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Land as Frontier of Transformation:

The Restructuring of Land Use and Tenure in Africa's Mega-Project Era

Jing Zhang[1]

Abstract: Large-scale infrastructure and investment projects have become central to development strategies across Africa, yet their implementation depends critically on land acquisition—a process that is deeply political, socially contested, and institutionally complex. This paper conceptualises land as a frontier of transformation in Africa's mega-project era and examines how infrastructure-led development reshapes land use, tenure regimes, and conflict dynamics on the continent. Combining cross-country evidence from the Land Matrix and EJAtlas, satellite analysis, and comparative case studies in Mozambique, Ethiopia, and Ghana, the paper highlights the challenges of land acquisition in Africa, reflecting persistent negotiation failures and speculative dynamics. Overall, the findings challenge the enduring assumption of "abundant available land" in Africa and demonstrate how mega-projects themselves create scarcity through speculation, rent anticipation, and institutional fragmentation. It also argues that socially transformative infrastructure-led development requires re-embedding land acquisition within inclusive territorial systems that strengthen rural–urban linkages, enhance state legitimacy, and align land governance with broader goals of structural transformation.

Keywords: Land Acquisition; Land Use; Tenure Regime; Infrastructure-led Development; Conflict; Africa

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1. Introduction

From ports, roads, and railways to large-scale agriculture, resource extraction, renewable energy, and special economic zones (SEZs), large-scale infrastructure and investment projects have become central to national development strategies across many developing countries. These initiatives aim to connect territories, integrate historically isolated regions into global markets, and thereby drive economic transformation and structural change (Schindler et al., 2021; Gillespie and Schindler, 2022). At the heart of this infrastructure-led model lies the question of land: securing land is not only a prerequisite but also a process that reshapes land use and ownership. It entails the involvement of multiple public and private actors—governments at different levels, foreign and domestic investors, NGOs and grassroots associations, local communities and migrants—which requires a renegotiation of their relationships around land.

For mega-projects that anchor infrastructure-led development, land acquisition is rarely a one-off event but rather a prolonged and iterative process (Yang, 2024). Implementation often advances unevenly—moving back and forth through stages ranging from initial expressions of interest and negotiations to contract finalisation and eventual operation. The complexity of these negotiations, particularly regarding land, is frequently underestimated. Globally, large-scale land deals remain in the negotiation phase for an average of 6.6 years. Even after agreements are concluded, additional delays commonly occur before operations or construction commence, as land must often be cleared or prepared following previous land uses (Lay et al., 2021). Consequently, investors and developers often operate in a reactive mode, continually seeking to (re)assert control and (re)legitimise their landholdings vis-à-vis competing claims from the state, local communities, and individual landholders (Maiyo and Evers, 2020).

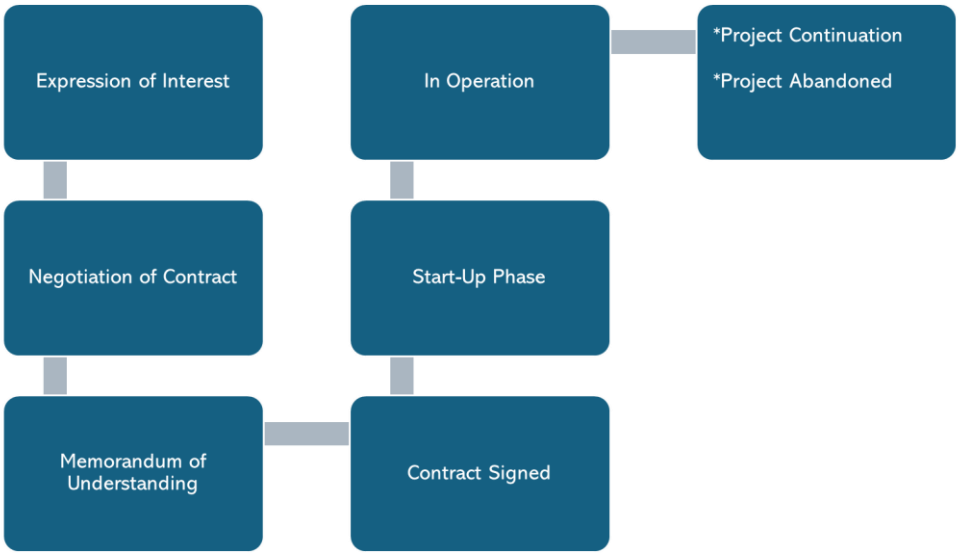


Figure 1. The Process of Land Acquisition. Source: constructed by the author

On the other hand, *speculation* often becomes an inherent feature of such deals, reflecting how infrastructure investments can trigger cascading land demands. Mega-infrastructure projects—such as the development of transport corridors—are typically accompanied by broader processes of land tenure restructuring and land use transformation along newly upgraded routes. In particular, the

construction of energy and transport infrastructure tends to attract further land investments by creating favourable conditions for commodity extraction, production, and circulation to wider markets (Owino et al., 2023). In this sense, infrastructure development not only facilitates economic activity but also create new opportunities for rent extraction by transforming land from a livelihood resource into a pseudo-commodity whose exchange value is determined by expected future returns rather than its current use. In other words, mega-projects therefore can also be considered as *rent-generating machines*: they elevate the speculative value of land long before productive activities begin (Andreucci et al., 2017; Enns, 2018).

In addition, distinct dynamics characterise land acquisition in rural and urban areas. In rural contexts, acquisitions tend to occur on a much larger scale, often involving land transfers exceeding 200 hectares (De Maria et al., 2023). While a substantial share of these investments targets the agricultural sector, they increasingly extend into other domains, including renewable and non-renewable energy, biodiversity conservation, and mining. Since the 2008 food, fuel, and financial crises, large-scale land acquisitions (LSLAs) in developing countries have accelerated markedly. Estimates of this global "land rush" in the Global South remain contested, ranging between 30 and 90 million hectares depending on data sources (Borras et al., 2022). Importantly, most of these deals are oriented toward export rather than domestic markets and are closely intertwined with transnational agribusiness interests. Consequently, LSLAs have become a major driver of global commodity production. For instance, oil palm-related LSLAs alone account for more than 20 percent of the total global area under this crop (FAO, 2020).

In comparison, urban and peri-urban land acquisitions are usually driven by different types of investments, including investments made for building new cities and special economic zones (SEZs); investments in public spaces and urban infrastructure development; as well as investments made directly in land and property developments (Steel et al., 2017). While some new city or zone projects can encompass vast areas—for instance, Kenya's planned Konza Technopolis covers approximately 25,000 hectares—urban and peri-urban land deals are generally more fragmented and smaller in scale. They often involve a more intricate web of actors and competing interests over land access. Amid rapid urban expansion across many parts of the Global South, peri-urban areas—situated at the interface between rural and urban spaces—have become particularly prone to contestation due to their overlapping land uses and the convergence of diverse social and economic processes (Allen, 2003; Otsuki et al., 2023).

Indeed, land acquisition processes are often a major source of conflict due to the competing claims generated by changing land values. Data from the Global Atlas of Environmental Justice (EJAtlas) indicate that, out of 4,367 conflict cases mapped worldwide, 1,027 are related to land acquisitions—representing nearly one-quarter of all recorded cases. Around 40 per cent of these are classified as high-intensity conflicts, involving mass mobilisation, violence, or arrests. Such conflicts can erupt at any stage of the acquisition process—during negotiation and preparation, or later, amid construction and production—often resulting in project suspension or failure. Beyond social resistance, other factors contributing to failed land acquisitions include financing difficulties, shifts in legal and regulatory frameworks, changes in business environments or environmental conditions, and interactions among these elements (Borras et al., 2022). Globally, failed land deals are estimated to account for roughly one-quarter of all large-scale land acquisitions (LSLAs). Prominent examples include the 80,000-hectare Yuzana biofuel project in Myanmar and the 100,000-hectare Karuturi agricultural project in Ethiopia (Lavers, 2016; Ra, 2025).

Nevertheless, much of the canonical development literature has treated land as an abundant and frictionless input for industrialisation, hinging on the premise of an unlimited supply of land and natural resources that can be mobilised with minimal social disruption (Bhaduri & Banerjee, 2025). These widespread assumptions obscured a decisive empirical reality on the ground in most contemporary Global South contexts—land access is always socially saturated, politically mediated, and deeply contested in relation to livelihoods, tenure regimes, and existing property relations. This blind spot becomes particularly consequential in an era where mega-projects and large-scale infrastructure development have re-emerged as central pathways for industrialisation and structural transformation. Across Africa, corridor projects, industrial parks, renewable energy installations, and extractive enclaves are promoted as engines of productivity growth and spatial integration. Yet these projects rely fundamentally on securing vast stretches of land—often in areas already subject to complex tenure arrangements and overlapping claims.

The remainder of this paper unpacks these dynamics by examining how Africa's mega-project era has transformed the political economy of land. It first demonstrates that the implementation of large-scale land deals is marked by persistent negotiation failures, non-operational concessions, and high rates of project abandonment on the continent—revealing that land acquisition is seldom a smooth or technical process, but one shaped by contestation, speculation, and institutional constraints. This is followed by an analysis of land-use change, indicating broader pressures on land systems and highlighting the mismatch between investment narratives and actual land transformation. Subsequently, it reflects on the nature of African tenure regimes, emphasising how hybrid property systems, ambiguous administrative authority, and fragmented local governance structures mediate land access and shape the distribution of land-based rents. Through these lens, the paper examines the tension of land acquisition in three different African contexts, discussing how large-scale land investments have been negotiated and contested on the ground, mediated by the structure of tenure arrangements, power relations, rent capture opportunities and coalition strategies.

2. Problematising Africa's Land Acquisition: Failed Deals, Non-Operational Lands and Social Conflicts

Within the broader global land rush, Africa—particularly sub-Saharan Africa—has emerged as a central focus over recent decades. Between 2008 and 2009, foreign investors expressed interest in acquiring approximately 56 million hectares of farmland worldwide, with about 70 per cent of this demand reportedly concentrated in sub-Saharan Africa (Deininger et al., 2011). More recent data from the Land Matrix—which has tracked land deals globally since 2000—indicate that Africa accounts for 31 per cent of all recorded deals and 37 per cent of the total area acquired worldwide. While the majority of these investments have targeted agriculture (including food crops, livestock, and biomass production), large-scale land acquisitions (LSLAs) across Africa also extend to mineral, oil, and gas extraction, forestry, conservation, tourism, renewable energy, and industrial and urban development.

