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Green extractivism and financialisation in Mozambique: the case of Gilé National Reserve

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ABSTRACT

With the global environmental crisis intensifying, capitalism has extended the reach of financialisation through the creation of new financial assets that rely on further commodification of nature. Using the case of a national reserve in Mozambique, the paper examines the emergence of green extractivism as a consequence of deepening financialisation, an extractivism which is building on pre-existing relations of unequal and asymmetric exchange between industrialised and extractive economies. The article focuses on the linkages between financialisation and extractivism and nature-based financial mechanisms, whose operationalisation impacts on rural social reproduction. It is argued that the emergence of green extractivism, supported by green funds and loans, is intensifying the extractive character of the Mozambican economy. The case study shows, that with the support of philanthrocapitalism, the process of financialisation led by mature economies supports the appropriation of nature through green extractivist programmes in the periphery, with adverse implications for development and for rural subsistence.

KEYWORDS

Green extractivism; financialisation; land grabbing; rural livelihoods; Mozambique

PALAVRAS-CHAVE

Extractivismo verde; financeirização; usurpação de terras; subsistência rural; Moçambique

Extractivismo verde e financeirização em Moçambique: o caso da Reserva Nacional do Gilé

RESUMO

Com a intensificação da crise ambiental global, o capitalismo alargou o domínio da financeirização por meio de criação de novos activos financeiros baseados em uma maior comodificação da natureza. Com enfoque no caso da Reserva Nacional do Gilé, o artigo explora a emergência de uma nova variação de extractivismo, o extrativismo verde, como consequência do aprofundamento da financeirização; que também se baseia em relações pré-existentes de intercâmbio desigual e assimétrico entre economias industrializadas e economias extractivas. O enfoque do artigo recai sobre as ligações entre financeirização e extrativismo e os mecanismos financeiros baseados na natureza, cuja operacionalização impacta a reprodução social rural. Argumenta-se que o surgimento do extrativismo verde, apoiado por fundos e empréstimos verdes, tem intensificado o existente caráter extrativista da economia moçambicana. O estudo de caso mostra que, com o apoio do filantrocapitalismo, o processo de financeirização liderado por economias maduras acomoda a

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apropriação da natureza por meio de projectos extrativistas verdes na periferia, com implicações adversas para o desenvolvimento e principalmente para a subsistência rural.

Introduction

In the last two decades, Mozambique has registered high levels of investment in three sectors that profoundly shape national patterns of capital accumulation: the extractive industries, agriculture and infrastructure. These investments have caused an increase in land grabbing, with negative consequences for rural livelihoods (JA and UNAC 2011). Mozambique has also seen an increase in 'green' investment, brought about by global climate change policies, which are a distinct feature of contemporary capitalism. The Intergovernmental Panel on Climate Change's (IPCC) 2019 report focused on climate change and land by suggesting that land-based mitigation programmes are the main solution for the climate crisis. The report states that 'future land use depends, in part, on the desired climate outcome' (IPCC 2019, 26). Responding to the deepening global environmental crisis, international financial institutions have been funding 'climate-smart policies' aiming to promote supposedly 'green' development and to support transition to a 'low-carbon growth' (The World Bank 2010a, xx).

Reducing emissions has become a key element in contemporary capitalism's processes of production, distribution and consumption. Peripheral countries are less industrialised than core countries and remain underdeveloped (Amin 1977). They are very vulnerable to climate change and also tend to have a huge biodiversity potential, which leads to them hosting several 'green' projects to mitigate the global environmental crisis. 'Green' projects are mostly implemented in the rural areas of peripheral countries and should therefore be analysed by integrating environmental questions into agrarian questions (Bernstein 2010).

This paper explores the current dynamics of the agrarian question by integrating climate change narratives and policies, and their implications for rural livelihoods in Mozambique, through analysis of the Gilé Natural Reserve. The research underlines past and present asymmetric relations between peripheries and centres, applying insights from world-system and centre–periphery theories alongside notions of imperialism and sub-imperialism (Amin 1977; Bond 2016; Patnaik 2014; Shivji 2009).

Mozambique has been receiving multiple loans and grants from financial institutions and philanthropic organisations to implement climate change mitigation and adaptation policies, due to its high environmental vulnerability and biodiversity potential. These policies, portrayed as the solution to the current climate crises, are mostly land-based. Besides, they are defined alongside patterns of capital accumulation, overlapping with political agendas for the development of eco-tourism businesses in conservation areas and the expansion of carbon markets (Apostolopoulou, Greco and Adams 2018; Arsel 2019; Arsel and Büscher 2012; Fairhead, Leach and Scoones 2012).

