US$ 45 million catalytic trust fund to stimulate private investment within SAGCOT. Though the trust fund was later cancelled in December 2018 at the Government of Tanzania's request due to delays in fund disbursement, its early existence meant that the initial implementation of SAGCOT had to meet certain World Bank donor requirements, which included a strategic environmental and social assessment (SESA)[76]. Thus, a SEA was carried out in 2012-2013 by Environmental Resources Management (ERM) Consultants. Completed in August 2013, the SEA process underwent two rounds of public consultation and was finally approved in 2014.

BOX 1. SAGCOT PARTNERSHIP PRINCIPLES:

- **Engaging smallholder farmers and ensuring environmental sustainability through their activities,**
- **Partnering with others to promote a harmonized approach and improve synergies,**
- **Maintaining engagement, communication, and support for the SAGCOT Centre Ltd.**
- **Contributing to the resolution of policy and infrastructure constrains; and**
- **Considering new and innovative financing mechanisms.**

76 Strategic Environmental and Social Assessment (SESA) is a term used by the World Bank but refers to what is more widely known as Strategic Environmental Assessment (SEA)

9.3 Impact assessment in Tanzania

9.3.1 Framework/enabling law

Project-related impact assessment in Tanzania started as early as the 1980s, though without a legislative or regulatory framework. These early impact assessments were typically donor-driven EIAs, numbering roughly 40 by 1998 (Mwalyosi and Hughes 1998), to just over 300 in 2013 (Netherlands Commission for Environmental Assessment 2013). A key first step towards a more systematic impact assessment process took place when Tanzania's National Environmental Management Act (No. 19) in 1983 established the National Environmental Management Council (NEMC), the main government authority with responsibility for reviewing EIAs and conducting environmental monitoring and auditing. Another key step was in 1994, when the Ministry of Tourism and Natural Resources published the National Environmental Action Plan, which incorporated environmental concerns into national planning and development and recognized EIA as a means of ensuring good environmental management and avoidance of negative impacts (Netherlands Commission for Environmental Assessment 2013). Other sectoral policies on land, mining, energy, water, agriculture and fisheries also recognized the need for EIA procedures around this time. However, it was Tanzania National Parks that was the first government agency to adopt EIA into policy by requiring EIA preparation for all developments within and adjacent to national park boundaries since 1994 (Tanzania National Parks 1994).

Draft EIA guidelines followed, which were first presented in 1996, but later revised and updated in March 2002. They were issued as Tanzania EIA Procedures and Guidelines by NEMC, and were intended to eventually be integrated into EIA regulation. Finally, in 2004, the Tanzanian Parliament historically passed the Environmental Management Act (EMA), which provided the legal basis for both EIA and SEA. The 2005 National Environmental Impact and Auditing Regulations set out procedures for conducting EIA in Tanzania. SEA regulations were further promulgated in 2008, though SEA guidelines were not launched until 2018 (see Chapter 8).

Intersectoral coordination is supported by the establishment of an environmental section in each ministry. Their responsibilities include ensuring compliance with the Environmental Management Act and liaising with NEMC to foster shared responsibility for natural resource governance. Regarding environmental assessment procedures, they must collaborate in the drafting of project briefs and EIA Terms of Reference, contribute to scoping exercises and review processes, etc. In terms of section 87(2) of the EMA, NEMC may set up cross-sectoral technical advisory committees to help review EIA procedures and environmental impact statement (EIS) content. Within the EIA process, the proponent must submit an EIS, which contains the bulk of the analysis.

9.3.2 Challenges

Impact assessment in Tanzania has faced numerous challenges. From its earliest days, EIAs generally performed poorly, with marginal impact on decision-making (Mwalyosi and Hughes 1998). EIAs were found to take place too late in a project's decision-making process; they were under-resourced and did not meaningfully engage stakeholders (Mwalyosi and Hughes 1998). The focus seemed to be more on the output and not the process. Government departments generally exhibited a lack of environmental leadership and weak commitment to environmental management. Decentralization to local authorities was not met with allocation of resources and capacity-building, leaving local authorities with responsibilities, but without the capacity or funding to monitor compliance (Mniwasa and Shauri