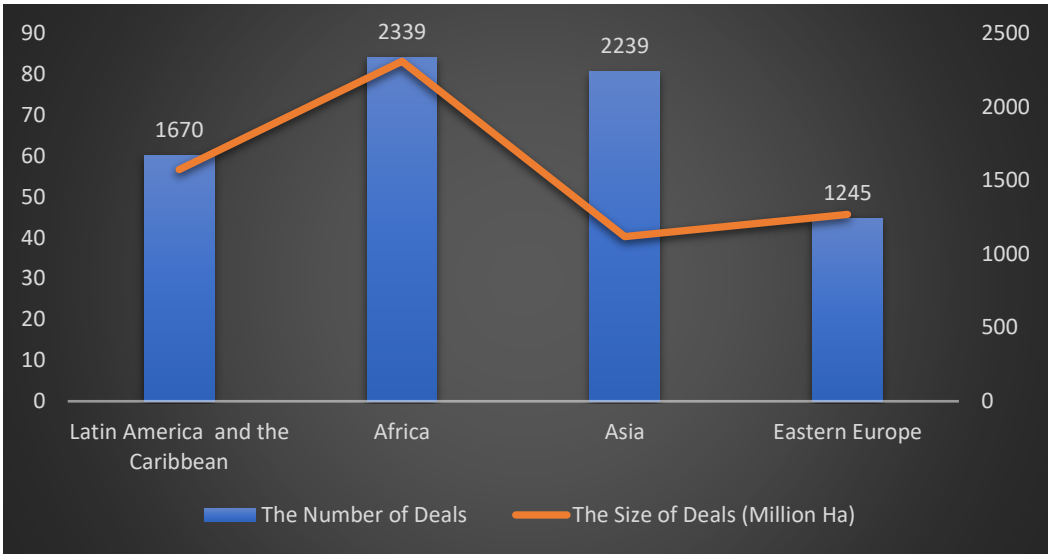


Figure 2. The Global Distribution of LSLAs. Source: constructed by author based on Land Matrix

Despite the surge in LSLAs across Africa, the implementation of these deals has proven highly problematic. A key challenge lies in the high incidence of failed concluded deals—encompassing both unsuccessful negotiations and cancelled contracts. According to Land Matrix data, Africa is particularly prone to such failures: the continent accounts for 55 per cent of all failed deals globally by number and 58 per cent by total area. In the agricultural sector specifically, the cumulative land area of failed deals exceeds that of concluded ones by roughly 81 per cent, even though the number of concluded deals is much higher. This indicates that many large-scale rural acquisitions have collapsed before reaching operational stages. At the country level, Madagascar, Sudan, the Democratic Republic of Congo (DRC), and Ethiopia stand out for having both the highest shares and largest areas of failed deals. Meanwhile, other countries—such as Tanzania, Senegal, Sierra Leone, Mozambique, Kenya, Uganda, and South Sudan—have also faced persistent challenges in finalising or maintaining large-scale land agreements, whether in terms of deal volume or total land area.

Table 1. Top Five African Countries with the Failed Deals

Failed Land Size (Million Ha)	**Failed Deals Number**
Sudan (2.98)	Madagascar (34)
Madagascar (2.83)	Ethiopia (30)
DRC (2.35)	Tanzania (27)
South Sudan (1.55)	Senegal/DRC (17)
Ethiopia (1.14)	Kenya (16)

Source: Land Matrix

Beyond failed negotiations and cancelled contracts, Africa also faces major challenges in implementing concluded land deals and moving them into production or construction phases. Research shows that production begins much more rapidly on average in Eastern Europe, Central Asia, and Latin America—in the latter two regions, production starts immediately after contract conclusion in about 80 per cent of cases (Lay et al., 2021). In contrast, sub-Saharan Africa exhibits a considerably longer lag between deal conclusion and operationalisation, with investors often cultivating or utilising only part of the land

acquired. According to Land Matrix data, around 27 per cent of concluded land area in Africa remains non-operational. Moreover, the continent records the highest global share of abandoned projects, accounting for roughly 64 per cent of all post-conclusion abandonments. Countries such as the DRC, Madagascar, Mozambique, Liberia, Sierra Leone, Kenya, and Ethiopia show particularly high rates of project abandonment.

Several explanations have been proposed for this slow implementation and reduced operationalisation of land deals. From the investors' perspective, land speculation partly accounts for the gap between acquisition and production. Other business-related constraints include limited information about land productivity prior to acquisition, difficulties importing inputs, and capital or liquidity constraints (Neudert & Voget-Kleschin, 2021). On the local side, especially in sub-Saharan Africa, a key factor lies in the dominance of smallholder farmers, who compete directly with investors for land access. Globally, quicker implementation tends to occur where land has been previously used for commercial agriculture, since such areas are already cleared and equipped with basic infrastructure (Lay et al., 2018). In sub-Saharan Africa, however, smallholder agriculture represents the most common prior land use—approximately 50 per cent of all deals—followed by forestry and commercial farming.

Indeed, the literature provides clear evidence that investors compete with existing land users, and that the previous land use and ownership patterns significantly shape subsequent socio-economic outcomes (Messerli et al., 2014; Oberlack et al., 2016; Lay et al., 2021). For smallholders and communities who previously relied on the land, competition with large-scale farms, energy plants, mining projects, and expanding urban areas has become a major source of social tension, often stalling projects and sparking broader protests and conflicts. Based on the EJAtlas, there are 167 conflict cases—about one-third of all conflicts recorded on the continent—linked to land acquisitions. The majority (around 81 per cent) occur in rural areas and are associated with energy, mining, agriculture, and forestry projects. Notably, more than half of these are medium- or high-intensity conflicts, involving protests, mass mobilisation, violence, and arrests. Unlike in more developed regions, where opposition often arises in preventive phases, African cases tend to witness conflicts during construction and operation, suggesting a systemic lack of early consultation and community participation in project initiation.

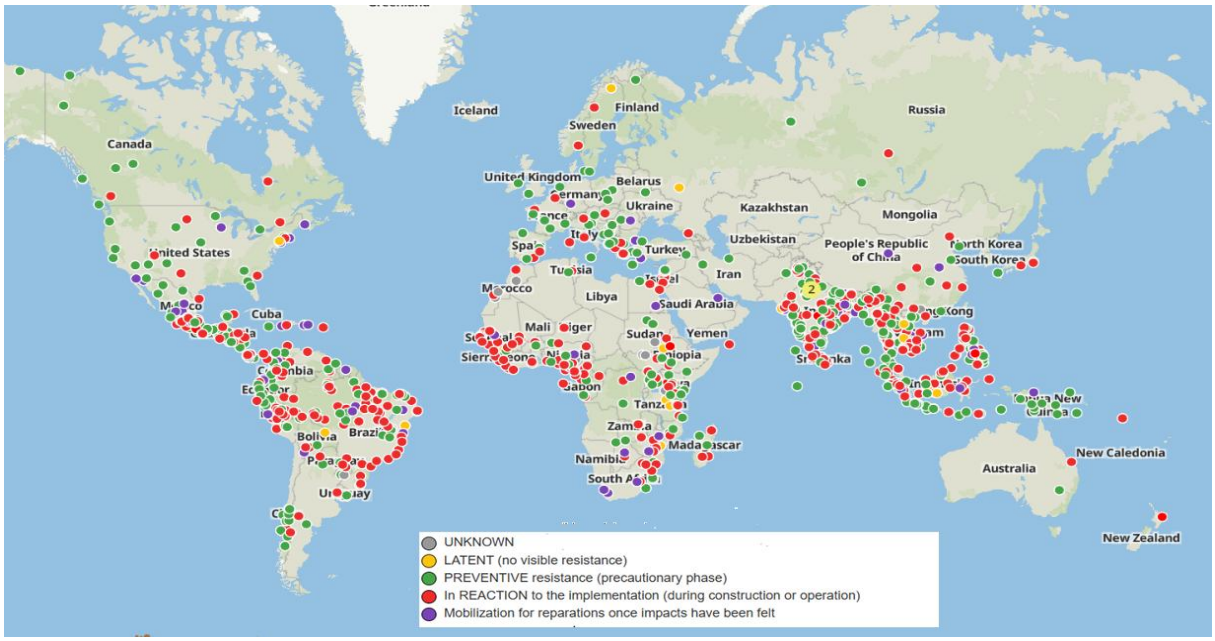


Figure 3. The Reaction Stages of Land Acquisition-related Conflicts Globally. Source: EJAtlas

Across the African continent, West Africa has recorded the highest number of land acquisition–related conflicts (54 cases), followed by Eastern Africa (40), Southern Africa (39), Central Africa (18), and Northern Africa (16). In relative terms, East Africa shows the highest concentration, where roughly 38 per cent of the region's 106 recorded conflicts are linked to land acquisitions, and around 70 per cent of these are classified as medium- to high-intensity. Most land acquisition–related conflicts in sub-Saharan Africa are associated with agriculture, biomass, and forestry projects. However, notable regional variations exist: in Eastern Africa, a significant number of conflicts are tied to transport and energy infrastructure projects, whereas mining-related disputes are more prevalent in Western and Southern Africa. In contrast, Northern Africa records a higher proportion of land conflicts linked to renewable energy developments, including hydropower and biomass. At the country level, Nigeria has the highest number of recorded land conflicts (18), followed by Kenya (14), Cameroon (9), Mozambique (9), Senegal (9), Uganda (9), Ethiopia (8), and Tanzania (8).

3. Change of Land Use in Africa: Regional Dynamics and Spatial Pattern

As discussed earlier, land acquisition is a process that reshapes both land use and ownership structures. Even when deals are cancelled or projects fail, they may still induce lasting transformations through preliminary activities such as land clearing or preparation, since implementation often advances in iterative phases. To examine these dynamics on a broader geographic scale and with greater precision, this paper employs satellite data to cross-analyse patterns and impacts of land acquisition across the African continent identified from numerical datasets. In fact, with the increasing public availability of petabytes of high-resolution satellite imagery, remote sensing has become an essential tool in economic, urban, agricultural, resource, and environmental research. The most frequently used data sources include Landsat, MODIS, DMSP-OLS and VIIRS (night-time lights), and ESA WorldCover (Donaldson & Storeygard, 2016).

