Peter Dannenberg, Javier Revilla Diez* and Daniel Schiller

Spaces for integration or a divide? New-generation growth corridors and their integration in global value chains in the Global South

https://doi.org/10.1515/zfw-2017-0034
Received: October 15, 2017; accepted: February 8, 2018

Abstract: Growth corridors have been an instrument of economic development for decades but have gained new attention in regional economic development policies in recent years, e.g., in Sub-Saharan Africa or Southeast Asia. They are seen by policy makers and private businesses as catalysts of regional economic integration, pushing traditional businesses into increasingly complex international value chains. However, the outcomes of such development initiatives are still barely understood. Critics argue that development policies are based on simplified models that are unable to sufficiently address the complexity of regional development. Policies on value-chain development, for example, can lead to conflicts, external dependencies, land rush, and a polarization of wealth. Growth corridors often go hand-in-hand with socio-economic transformations and land-use conflicts. This paper first discusses the theoretically possible desired and undesired regional socio-economic effects of modern corridors. Second, we illustrate the potential and challenges to realize integrative (or inclusive) development by contrasting three growth corridors: the SAGCOT growth corridor in Tanzania, the Walvis Bay-Ndola-Lubumbashi Development Corridor (WBNLDC) in Namibia, Zambia and Zimbabwe, and the growth corridors in the Greater Mekong Subregion (GMS).

Keywords: corridor development strategies; global production networks; Global South regional policy.

***Corresponding author: Javier Revilla Diez**, Institute of Geography, University of Cologne, Albertus-Magnus-Platz, 50923 Cologne, Germany, e-mail: j.revilladiez@uni-koeln.de
Peter Dannenberg: Institute of Geography, University of Cologne, Albertus-Magnus-Platz, 50923 Cologne, Germany, e-mail: p.dannenberg@uni-koeln.de
Daniel Schiller: Institute of Geography and Geology, University of Greifswald, Makarenkostraße 22, 17487 Greifswald, Germany, e-mail: daniel.schiller@uni-greifswald.de

1 Introduction

For decades now, growth corridors have been promoted around the world by national governments (e.g., China's One Belt One Road Initiative) and multilateral organizations, such as the IMF, the World Bank, and the African Development Fund, as an instrument of economic development. This attention from national policy makers and global developers grew even further in the context of the strategies outlined in the World Economic Forum in 2009 and 2010, the World Bank's World Development Report in 2009, and the G20 report "The Compact with Africa" (G20 Finance Ministers' and Central Bank Governors' Meeting 2017).

As a neoclassical spatial development initiative, however, the impact of growth corridors on regional development is unclear. Growth corridors are strategies of unbalanced growth aimed intentionally at creating a spatial and sectoral disequilibrium to encourage further investment in social overhead capital (SOC), i.e., infrastructure. However, the expected spread effects from an unbalanced growth impetus (Hirschman 1958) are not realized automatically. Regarding countries in the Global South, critics (e.g., Murphy 2008; Mold 2012) argue that such development approaches often fail to boost regional development and lead to new inequalities (e.g., due to backwash or displacement effects). Murphy (2008) argues that, due to insufficient infrastructural, political, and institutional frameworks as well as different international relationships and power geometries, the postulated neoclassical rules might not work. As a result, beneficial outcomes, such as positive externalities, trickle-down, and spillover effects, do not occur.

In recent years, however, the tools and strategies of growth corridors have changed significantly. While older approaches focused mainly on developing public infrastructure, recent corridor developers – often encouraged by global economic organizations – have included more comprehensive strategies that also take into account the dynamic developments of private investment and global value chains (GVCs) (Gálvez Nogales 2014; Baxter et al. 2017). This has led to a new generation of corridors char-

acterized by international value-chain integration, the development of trade hubs and gateways, and the inclusion of international investors in public-private partnerships that also influence the plans and policies associated with the corridor development. In some cases, these growth corridors have been developed from scratch like SAGCOT, in other cases, planners are trying to revive first-generation growth corridors like WBNLDC. In the GMS, growth corridors were closely linked to regional integration on a broader scale from early on, even though traditional corridor elements are the dominant feature.

These new dynamics in growth-corridor development in the Global South have also become the focus of various scientific and applied studies.

These studies have analyzed the evolution of corridors (e.g., Gálvez Nogales 2014; Gálvez Nogales and Webber 2017), the different actors involved (e.g., Weng et al. 2013; Baxter et al. 2017), and various variables that can be used to measure and explain the success of growth corridors (e.g., DFID 2015; Baxter et al. 2017). In contrast, less attention has been paid to the integration of growth corridors into global production networks (GPN) and the related coupling and negotiation processes or to governance relations between the production networks and the growth corridors. While Gálvez Nogales and Webber (2017), for example, outline the importance of corridors being integrated into GVCs/GPNs for their economic performance, they mainly look at the input-output structure (product flows and investment flows). They do not examine in more detail the influence that international actors along the chain/production network have in the corridor-development process (e.g., the shape of production systems, the development of infrastructure etc.). Studies on GPNs (e.g., Henderson et al. 2002; Yeung and Coe 2015), however, indicate that powerful actors in the chains can strongly influence these processes according to their own interests, e.g., by means of strategic coupling (in which they develop joint production strategies together with regional business and policy actors). This is especially likely for the new generation of growth corridors that explicitly use value-chain integration and public-private partnerships as key development instruments. These strategic influences of private global actors, however, are associated with opportunities and risks for the corridor development and the public developers' targets. This study uses and combines conceptual considerations on growth corridors, public-private partnerships, and GVC/GPNs to analyze the outcomes of these new growth corridors. It especially focuses on central aspects of the value chain concept, namely value creation, capture, and enhancement and the appropriation of benefits – which are often neglected in value chain analysis. The aim of the paper is twofold: first, we theoretically discuss the possible desired and undesired regional socio-economic effects of the growth corridors 2.0. Second, we illustrate the challenges to realize integrative (or inclusive) development by contrasting three growth corridors.

To this end, we analyze recent documents and the statistics of three corridor initiatives which 1. are all located in the Global South, 2. follow an explicit corridor strategy, and 3. have integrated new elements of corridor development into their strategies. To achieve a high level of generalizability for other corridors in the Global South, however, the cases vary in terms of their economic basis, their regional spread, and their interregional and international integration (see below). These cases are (1) the *Southern Agricultural Growth Corridor of Tanzania (SAGCOT), a* national program focusing mainly on the primary sector in rural areas, (2) the *Walvis Bay-Ndola-Lubumbashi Development Corridor* (WBNLDC), which runs through Namibia and Zambia, focuses on services and resources, and integrates rural and urban economic areas, and (3) the three growth corridors connecting the Greater Mekong Subregion (GMS) in Southeast Asia.

2 Conceptual framework

2.1 Expected impacts of growth corridors: the neoclassical view

For decades, growth corridors and other large-scale infrastructures have been used as regional policy instruments in numerous projects throughout the world. Classically, corridors can be defined as bundles of infrastructure that link two or more urban areas. These can be highways (sometimes via different routes) or rail links which carry both passenger and freight transport. Corridors can also encompass other forms of linear infrastructure like ICT infrastructure, power lines, and cables as well as pipes for drinking water, natural gas, crude oil, electricity, and sewage (Priemus and Zonneveld 2003, p. 167). The rationale behind corridor development is usually based on the theory of unbalanced growth (Hirschman 1958). It is assumed that due to a shortness of capital and decision-making ability, development processes cannot be set in motion simultaneously in all sectors and regions of a country. Development should rather be initiated in those sectors with high potential to induce growth in other sectors due to input-output relations. The corridor concept combines

this approach with a spatially unbalanced approach to development that favors regions located along the corridor.

Today, the characteristics of corridors vary in terms of their geographical and sectoral scopes and their management forms (Galvez Nogales 2014). Corridors can run within single countries or across several countries, connecting urban and rural areas. They may specialize in one sector (e.g., agriculture, mining, or manufacturing) or be diversified, and they may be initiated and funded by national or regional governments, multilateral organizations, NGOs, private firms, or jointly as public-private partnerships.

According to neoclassical understanding, predicting the future outcome of this policy intervention is straightforward, as expressed, for example, in the World Bank's World Development Report in 2009 (Paul and Steinbrecher 2013, Galvez Nogales 2014): growth corridors as linear infrastructures (e.g., highways) are meant to integrate places and connect them to global markets (Priemus and Zonneveld 2003). Through the integration of regional markets, classical theories in regional science and economic geography expect three forces to trigger economic development: trade and specialization, agglomeration economies, and the inflow of capital and people. The improved connectivity and falling transport costs to reach markets allow, for example, farmers to specialize and to generate economies of scale.