Both efficiency-driven and green-driven projects ultimately sustain capital accumulation, intensifying the process of financialisation through land grabbing and the appropriation of nature. Financialisation has been theorised to put poorly performing production in relation to the ascendancy of finance (Lapavitsas 2011) and the

incorporation of finance into ever-increasing domains (Castel-Branco 2016), often with adverse implications for the real economy. Adverse implications include weakened macroeconomic stability, a lack of expansion of the productive forces – associated with little employment generation, and the triggering of speculative bubbles (Castel-Branco 2016; Fine 2013; Lapavitsas 2011).

The negative impact of financialisation tends to spread across all the sectors of the real economy. In Mozambique, 'climate-smart' or 'green' projects are heavily financialised and have a profound impact on rural areas. In this context, the research explores the links between financialisation and extractivism, particularly focusing on the appropriation of nature through the case study of a 'green' project – Gilé National Reserve – and its impact on rural livelihoods.

Gilé National Reserve covers an area of 2860 square kilometres in the districts of Pebane and Gilé in Zambézia province. The reserve was identified as one of the first target areas for the implementation of the Reducing Emissions from Degradation and Deforestation (REDD+) initiative. REDD+ is a land-based climate change mitigation policy, linked to the UN Framework Convention on Climate Change, that aims to reduce emissions in different ways, combining environmental goals with community development goals. In the case of Gilé National Reserve, the project is financed by the Mozambique Forest Investment Project (MozFIP, part of the national directorate of forests) and aims to promote community-based forest management, agro-forestry, sustainable charcoal making and reforestation to restore degraded areas (MITADER 2016).

Fieldwork was conducted intermittently between 2018 and 2019 through qualitative methods including participant observation; document analysis of grey literature; 37 semi-structured interviews; and three focus groups with smallholders (8 to 10 participants). Interviewees included 25 heads of household, three non-governmental organisation (NGO) representatives, two local government officials, one corporate actor, four administrative staff from the Reserve, and two representatives from grassroots social movements. Primary data were analysed against the background of secondary data at the national level, including quantitative macroeconomic indicators to further understand the structure of the economy and financialisation. For these, data analysis included descriptive statistics and graphs constructed to further understand macroeconomic performance of selected variables. Qualitative data were analysed through a purposeful approach of constant comparison (Boeije 2002). Using Atlas.ti, a qualitative data analysis tool, the data set underwent a process of open coding followed by axial and selective coding in order to trace processes, build storylines and identify causality and links between processes and outcomes.

The theoretical framework combines concepts from political economy class analysis (Marx 1976 [1867]), land and resource grabbing (Borras and Franco 2012) and the appropriation of nature (Gudynas 2021) – with concepts from political ecology, such as the second contradiction of capitalism (O'Connor 1998), the role of nature in wealth production (Bunker 1984) based on uneven relations between peripheries and centres that feed uneven global development (Amin 2012; Shivji 2009; Smith 1990), and the ability of capitalism to convert its own crisis into a new accumulation strategy (Arsel 2019).

The paper argues that Mozambique is witnessing the emergence of a variation of extractivism based on the appropriation of nature: green extractivism. Green

extractivism is legitimised by the global fight against climate change, reproduced through different levels of labour exploitation and funded by 'green' financialisation. Green extractivism is intensifying the extractive character of the Mozambican economy with augmented negative implications for rural livelihoods and social reproduction.

The paper is organised as follows. The next section theorises green extractivism and its variations, connecting this process to financialisation and examining its implications for rural livelihoods. The third section provides a brief analysis of macroeconomic indicators in order to understand the underlying features of Mozambique as an extractive economy and the impact of financialisation on a peripheral country. The fourth section explores the case of Gilé National Reserve, focusing on the dynamics of green extractivism in rural areas. The fifth section concludes.

Theorising green extractivism

Extractivism is defined as a 'mode of appropriation' (Gudynas 2010) of natural resources with the aim of serving 'human purposes in their social and environmental contexts' (Gudynas 2021, 28). Extractivism as a concept often refers to the existence of asymmetric and unequal exchange relations between extractive economies and industrialised economies. Extractivism is therefore also a mode of accumulation (Acosta 2013) based on the appropriation of natural resources on a large scale, where the extraction happens in the periphery for export 'as raw materials to global markets' (Petras and Veltmeyer 2014, 252).