Based on the 2020 MODIS global land use classification, which categorises land surface into 18 types, Africa's share of cropland remains significantly lower than that of Asia, Europe, or North America. Nevertheless, evidence from the Land Matrix and other sources indicates that Africa has been at the epicentre of the global land rush since 2008, with the majority of investments targeting agriculture. Countries such as Madagascar, Ethiopia, the DRC, Sudan, Tanzania, Sierra Leone, Nigeria, Mozambique, Uganda, Kenya, South Sudan, Gabon, and Cameroon have been among the primary destinations for these investments. The apparent discrepancy between rising agricultural investment and limited observable cropland expansion can be partly explained by the high incidence of failed or non-operational deals, as many acquired areas never reached full production, remained underutilised, or were held for speculative purposes. This is particularly evident in countries such as Madagascar, Mozambique, Uganda, South Sudan, Cameroon, Gabon, and Sierra Leone, where satellite imagery reveals an absence of large, continuous cropland areas despite extensive land acquisitions on record.

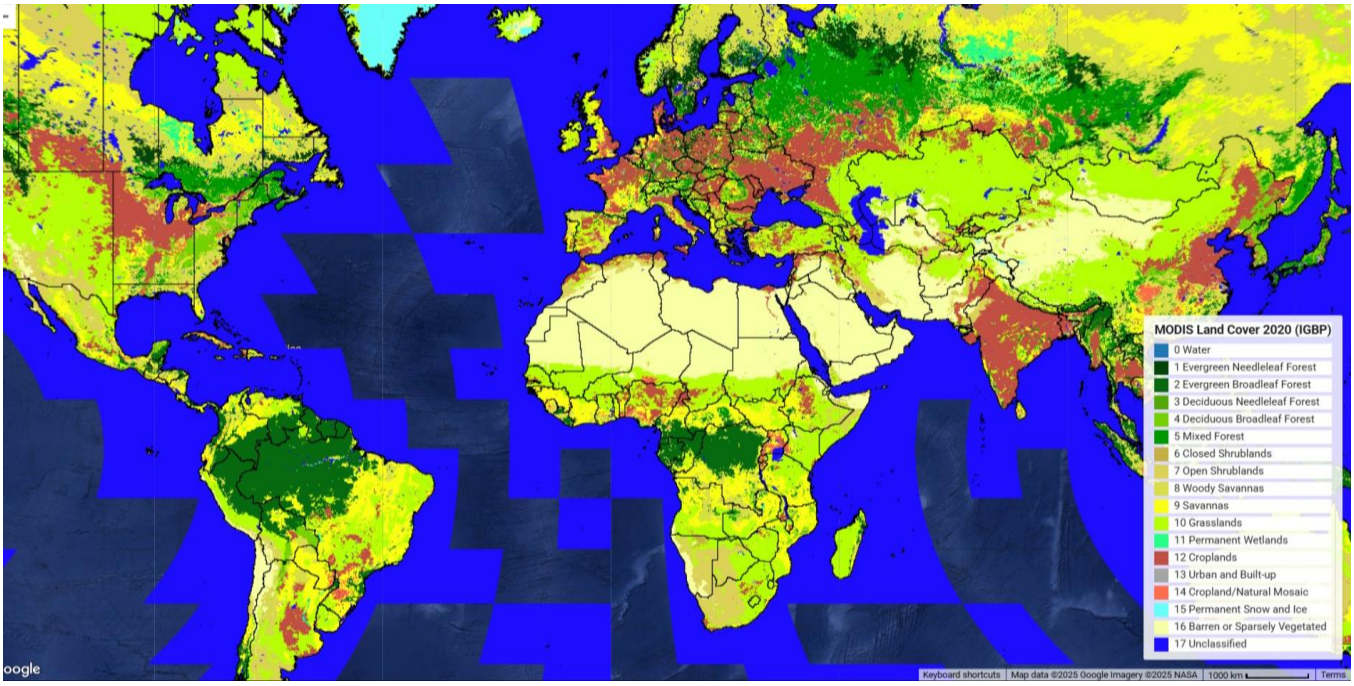


Figure 4. MODIS Global Land Cover 2020. Source: MODIS/NASA

To further explore the dynamics of land acquisition and associated changes across the continent, this paper analyses MODIS Normalised Difference Vegetation Index (NDVI) trends from 2001 to 2020 in conjunction with MODIS Land Cover changes over the same period. NDVI, one of the earliest and most widely used vegetation indicators, captures the functional and biophysical characteristics of vegetation—including its greenness, density, and overall health. While changes in NDVI do not necessarily correspond directly to shifts in land-use categories, combining NDVI data with land-cover classifications enables a more fine-grained understanding of land-use transformations and their spatial implications across subregions. In general, as illustrated in the two maps below, the contrast between MODIS Land Cover (which records relatively discrete categorical changes) and NDVI (which reveals more continuous spectral variations) highlights that vegetation degradation and recovery processes can be far more widespread than what categorical maps alone suggest.

Notably, in West Africa, pronounced NDVI declines (in red) align closely with areas of urban expansion, indicating accelerating urbanisation, particularly across the southern Côte d'Ivoire–Ghana–Nigeria corridor. At the same time, decreasing NDVI values accompanied by cropland gains are evident in Senegal, Guinea, southern Mali, Burkina Faso, northern Benin, and Nigeria. While NDVI decline combined with urban growth can be attributed to rapid peri-urban expansion—clearly visible around Cairo, Dar es Salaam, and other major cities—a simultaneous decline in vegetation alongside cropland gains warrants deeper interpretation. Beyond West Africa, similar patterns emerge in southern Angola, northern Zimbabwe, southern DRC, and parts of Tanzania, Zambia, and Mozambique.

A plausible explanation is that agricultural expansion in these areas has often been extensive rather than intensive. In many cases, land may have been cleared by investors but not fully cultivated or productively managed, either due to speculative motives or incomplete investment cycles. Alternatively, the expansion may reflect low-input farming practices, with limited use of fertilisers and irrigation, leading to modest biomass growth. Moreover, climate variability—rising temperatures and erratic rainfall—has likely exacerbated yield reductions. In many contexts, these factors interact, jointly shaping the observed patterns of vegetation decline and cropland gain that characterise much of the

continent's agricultural frontier. The table below summarises key land-use changes identified from MODIS data and outlines their probable underlying drivers and explanations.

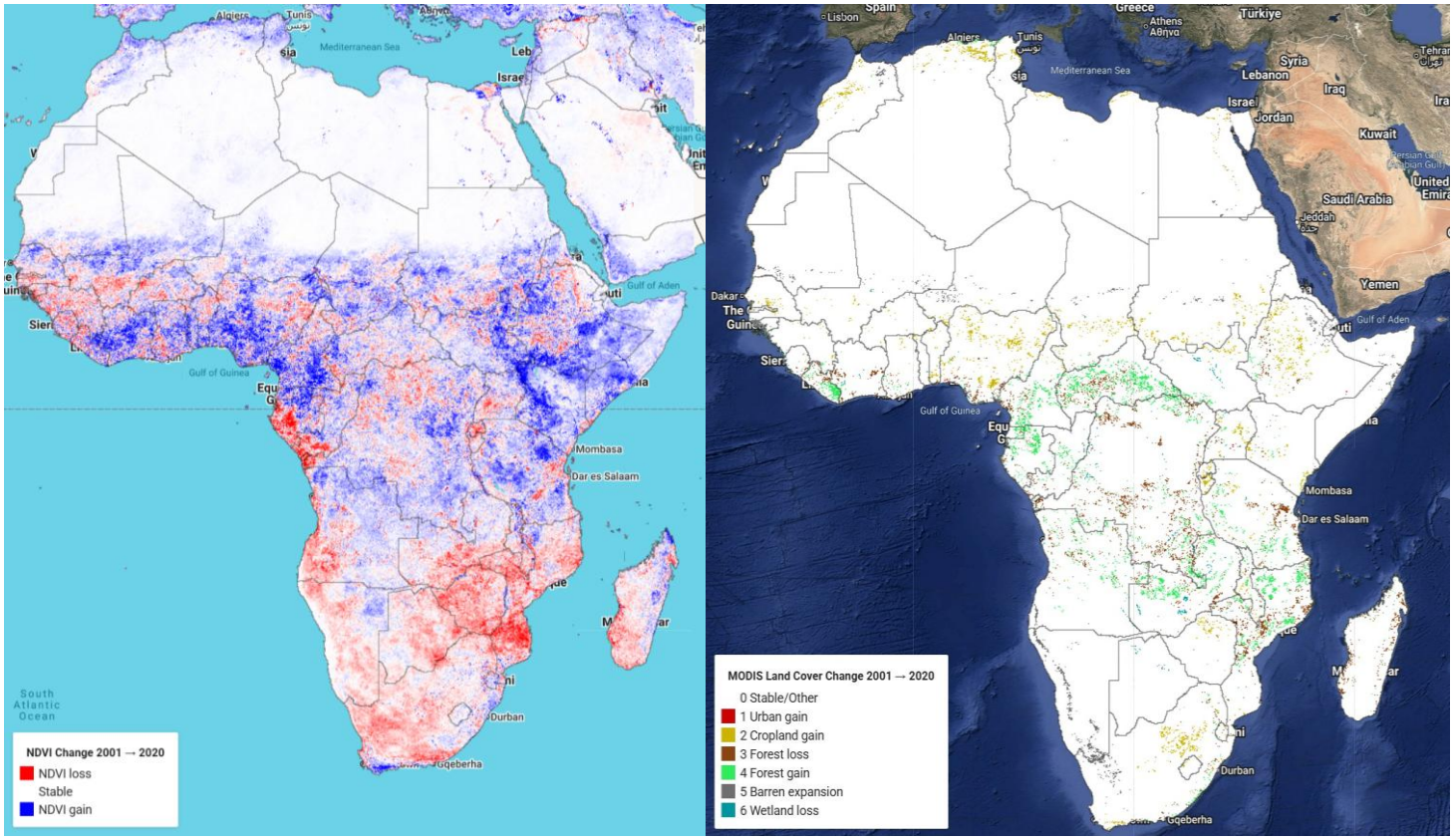


Figure 5. MODIS NDVI Change (2001-2020)-Left; MODIS Land Cover Change (2001-2020)-Right. Source: MODIS/NASA