It is assumed that this positive impulse will attract additional, related firms (e.g., agriculture-related suppliers and food-processing firms) that will settle in different locations along the growth corridor. Like a snowball effect, these new players are expected to enhance spatial concentration processes along the corridor, providing positive externalities through the co-location of economic actors in the form of employment and spillover effects (e.g., the transfer of knowledge and technology). For example, the places where these corridors end (e.g., logistic hubs that act as gateways) often enjoy increasing agglomeration economies due to investments by multinational corporations, but the rural areas in between are also expected to prosper from specialization (Weng et al. 2013; Brand et al. 2017). In principle, a circular and self-reinforcing growth pattern starts at focal nodes and later spreads or trickles down along the corridor – as was already explained by Hirschman (1958).

This virtuous circle is in the same vein as Rostow's simplistic approach of a ladder to development and modernity (Chang 2002). In line with this argumentation, Galvez Nogales (2014) comes up with a development path of corridors which evolves over time from a transport corridor (stage 1), to a logistics corridor (stage 2), a trade facilitation corridor (stage 3), an economic or growth corridor (stage 4), and finally a development corridor (stage 5) (see Figure 1). A transport corridor connects large agglomerations, both physically and functionally, with other urban centers within a national territory or across borders. Instead of only physically linking different places, logistics corridors provide a harmonized institutional framework facilitating efficient transport and storage of freight (e.g., in respect of technological, organizational, and legal conditions). A trade corridor connects neighboring countries (e.g., providing a landlocked country with access to the sea) and attempts to foster international trade by eliminating tariff and non-tariff barriers. Economic corridors are able to attract investment and generate economic activities along the corridor so that different places fulfill different functions within a sectoral cluster. In the final stage, development corridors are about more than just economic activities, providing health infrastructure and educational and cultural opportunities for future wellbeing (Campbell et al. 2009; Galvez Nogales 2014).

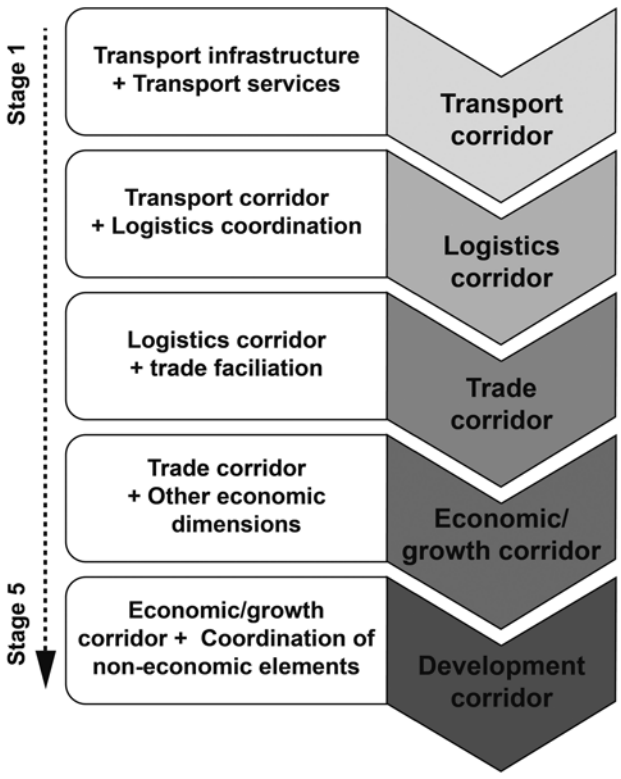

Figure 1: Corridor development path (own design based on Galvez Nogales 2014).

2.2 Assessment of the first-generation growth corridors

In contrast to the expected benefits (hopes), criticism simultaneously arose as many large infrastructure projects undertaken in Africa (and beyond) during the 1960s and 1970s were not sustainable and failed to boost economic development, as Mold (2012) summarizes in an overview. It seems that again the fictional expectations based on the neoclassical theory and the trickle-down effects of the unbalanced growth strategy did not materialize (Beckert 2016). According to Nogales' development path, the corridors evolved only from transport to logistics and trade facilitation corridors (stages 1 to 3). According to Mold (2012), the boom in large infrastructure projects ended "in tears" due to:

- Excessive dependence on foreign sources of finance: the debt crisis in many African countries led to a massive inflow of excess liquidity from Western banks, which were more concerned with sealing credit deals than with the viability of the projects.
- A lack of rigorous project assessment techniques: as already suggested by Stolpher (1966), projects were implemented on the basis of "planning without facts" so that many projects remained heavily subsidized and, due to "economic and political turbulences" in the 1970s and early 1980s, were very difficult to implement properly.
- Poor project management: the most visible problem was the lack of intention to maintain the projects, as was criticized by the World Bank in several publications.
- Weak endowment with human capital: the shortage of skilled labor after the countries gained independence resulted in a general lack of engineers and technicians.
- Excessive dependence on foreign expertise: due to the lack of skilled workers, more than three quarters of the highly qualified manpower in government and private business was foreign (Meredith 2005: 151), thus impeding the formation of a local knowledge base.
- Poor project selection by donors: besides poor assessment techniques, the "culture of loan approval" at the World Bank enabled projects without performance and quality checks as described by the Wapenhans Report in 1992. Consequently, the average success rate of infrastructure projects in Africa was only 17.2 per cent (Rich 2002).
- Rent-seeking behavior and political considerations: corruption became a widespread phenomenon, undermining the viability of the projects. But poor projects were also often the result of political factors, e.g., attempts to please international donors or local voters. The latter explanation relates to arguments in political economics. In order to demonstrate power and/or to influence elections, governments opted for infrastructure projects with high prestige but no long-term impact (so-called white elephants).

Besides these shared features, the main cause of the failed projects was the belief in the oversimplified understanding of regional growth in neoclassical theory. In this vein, economic development is interpreted as a linear process which can be "triggered just by moving the right economic pieces on the chessboard" (Ascani et al. 2012). In an attempt to strengthen only the main economic factors that influence regional development, investment in connective infrastructure was intended to improve the market access of remote regions, thereby yielding high returns (Aschauer 1989).

From a conceptual perspective, these shortcomings are also reflected by recent developments in development theory and policy. Based on unrealistic assumptions like full information, rational and profit-maximizing actors, polypolistic market structure, and diminishing returns, investment in infrastructure was and still is a widespread "one-size-fits-all approach" as was recently acknowledged by the World Bank (2008). Therefore, Mold's assessment rather looks at the symptoms but not the causes of the failure of large-scale infrastructure projects. In the recent development debate, institutions have been identified as the main cause for economic development at the national and regional level (Acemoglu et al. 2005) and led to the emergence of the 'good governance' approach in development policy. Context-specific differences in social, political, and institutional settings, which are often rooted in a country's history, are crucial factors that determine the local capability to make use of investments e.g., in growth corridors to generate economic, sustainable, and inclusive wealth (Rodríguez-Pose 1999 and 2013), but these differences are often ignored.

In addition, approaches towards 'pro-poor growth' and Amartya Sen's approach to development as freedom (1999) are not addressed sufficiently by the old generation of corridor policies. Furthermore, the old corridor strategies do not harness upgrading opportunities within global production networks via strategic coupling between regional assets and global lead firms (Coe and Yeung 2015) and, therefore, ignore more recent findings from economic geography and the relevant dynamics of today's mode of economic globalization (Baldwin 2016).

2.3 New generations of corridors: new hopes and tools – old paradigm?

As outlined by Galvez Nogales (2014), in the last few decades the focus of corridor development has shifted in terms of targets, measures, and organization, although it still follows a modernization paradigm in order to turn the corridors into growth or even development corridors (stages 4 and 5). While her outlined stages of development can be discussed and are fluent, for the present study at least three areas of new strategic orientation need to be analyzed in detail:

2.3.1 Value-chain orientation

Although the theoretical concepts of value-chain analysis originated from a globalization-critical perspective, value-chain approaches have become a popular development-policy instrument to integrate peripheral regions into global commercial value chains (Ouma et al. 2013). This is based on the idea that rural production activities which have not yet been integrated into commercial or even global production can achieve higher productivity and turnover and make larger contributions to the overall economy by means of upstream integration (e.g., using modern inputs) and downstream integration (e.g., linking up with modern processors). These approaches have also become central for modern development corridors. Instead of only providing infrastructure, corridors today pursue a strategy of promoting different value-added activities along certain value chains. This is often done by focusing on a few key sectors and their related chains. In the case of WBNLDC and SAGCOT, for example, agricultural value chains constitute one of the main sectoral foci. They are promoted by the corridor program in a holistic chain approach that includes e.g., farming, processing, and logistics steps that are integrated in the overall infrastructure program of the corridor in order to achieve a greater ability to capture domestic value and to develop domestic industries which go beyond simple production (value chain upgrading).