2001; Booth, Chapman and Walmsley 2002). Indeed, more data needed to be collected, and national capacity needed to be built for screening, scoping and reviewing EIAs, and institutional structures needed to be developed (Spooner, Singh and Mugabe 1994; Institute of Resource Assessment and International Institute for Environment and Development 1995). EIAs have been generally seen by both private sector and some government staff as impediments to development, and a waste of time and resources (Mwalyosi and Hughes 1998), with EIA considered more a procedural tickbox exercise rather than truly a tool to mitigate adverse impacts. In fact, cultural, sociological and psychological factors related to governance, accountability and commitment of key stakeholders combined to hinder the effectiveness of EIAs even after the legislative framework was in place. Indeed awareness, capacity and data were not necessarily the key limiting factors to effectiveness of EIAs (Sosovele 2011). Additionally, because the resources to undertake EIA are normally from or are contributed by the entity that needs the EIA done (i.e. project proponent), the intent of the EIA's effectiveness is undermined to favour the entity that requires or pays for the EIA. This array of challenges to EIA effectiveness is further hindered in the agricultural context, as described in the next section (see Chapter 3 to learn more about the theory versus practice of impact assessment).

Image credits: Diego Juffe Bignoli

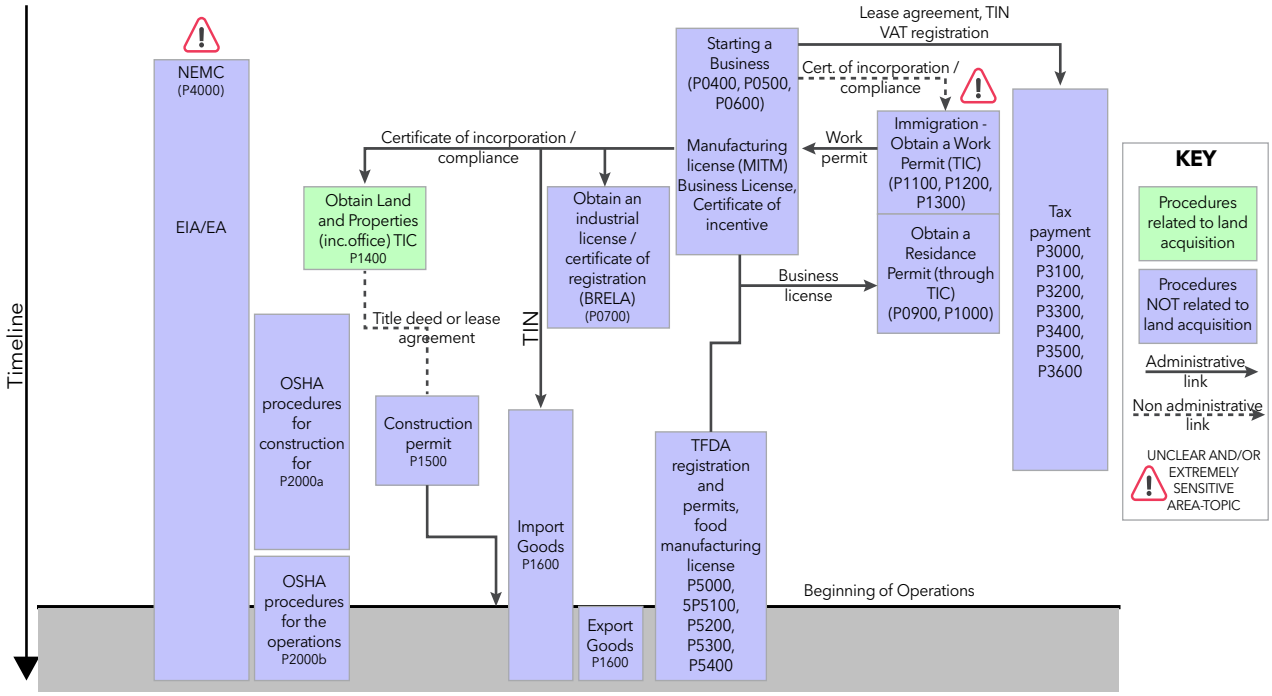
9.4 Environmental impact assessment

Agribusiness investors in Tanzania face challenges in managing social and environmental impacts through the EIA process, which is also hindered by complex and opaque areas in legislation surrounding land investment and ownership, further hindering the utility of this tool. Firstly, only "large-scale cultivation" requires an EIA, or agriculture that requires major water resource development, resettlement, or uses Genetically