There are distinct 'variations of extractivism', given that across economic sectors there are many different mechanisms through which resources/commodities are extracted, appropriated and transferred from extractive hubs to industrialised centres (Bruna 2021). Analysing the variations of extractivism makes it possible to identify the different patterns of appropriation of nature and expropriation that occur through resource grabbing and extractivist schemes. Each variation of extractivism is based on distinct forms of appropriating nature with differentiated levels of labour exploitation. The classic 'mining and energy' extractivism implies much less labour exploitation in comparison to agrarian extractivism, which relies on higher levels of labour exploitation.

Extractivism is a concept that has been extended beyond the classic domain of mining to include agriculture, forestry and fishing (Ye et al. 2020) that can also be part of the extractivist scheme of production. To this end, the concept of agro-extractivism or agrarian extractivism (Alonso-Fradejas 2015, 2021; McKay 2017; Petras and Veltmeyer 2014) is seen as the agrarian question of the twenty-first century (*ibid.*) in which the removal of unprocessed natural resources happens within the agricultural sector.

Within this debate, I define green extractivism as a variation of extractivism that feeds capital accumulation through the appropriation of nature, mediated through differentiated levels of labour exploitation and through asymmetric and exploitative social, economic and ecological relations. Extractivism explicitly sets out a geographic distinction between dispossession sites in the periphery and processing sites in the core countries, stressing that capital accumulation occurs through unequal exchange and uneven development throughout the whole circuit and flow of primary commodities, from the

extraction phase to the consumption phase. Accumulation is materialised throughout multiple levels of the commodity value chain and therefore extractivism is also about the circuit and flow of commodities (Ye et al. 2020).

Extractivism reproduces asymmetric exchange relations that contribute to uneven development among regions – extractive, productive and consumption regions. Amin (2012) argues that the global expansion of capitalism is polarising and imperialist in nature as it results in the integration of a small minority and exclusion of a vast majority while destroying the natural ecological base. The production of nature is the material of uneven development (Smith 1990) as recognised by dependency theorists, who transversally approach appropriation of nature – the creation of spaces and production of nature that ultimately undermine reproduction in extractive regions of the periphery – in order to accommodate production, reproduction and consumption in industrial regions of the centre.

Extractivism exposes the roots of uneven development while holding accountable the multiple actors that accumulate and extract rents. This conceptual framework also makes it possible to grasp specific implications and adversities in extraction sites that accommodate external accumulation. The concept of extractivism shows that capital accumulation is highly reliant on wealth creation based on the appropriation of nature, underlining the adverse implications of ecological asymmetric exchange relations to the extractive core. Extractivism stifles the country's economic production while undermining the basis of the social reproduction of the rural population.

Differentiated mechanisms of resource grabbing reveal differentiated variations of extractivism. In Mozambique the implementation of climate change policies that answer directly to the international agenda of reducing emissions and carbon sequestration was predicated on resource grabbing and the expropriation of emissions rights from the rural poor (Bruna 2021). As argued elsewhere, emission rights are expropriated and then transferred to carbon permit buyers, who are going to further accumulate externally by selling carbon permits or even by using them.

On this basis, I argue that green extractivism has arisen as an innovative way in which capitalist production, reproduction, consumption and accumulation unfold. Green extractivism is a vehicle for the appropriation of nature through the implementation of land-based projects funded through climate change policies, such as carbon sequestration projects like REDD+, but also 'green' investments like tree plantations and biofuel production.

This debate relates to the concept of 'green grabbing', which is defined as the appropriation of natural resources for environmental ends (Fairhead, Leach and Scoones 2012). While 'green grabbing' as a concept focuses on the process of resource grabbing as a driver of dispossession and hidden accumulation agendas, the concept of green extractivism allows us to explore asymmetric exchange relations – including ecological relations – between actors and regions that feed accumulation. Green extractivism connects micro and macro implications of those asymmetric exchange relations, including financialisation dynamics. The following section analyses how green extractivism has been reinforced by financial investments and amplified through the process of financialisation.