2.3.2 Spatial concentration on nodes and gateways

Although modern corridors still develop linear infrastructure today, they also promote clusters, nodes, and hubs which have gained in importance in regional policies since the 1990s. As the value-chain approach pursues functional integration, a cluster-oriented corridor program aims to bundle the different established value-chain segments according to their specific function in the chain at certain growth centers along the corridor. Such centers include, for example, processing activities or local logistics hubs, as well as supporting actors, such as research institutions which help to upgrade business activities (e.g., by increasing skills; Humphrey and Schmitz 2002). The end of a corridor is usually marked by an international logistics hub, such as a harbor, that serves as a trading gateway and is usually also home to central public and private headquarters. According to Barbier (2012), the spatial development along the corridors – if successful – typically follows a neoclassical development path, starting with the conversion of land, followed by the development of industrial activities at nodes, and finally the emergence or expansion of large urban centers.

2.3.3 Public-private partnerships (PPP) and strategic coupling

Especially since the late 1970s, PPPs have become popular in development programs around the world including modern corridors (Miraftab 2004). Instead of simply accepting contracts to construct infrastructure, today private companies (usually multinational enterprises, MNEs) are directly integrated in the planning and decision-making processes of the corridors. For the public initiators, such strategic PPPs have several objectives. Apart from the generally discussed advantages of PPPs, such as financial, technical, and knowledge support, greater efficiency etc., public corridor developers also seek the right private partner (e.g., turnkey suppliers or lead firms in the chain) to be able to integrate domestic businesses into its global network (strategic coupling; Coe and Yeung 2015) with the expected benefits described above.

Following this optimistic perspective, modern corridors can act as catalysts for growth and employment. To obtain a more nuanced and comprehensive picture of the outcomes and challenges of corridors, further critical and conceptual considerations have to be taken into account.

2.4 Critical discussion and analytical framework

Looking more closely at the conceptual background of the outlined elements of corridor development and considering the peculiarities of developing and emerging economies, it becomes clear that the development of modern corridors can also entail negative aspects and constraints.

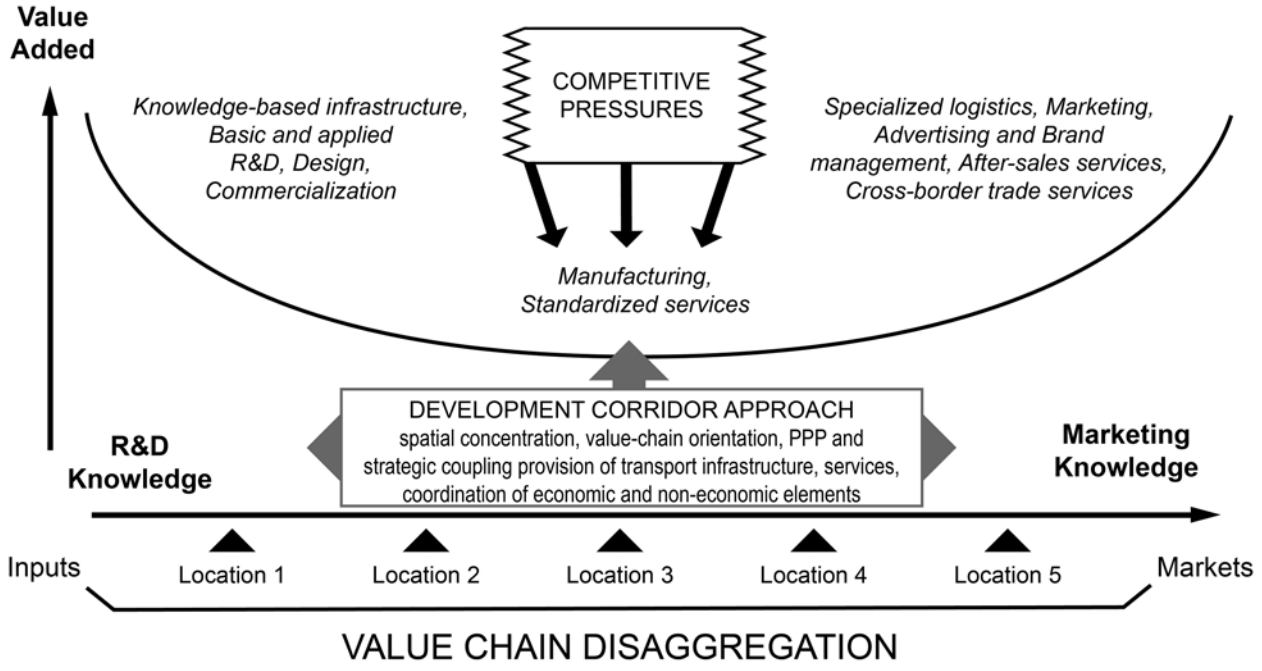

Figure 2: Value capture along a spatially disaggregated value chain and the respective corridor approach (own figure following Kaplinsky 2000, p. 123 and Mudambi 2008, p. 707).

As mentioned in chapter 2.1, the deficits of the older generation of corridors in the Global South included corridor-specific problems, such as high dependence on foreign finance and expertise, inadequate project assessment and management skills, a lack of human capital, and inappropriate targets set by decision makers (see Mold 2012 on the example of Africa). Furthermore, Murphy (2008) outlined challenges associated with the setting in developing countries, which include a general lack of appropriate institutions and capable business partners. Given the described new foci of the younger corridors in a dynamic and globalizing setting, further aspects have to be taken into consideration. Concerning the aim of establishing spatial concentrations, the outlined peculiarities of developing and emerging economies, on the one hand, seem to make it even more necessary to concentrate financial, institutional, and human resources. On the other hand, these limitations make the establishment of functional clusters or new urban centers in peripheral economic regions less likely than, for example, in Western economies. This is especially problematic for large projects like SAGCOT, WBNLDC, and in Mekong, which cross hundreds of kilometers of sparsely developed areas.

With regard to the aim of value-chain integration, it generally has to be taken into consideration that instead of promoting value-chain integration, the value-chain concepts were originally designed to critically analyze inequality and the inferior role of especially smaller producers in developing countries (Kaplinsky 2000; Gereffi et al. 2005; Mudambi 2008). This criticism addressed a largely uneven value creation, value appropriation, and value capture between the different segments along the value chain and their respective locations. As outlined e.g., by Kaplinsky (2000) and Mudambi (2008), these uneven developments can be explained by the disaggregation of value creation along different segments, businesses, and locations within a value chain (see Figure 2).

As shown in Figure 2, it can be assumed that especially the knowledge-intensive parts at the beginning of the value chain (e.g., R&D-intensive development of agricultural inputs like new seeds) and the end of the chain (like marketing and brand management) capture the largest parts of the created value. Entering a position in these segments of the chain usually requires excellent human capital as well as high financial capacities (e.g., to invest in R&D). As a result, such segments are usually located in the economic core regions of the Global North and a few emerging economies. Standardized production (e.g., farming) and processing (e.g., mills) requires less competences and capacities but can only capture little value due to high competitive pressure. Regarding the strategies of the corridors, they aim to develop a broader part of the value chain within the corridor (e.g., additional steps of processing and logistics) but also to increase the value capture of

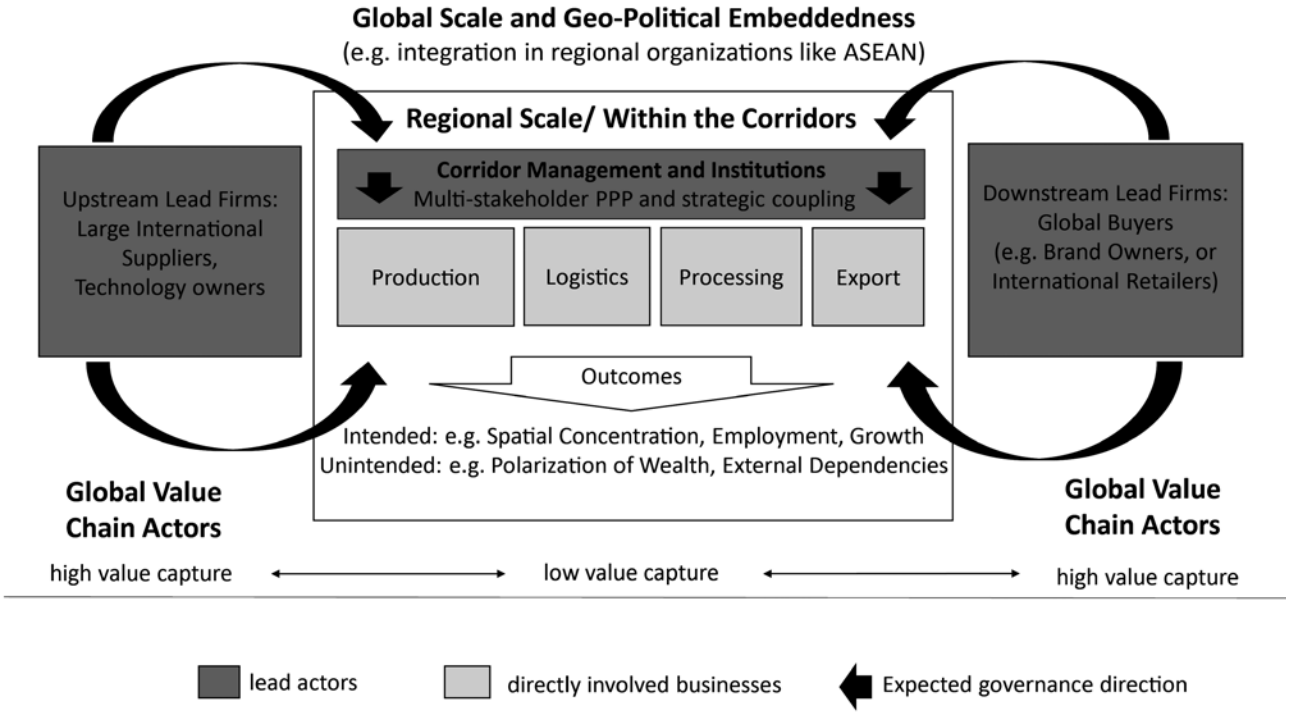

Figure 3: Stylized model of modern development corridors (own design).

all value chain segments within the corridor (e.g., process and product upgrading through e.g., investment in infrastructure and equipment).