Modified Organisms (GMOs) or new crop breeds. Secondly, for these large-scale agricultural projects, while the Tanzania Investment Center is cited as being a one-stop shop for investors, in fact, additional central and local authorities are needed to advance agricultural investment. The NEMC has the national mandate to oversee and enforce environmental management, including application and approval of EIAs. Actual decision-making regarding the EIA is done by the minister in charge of environment (within the Vice President Office) based on advice from NEMC and its consultation with local and provincial authorities. Thirdly, the agricultural land investment process in Tanzania is complicated and the exact steps are unclear, making it difficult to know when to conduct an EIA (Prorustica 2016). Competing claims to land also further complicate matters, with traditional occupancy and use, somewhat conflicting formalizations of land tenure in the Village Land Act and Land Act, and colonial and post-colonial state appropriations of land all factoring into this complexity. (Prorustica 2016)

Thus, agricultural investors are referred to NEMC for EIAs, but without clarity on exactly when and at which step in the land investment process to conduct it, such as clearly linking to other specific agricultural investment procedures (i.e. accessing or acquiring land or obtaining a business license), making it easy for an agricultural investor to act too late for the EIA to be most beneficial (see Fig. 9.1). Furthermore, NEMC does not have an office at the Tanzania Investment Center (TIC), which makes uncovering this info even more challenging, particularly as a foreign investor. On the other hand, many investors do not even go through the TIC processes, while others do not need to do so due to their limited size. (Prorustica 2016)

Figure 9.1 Agricultural investment process in Tanzania, and within SAGCOT. The top of the figure represents the start of an investment, with progression of the investment towards the bottom of the flow chart. Boxes are procedures to be completed by the investor



BRELA = Business Licensing and Registration Authority; NEMC = National Environmental Management Council; OSHA = Occupational Safety and Health Authority; TFDA = Tanzania Food and Drugs Authority; TIC = Tanzania Investment Center; TIN = Taxpayer Identification Number; VAT = Value Added Tax.

Source: Prorustica (2016)

The most challenging step in agricultural investment is accessing land. The Land Act, 1999, and the Land Amendment Act, 2004 (and the Tanzania Investment Act of 1997 for foreign investors) define how investors can acquire granted rights of occupancy on either general or reserved land and customary rights of occupancy on village land. Foreign investors must also possess a certificate of incorporation/compliance, with the condition that land is for investment purposes. The land investment process may take more than a year. Once an investor has targeted a piece of land, they then enter an elaborate process of requests and approvals at multiple levels, depending on how land rights are granted for that piece of land, but these typically include engaging local authorities including the district council, local village councils, assemblies and wards, as well as the Ministry of Land, and it may even entail funding and facilitation of a village land use plan as a requirement for an EIA. (Prorustica 2016)

Investors are not officially allowed to start the EIA until they have a title deed (or letter of acceptance/lease agreement) after all the approvals and payments of compensation (according to Village Land Regulations, 2001), in order to ensure the analysed land is where the project will take place. However, at that point, if the EIA indicates significant negative impacts that cannot be mitigated, the investor is largely already locked into their investment. In practice, investors do try to engage NEMC before the title deed is issued, sometimes because business licenses or other key certificates will not be issued without NEMC approval. However, no clear moment, step, or process is identified. (Prorustica 2016)

Benefits from the EIA process that could help address social impact issues are usually not initiated early enough in the land acquisition process to be effective in engagements with local communities. Water rights further complicate the situation, in that securing a water right is also not closely linked to conducting an EIA. An investor can only secure a water right after securing land, but it is not a guarantee that, after securing land, they can secure the appropriate amount of water for the desired investment (Proustica 2016). Even once the water use permit is secured from the Ministry of Water and Irrigation, the investor then engages with a host of other agencies including NEMC, again when it would seem that the assessment of the action has come too late. In practice, it was noted that private sector investors will often conduct their own "pre-EIA" EIA to get ahead of the official process (Prorustica 2016), but these investors would generally need to be the more savvy, experienced and well-resourced.

9.5 Strategic environmental assessment

Due to the World Bank's initial committed investment to SAGCOT's catalytic trust fund in particular, a SEA was conducted relatively early in SAGCOT's lifespan (though SEAs are a requirement for all programmes and plans under Tanzanian legislation). It was completed in 2013, the year SAGCOT's first workplan was developed, and approved in 2014. Implementation since then, however, has been limited. A 2016 assessment (Mwalyosi and Tarr 2016) indicated that the reasons behind this included: the unplanned evolution of the SAGCOT programme from large new farmers to existing farmers; focused activities starting in the Ihemi cluster, which was not analysed in detail in the SEA; and the need for an outcomes-based strategic environmental management plan (SEMP) for the Ihemi cluster. This SEMP should have also been monitored and updated annually.