Table 2. The Regional Dynamics of Land Use Changes

NDVI change	MODIS LC change	Potential Explanations	Locations
NDVI gain (blue)	**Forest gain (green)**	Reforestation, tree plantation, regrowth after logging	Congo Basin edges, southern Tanzania, parts of Uganda, highlands of Ethiopia
NDVI gain (blue)	**Stable land cover (white)**	Vegetation recovery, rainfall increase, fallow regrowth, Sahel greening	Sahel belt (Senegal → Chad → Sudan)
NDVI gain (blue)	**Cropland gain (yellow)**	Intensification of agriculture (irrigation, double cropping)	Nile Delta, parts of Sudan, and western Ethiopia highlands
NDVI loss (red)	**Cropland gain (yellow)**	Extensive agricultural expansion	Southern Angola, Northern Zimbabwe, Southern DRC, and parts of Tanzania, Zambia and Mozambique, and Nigeria
NDVI loss (red)	**Forest loss (brown)**	Deforestation, logging, clearing for agriculture or plantations	DRC, Gabon and the Republic of the Congo margins, West African coastal forests
NDVI loss (red)	**Urban gain (red)**	Urban sprawl and built-up expansion	Nigeria's south, Nairobi, Addis Ababa, Gauteng, Lusaka, Dar es Salaam, Cairo fringe
NDVI loss (red)	**Barren expansion (grey)**	Desertification, overgrazing, drought stress	Southern Africa (Namibia, Botswana, South Africa interior), Horn of Africa

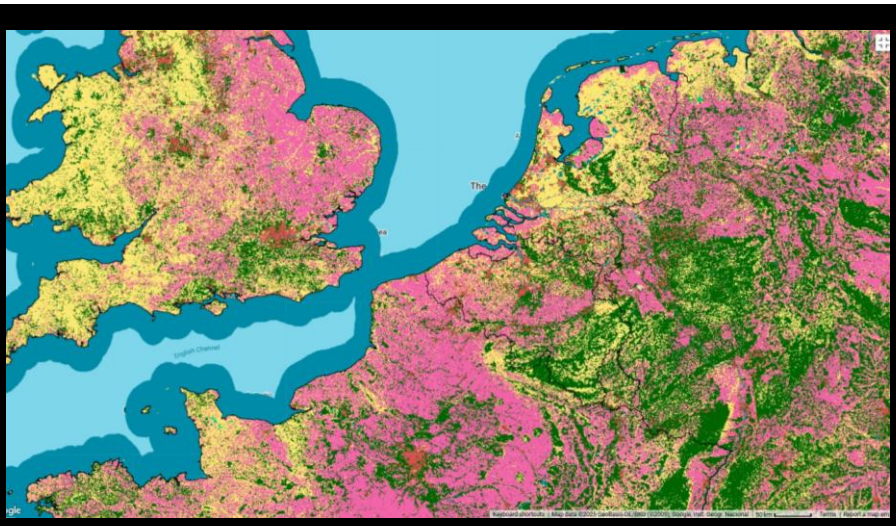
Source: constructed by author

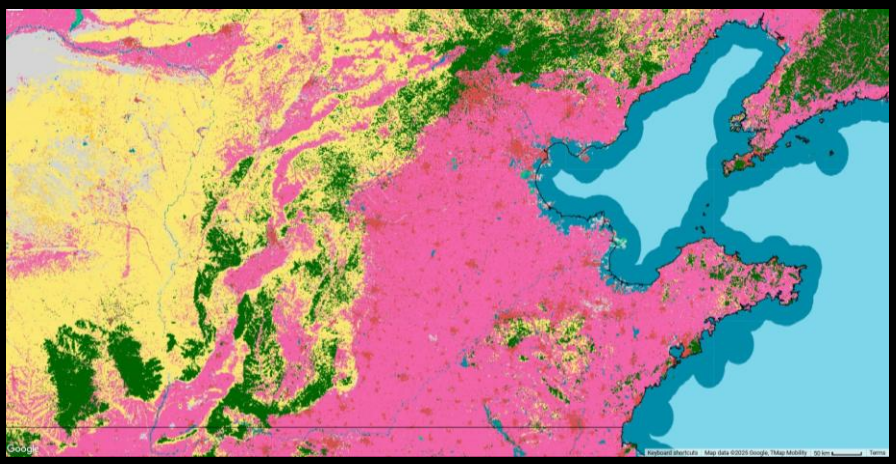
Another key finding from the satellite analysis is that the spatial linkages between urban built-up areas and surrounding farmland in Africa are markedly weaker than those observed in other developed and developing regions. Drawing on the ESA WorldCover 2020 dataset—which provides higher-resolution depictions of landscape features—metropolitan regions in Western Europe, such as London, Birmingham, and Paris (Figure 6-a), appear as red clusters encircled by green belts and nearby cropland. This spatial configuration reflects a strong urban–rural nexus that facilitates the reciprocal exchange of goods and services and, importantly, contributes to local food security. A similar pattern is visible in China (Figure 6-b), where a dense network of urban centres is closely surrounded by large expanses of farmland, ensuring proximity between food production and consumption zones.

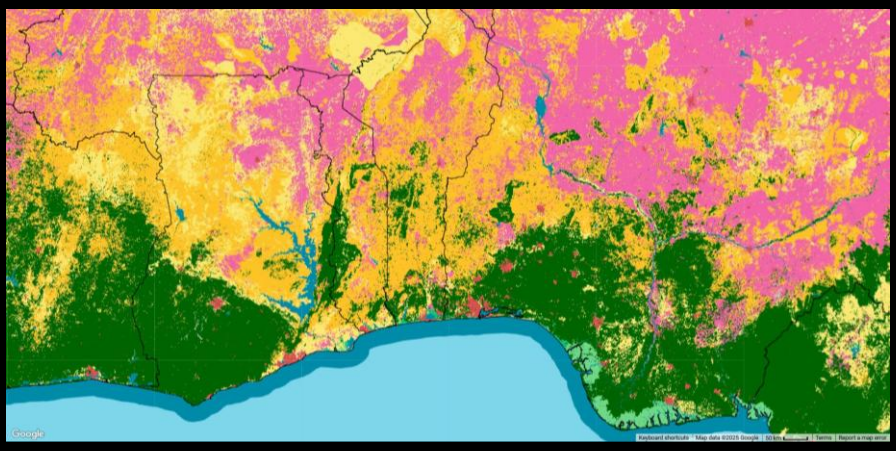
In contrast, Figures 6-c and 6-d illustrate that these urban–rural spatial linkages are less stronger across the African continent. Figure 6-c, which focuses on the densely populated Gulf of Guinea region, shows that most coastal urban centres are geographically distant from major agricultural zones, with the exception of northern Nigeria. Moreover, much of the cropland in this region is devoted to export-oriented cash crops rather than staple food production for domestic markets. Similarly, Figure 6-d demonstrates that Kinshasa (DRC) and Luanda (Angola)—two of Africa's largest growing megacities—are predominantly embedded within vast savanna or grassland mosaics, with limited agricultural activity in their immediate surroundings.

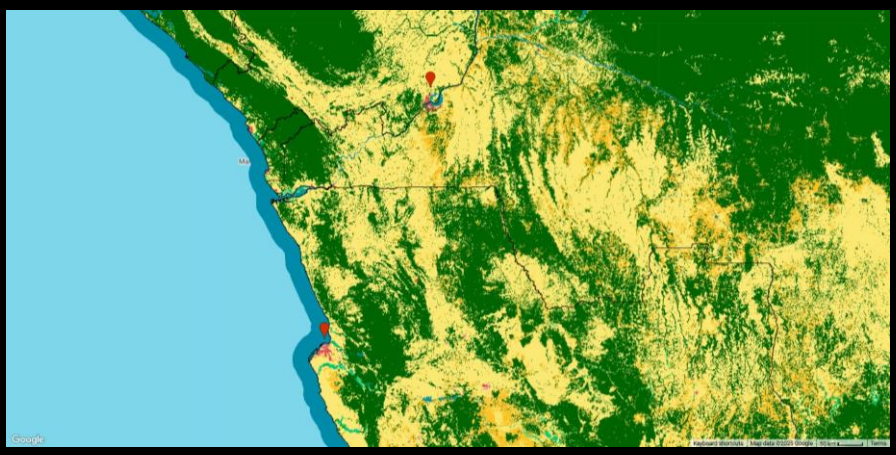
Unlike many Asian and European cities, whose growing food demands have historically been met largely by local agricultural production, Africa's food supply has become increasingly dependent on international markets. According to the African Development Bank (AfDB, 2016), roughly one-third of all calories consumed in Africa are imported, contributing to a negative agricultural trade balance of US$-18.37 billion in 2019. Intra-regional food trade across the continent also remains limited, underscoring the growing reliance on imports. While some resource-rich countries can temporarily offset this dependence through revenues from natural resource exports (oil, gold, diamonds) or cash crops (cocoa, coffee), such a model is unsustainable in terms of food security, social equity, and environmental impact. Lengthy and volatile supply chains expose vulnerable populations to price shocks and food shortages, while increasing carbon emissions associated with long-distance trade.

Such weak rural–urban linkages are also strongly characterised by insufficient infrastructure provision, including inadequate road networks. Most paved roads are concentrated in and between major towns and ports that prioritise export routes, while rural areas remain largely underserved. Many rural roads are unpaved and difficult to traverse, slowing vehicle movement and restricting the flow of goods. These constraints create significant logistical barriers, especially for transporting agricultural produce and other raw materials from remote locations to urban markets. One indicator measuring access to cities across the continent clearly illustrates these challenges. While Southern and Western Africa generally enjoy shorter travel times—between 60 and 120 minutes—to the nearest densely populated city, parts of Central Africa such as the Central African Republic, the Republic of Congo, and the DRC present a stark contrast, where residents often spend 400 to 600 minutes travelling to the closest major city.