While uneven value capture can be explained as a result of uneven value creation due to different competences and capacities, Kaplinsky (2000), Gereffi et al. (2005) and others further explain uneven value capture as a result of uneven power relations. According to them, powerful lead firms govern and control the chains and this enables them to appropriate large parts of the value, while the large numbers of weaker producers (in particular in the Global South) are largely excluded from the total surplus creation. Again, especially businesses with low capabilities are the weakest in such chains and are likely to be bound to powerful lead firms under problematic terms (e.g., pricing pressure), which prevents them from upgrading and increasing their level of value capture. Surprisingly, almost all the studies concerned with power relations analyze the role of lead firms based on the example of powerful actors at the center of the chain (e.g., manufacturing companies in producer-driven chains) or at the downstream end of the chain (e.g., brand companies in buyer-driven chains). Hardly any studies have analyzed the role of large suppliers (e.g., global agro-input suppliers) as lead firms at the upstream end of the chain. However, as illustrated below, such powerful suppliers can play key roles in both chain coordination and corridor development. Following these explanations, it is questionable in how far the intended value chain integration of Southern corridors which have so far been mainly based on standardized production can really lead to higher levels of value capture in the region.

While the value chain approaches outline power relations within the chains, power relations can also play a role in private businesses and the state within public-privatepartnership-oriented programs (Miraftab 2004). Depending on the institutional framework and the involved actors' capabilities, PPPs with powerful multinational enterprises can drive public actors into an inferior role, for example, when it comes to balancing profit-oriented interests with welfare-oriented interests (Miraftab 2004). In the case of corridors, the domination of profit-oriented interests can result, for example, in problematic private land acquisition and valorization (see e.g., the debate on land grabbing/rush; Hall et al. 2015) and a related polarization of wealth or the lowering of labor and environmental standards for corridor-related businesses (Bovaird 2004). Furthermore, PPP and value-chain integration can turn corridor programs into multi-stakeholder initiatives (Paul and Steinbrecher 2013) with large numbers of different public authorities, international donors, and businesses involved in the decision-making process. Such actors usually possess various interests (e.g., welfare interests, prestige orientation, and short-term and long-term profit interests). This increases the complexity of corridor governance and

its conflict potential. With regard to the aim of regional development policies, it is possible that value-chain integration might only work for those businesses that are able to meet the requirements of the value chains (e.g., certain standards), while the weakest businesses (and related livelihoods) fail to become integrated (Dannenberg 2012). In this way, such policies may even increase inequality.

Concerning the outlined inequalities within the chain itself, e.g., MacKinnon (2011) outlines that – unsurprisingly – strategic coupling could also lead to unbalanced value capture to the benefit of MNEs (corporate capture). Generally, it remains an open question whether strategic coupling allows and fosters the persistence of existing businesses and related livelihoods that are not embedded in the strategy or whether it leads to a transformation of the corridor area with local actors excluded from the intended benefits or even displaced (Bunnell 2002; Barbier 2012). Given the intended integration in global networks, modern corridors are also more exposed to global structural adjustments (Coe and Hess 2011). This can lead to dynamics in which the corridor may lose competitiveness in the chain and be replaced by other regions (decoupling; Coe and Yeung 2015), in particular, if the corridor activities are not based on specific regional assets.

Studies on adapting the value-chain approach for growth-corridor development are rare so far and the related outcomes for directly and indirectly involved actors are uncertain. Based on the considerations of GVC/GPN, multi-stakeholder problems in PPPs, and the peculiarities of the Global South, this paper discusses the potential pitfalls to achieving integrative development through the new growth corridors and illustrates the challenges using three contrasting examples. This is done by analyzing existing documents and secondary data on the three corridors. Figure 3 summarizes the main analytical areas of this approach.

3 SAGCOT

3.1 Background and aims

In Tanzania, about 75% of the rural population depends on – mostly small-scale – agriculture, while food shortages still recur due to a lack of access to agricultural inputs, weak logistics systems, and a lack of storage facilities (Haug and Hella 2013). As a result, the Tanzanian government created a set of agricultural development strategies ('*Kilimo Kwanza*') that led in 2010 to the proclamation of the Southern Agricultural Growth Corridor of Tanzania (SAGCOT). Covering approximately one third of Tanzania, SAGCOT is intended to boost economic activities and employment and solve food scarcity problems. In detail, SAGCOT aims to put 350,000 ha. into "profitable production" to create 420,000 new employment opportunities, to develop or transform 100,000 smallholders into modern "commercial smallholders", to lift 2,000,000 people out of poverty, to create an annual value of farming revenues amounting to 1,200 million US$, and to mobilize 3,500 million US$ of public and private investment by 2030 (SAGCOT 2017).

SAGCOT follows a classic corridor design with a central railway (TAZARA), a central road (the TANZAM trunk road), and parallel power grids which run from Dar es Salaam to the northern areas of Zambia and Malawi as the "backbone" of the corridor along which development measures are currently implemented (SAGCOT 2011 p. 2). However, SAGCOT is designed as a new-generation corridor. This includes a "value-chain approach to create a seamless food production chain by improving infrastructure, storage facilities, and routes to market [...and...] to develop business models, such as outgrower schemes, that engage smallholders and entrepreneurs" (SAGCOT 2011; p. 1). SAGCOT aims to integrate local production into interregional and international value chains through PPPs with key actors along crucial food production value chains. These include strategic partnerships with large agricultural suppliers such as Syngenta and Yara, large food-processing firms, and buyers like Nestlé or Unilever as well as development partners and donors like USAID and UNDP (SAGCOT 2016). The SAGCOT strategy focuses on a central part of the value chain based on production, processing, and logistics. In this way, SAGCOT acts as a supplier for global brands with their marketing divisions and headquarters outside Tanzania and partly serves local markets directly. On the supply end, the research and design of knowledge-intensive modern crops and inputs are done by the multinational input suppliers.

SAGCOT follows a strategy of spatial concentration and functional segmentation with Tanzania's logistic and economic center, Dar es Salaam, as the gateway for SAGCOT's import (input supply and machinery etc.) and export activities. Dar es Salaam is also home to the headquarters of the managing organization, SAGCOT Centre Limited, and hosts most of the regional headquarters of the private partners. Along the corridor, SAGCOT is currently establishing six project clusters with pre-existing backbone infrastructure and operating farms, which are offered to potential investors. Within these clusters, commodity-specific sub-clusters (e.g., for rice or vegetables) are developed to integrate crucial value-chain seg-

ments such as commercial nucleus farms with out-grower schemes, transport and logistics hubs, processing and storage facilities, and agricultural research stations (SAGCOT 2017).

3.2 Preliminary achievements so far

SAGCOT (2017) outlines several achievements since 2010. So far, some 35 companies, the majority strategic partners of the SAGCOT Initiative, have pledged approximately 846 million US$. In 2016, the program was able to mobilize a total of around 100 active partners (SAGCOT 2016) across 13 different value-chain projects (including tea, tomatoes, and potatoes) which range from production to processing and involve about 25,000 smallholder farmers (SAGCOT 2017). Furthermore, the headquarters in Dar es Salaam as well as the six main clusters for production and processing have been set up (SAGCOT 2017). Major investments included the expansion of Dar es Salaam airport (fertilizer terminal) and several pilot projects. Haug and Hella (2013) concluded that SAGCOT had managed to attract large amounts of foreign investment which would otherwise not have been allocated to Tanzania. Nevertheless, the British Department for International Development (DFID) remarked on limited outcomes concerning the investment policies (inefficient allocation of resources), ineffective management structures, and no significant rise in smallholder incomes. In detail, DFID (2015) outlines delays, e.g., in envisaged road projects, and an underdeveloped downstream chain value (a small number of aggregators, wholesalers, traders, exporters, and processors in comparison to upstream suppliers). More general problems include no strategy to reduce poverty, no clear monitoring, and no reports which outline actual outcomes (e.g., concerning food scarcity mitigation and employment).