Green extractivism and financialisation

Financialisation is a transformation of mature economies where corporations acquire their own financial capacities, households are more involved in finance and banks

shift their focus of operations (Lapavitsas 2011), resulting in new forms of profit but also the precipitation of global crises (Lapavitsas 2013). The dynamics of financialisation in the periphery are different from those in core countries (Musthaq 2021). Profit based on financialisation in core countries relies on a variety of sophisticated financial mechanisms, while in developing countries 'accumulation manifests in a more rudimentary form', meaning that profit is generated through interest-bearing capital – and in the peripheries the interest rates are higher (*ibid.*, 19). Borrowing is used to generate surplus including when the lending or debt portfolio is bundled into an asset that is able to be sold and resold (Castel-Branco 2016).

While financialisation originated in mature economies, it has been transferred to middle-income and developing economies and has led to a systemic transformation of capitalism and capitalist accumulation (Lapavitsas 2013) and to a further push to resource grabbing and land grabbing in developing countries (Fairbairn et al. 2014; McMichael 2012: Ouma, Johnson and Bigger 2018). Through this transformation, financialisation became a crucial conductor in current dynamics of accumulation, resource grabbing and extractivism. Its most direct impact on the periphery has been deindustrialisation and the loss of productive work opportunities (Castel-Branco 2019; Fine 2013; Hendler 2015; Lapavitsas 2013).

Green extractivism is reinforced by financialisation in the periphery and compounded by responses to global environmental crisis and asymmetric ecological exchange relations. In countries such as Mozambique, the state is hostage to international development agencies and financial institutions, lacks capacity, and relies on alliances between financial institutions and philanthropic organisations to implement green policies. External actors finance the general public budget and are involved in multiple aid and humanitarian projects in all the key sectors. These financial relations make the peripheral state subservient to international agendas, which shape its economic policies and goals.

The dynamics of financialisation of core countries intensify the existing dependency of peripheral countries, shaped by trade relations and foreign direct investment (FDI), which causes increased indebtedness and deindustrialisation (Musthaq 2021). The peripheral state has a determining role in accommodating financialisation and extractivism in peripheral countries and the resulting accumulation based on nature appropriation.

While mainstream institutions praise high rates of economic growth based on extraction, even when productive forces in other sectors are not developed, Amin (2016) argues that extractivism limits the possibility of establishing a sovereign project and sets African countries on a dead-end path of dependence, deindustrialisation and increased rural surplus population. Under this light, green extractivism disregards the gravity of the environmental crisis and deindustrialisation of the peripheries, while prioritising climate change goals which are set with the interests of core countries in mind.

This vision is consistent with Shivji's argument that the agrarian question in Europe was not resolved, but exported to the South (Shivji 2019). Climate change, pollution and environmental degradation are among the many fundamental contradictions of capitalism that 'are today concentrated in the agrarian question in the South' (Shivji 2019, 293). Periphery–centre relations are to be acknowledged as a central part of today's highly financialised climate solutions.

Green extractivism and philanthrocapitalism

Philanthrocapitalist organisations redirect government funds for their own projects and goals, while exacerbating the defunding of other sectors. This mechanism furthers the loss of public funds and of public deliberation on urgent social problems (Thompson 2018, 53). Thus, philanthrocapitalism arises as the 'next expression of neoliberalism' (Thompson 2018, 51). Several private foundations invest in charitable programmes that bring large returns back to the foundations (Mushita and Thompson 2019). Philanthrocapitalist foundations operate on three implicit assumptions: (1) financial wealth is equalled to technical expertise; (2) private interest acts for the common good; and (3) technical expertise is promoted over and above democracy (Thompson 2018). The operations of philantrocapitalism result in reduced public political participation and the imposition of private interest goals into public spaces (*ibid.*; Thompson 2018).

Overall, several international actors are determinant in the conception and implementation of climate change policies in many biodiversity-rich African countries where financialisation and philanthrocapitalism reinforce each other, intensifying dependency patterns. Thus, it becomes crucial to address the role of several actors and their nature-based financial mechanisms and transactions (funds, grants, loans – green finance mechanisms) that certainly incorporate vehicles of capital accumulation. The state is neither passive nor powerless: it actually plays an active role in the process of converting green policies into accumulation strategies, through its support to the implementation of green extractivism projects.