Picture a. Southeast England/Western Europe

Picture b. Bohai Bay, China

Picture c. Coastal Belt, Gulf of Guinea, West Africa

Picture d. South-Central Africa Coast

Figure 6. The Global Comparison of Urban-Rural Land Use Pattern. Source: ESA WorldCover, 2020

4. Change of Land Ownership in Africa: Hybrid Regimes, Ambiguous Administration and Competing Claims

Beyond reshaping land use, land acquisition is also a process that potentially restructures tenure arrangements among different social groups. Land tenure regimes are property regimes that define the manner and terms under which rights in land are granted, held, enforced, contested, and transferred (Bruce, 1998; Boone, 2014). They are also products of historical and cultural factors and therefore reflect the relationships between people, society and land (Payne, 2004). In general, tenure or property regimes can be mainly classified into statutory and customary models (Boone, 2014). In statutory tenure regimes, central state or local representatives of the central state (e.g., district administrations, local government) act as the landlord and allocator of land. It also includes privately owned and titled land (i.e., freehold tenure or leasehold) formalised by the formal-legal framework. By comparison, the customary model is referred to as land governance mediated by traditional leaders, such as chiefs or elders who exercise authority over land and determine the ways that community members may access, own or use land.

In Africa, statutory (formal-legal) and customary (informal-traditional) land tenure regimes coexist in both urban and rural areas, culminating in hybrid forms with changing consequences for access, ownership, and land use. Most rural land in Africa continues to be managed by traditional "customary" institutions that limit land transfers to nonlineage members. Dominated by statutory tenure, urban land typically falls under a state land or a leasehold system governed by national land acts, in which ownership or lease titles are registered through formal land registries or cadastral systems. Broadly speaking, land rights under private property regimes, such as freehold tenure, usually enjoy *de jure* and *de facto* recognition and protection at the national level. However, there's often an informal or unplanned occupation in practice, especially in peri-urban areas where rural customary tenure transitions toward urban land markets. Nevertheless, customary tenure or practices comprise around 90% of land across sub-Saharan Africa (Deininger & Byerlee, 2011) and form the basis for a wide range of agricultural, pastoral, and other types of livelihoods on the continent (Dieterle, 2025).

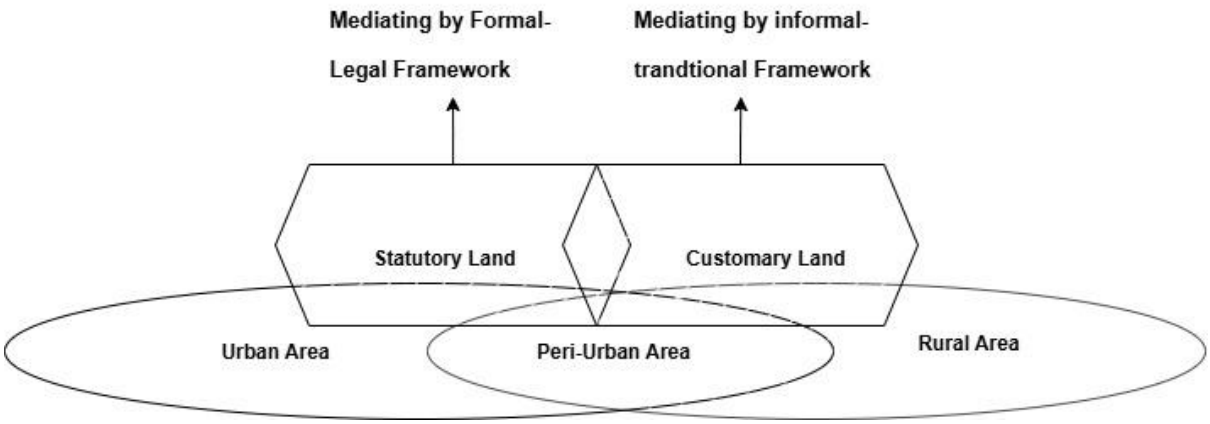


Figure 7. Mixed Tenure Regime in Africa. Source: constructed by author

It is noteworthy that many African countries have introduced policies and passed legislation recognising the customary regimes in the late 1990s and early 2000s (Wily, 2018). However, failure to implement regulations for these laws has often reduced their relevance and rendered the gap between legal and practical protection of customary rights (Chimhowu, 2019). One major challenge lies in the low level of land registration in Africa. With the exception of a few countries such as

Mauritius, Rwanda, South Africa and those in North Africa that have completed titling a significant share of their rural land, most of Africa's land is undocumented and informally administered. It is estimated that only about 10 percent of Africa's rural land is recorded in a public registry. For example, Angola, Congo DRC, Mozambique, Nigeria, Sudan, South Sudan, Tanzania and Zambia each has less than 5 percent of rural land registered and formally administered (Byamugisha, 2016).

Table 3: The Dominance of Customary Land Tenure and The Challenges of Titling

	Challenges	Source
Ghana	It has been estimated that 78% of all land in Ghana is owned by stools (or skins), clans or families. The state owns 20% and the remaining 2% is in shared ownership. Title registration "remains in a **dysfunctional status**." In 2015 the Land Administration Project target of 10 customary boundary demarcations was reduced to just one.	World Bank, 2020; Larbi, 2008; Land Portal, 2024
Zambia	Customary land parcels and rights data is not demarcated in more than **280 of the 288 chiefdoms** in Zambia. Settlements, parcels and data on structures are captured on paper and stored for internal use only on manual files used by valuation surveyors.	Land Portal, 2023
Madagascar	In Antananarivo, **only 25%** of parcels recorded under current owners. Very few land registrations carried out more than 20 or 30 years ago have been updated. Transactions by sale or inheritance are rarely recorded.	World Bank, 2020; Land Portal, 2023
Senegal	It is estimated that only about 152,000 land titles (which is less than **10%** of the total land rights) are issued.	Land Portal, 2022

Source: multiple sources compiled by the author

For a long time, titling efforts have been concentrated in urban and peri-urban areas, where land markets are more active. However, with rural population growth, rapid urbanisation, and increasing demand from external investors for food and fuel, tenure security and titling systems for owning and administering customary land have become increasingly important. Yet, despite a growing awareness of the need for more credible and centralised land administration systems across the continent, the high cost of first-time title issuance and the registration of subsequent transactions—combined with the limited capacity of formal institutions—has impeded the progress of such reforms. In reality, a hybrid tenure regime or parallel system is likely to persist for the long term, making the process of land acquisition particularly complex and contested. For investors and developers, customary tenure can be especially risky; nonetheless, large-scale land acquisitions (LSLAs) in Africa have been predominantly located on communally and customarily owned land (Dell'Angelo et al., 2017).

Indeed, parallel tenure systems and overlapping land claims can exacerbate inequality, erode trust, and weaken traditional institutions, and—where alternative mechanisms for asserting property rights are lacking—can generate or intensify conflict (Greiner, 2017). Rather than reducing uncertainty, ambiguous or weakly enforced rules often amplify it, particularly when they create scope for opportunistic behaviour by politically or socially well-connected actors (Colin, 2013). In such settings, state or investor interventions that reconfigure property rights—such as LSLAs —frequently provoke resistance and contestation, as they redistribute access to land and create both actual and anticipated winners and losers. Even where compensation is provided to those displaced, disputes often persist, as rising land and property values fuel expectations of future gains, while no clear or universally accepted rules exist—either in statutory law or local institutions—for allocating these gains among affected parties. Moreover, where such rules do exist, they are often unevenly applied in practice

across African contexts. Consequently, the trajectories and outcomes of land acquisitions and associated projects are shaped less by formal rules alone than by the relative bargaining power, coping strategies, and coalition-building efforts of key actors operating within prevailing institutional frameworks (Khan, 2009).

The following section examines three mega-projects across distinct legal and institutional contexts in Africa — namely Mozambique, Ethiopia and Ghana —to compare how these dynamics shape divergent project trajectories and outcomes. The selection of case studies is guided by two criteria. First, the cases capture varied types of mega-projects involving both large-scale investment and infrastructure development across the continent, including development corridors, industrial parks, and renewable investments. These projects are emblematic of dominant development strategies that seek to "get the territory right" by transferring land into uses deemed more productive. Second, the three cases span diverse legal and institutional contexts, reflecting variation in the ways land is governed both *de jure* and *de facto*, as well as in how land-related disputes unfold across African countries.

5. Large-Scale Land Investments, Social Conflicts and Multi-Scalar Politics and Multiple Trajectories of Conflict Dynamics

Mozambique: ProSAVANA and Nacala Corridor

Legal-Land Framework

Legally, Mozambique's 1997 Land Law (*Lei de Terras* 19/97) retains state ownership of land while recognising customary land rights through the Direito de Uso e Aproveitamento da Terra (DUAT) system. Under this framework, local communities hold perpetual DUATs over land occupied under customary tenure; individuals who have occupied land in "good faith" for at least ten years are also entitled to perpetual DUATs for residential and family use; and individuals or companies—national or foreign—may apply for DUATs of up to 50 years, renewable once.

In principle, this system grants communities permanent user rights derived from occupation and allows them to refuse external land allocations, as investors are required to obtain DUATs through community consultation. In this respect, Mozambique's land law is often regarded as one of the more progressive legal frameworks in Africa for recognising and protecting community land rights. In practice, however, implementation frequently depends on state mediation, resulting in a bureaucratic hybrid regime in which community rights are legally recognised but administratively fragile. The state retains substantial discretionary power to classify, allocate, and revoke DUATs in the name of "public interest," including for agricultural, mining, and infrastructure development projects (Wolford, 2021).

The Project Background

ProSAVANA emerged in the late 2000s within a broader international shift from aid-led agricultural development toward investment-driven and corridor-based growth models. The programme was formally launched in 2009 as a triangular cooperation initiative between the governments of Mozambique, Japan, and Brazil, under the title "Triangular Cooperation for Agricultural Development of the Tropical Savannah in Mozambique." It targeted the Nacala Corridor in northern Mozambique, covering large parts of Nampula, Niassa, and Zambézia provinces. The initiative was explicitly inspired by Japan–Brazil cooperation in transforming Brazil's Cerrado region and was framed as a transfer of technical and institutional lessons to Africa's "underutilised" savannah zones. It was also in line with the main agrarian policy of Mozambique, the Plano Estratégico para o Desenvolvimento do Sector

Agrário (PEDSA – Strategic Plan for the Development of the Agrarian Sector), which aimed to transform the "subsistence" agriculture into a business-oriented sector and positioned the Nacala Corridor as a regional growth pole linking agribusiness to infrastructure development (Ikegami, 2015).