3.3 Challenges for local appropriation of value

A main challenge of SAGCOT is combining the different aims and interests of the disparate actors in this multi-stakeholder initiative. Already the harmonization of public welfare interests, such as ensuring adequate incomes for farmers on the one hand and affordable food prices for the broad population on the other, remains critical (Haug and Hella 2013).

The activities planned and taken so far clearly focus on the center of the value chain, like agricultural production and food processing, which are marked by high competitive pressure worldwide. The high-value segments of the chain – both upstream and downstream – are, by contrast, so far out of the reach of the corridors as they are neither in the hands of domestic companies nor located in the region/state and dominated by strong multinational companies. This bears the risks of both a limited potential in value capture and asymmetric power relations. Moreover, many private partners are so far only involved in the PPP based on letters of intent, while most investments have not yet started. This further entails the risk that some partners may withdraw from their original plans (decoupling), e.g., due to falling food prices or the readjustment of policies under President Magufuli's new government (since 2015). So far, SAGCOT also has a preponderance of input suppliers who aim in the long run to sell products to the program, while the number of potential buyers of SAGCOT products, who ultimately bring in the money, is small and SAGCOT farmers have difficulty selling to global markets (SAGCOT 2016). On the other hand, as SAGCOT also aims to supply domestic food markets, it seems logical not to focus too strongly on large international buyers, as this lowers the risk of becoming too dependent on global buyers and markets.

The embedded agricultural input suppliers naturally promote their own products. For example, the main aim of Yara, the world's largest producer of mineral fertilizers, is to establish a logistics infrastructure that provides farmers with efficient access to its own fertilizers (Kramer and Porter 2011). Development aid organizations (DFID 2015; Twomey et al. 2015) criticize that this input strategy only reaches certain capable and entrepreneurial groups of farmers but not the poorest farmers who do not possess the financial resources (or the production systems) to make use of modern inputs.

Twomey et al. (2015) also criticize the strategy of spatial concentration into clusters as this would lead to a further spatial exclusion of farmers who are not located near a cluster and are, therefore, neither in the focus of value-chain integration nor in the focus of infrastructural improvements. NGOs, such as IWGIA and the Bretton Woods Project, also point out that the customary land rights of thousands of pastoralists and peasants living in SAGCOT are being ignored, which has already led to displacements (e.g., Tugendhat 2016). The establishment of large-scale plantations in SAGCOT is especially criticized for "land and water grabbing" and for leading only to precarious employment opportunities for the population (Twomey et al. 2015).

Those farmers who are integrated into the SAGCOT program usually become contracted outgrowers, which means that the farmers basically become employees of

their contracting buyer in the chain even though they still cultivate their own land. In recent decades, this approach has been heavily criticized for leading to exploitative dependencies (see e.g., Porter and Phillips-Howard 1997). For SAGCOT, however, even critical observers also see the potential of outgrower schemes as support systems providing the farmers with professional guidance and financial support, thereby leading to increased production and rising incomes (Twomey et al. 2015).

The described outcomes are clearly (even though not exclusively) linked to the inherent elements of corridor designs outlined in chapter 2. However, it must be taken into account that, even seven years after its creation, SAGCOT is still in a developing stage, which means that some of the desired and undesired outcomes have so far occurred only on a small scale and accompanying independent research is needed to derive more comprehensive and reliable data on the developments.

4 Walvis Bay-Ndola-Lubumbashi Development Corridor

4.1 Background and aims

The Walvis Bay-Ndola-Lubumbashi Development Corridor (WBNLDC) links the Port of Walvis Bay with Zambia, the southern Democratic Republic of Congo (DRC), and Zimbabwe. The corridor runs along the former Caprivi Strip in north-eastern Namibia and enters Zambia via the Katima Mulilo Bridge which was completed in 2004. This development added to the existing Trans-Caprivi Highway, which was officially opened in 1999, resulting in the completion of WBNLDC. The corridor stretches over 2,500 km and is supported by a railway line between Walvis Bay and Grootfontein, where transshipment facilities are available. The railway line resumes in Livingstone, Zambia. Like many other growth corridors around the world, this corridor started as a mere transport route and has expanded its scope to include a broader economic and development perspective. The Walvis Bay Corridor Group has been mandated to push the transformation into a growth corridor, which has now been turned into a Spatial Development Initiative (SDI) incorporated in the Vision 2030 and Growth at Home industrial development strategy of the Namibian government. Two institutional bodies were put in place as public-private partnerships. First, through an initiative by the governments of DRC, Namibia, and Zambia, the Walvis Bay-Ndola-Lubumbashi Management Committee was set up in partnership with the private sector. A second regional body, namely the WBNL Cluster Committee, was initiated by the Namibian and Zambian governments and supported by UNCTAD's capacity-building program on Transport and Trade Facilitation for Landlocked and Transit Developing Countries. The private sector was also involved in this partnership. These two committees together identify and harmonize cross-border standards and address obstacles to trade between the corridor member countries.

Interestingly, the WBNLDC runs through the world's largest conservation area, the Kavango Zambezi Transfrontier Conservation Area (KAZA). According to the KAZA TFCA (2017), the development goal not only focuses on conservation, but also aims "to sustainably manage the Kavango Zambezi ecosystem, its heritage and cultural resources based on best conservation and tourism models for the socio-economic wellbeing of the communities and other stakeholders in and around the eco-region through harmonization of policies, strategies and practices". It is obvious that the modernization strategy concentrating on agricultural intensification and industrial clusters and a more sustainable approach aimed at developing an eco-region are conflicting and that competing claims to territory adds to the complexity of coordinating an increasing number of stakeholders.

4.2 Preliminary achievements so far

The WBNLDC has only recently begun to apply a value-chain perspective to developing the existing corridor. The final corridor master plan describes the desired outcomes as follows: by means of catalytic investments at distinct nodes of the corridors, forward and backward linkage effects along the agribusiness value chain (including farmers and traders, suppliers, rural utility companies, transporters, and processors as well as providers of technology and rural finance) (Aurecon 2014). These linkage effects are, in turn, expected to generate multiplier effects into the broader local economy (e.g., retail), labeled "collateral opportunities" in the master plan.

Different nodes along the corridor are intended to fulfill different functions. Namibia's sea port of Walvis Bay is the gateway connecting the WBNLCD with the global market. Namibian and foreign investors have greatly expanded the harbor capacity with state-of-the-art container terminals. At the same time, Walvis Bay is attracting growing investments in manufacturing. Increasingly, raw and pre-processed goods brought through the WBNLCD are prepared for export at Walvis Bay.

On completion of the new Zambezi Bridge in 2004, the Namibian town of Katima Mulilo and its Zambian neighbor Sesheke became major nodes along the WBNCLD. As border cities there are not only checkpoints and custom clearance points, both cities are increasingly attracting investment from domestic and international investors. Besides investments in the retail trade, such as supermarkets, stores, and hotels, investments in the manufacturing of agricultural products and minerals and in warehouses are facilitated by the establishment of export-processing zones. Katima Mulilo, in particular, serves as a bridgehead to gain access to the Caprivi hinterland and its potential for agro-pastoralism and tourism (e.g., eco-tourism which includes game hunting and photo safaris).

Rundu, with its 60,000 inhabitants, is the major economic center of the Caprivian part of the WBNCLD. As a business and trade hub, it is already home to several firms in the agro-food and logistics sectors. Rundu has managed to become a hub for fresh produce, facilitating the trading of local produce between small-scale farmers and consumers. As part of the Green Scheme, the National Agriculture Technology Centre was inaugurated in Rundu in 2015. The Centre will be involved in the repair, maintenance, and assembly of agricultural machinery and will also conduct research and development with the aim of manufacturing and creating new technologies suitable for agriculture in the country.

Livingstone, Zambia's tourist capital (due to its close proximity to Victoria Falls), is the largest urban center along the WBNCLD in the KAZA region, with approximately 163,000 inhabitants in 2016 (Central Statistical Office Zambia). Its once strong textile and clothing sector has been surpassed by the growing agro-food cluster. One recent example is the decision by Fallsway Food Processing to start processing tomatoes into tomato sauce, chutney, tomato juice, and tomatoes with beans among many other products, targeting 3,000 farmers to supply tomatoes (Zambia's Daily Mail, 17 August 2017).

Kalimbeza and Kazungula are examples of intensified agricultural production in rural areas along the WBNLCD. The Kalimbeza Rice Project is the only rice farm in Namibia, covering an area of 193 ha. 80 ha. are allocated to a commercial operator, 25 ha. to medium and small-scale farmers, and the rest is run by the government. The Simango Farm block in Kazungula with its 100,000 ha. is designed to have at least one core large-scale farm of 10,000 ha. and several commercial farmers and small-scale holdings. Against these positive economic developments which can be explained by the implementation of more foreign investment friendly policies, the improved customs and trade regulations at central nodes, and the first impacts of the integration of the value chain approach into the growth corridor, the regions along the corridor remain one of the poorest regions in their respective countries (e.g., Kavango in Namibia, National Planning Commission 2015).