Thus, in the case of the SAGCOT SESA, it required rapid modification and updating to align with changing conditions, as well as more detailed work at the cluster level, which was never completed. With the cancellation of the World Bank-funded catalytic fund, there was also no continued mandate to see

the SESA through and ensure monitoring and implementation, including funding for necessary revisions and updates. According to Mwalyosi and Tarr (2016), the process and products could have been improved further with the following.

- Consideration of alternatives within existing projects, such as improved farming techniques or adoption of technologies for achieving the same outcomes at reduced environmental/social costs.
- Conducting an environmental assessment that strategically identifies the most vulnerable ecological and social features, their impacts and avoidance/mitigation options.
- Conducting a SEMP at the cluster level that provides an "over-arching framework and roadmap for addressing the cumulative impacts of existing and planned projects and their associated infrastructure".
- Conducting a broader sustainability assessment that analyses the sustainability of the SAGCOT programme over the long term, and with a more expansive context, including balancing social, economic and environmental aspects and agreeing on acceptable trade-offs, which was not done in the original SESA.

The key to a useful SEA in this case would have been generating and tracking information at the cluster level, and ensuring associated documentation remained "live" and with regular updates to evolve with changing conditions to be realistic and practically applicable.

9.6 Inclusive Green Growth Tool

The need to understand and track potential impacts at a feasible scale (i.e. in this case, at the cluster level, as the unit and focus of implementation by the SAGCOT Centre), as well as to support efforts to mitigate or avoid negative impacts, spawned increased support for another type of tool: the IGG tool. The IGG was born of an idea as an investment screening tool for SAGCOT and investors/farmers to share a clear and common understanding of social, economic and environmental sustainability as an elaboration of the SAGCOT partnership principles. The IGG tool quickly evolved to fill a gap in environmental and social impact assessment and mitigation and is now being considered as a self-assessment tool both (1) to 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) to help SAGCOT to tailor their support efforts to facilitate avoidance and mitigation. It includes a portion on regulatory requirements, as well as a self-evaluation scoring system aligned with SAGCOT partnership principles for green growth to support going beyond legal requirements towards best practice. There are three major sections: environmental management, inclusivity and business sustainability.

Initially conceived in 2016, the IGG tool underwent a number of iterations and testing from 2017 and 2019, to be finally launched and rolled out in March 2020 in the form of modified versions for small-scale investors versus medium- to large-scale investors, as well as for producers versus processors. Small-scale producers are those that rely predominantly on family labour, use low technology, have farms less than 10 hectares in area, and have invested less than 50 million Tanzania shillings (current value USD$ 21,565). On the other hand, a large-scale producer would have a farm of more than 100 hectares, depend on hired labour, use mechanized farm operations, and have invested over 1 billion Tanzania shillings (current value USD$ 431,273) (SAGCOT 2018). The first stakeholder workshop took place in May 2017, where 15 commercial agricultural investments in Ihemi and Mbarali clusters were assessed based on the IGG tool, through facilitation by a multi-stakeholder government and civil society task force. The same task force returned in April 2018 to monitor progress and evaluate improvements. A second assessment took place in November 2018 to review 17 additional small- to large-scale investments and feedback provided in 2019.

Initial testing and training of the IGG tool found producers and processors differed in compliance in many ways (Minja 2018). Medium- and large-scale investments that are mostly multinationals have shown higher compliance IGG scores within the tool, often scoring above 80 per cent, while small-scale investments averaged scores of below 40 per cent. Most small investments are dominated by farmers' cooperatives or groups of entrepreneurs. In general, among 33 investments assessed in 2018/2019, about 60 per cent were compliant with IGG principles (i.e. scoring at least "good" or above). The areas with weakest alignment to inclusive green growth principles included good governance, the capacity to develop and implement good business models, and social inclusivity. Investments from the first assessment were monitored six to nine months from their first evaluation (World Wide Fund for Nature 2018). In this follow-up evaluation, 30 per cent improved their inclusivity practices, 35 per cent improved their environmental management practices, and 22 per cent improved their business strategy practices over that time period. Indeed, for social and environmental aspects, nearly a quarter of these improvements were deemed "significant" (22 per cent and 24 per cent, respectively).