Internationally, Japan played a leading coordinating and financing role through JICA, with strategic backing from the Ministry of Foreign Affairs (MOFA) and other economic ministries. Brazil participated through the Brazilian Cooperation Agency (ABC) and technical institutions such as Embrapa, while Mozambique was represented primarily by the Ministry of Agriculture (MINAG) and later by provincial governments in the north. Under ProSAVANA, responsibilities were divided: as Brazil assumed responsibility for research, Japan for extension and technical support, while the Mozambican state retained political authority over land acquisition and labour arrangements. The total budget for the project was estimated at USD$13,483,840, with Japan providing the most funding (approximately 54%), Brazil providing 37%, and the Mozambican government provided the rest, mostly in counterpart personnel and land. Overalls, the programme was structured around three main pillars: (i) technology and research cooperation (ProSAVANA-PI), (ii) preparation of a Master Plan for agricultural development (ProSAVANA-PD), and (iii) pilot investment and financing mechanisms (ProSAVANA-PEM). The Master Plan identified approximately 14 million hectares as having agricultural development potential and proposed differentiated zones for smallholder farming, medium-scale commercial farming, and large-scale agribusiness (Funada-Classen, 2019).

As such, ProSAVANA was closely linked to efforts to crowd in large-scale agribusiness and financial capital. A central role was played by Fundação Getúlio Vargas (FGV Agro), which was contracted to prepare the ProSAVANA Master Plan while simultaneously promoting the Nacala Fund, an investment vehicle aimed at mobilising up to USD 2 billion from international investors to develop commercial agriculture along the corridor. This dual role—planning public policy while facilitating private investment—reflected the programme's public–private partnership logic and closely aligned ProSAVANA with global agribusiness interests, particularly Brazilian soy producers and international input suppliers (Shankland and Gonçalves, 2016). Specifically, during the planning phase of ProSAVANA (2009–2013), Mitsui & Co. featured in Japanese policy discussions as a prospective strategic investor in the Nacala Corridor, aligned with Japan's broader extractives and logistics strategy. This positioning was later materialised in 2014, when Mitsui formally acquired equity stakes in Vale's Moatize coal mine and the Nacala Corridor logistics operations, consolidating Japanese corporate presence in the corridor. At the same time, Vale's early investment in the Moatize coal mine laid foundation for its central role in later discussion of rehabilitating and operating the Nacala Logistics Corridor—including rail infrastructure and port facilities (Funada-Classen, 2019).

The Evolution of Disputes

Between 2009 and 2012, ProSAVANA was formulated primarily through intergovernmental cooperation and technical planning processes, involving the governments of Mozambique, Brazil, and Japan. Project preparation during this period focused on technical assessments and strategic planning rather than implementation. Between 2011 and 2012, feasibility studies, zoning exercises, and baseline surveys were conducted along the Nacala Corridor, culminating in the drafting of the ProSAVANA Master Plan by FGV Agro. At this stage, consultations with local communities and representative organisations were limited, reflecting an assumption that stakeholder engagement would occur during later phases of programme rollout rather than during initial design. Nevertheless, early planning documents and policy narratives have framed northern Mozambique's savannah landscapes as sparsely populated and inefficiently used. From the perspective of local communities, land classified as "idle" in

technical zoning exercises was often integral to shifting cultivation systems, grazing, forest-based livelihoods, and future generational use.

A decisive shift occurred between late 2011 and 2014, following the partial leaking of the ProSAVANA Master Plan and Brazilian media coverage portraying Mozambique as offering land to foreign agribusiness. In October 2012, the National Peasants' Union (UNAC) issued its first formal public statement rejecting ProSAVANA, explicitly condemning land expropriation and monoculture-based development. UNAC's intervention marked the transition from dispersed grievances to collective protest, drawing on its organisational infrastructure across Nampula, Zambézia, and Niassa provinces. By 2014, UNAC and allied organisations launched the *"No to ProSAVANA" Campaign (NPC)*, which rapidly expanded to include environmental NGOs (Justiça Ambiental), women's movements (Fórum Mulher), faith-based organisations, legal associations, and academics. The immediate outcome of this phase was not policy reversal, but a reframing of the conflict: ProSAVANA was publicly recast as a land-grabbing project threatening food security. It privileges monocrop-based commercial agriculture—particularly soy and other export-oriented crops—at the expense of diversified farming systems (Achcar, 2023).

Between 2014 and 2017, resistance intensified through multi-scalar coalition-building and strategic transnationalisation. Domestically, NPC members organised village-level meetings, coordinated walkouts during public hearings, and systematically documented procedural violations in consultation processes. Internationally, Mozambican activists forged alliances with Brazilian and Japanese civil society actors, drawing on shared experiences of agribusiness expansion (notably PRODECER in Brazil). In fact, the proximity between ProSAVANA and Vale's mining and logistics operations along the corridor sharpened fears that agricultural land-use change would not occur in isolation but as part of a broader extractive–infrastructure frontier. In this context, agrarian transformation was reframed as an environmental and social risk multiplier rather than a neutral development intervention. These ties enabled coordinated open letters to JICA and ABC, parliamentary lobbying in Japan, and sustained international media coverage (Monjane and Bruna, 2021).

As resistance gained visibility, state actors and programme proponents responded with counter-mobilisation strategies aimed at weakening opposition. These included the promotion of alternative civil society interlocutors supportive of revising (rather than rejecting) ProSAVANA, selective engagement with provincial actors, and discursive delegitimisation of NPC as "anti-development" or "externally manipulated." While these strategies partially fragmented civil society, they failed to restore the programme's legitimacy. Protest actors adapted by consolidating their oppositional stance and reinforcing alliances with global networks such as La Vía Campesina. The outcome of this phase was a political stalemate: Whilst ProSAVANA was not fully cancelled, it was effectively entered a period of "hibernation". By 2019–2020, Mozambican and Japanese authorities formally announced the termination of ProSAVANA. By this point, key components of the ProSAVANA Master Plan—particularly those related to large-scale private investment and land-based agribusiness expansion—had not progressed beyond the planning stage. While earlier phases had involved revisions, delays, and partial consultations, the final outcome was a decision not to proceed with implementation (Cezne, 2019; Achcar, 2023).

Ethiopia: Industrial Park Programme

Legal-Land Framework

Ethiopia's land regime is constitutionally anchored in state and public ownership of all land, a principle first established through the 1975 land reform and reaffirmed in the 1995 Constitution. Private

ownership and land sales are prohibited. Instead, citizens are granted usufruct (holding) rights, particularly in rural areas, conditional on use rather than market transfer. This framework has historically been justified in egalitarian terms—"land to the tiller"—and later reframed as a form of social protection against market-driven dispossession. In practice, this means that land users possess strong use rights but remain vulnerable to administrative reallocation and expropriation, especially when land is deemed necessary for "public purposes." Specifically, across both rural and urban systems, landholding rights can be terminated through expropriation for public purpose, with compensation promised for lost assets. However, compensation is typically calculated based on improvements (crops, structures) rather than land value itself.

Despite formal state ownership, it is also important to note that the division of authority over land and other natural resources between federal and regional governments remains blurred. Under the Constitution, the federal government is mandated to enact laws governing the utilisation and conservation of land and other natural resources (Article 51(5)), while regional states are responsible for administering land and natural resources in accordance with federal laws (Article 52(2)(d)). In principle, this arrangement assigns legislative authority to the federal level and administrative responsibility to regional states, with regional land legislation expected to operate within the framework of federal law. In practice, however, the Constitution does not clearly define key terms such as "utilisation," "conservation," and "administration," making it difficult to delineate the precise boundaries of federal and regional powers over land. This constitutional ambiguity has contributed to overlapping mandates and contested authority in land governance across Ethiopia (Sitotaw, Abdo and Gashu, 2019).

The Project Background

Since coming to power in 1991, the Ethiopian People's Revolutionary Democratic Front (EPRDF)[2] has been widely characterised as pursuing a developmental state strategy, marked by strong state intervention aimed at accelerating economic development through industrialisation (Chang and Hauge, 2019). From the early 2000s onwards, this orientation has been institutionalised through a succession of large-scale national development plans, including the Industrial Development Strategy (2002/03), the Sustainable Development and Poverty Reduction Programme (SDPRP, 2002–2005), the Plan for Accelerated and Sustained Development to End Poverty (PASDEP, 2005–2010), and, most notably, Growth and Transformation Plan I (GTP I, 2010–2015) and Growth and Transformation Plan II (GTP II, 2015–2020).

Within this broader framework of state-led industrialisation, Ethiopia's adoption of a special economic zone (SEZ) and industrial park (IP) approach has been particularly prominent. Drawing on policy learning from East Asia, the Ethiopian government has committed substantial resources over the past decade to the rapid institutionalisation and large-scale rollout of industrial parks (Oqubay and Tesfachew, 2019). The country's first industrial park was developed not by the state but by a Chinese private firm between 2007 and 2008 in Dukem town, Oromia Region, approximately 30 kilometres southeast of Addis Ababa. Despite limited prior experience, the expansion of industrial parks over the subsequent decade has been striking.

While GTP I initially envisaged the establishment of at least four industrial parks, GTP II sought to accelerate park development at both federal and regional levels. On the ground, the first government-led industrial park—Bole-Lemi Industrial Park—began construction in 2012, followed by the flagship

[2] At the end of 2019, it was replaced with the Prosperity Party by the current Prime Minister, Abiy Ahmed, from the rubble of the old governing coalition.

Hawassa Industrial Park (HIP) in 2015. By the end of 2019, more than ten federally led industrial parks were either operational or under construction across major urban centres. In parallel, several privately developed manufacturing parks also emerged, including Eastern Industrial Park in Dukem, Huajian Industrial Park near Addis Ababa, and Velocity Industrial Park near Mekelle (Zhang, 2024).