4.3 Challenges for local appropriation of value

The strategic shift from just a transport corridor to a growth corridor is still underway. Apart from the described economic activities at some important nodes along the corridor, no impact analysis has been conducted to date. Based on personal impressions gathered on a field trip along the WBNCLD in March 2017, the envisaged agribusiness value chain is more wishful thinking than reality. The crucial question arises of whether the growth corridor idea could be implemented and what long-term impact can be generated. Overall, Namibia's industrial development suffers from several obstacles. Recently, UNIDO (2016) listed challenges to be addressed, such as the low level of economic diversification and heavy dependence on mining, inadequate infrastructure and low population densities, weak institutional capacity, a shortage of skilled labor, a lack of entrepreneurial and business management skills, an unfavorable business environment with excessive bureaucracy and regulatory obstacles, and limited access to medium- and long-term capital and funding for industrial development.

Although the empirical base was very small, a master's thesis on the impact of the Green Scheme in the Kavango region concludes that community livelihoods have not improved significantly (Isala 2016). Another master's thesis on the Kalimbeza Rice Project acknowledges the job-creation effect during the establishment of the farm but criticizes that the jobs were only temporary and that "people [went] back to their suffering" after the contract ended (Subasubani 2012). In addition, Subasubani (2012) mentions the danger of environmental damage, such as soil erosion and pollution, due to an intensified use of pesticides and ploughing. These two master theses as well as the short description of the contextual conditions illustrate that transformation into a growth corridor will not happen automatically. Against this background and the weak position of the local actors, it remains very questionable whether the appropriation of value will benefit local development. In addition, an earlier study by Zeller (2009), analyzing the impact of the new Zambezi Bridge on Katima Mulilo, demonstrates that, parallel to the booming formal economy as described above, the idealized picture

of modernity via corridor development is contradicted by undesired effects such as flourishing illegal business activities in the Namibia-Zambia borderland, sprawling shanty towns, societal problems due to the inflow of illegal migrants – who end up as herdsmen or household maids in the rural areas, or as day laborers, sex workers, and traders in urban businesses, bars, and markets – rampant HIV infection, and impoverished rural areas.

5 Greater Mekong Subregion

5.1 Background and aims

The regional economic strategy for the Greater Mekong Subregion (GMS) was initiated by the Asian Development Bank (ADB) in 1992 with the aim of integrating the economies of Thailand, Vietnam, Cambodia, Lao PDR, and the Chinese provinces of Yunnan und Guangxi. Within this regional development framework, cross-border economic development is promoted in three growth corridors. The East-West Corridor (EWEC) connects Danang Port, Vietnam, with Mawlamyine Port, Myanmar. It passes through the growth peripheries of the region. Agriculture and agro-industry are focal sectors of EWEC (ADB 2015). The Southern Economic Corridor (SEC) connects major cities in Southeast Asia, i.e., Ho Chi Minh City, Phnom Penh, and Bangkok, ending in Dawei, Myanmar, where a new deep-sea port and a special economic zone (SEZ) are currently being developed. The North-South Economic Corridor (NSEC) links China's southern provinces with Southeast Asia and possesses an important geostrategic dimension.

Currently, the corridors are mainly transport and trade corridors with a focus on cross-border physical infrastructure, some logistics coordination, and trade facilitation (ADB 2007). In addition, they include elements like investment promotion in SEZs, private sector development, and human resource development, which would qualify them as economic corridors (Gálvez Nogales 2014). More recently, non-economic elements, such as urban development and environmental issues, have been added. Until 2014, investments amounted to 18 billion US$, approx. 40 % of this by the ADB. Agriculture had a share of only 5 % (Gálvez Nogales 2014). Co-financing is provided by national governments and loans from international donors. PPPs are used to a certain degree for infrastructure development, in particular for ports and SEZs.

5.2 Preliminary achievements so far

Significant achievements within the corridors have been made in the field of transport infrastructure and partly in trade facilitation (Pomlaktong et al. 2013), but the authors also conclude that institutional weaknesses still constitute significant barriers. Some projects and measures explicitly address the socio-economic impact of the corridors. The GMS Urban Development Taskforce, for example, was established to develop nodes along the corridor. The impact of the GMS corridors on incomes and poverty reduction is highest in the least well connected countries, mainly Cambodia, followed by Lao PDR and Myanmar (Stone et al. 2010), and in the growth peripheries of Thailand and Vietnam.

Investment promotion and industrial development along the corridors is concentrated in SEZs, particularly in border areas. The ADB (2016b) has identified borders as the weak link in the corridors, as they still involve bureaucratic hurdles which have not yet been sufficiently resolved. Thailand started to promote border SEZs in 2015 (ADB 2016b). An emphasis is placed on agro-processing, the food industry, labor-intensive industries, trade and logistics, and tourism (NESDB 2016).

The overall assessment of SEZs on the Thai border is mixed. Cross-border trade and shopping have increased, but Thai border cities and regions have remained distribution centers, and industrial development has not progressed (Krainara and Routray 2015). The main focus is still on maintaining cost competitiveness in Thailand by drawing in new workers from the agricultural sector of neighboring countries while keeping production within the country and suppressing workers' rights in several cases (Pinyochatchinda and Walsh 2015).

Cross-border agricultural clusters have become important drivers of regional development in the GMS and boosted the clustering of industries along the corridors (Gálvez Nogales 2014). They deal in cash crops and biofuel crops. Thai firms help to ensure the supply of agricultural products by relocating close to the border or, in the case of Thai and Chinese firms, by entering into contract farming in their neighboring countries. For example, Myanmar provides Thai firms with access to 7 million ha of arable land. In return, Thai firms provide seeds, technology, and equipment for the farmers and purchase the products from contract farms (Setboonsarng 2008). The transfer of agricultural technology from Thailand and Vietnam has the potential to improve productivity in Cambodia and Lao PDR (ADB 2010). Independent observers acknowledge an improvement in trade performance also for agricultural products (Shresta and Chongvilaivan 2013) and a positive

impact on smallholder farmers (Gálvez Nogales 2014). The incomes of farmers living along EWEC have risen by 20 percent because of the increase in sales volume and prices following the completion of the road.

5.3 Challenges for local appropriation of value

The ADB (2007) concludes that the corridor program has shown very good progress in "hardware" aspects, i.e., transport infrastructure, but not in other so-called 'software' components, i.e., regulatory framework, policy coordination, and capacity building. Oehlers (2006) points out that further initiatives by the ADB are required to embed productive activity in the region and to establish a coherent institutional framework. Otherwise, the GMS program will not move beyond the entrepôt basis. The ADB (2016a) comes to the conclusion that the transport sector dominates and has shown considerable progress, but that it is now time to move toward projects that strengthen broader economic progress along the corridors.

The implementation of PPP models has been particularly problematic, as is illustrated by the development of the Dawei deep-sea port and the related SEZ in Myanmar (ADB 2016b). Dawei is the western terminus of the SEC and a deep-sea port would provide access to the Indian Ocean for traders in Bangkok or further east. Italian-Thai Development PCL was granted a 75-year concession to construct the zone but failed to attract sufficient investment. It was stripped of its lead role in 2013 but was allowed to return in 2015 to work on the initial phase of the project in cooperation with another Thai company, Rojana Industrial Park PCL, after Japan agreed to participate in equal partnership with Thailand and Myanmar in the Dawei Special Economic Zone Development Co. Dawei SEZ also faces significant opposition from the local population, who fear land seizure, forced eviction, and insufficient compensation for confiscated farmland.

GMS corridors are currently performing well because of low labor costs, but reliance on low wages is not a viable long-term strategy (Bafoil et al. 2017). Several issues related to sustainable development are mentioned in the literature. Road upgrading and expansion have led to deforestation and loss of biodiversity in some areas, because the new infrastructure inadvertently facilitated logging and the transport of timber (Gálvez Nogales 2014). Infrastructure projects have required the relocation and resettlement of local inhabitants. Shrestha and Chongvilaivan (2013) found that low-income jobs created in the GMS corridors sometimes even increased vulnerabilities in the local labor market. In a critical appraisal of the impact of Road No. 3 in North Lao PDR, Lyttleton (2013) questions the sustainability and the benefits of large-scale entertainment complexes, contract farming, and a sprawling informal sector.

The agricultural investment pattern in the GMS corridors favors large plantations, fosters agro-industrial concentration, and may lead to smallholder exclusion by increasing power asymmetries between Thai and Chinese agribusiness conglomerates and smallholder farmers in Cambodia, Lao PDR, and Myanmar (Gálvez Nogales 2014). This trend is particularly prominent in ethanol production. The dominant model in Lao PDR and Cambodia is a concession that utilizes farmers only as daily wage labor and may, therefore, limit inclusive growth in the long term. Notwithstanding this critique, some successful examples of sustainable biofuel expansion can also be found in the GMS.