In the second assessment (SAGCOT Centre 2019), the 17 investments scored highest in social inclusivity (74 per cent) and lowest with environmental sustainability (58 per cent); economic sustainability scored 65 per

cent overall, and the majority of recommendations were made to address these business and developmental weaknesses. Only 19 per cent of recommendations addressed environmental issues. SAGCOT Centre is using this information to analyse needs and evaluate how best to support increased compliance. These initial results seem to indicate high potential for improvements in practices, with business strategies being perhaps the most complicated to improve. More detailed information, analysis, and follow-up is needed as the IGG tool continues to be rolled out.

It does seem that the process of self-assessment, more so than external evaluation, on which the IGG tool is based, plays a critical role of awareness-raising and empowerment of private sector stakeholders. Most recent feedback (in November 2020) found that users appreciated the IGG tool in order to adaptively manage for economic, social, and environmental sustainability; to identify gaps and associated mitigation measures; to understand how they compare with other companies; and to guide their own adaptive management of their business (SAGCOT Centre feedback, 2020). While timing is too early to assess substantial change in performance at scale, the self-empowerment approach taken by the roll-out of the IGG tool seems to be more powerful for on-the-ground change than tools applied by external audiences, and initial feedback seems to indicate uptake in implementation. More long-term analysis will be needed to track actual outcomes and performance.

9.7 Discussion and recommendations

Understanding and managing impacts for an agricultural growth corridor, particularly one the overall size of SAGCOT (which covers nearly one-third of the area of Tanzania) is a complicated endeavour, particularly when ambitious objectives include social inclusivity and environmental sustainability. Traditional tools such as EIA and SEA provide opportunities for impact assessment and management, but the realities of implementation on the ground hinder the utility and effectiveness of these tools. For EIAs, while there are capacity and data constraints, far more fundamental are the institutional constraints of how EIA is perceived and implemented. In the agricultural context, this is further complicated by unclear timing of the EIA process within the agricultural investment process. For SEAs, which are a newer impact tool applied in Tanzania, experience indicates that this too is more a theoretical product than a practical tool for integrating environmental management consideration. More needs to be done to keep the process and product live and in use by relevant stakeholders. In the SAGCOT case, since the SEA was already conducted to fulfill donor obligations, when the Catalytic Fund was cancelled (though years later), there was no impetus to continue support and follow-up of the SEA and its recommendations.

In general, it seems that EIA and SEA are still largely considered tick box exercises, rather than true opportunities to integrate environmental considerations into development decision-making. While legislation and a legal framework are important in setting the playing field for environmental management, there is much additional work needed to make the impact assessment process effective. The EIA requirement in Tanzania can still be met without demonstrated implementation on the ground. New supplemental tools and processes such as the IGG tool provide practical opportunities to fill these gaps, even when EIA and SEA efforts result in limited action to manage environmental and social challenges, and can support EIA and SEA implementation through greater buy-in and long-term monitoring. Any impact mitigation or management tool necessitates project proponent (e.g. the farmer or agricultural company) commitment to adopt and implement findings. The IGG

tool may offer such opportunity for ownership and buy-in that leads to actual implementation. We recommend the following.

- Traditional impact assessment tools need to be tailored to their local situation to be most effective.
- SEAs for development corridors should cover an appropriate geographic scope and scale in order to be successfully implemented.
- EIA processes must be clarified within the agricultural investment process to be made more useful. These should come as early as possible in the process, as once land has been secured, options may be limited to avoid or mitigate negative impacts.
- Supplemental tools (such as IGG) offer opportunities to manage social, environmental, and business risk and provide opportunity for inclusive green growth and climate-smart agriculture at a corridor and cluster level, especially where there are myriad actors, in this case smallholder farmers, who are typically not directly subject to other impact assessment processes.
- Monitoring should be increasingly tied to awareness and application of the IGG tool to support farmers to know what to do to reduce relevant risks and to advance sustainable development objectives at the same time.
- Even for development corridors, it may be most beneficial to rollout impact mitigation strategies at a cluster level (i.e. a focal economic development node). The regional corridor-level scale is often too challenging a scale to manage for impacts, except at the most strategic level.

On-the-ground realities challenge the application of existing impact assessment tools, even for investors and farmers who are interested in social and environmental sustainability. Impact assessment processes and products must be tailored to a more dynamic situation, particularly in the agricultural development corridor context.

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