Financialisation, green extractivism and underdevelopment

Financialisation and philanthrocapitalism fuel dependency in the global South and lie beyond the conventional processes of production and trade through which capitalism facilitates exploitation and extraction (Musthaq 2021). In the context of a financialised global economy, and building on dependency theory, Musthaq argues that 'imperialist rent is not limited to labour arbitrage but also includes financial arbitrage' (*ibid.*, 15). The call for a climate-smart world led to a wave of 'green' financialisation, with financial funds, grants and institutions investing in conservation and other climate crisis projects from mainstream institutions that most refer to as 'conservation finance' and 'climate finance' (Meyers et al. 2020), where the latter focuses on climate change initiatives, some of which overlap with conservation plans.

Conservation finance and climate finance fund public and private green investments, such as protection of biodiversity and landscapes, energy efficiency and so on. They also fund green public policies and the creation of new components in the financial system that deal specifically with green investments, such as the Green Climate Fund, financial instruments for green investments (such as green bonds and structured green funds) and the creation of specific legal, economic and institutional frameworks for green investments. They promote a range of different financial mechanisms 'pegged' to nature in order to achieve their goals. Among them are returns-based investments that seek both positive environmental impacts and financial returns to investors.

Climate-smart policies and the financial mechanisms through which they are implemented paved the way for the emergence of green extractivism, which is coherent

with accumulation strategies. In many cases, the purposes of financialised conservation programmes are not met (Arsel 2019; Kemp-Benedict and Kartha 2019; Ouma, Johnson and Bigger 2018). Green financialisation and philanthrocapitalism deepen the appropriation of nature that benefits core countries, deepening green extractivism in peripheral countries.

In the rural areas of the periphery, green extractivist projects like those for carbon sequestration are based on exploitative labour relations. These projects are based on both direct exploitation of labour and indirect exploitation in the realm of social reproduction, which is heavily gendered (Bruna 2021). This is the starting point to address the effects of 'green' financialisation on the real economy, particularly the implications to rural livelihoods in terms of labour, land and nature. The following section moves to the analysis of the national context of Mozambique, before zooming in on the case study of Gilé National Reserve.

Extractivism, financialisation and resource grabbing in Mozambique

This section explores the extractive character of the Mozambican economy, dominated by mining, energy and agrarian extractivism. Macroeconomic indicators are analysed in order to understand the underlying features of an extractive economy. In the 2000s, the Mozambican economy was marked by considerably high annual growth rates at approximately 7–8% on average. The current economic policy is dominated by the 'economic efficiency' approach, which is based on large-scale natural resource extraction, mainly through large-scale investments.

Investment reached its maximum in 2019 (60% of GDP) (see Figure 1) and these large volumes of investment contribute to the high rates of economic growth registered. But after the latest events related to hidden and unconstitutional debts by the government in 2016–2017, the economic crisis intensified and growth decelerated to approximately 4% (INE, database).[1] In 2018, preliminary statistics showed that the rate of growth was close to 4%, although mainly fed by the growth in the extractive industry, particularly by the new investments in natural gas extraction in the north of the country. Total FDI in 2018 represented 20% of GDP (Banco de Moçambique 2018).

This is the 'extractive core of the economy' (Castel-Branco 2014). Castel-Branco argues that despite the high rates of growth, the economy 'has been ineffective and

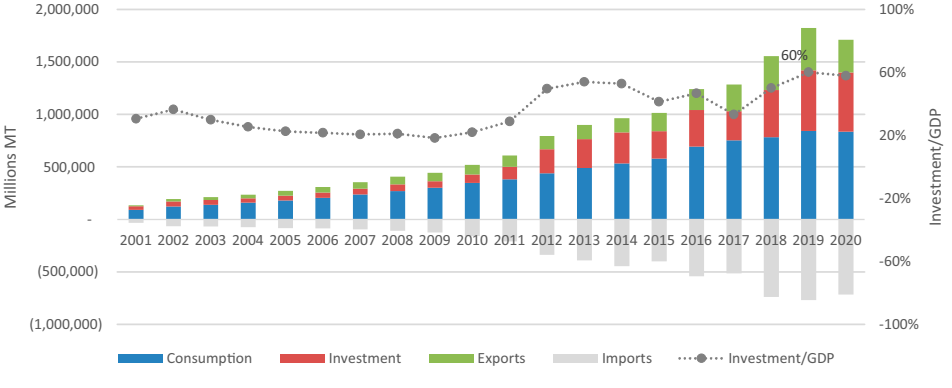


Figure 1. GDP and ratio of investment to GDP, 2001–2017. Source: INE database.