Additional challenges for the development of the GMS corridors are related to the geostrategic importance of the region, with China focusing on the NSEC and Japan promoting development in EWEC and SEC (Gálvez Nogales 2014). Krongkaew (2004) doubts the ability of the GMS to realize its full potential in the near future because of different levels of development and a lack of political stability, more recently in particular in Thailand and Myanmar. Political and cultural power barriers among GMS countries, which are yet to be broken down, hinder the sense of community along the corridors. Political and economic actors from China, Thailand, and Vietnam are rather using the concept for getting access to natural resources in Laos, Cambodia, and Myanmar, farmland, forests, water, and energy resources in particular.

Finally, Gálvez Nogales (2014) refers to some more general institutional shortcomings of the ABD-led corridor model. Proper and fair multilateral negotiation structures within the GMS program to regulate the soft interventions and an adequate regulatory framework to govern PPPs are lacking. Local capacity at the implementation stage and coordination between different agencies is deficient. With regard to agriculture, this is particularly problematic in areas such as land use and water-related issues.

6 Concluding remarks

Despite remarkable contextual differences between the three corridors, several conclusions can be drawn and generalizations made with regard to their effect on the integration or divide of regions in the Global South. The

GMS corridors have been promoted for the last 25 years, with SAGCOT as the most recent initiative. Growth records in the corridors also differ strongly. The GMS corridors are located in an economically very dynamic region whose growth centers have seen a strong inflow of FDI and a great deal of structural change toward modern manufacturing and service industries. In addition, the corridors cover different spatial scales. While SAGCOT is a nationally bounded corridor, the WBNLDC and the GMS corridors are transnational. The boundaries of the corridors are often fuzzy and they cover large areas, e.g., one third of Tanzania in the case of SAGCOT, and they are not necessarily restricted to one clearly defined route, as in the case of the GMS sub-corridors.

A conceptual reorientation from transport corridors to growth corridors with a value-chain orientation was found in all three cases. However, investment in transport infrastructure is still the dominant pattern, even in the most recently established SAGCOT. The examples provide evidence that transport infrastructure and trade facilitation are necessary conditions for the integration of peripheral regions along the corridors into the global economy, but are not sufficient on their own. In many cases, the paradigm of unbalanced growth with all its developmental shortcomings still shines through. The three corridors are, therefore, good exemplifications of the difficulty to implement a sophisticated and context-specific development framework based on the value chain concept in peripheral regions.

The GMS corridors demonstrate the persistence of barriers to spreading growth from central to peripheral regions and to facilitating endogenous development in the periphery. Even after 25 years of corridor development, agglomeration forces and institutional framework conditions are more important determinants for the location of export-oriented activities in central regions, while marginal roles in GVCs, e.g., informal sector and trade and distribution hubs, remain for peripheral regions of Thailand and the less developed countries in the GMS region. Institutional integration is most difficult for the transnational corridors.

The potential for integration in GVCs/GPNs seems comparatively larger for agricultural value chains. Contract farming is a dominant pattern in all three corridors with undeniable positive impacts on the income potential for smallholder farms. However, especially the value appropriation logics and power relations in agro-food value chains outline the limitations and risks of global value-chain-oriented corridor development (i.e., concerning limited value capture, decoupling risks, and land use conflicts). The short discussion on the contextual conditions along the growth corridors with weak local stakeholders (including firms, farmers, and administration) having low bargaining power due to massive information asymmetries, showed institutional bottlenecks are by no means good conditions for an integrative value appropriation.

Patterns of spatial concentration on nodes and gateways can be observed in all three corridors. A specific focus of the two transnational corridors is the development of border towns and cross-border SEZs. The most comprehensive urban development initiatives are found in nodes along the GMS corridors. However, systematic assessments of the impact of nodes and SEZs on economic development along the corridors are still lacking. Initial evidence for SEZs in Thailand suggests that SEZs often remain limited to the exploitation of migrant workers and low wages.

PPPs and strategic coupling approaches are strategically applied in the most recent corridor initiative, SAGCOT. A designated management body has also been installed in the WBNLDC corridor, while the GMS corridors are managed jointly via the GMS secretariat with a lack of functioning structures for multilateral negotiation despite the long existence of the GMS corridor program. PPPs have caused problems with regard to project management and stakeholder participation in the case of the GMS corridors, as exemplified by the Dawei deep-sea port and SEZ project, but have been received more positively in the case of SAGCOT. Against the backdrop of these mixed results, a closer look at regional governance models in the corridors seems worthwhile. An explicit targeting of key firms is only practiced in SAGCOT, while strategic coupling is not yet applied in the two other corridors.

The analysis of three growth corridors in the Global South has provided evidence that new models of corridor development are being integrated into the strategy plans of all initiatives, but their implementation is far from complete. Growth models in the corridors are still largely based on physical infrastructure development and an unsustainable exploitation of natural resources and cheap labor, while a more comprehensive value-chain orientation and strategic coupling processes remain a more demanding long-term task.

Notwithstanding these critical remarks on the recent state of development in the three corridors, the analysis has shown that a new research interest of economic geographers in growth corridors is more than justified. From a theoretical perspective, growth corridors are a policy tool with the potential to combine value-chain orientation with a reduction of regional disparities in the Global South but also carry the risk of continuing old logics of unequal power and rent distribution. Regional analysis is required

to assess empirically whether growth corridors really have the potential to spread growth and development in a sustainable way from regions closely integrated in the global economy to peripheral regions or whether their wider spatial and societal effects remain wishful thinking. Future research on regional development in the Global South should, therefore, focus on growth corridors in addition to the traditional core-periphery duality.

Acknowledgements: The authors are thankful for the constructive comments of two anonymous reviewers. Dannenberg and Revilla Diez would like to thank the Deutsche Forschungsgemeinschaft to have approved their sub-project "Future in Chains: Socio-economic impact of growth corridors" within the newly established collaborative research center CRC228 "Future Rural Africa: Future-making and socio ecological transformation", allowing future research on SAGCOT and WBNLDC corridors.

References

ADB (Asian Development Bank) (2007): Mid-term review of the Greater Mekong Subregion Strategic Framework 2002–2012. Manila.

ADB (Asian Development Bank) (2010): Sharing growth and prosperity: strategy and action plan for the Greater Mekong Subregion Southern Economic Corridor. Manila.

ADB (Asian Development Bank) (2015): Revisiting the GMS corridor strategies and action plans. Discussion paper prepared for the 7th Economic Corridors Forum. Manila.

ADB (Asian Development Bank) (2016a): Greater Mekong Subregion Regional Investment Framework Implementation Plan: Mid-Term Review and Revised Regional Investment Framework Implementation Plan 2020. Manila.

ADB (Asian Development Bank) (2016b): The role of special economic zones in improving effectiveness of GMS economic corridors. Manila.

Acemoglu, D./Johnson, S./Robinson, J. (2005): Institutions as a fundamental cause of long-run growth. In: Aghion, P./Durlauf, S. (eds.): Handbook of Economic Growth, Volume 1A. Amsterdam, 385–472.

Ascani, A./Crescenzi, R./Iammarino, S. (2012): Regional economic development: a review. London.

Aschauer, D. A. (1989): Is public expenditure productive? In: Journal of Monetary Economics, 23(2), 177–200.

Aurecon (2014): Final corridor master plan prepared for Walvis Bay Corridor Group, Aurecon Centre. Pretoria. Available from: www.wbcg.com.na/fileadmin/user_upload/documents/Corridor_Master_Plan.pdf. [16 June 2017].

Bafoil, F./Diaz, N./Guerin, S./Morris, A./Sen, S. (2017): Developing dependency. Special economic zones in the Greater Mekong Sub-Region: a comparative perspective. (=SciencesPo Centre De Recherchers Internationales).

Baldwin, R. (2016): The great convergence. Information technology and the new globalization. Cambridge/MA, Harvard University Press.

Barbier, E.B. (2012): Scarcity, frontiers and development. In: The Geographical Journal, 178(2), 110–122.

Baxter, J./Howard, A.-C./Mills, T./Rickard, S./Macey, S. (2017): A bumpy road: maximising the value of a resource corridor. In: The Extractive Industries and Society. (In Press, Corrected Proof).

Beckert, J. (2016): Imagined futures. Fictional expectations and capitalist dynamics. Cambridge, MA.

Bovaird, T. (2004): Public–private partnerships: from contested concepts to prevalent practice. In: International Review of Administrative Sciences, 70(2), 199–215.

Brand, A./Geyer, H.S./Geyer, H.S.Jr. (2017): Corridor development in Gauteng, South Africa. In: GeoJournal, 82(2), 311–327.

Bunnell, T. (2002): Multimedia Utopia? A geographical critique of high-tech development in Malaysia's Multimedia Super Corridor. In: Antipode, 34(2), 265–295.

Campbell, M.M./Maritz, J./Hauptfleisch, D. (2009): The impact of the Maputo development corridor on wealth creation within the region it serves. Bloemfontein/Pretoria.