To support this rapid expansion, the Ethiopian government moved quickly to establish an enabling legislative, organisational, and financial architecture. Key executive and regulatory institutions were restructured and strengthened. In 2014, the Ethiopian Investment Board (EIB)—chaired by the Prime Minister—was created as the highest decision-making body for investment and industrial park policy. The former Ethiopian Investment Agency under the Ministry of Industry was upgraded to the Ethiopian Investment Commission (EIC) and placed directly under the Prime Minister's Office. At the same time, the Industrial Park Development Corporation (IPDC) was established by restructuring and strengthening the former Industrial Development Zone Corporation, also under the Prime Minister's Office (Mihretu and Llobet, 2017). Financially, industrial park development drew on a mix of international capital markets, concessional loans, donor resources, and government revenues. Notably, Ethiopia issued USD 1 billion in Eurobonds to finance several industrial parks, while donor funding was mobilised to support associated infrastructure development (Oqubay and Kefale, 2020).

The Evolution of Disputes

As Ethiopia's earliest industrial park, the Eastern Industrial Park (EIP) followed a development trajectory distinct from later government-led parks. It was planned, financed, and constructed primarily by the Chinese private developer Qiyuan Group. In 2008, a land lease agreement was signed between Qiyuan and the Oromia Regional Government for 400 hectares of land, leased for 99 years in two phases. For the first phase (233 hectares), land was leased at a highly subsidised rate of approximately 1 Ethiopian birr (ETB) per square metre per year, far below the prevailing sublease market rate of around 74 ETB/m² per year (Chen, 2021).

This concessional pricing created an immediate challenge for local authorities, who struggled to fully compensate communities displaced by land appropriation for the park. As a result, for the second phase of development, the local government required EIP to pay a substantially higher lease rate of 77.84 ETB/m² per year. Qiyuan paid the full amount—approximately 130 million ETB—to the local authority in May 2017. Nevertheless, as of 2022, the land had still not been fully transferred to the investor, as portions remained occupied by local communities whose designated relocation land had instead been repurposed by the local government for real estate development (Chen, 2021).

Beyond land acquisition, the early development of EIP was marked by a series of operational and regulatory challenges. These included difficulties in securing duty-free treatment for imported construction materials, persistent electricity shortages, challenges in attracting investors, and significant legal constraints on land subleasing. As investor interest gradually increased, demand grew for subleased land parcels and individual land certificates, which were essential for securing bank financing and investor confidence. However, Ethiopian land legislation did not permit the issuance of multiple land certificates for the same parcel. Resolving this impasse required nearly three years of negotiations involving the Prime Minister's Office, the Oromia Regional Government, and diplomatic engagement by the Chinese Embassy. Ultimately, a special interim arrangement was reached, allowing investors to obtain individual land certificates through contractual arrangements with EIP until new legislation could be introduced.

These early frictions played an important role in reshaping Ethiopia's industrial park strategy. In response, the federal government increasingly assumed a leading role in industrial park development

and positioned the IPDC as a federal land bank for park construction. From the outset of Bole-Lemi Industrial Park, the Prime Minister's Office assigned responsibility for preparing "clean" land to regional governments and city administrations. This approach was subsequently formalised through Industrial Park Proclamation No. 886/2015, Industrial Parks Regulations No. 417/2017, and Industrial Park Directive No. 06/2017.

Under this framework, the Ethiopian Investment Board—chaired by the Prime Minister—holds direct authority over key land-related decisions, including park size and lease pricing. The IPDC, acting as a federal land bank, can obtain leasehold certificates from regional authorities and either develop land itself or transfer it to other park developers. In practice, however, federal planning often involved ambitious land allocations, shifting significant responsibility for land expropriation and compensation to local administrations. For example, initial land requests for Kombolcha, Mekelle, and Adama Industrial Parks were 700 hectares, 1,000 hectares, and 2,000 hectares, respectively. Due to administrative constraints and the high financial costs of compensation and resettlement, actual developed areas were much smaller—75 hectares, 238 hectares, and 365 hectares.

Additional land pressures also emerged beyond the industrial parks themselves, particularly for road infrastructure linking parks to host cities and for worker housing projects proposed by the federal government. Road connections were implemented by the Federal Road Authority after park construction in several cases, while housing projects required coordination between the IPDC and regional and municipal authorities to secure land. Although investors financed construction, land provision added to the burden on local governments. As a result, negotiations over land allocation, compensation, and financing remained unresolved in several locations, including an ongoing court dispute between the IPDC and Hawassa City Administration over land lease arrangements (Zhang, 2024).

Ghana: Renewable Investments

Legal-Land Framework

Ghana's land governance system is characterised by legal pluralism, formalised in the 1992 Constitution, which recognises both statutory and customary land tenure. Under Articles 36(8), 257, and 267 of the Constitution, land ownership is vested in stools, skins, families, and clans, held in trust for their subjects, while the state retains authority over public lands and regulatory oversight. By the early post-constitutional period, it was widely acknowledged that roughly 80 per cent of land in Ghana remained under customary tenure, governed through lineage-based and community-defined rights rather than individual freehold ownership. Customary land rights historically regulated access to farmland, pasture, forests, and commons through negotiated social relations, producing layered interests such as allodial title, usufruct rights, leaseholds, and sharecropping arrangements (abunu and abusa) rather than exclusive ownership (Haller et al., 2019).

Since the 1990s, the administration of customary land has increasingly centred on traditional authorities, whose position was further consolidated through statutory recognition under the Chieftaincy Act, 2008 (Act 759). Chiefs are legally defined as custodians rather than owners of land, yet in practice they exercise wide discretionary authority over land allocation, including the leasing of large tracts to investors. Such authority is not merely customary but historically produced through colonial indirect rule and post-independence decentralisation, which positioned chiefs as intermediaries between communities, the state, and capital. While customary authority is often justified in terms of tradition, it is frequently exercised in ways that limit downward accountability, particularly where customary rules are unwritten and community-wide consent is not procedurally

required. As a result, land users with secondary or socially weaker claims—such as migrants, women, and pastoralists—remain especially vulnerable during moments of land reallocation (Kirst, 2020).

The Project Background

Since the mid-2000s, Ghana has actively promoted renewable energy as part of a broader strategy to enhance energy security, diversify its generation mix, and pursue low-carbon development. Early policy attention focused on biofuels, particularly jatropha, which were framed as a "win–win" solution capable of delivering rural development, reducing fossil fuel dependence, and utilising land characterised by policymakers as "marginal" or "underutilised." This policy momentum, evident in the Draft Bioenergy Policy (2005) and subsequent energy strategies, encouraged private investment but was accompanied by weak regulatory guidance on land acquisition, community consent, and compensation (Abubakari, Twum and Asokwah, 2020).

Within this national context, ScanFarm, a Norwegian biofuel company, entered Ghana in 2008 to cultivate Jatropha curcas for biodiesel production, leasing a large tract of land—approximately 13,000 hectares—in the Agogo Traditional Area of Ghana's Ashanti Region. Land access was negotiated primarily through the Agogo Traditional Council, in line with Ghana's customary-dominant land tenure system, where traditional authorities act as custodians of communal land. Land access for the ScanFarm project was secured through customary negotiations involving a symbolic "drink money" payment of about US$23,000 and a nominal annual rent estimated at US$1–3 per acre, well below market rates, reflecting the discretionary nature of customary land allocation and weak valuation mechanisms (Boamah, 2014).

As the project initially focused on jatropha cultivation for biodiesel, it aligned closely with state narratives that biofuel crops would not compete with food production. In this regard, the project thus exemplified the way Ghana's early renewable energy ambitions relied heavily on private investment mediated through customary land institutions, rather than through state-led land banking or coordinated spatial planning. Nevertheless, Ghana gradually retreated from land-intensive biofuels in the early 2010s, with national renewable energy policy increasingly shifting toward other renewable sources, such as utility-scale solar photovoltaic (PV) projects. Flagship projects have been developed, like the Nzema Solar Project in the Western Region, the BXC Solar Power Plant in Gomoa Onyadze (Central Region), the Kaleo Solar Plant in the Upper West Region, and later the Meinergy Solar Project near Ashalaja (Greater Accra). These projects were promoted under the Renewable Energy Act (2011) and subsequent energy strategies as offering clean energy generation with a smaller land footprint than biofuels, and with fewer risks to food security (Gavu et al., 2024).

The Evolution of Disputes

Conflicts surrounding ScanFarm evolved as the project moved from land acquisition to implementation. While the land lease was legally valid under customary tenure arrangements, many local land users—particularly smallholder farmers, migrant cultivators from northern Ghana(some of them had cultivated the land for decades without formal titles), and pastoralists—reported losing access to farmland, grazing areas, and common resources with limited consultation or compensation. These grievances were not merely reactions to displacement but reflected deeper concerns over who had the authority to allocate land and whose interests were prioritised in the pursuit of renewable energy development.

In particular, conflict in the Agogo area was shaped by power struggles within customary institutions themselves, rather than simply between investors/the state and communities. Chiefs defended the

deal as being in the "public interest," while affected farmers argued that they had never been consulted and that the lease violated their customary rights. Protests were sporadic but constrained by the power of traditional authority—most grievances were expressed through local petitions and NGO advocacy rather than direct confrontation. In this regard, chiefs and traditional elites used large-scale land transactions to reassert territorial control and redefine social hierarchies, often marginalising land users with weaker or secondary claims. These dynamics intensified as land values increased in response to biofuel and agribusiness investment (Bukari and Kuusaana, 2018).

Between 2011 and 2014, conflict around ScanFarm escalated and became highly politicised. Large-scale land holdings also intensified competition between crop farmers and Fulani pastoralists, contributing to violent confrontations and securitised responses. These conflicts were no longer confined to project boundaries but became entangled with broader debates over citizenship, belonging, and authority in the Agogo area. Simultaneously, civil society organisations, researchers, and the media increasingly framed ScanFarm as an instance of "land grabbing", linking local dispossession to Ghana's national biofuel strategy.

In the mid-2010s, however, ScanFarm—like many biofuel projects in Ghana—began to encounter operational and political difficulties. Declining global enthusiasm for jatropha, uncertain markets, and growing public criticism prompted the company to shift production away from biofuels toward food crops such as maize and soya. This transition reflected a broader recalibration of Ghana's renewable energy strategy, as biofuels increasingly lost legitimacy as a pathway. Nevertheless, the land footprint of these projects remained substantial, and the shift in crop focus did not resolve the underlying land governance challenges embedded in their establishment (Kirst, 2020).

In fact, evidence from emerging solar projects suggests that land access has remained a central challenge, even as the technology has changed. As with earlier biofuel projects, land acquisition for solar PV has relied heavily on negotiations with traditional authorities and private treaty arrangements, with statutory land institutions intervening primarily at later stages. While conflicts around solar projects have generally been less visible and less violent than those associated with ScanFarm and other biofuel investments, disputes over compensation, representation, and benefit-sharing have nonetheless emerged, especially where community expectations regarding employment or electrification have not been met.

Moreover, because the land acquired often exceeds immediate operational needs, recurrent land-related challenges arise during and after project establishment, particularly regarding land boundaries and future expansion. For example, misunderstandings about the initially agreed-upon land size have led investors to cede portions of the acquired land back to communities to maintain social harmony. These disputes are often exacerbated by the construction of security fences: where financial constraints prevent full perimeter fencing, subsequent fence installation may be interpreted by community members as a new land acquisition requiring additional compensation. At the same time, investors express concerns about future expansion, noting that adjacent land parcels are often deliberately kept undeveloped by local landholders in anticipation of rising demand from solar projects. This strategic withholding of land can contribute to inflated land prices, rendering expansion both costly and uncertain (Gavu et al., 2024).

Table 4: Comparative Summary Table. Legal–Institutional Contexts, Disputes and Multi-Scalar Politics

Dimension	**Mozambique: ProSAVANA & Nacala Corridor**	**Ethiopia: Industrial Park Programme**	**Ghana: Renewable Energy (Biofuels & Solar)**
Legal land regime	State ownership of land with legally recognised customary use rights (DUAT system, Lei de Terras 19/97). Communities hold perpetual use rights derived from occupation; investors obtain time-bound DUATs via consultation.	Constitutional state/public ownership of all land (1975 reform; 1995 Constitution). No private ownership; users hold usufruct rights subject to expropriation for "public purpose".	Legal pluralism under 1992 Constitution. ~80% of land under customary tenure (stools, skins, families). Chiefs act as custodians with wide discretion in practice.
Security of local land rights (in practice)	Formally strong but administratively fragile. State retains discretionary power to classify and reallocate land in the "public interest".	Use rights strong on paper but highly vulnerable to administrative reallocation; compensation based on improvements, not land value.	Highly uneven. Customary users with secondary claims (migrants, women, pastoralists) particularly vulnerable; weak downward accountability of chiefs.
Initial framing of land	"Underutilised" savannah suitable for modern agribusiness; technical zoning and master planning dominate early phase.	Land as a factor of production for industrialisation; parks framed as national public goods.	Biofuel land framed as "marginal" and non-competitive with food; later solar framed as low-impact and technical.
Primary arenas of conflict	Planning and consultation phase; legitimacy of master planning and zoning exercises.	Implementation phase: land transfer delays, compensation, certification, and intergovernmental disputes.	Acquisition and post-acquisition phases: authority of chiefs, compensation, boundary disputes, and future expansion.
Scalar dynamics of contention	Strong transnationalisation: local grievances → national mobilisation → alliances with Brazilian & Japanese civil society; lobbying donor governments.	Predominantly national–subnational: conflicts between federal and regional authorities; limited international activism.	Mainly local–national: customary politics, local violence; national NGOs and media frame conflicts as "land grabbing".
Outcome	Political stalemate followed by effective termination; project enters "hibernation" without large-scale implementation.	Institutional consolidation of a federalised industrial park model; persistent local land tensions.	Project reorientation (crop shift, solar); land conflicts persist in altered form.

6. Land Acquisition, Infrastructure-led Development and Structural Transformation

Conflict Management: Multi-Scalar Politics, Social Differentiation and The Role of State

In Africa's contemporary era of mega-projects, land has become a central frontier of socio-economic transformation—and, simultaneously, a focal point of conflict among diverse social groups. Such conflicts may, at best, delay project development, disrupt operations, and raise transaction costs; at worst, they can result in project suspension or termination. As noted earlier, land acquisition for mega-projects is rarely a one-off event. Rather, it is a prolonged and iterative process in which implementation frequently moves back and forth across stages. This reflects the complexity of negotiations among heterogeneous social actors operating across multiple political scales, within land governance systems that are often hybrid, ambiguous, and prone to overlapping and competing claims.

The timing and nature of contestation vary markedly across cases. In Mozambique, resistance emerged at the planning and consultation stage, with protests targeting the legitimacy gap between *de jure* land acquisition procedures and *de facto* practices. By contrast, in Ethiopia and Ghana, disputes largely surfaced during project implementation and day-to-day operation. The scalar configuration of conflict

also differs. In the case of ProSAVANA and the Nacala Corridor, resistance coalitions extended well beyond national borders, mobilising transnational civil society networks and international advocacy. In Ethiopia and Ghana, however, contention remained primarily local or national in scope. For example, in Ethiopia, disputes are predominantly national–subnational, with regional governments at times aligning with local communities to contest federal authorities and foreign investors. In Ghana, by contrast, conflicts are rooted less in state–community confrontation than in struggles internal to customary institutions themselves. As Kirst (2020) succinctly observes, "chiefs do not talk law; most of them talk power."

In principle, the state is expected to play a central role in managing this complex web of competing interests, coordinating and arbitrating among stakeholders around a shared development vision—whether framed in terms of connectivity, industrialisation, or energy transition (Andreoni and Chang, 2019). While ambiguous land property rights undeniably pose a significant governance challenge and call for stronger administrative capacity, the core issue is not merely whether land rights remain legally indeterminate. Rather, it concerns how the state aligns land acquisition processes with the interests of particular actors—most notably corporations—while maintaining political legitimacy in post-colonial democratic contexts (Bhaduri and Banerjee, 2025).

This challenge is especially acute in Africa, where land remains deeply embedded in historical claims, social identity, and distributive politics, and where civil society actors increasingly operate across both regional and international scales. As demonstrated most clearly in Mozambique—and to a lesser extent in Ghana—organised civil society, when equipped with resources and strategic alliances, can significantly reshape the trajectory of land-based conflicts. At the same time, state institutions themselves are not neutral arbiters but are shaped by competing interests and broader political-economic configurations. As the industrial park development in Ethiopia vividly illustrates, challenges can emerge from the vertical distribution of power in the system.

The Challenges to the Assumption of "Abundant Available Land"— Even in Sparsely Populated Areas

Infrastructure-led development strategies have long rested on an assumption of land abundance: the belief that African countries, characterised by relatively low average population densities, possess vast expanses of "idle," "marginal," or "underutilised" land available for investment. This assumption underpins the logic of large-scale land acquisitions and corridor-based development models, in which growth is imagined as a process of mobilising unused resources. It is particularly prevalent in customary tenure systems, where low cultivation intensity is often equated with land availability in the planning of agricultural, industrial, and energy projects.

Yet, as the ProSAVANA case in Mozambique demonstrates, such land is rarely empty. Areas appearing as shrubland or grassland in satellite imagery often support small-scale cultivation, seasonal grazing, or access to water and forest resources—forms of land use that are invisible to formal registries but integral to local livelihoods. Even in ostensibly low-density regions, such as northern Mozambique or central Zambia, land is frequently socially occupied and economically active rather than unclaimed. Persistent conflict over supposedly underutilised land thus reveals a fundamental mismatch between technocratic spatial imaginaries and lived realities of land use and social reproduction.

Moreover, large-scale infrastructure and investment projects do not merely mobilise land; they actively transform it into a strategic asset by generating new rent opportunities and intensifying speculative dynamics. As a result, land conflicts increasingly stem not from demographic pressure alone, but from anticipatory competition over future value. Migrant farmers, customary authorities, investors,

developers, and state agencies engage in ongoing struggles over property rights, compensation, and the distribution of land rents. Within existing legal frameworks and administrative practices, the critical questions therefore concern who qualifies as a legitimate stakeholder—particularly among existing land users—and according to what criteria land value and future rents are allocated.

These dynamics fundamentally undermine the long-standing assumption of "abundant available land" in Africa and help explain recurrent delays, failed negotiations, and implementation bottlenecks across the continent. On the one hand, land may not be available: even in sparsely populated regions, land is often socially saturated and seasonally utilised, producing overlapping rights and recurring contestation, as illustrated by Mozambique. On the other hand, land may not be abundant because its value is neither fixed nor fully transferable; rather, it remains subject to renegotiation as projects expand and expectations of future demand rise, as evidenced in the Ethiopian and Ghanaian cases.

Rural-Urban Linkages: Strengthening or Fracturing through Infrastructure Development

Last but not least, a critical rethinking of infrastructure-led development must move beyond the focus on corridor connectivity as an end in itself. Many mega-projects—ports, railways, highways, energy plants—aim to integrate African economies into global supply chains, but often bypass their immediate rural–urban hinterlands. According to satellite data, urban and peri-urban linkages in Africa are weaker than in Asia or Europe. Cities like Kinshasa and Luanda are surrounded by savanna mosaics rather than productive agricultural belts; along the Gulf of Guinea, urban growth is decoupled from food-producing hinterlands. This disarticulation implies that infrastructure development channels commodities outward rather than linking farmers, local processors, and domestic consumers.

Mega-projects such as the industrial park development in Ethiopia, ProSavana in Mozambique and ScanFarm in Ghana highlight this imbalance: land is mobilised for export-oriented or speculative uses, while local mobility, market access, and rural service provision remain secondary. To be socially transformative, infrastructure-led development must re-embed connectivity within territorial systems, fostering inclusive flows of goods, labour, and knowledge between rural producers and urban demand centres. In other words, infrastructure should enable more polycentric, multi-scalar linkages across regions through better-coordinated land use, meaningful consultation and participation of local communities and existing land users, and the development of feeder roads, local markets, and intermediate towns that act as nodes of distribution and transformation, thereby supporting local livelihoods and improving well-being.

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