Central Statistical Office Zambia (2016): https://www.zamstats.gov.zm/

Chang, H.-J. (2002): Kicking away the ladder: development strategy in historical perspective. London.

Coe, N.M./Hess, M.(2011): Local and regional development: a global production network approach. In: Pike, A./Rodríguez-Pose, A./Tomaney, J. (eds.): Handbook of local and regional development. London, 128–138.

Coe, N.M./Yeung, H.W.-C. (2015): Global production networks – theorizing economic development in an interconnected world. New York.

Dannenberg, P. (2012): Wirkung und Umsetzung von Standards in internationalen Wertschöpfungsketten. Münster. (=Reihe Wirtschaftsgeographie 53).

DFID (Department for International Development) (2015): Southern Agricultural Growth Corridor Programme (SAGCOT) – annual review – summary sheet. London.

Federal Ministry of Finance (2017): The G-20 compact with Africa – a joint AfDB, IMF and WBG report. G-20 Finance Ministers and Central Bank Governors Meeting. Berlin.

Gálvez Nogales, E. (2014): Making economic corridors work for the agricultural sector. Rome. (=Agribusiness and Food Industries Series No. 4).

Gálvez Nogales, E./Webber, M. (2017): Territorial tools for agro-industry development – a sourcebook. Rome.

Gereffi, G./Humphrey, J./Sturgeon, T. (2005): The governance of global value chains. In: Review of International Political Economy, 12(1), 78–104.

Hall, R./Scoones, I./Tsikata, D. (2015): Africa's land rush: rural livelihoods and agrarian change. Woodbridge.

Haug, R./Hella, J. (2013): The art of balancing food security: securing availability and affordability of food in Tanzania. In: Food Security, 5(3), 415–426.

Henderson, J./Dicken, P./Hess, M./Coe, N.M./Yeung, H.W.-C. (2002): Global production networks and the analysis of economic development. In: Review of International Political Economy, 9(3), 436–464.

Hirschman, A.O. (1958): The strategy of economic development. New Haven.
Humphrey, J./Schmitz, H. (2002): How does insertion in global value chains affect upgrading in industrial clusters? In: Regional Studies, 36(9), 1017–1027.
Isala, S.M. (2016): The impact of green schemes on the livelihood of communities in the Kavango Region, Namibia. Nairobi. (=Masterthesis Jomo Kenyatta University of Agriculture and Technology).
Kaplinsky, R. (2000): Globalisation and unequalisation: what can be learned from value chain analysis? Journal of Development Studies (37), 117–146.
Kavango Zambezi Transfrontier Conservation Area (KAZA TFCA) (2017): http://www.kavangozambezi.org/index.php/en/about/about-kaza
Kramer, MR/Porter, M. (2011): Creating shared value – how to reinvent capitalism and unleash a wave of innovation and growth. Harvard Business Review, 89(1/2), 62–77.
Krainara, C./Routray, J. (2015): Cross-border trades and commerce between Thailand and neighbouring countries: Policy implications for establishing special border economic zones. In: Journal of Borderland Studies, 30(3), 345–363.
Krongkaew, M. (2004): The development of the Greater Mekong Subregion (GMS): real promise or false hope? In: Journal of Asian Economics, 15(5), 977–998.
Lyttleton, C. (2013): Linking the social to the economic. Broadened ambitions and multiple mitigations in new Mekong corridors. In: Shrestha, O./Chongvilaivan, A. (eds.): Greater Mekong Subregion: From Geographical to Socio-economic Integration. Singapore, 233–252.
MacKinnon, D. (2011): Beyond strategic coupling: reassessing the firm-region nexus in global production networks. In: Journal of Economic Geography, 12(1), 227–245.
Meredith, M. (2005): The state of Africa: a history of independence. New York.
Miraftab, F. (2004): Public-private partnerships – the Trojan horse of neoliberal development? In: Journal of Planning Education and Research, 24(1), 89–101.
Mold, A. (2012): Will it all end in tears? Infrastructure spending and African development in historical perspective. In: Journal of International Development, 24(2), 237–254.
Mudambi, R. (2008): Location, control and innovation in knowledge-intensive industries. In: Journal of Economic Geography (8), 699–725.
Murphy, J.T. (2008): Economic geographies of the Global South: missed opportunities and promising intersections with development studies. In: Geography Compass, 2(3), 851–873.
National Planning Commission (2015): Poverty and deprivation in Namibia 2015. Windhoek
NESDB (National Economic and Social Development Board) (2016): Thailand's special economic zones. Bangkok.
Oehlers, A. (2006): A critique of ADB policies towards the Greater Mekong Sub-region. In: Journal of Contemporary Asia, 36(4), 464–478.
Ouma, S./Boeckler, M./Lindner, P. (2013): Extending the margins of marketization: Frontier regions and the making of agro-export markets in northern Ghana. In: Geoforum, 48, 225–235.
Paul, H./Steinbrecher, R. (2013): African agricultural growth corridors and the new alliance for food security and nutrition. Who benefits, who loses. Oxford.
Pinyochatchinda, S./Walsh, J. (2015): The role of SEZs in Thailand's regional economic development. In: The Business and Management Review, 6(4), 199–212.
Pomlaktong, N./Anuchitworawong, C./Jongwilaiwan, R./Theerawattanakul, P. (2013): The challenges of GMS regional integration. Case study of governance of the logistics industry in Thailand. In: Shrestha, O./Chongvilaivan, A. (eds.): Greater Mekong Subregion: From Geographical to Socio-economic Integration. Singapore, 172–215.
Porter, G./Phillips-Howard, K. (1997): Comparing contracts: an evaluation of contract farming schemes in Africa. In: World Development, 25(2), 227–238.
Priemus, H./Zonneveld, W.(2003): What are corridors and what are the issues? Introduction to special issue: the governance of corridors. In: Journal of Transport Geography, 11(3), 167–177.
Rich, B. (2002): The World Bank under James Wolfensohn. In: Pincus, J.R./Winters, J.A. (eds.): Reinventing the World Bank. New York, 26–53.
Rodríguez-Pose, A. (1999): Convergence or divergence? Types of regional responses to socio-economic change in Western Europe. In: Tijdschrift voor economische en sociale geografie, 90(4), 365–378.
Rodríguez-Pose, A. (2013): Do institutions matter for regional development? In: Regional Studies, 47(7), 1034–1047.
SAGCOT (Southern Agricultural Growth Corridor of Tanzania) (2011): Investment Blueprint. Dar Es Salaam.
SAGCOT (Southern Agricultural Growth Corridor of Tanzania) (2016): List of Partners. Dar Es Salaam.
SAGCOT (Southern Agricultural Growth Corridor of Tanzania) (2017): Annual Report 2015. Dar Es Salaam.
Sen, A. (1999): Development as freedom. New York, Oxford University Press.
Setboonsarng, S. (2008): Global partnership in poverty reduction. Contract farming and regional cooperation. Tokyo. (=ADBI Discussion Paper 89).
Shrestha, O./Chongvilaivan, A. (eds.) (2013): Greater Mekong Subregion: from geographical to socio-economic integration. Singapore.
Stolper, W.F. (1966): Planning without facts. Lessons in resource allocation from Nigeria's development. Cambridge, MA.
Stone, S./Strutt, A./Hertel, T. (2010): Assessing socioeconomic impacts of transport infrastructure projects in the Greater Mekong Subregion. Tokyo. (=ADBI Working Paper Series 234).
Subasubani, J. K. (2012): An evaluation of the green scheme programme: a case of the Kalimbeza rice project. Stellenbosch. (=Masterthesis Stellenbosch University).
Tugendhat, H. (2016): World Bank turns its back on pastoralist communities in Africa. In: Bretton Woods Observer, 7. London.
Twomey, H./Schiavoni, C./Mongula, B. (2015): Allianz der Zäune: großflächige Agrarinvestitionen in Tansania. Bonn.
UNIDO (United Nations Industrial Development Organization) (2015): Industrial development report 2016. The role of technology and innovation in inclusive and sustainable industrial development. Vienna.
Weng, L./Boedhihartono, A.K./Dirks, P.H./Dixon, J./Lubis, M.I./Sayer, J.A. (2013): Mineral industries, growth corridors and agricultural development in Africa. In: Global Food Security 2(3), 195–202.
World Bank. 2009. World development report 2009: reshaping economic geography. Washington, DC.

World Bank. 1992. Effective implementation: key to development impact (Wapenhans-Report). Washington, DC.
Yeung, H.W.-C./Coe, N. (2015): Toward a dynamic theory of global production networks. In: Economic Geography, 91(1), 29–58.
Zambia Daily Mail Limited (2015): Undeveloped farm blocks worry agriculture minister. Lusaka. Available at: https://www.daily-mail.co.zm/undeveloped-farm-blocks-worry-agriculture-minister/ [11 Octobre 2017].
Zeller, W. (2009): Danger and opportunity in Katima Mulilo: a Namibian border boomtown at transnational crossroads. In: Journal of Southern African Studies, 35(1), 133–154.