inefficient at reducing poverty and providing a broader social and economic basis for development' (Castel-Branco 2014, 26). This phenomenon is based on three interlinked processes: the maximisation of inflows of foreign capital without political conditionality; the development of linkages between those inflows and the domestic accumulation of national capitalist classes; and a labour system with an idle labour reserve and under-remunerated workforce. The high rates of growth recorded by the Mozambican economy over the last decades did not translate into economic development (Castel-Branco 2014; Mosca 2005; Mosca, Abbas and Bruna 2013). Despite reaching the 'desired' rates of economic growth, rural poverty rates stayed high, inequality has been increasing, food shortages are recurrent, youth unemployment remains high and access to basic public services (water, health and education) is a major concern, especially in rural areas.

Despite three decades at high rates of economic growth, the economic sectors have not been growing proportionally (see Figure 2), and the structure of the economy's GDP has been changing. The extractive industries have grown the most, going from the lowest to the second largest sector. During the same period, the agricultural sector and the manufacturing industry have diminished as a proportion of GDP, while economic and public resources have been directed to the extractive industries. This scenario is further directing the country towards the economic and social framing of an extractive hub.

Between 2001 and 2018, approximately US$47.6 billion was approved for investment in Mozambique. In the period from 2015 to 2019, the main source of financing was loans (mainly external loans) representing 75% of total FDI; no profits were reinvested, and the remaining 25% was financed through shares. The period before 2019 shows an even higher percentage of FDI financed by loans, close to 80–90% (Central Bank database). This shows how financialisation dynamics from mature economies can relate to peripheral economies.

In 2013, total FDI peaked at around US$6.697 billion, with a focus on infrastructure projects, especially export-oriented transport structures (Banco de Moçambique 2018). In the last five years, FDI has been fluctuating between US$2 and 3 billion and largely financing infrastructure mega-projects, which represent 60% of total FDI from 2011 to 2019, the biggest proportion of this being in extractive industry – coal, natural gas, heavy sands and rubies (see Figure 3 and 4).

Economic growth in Mozambique is predominantly fed by FDI that is sustained by financialised dynamics in core countries. National economic performance is basically

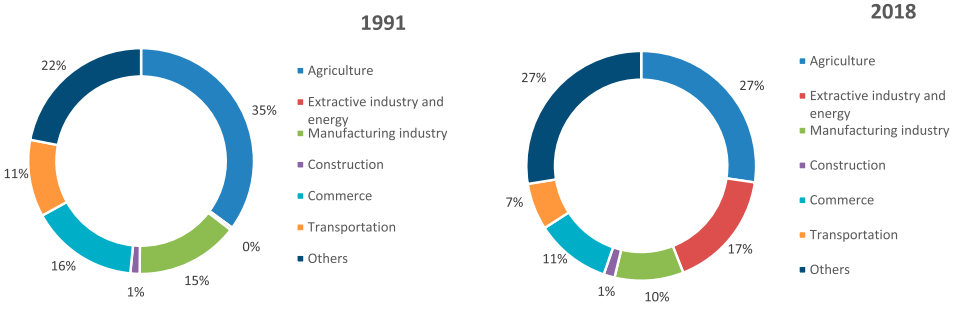


Figure 2. Mozambique's GDP by sector of the economy, 1991 and 2018. Source: INE database.

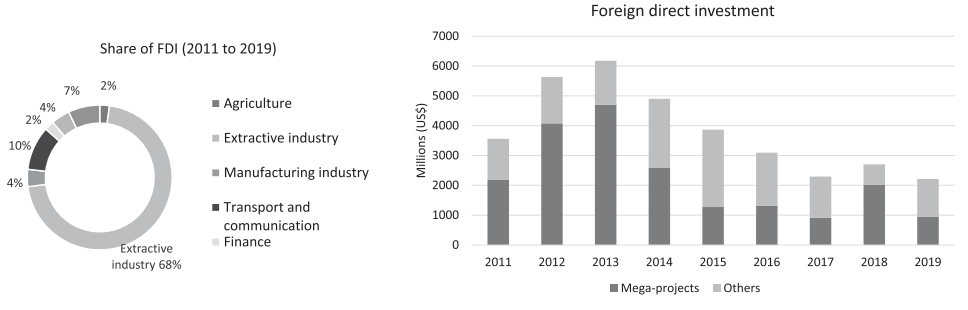
guided by FDI in mega-projects, seeking for raw materials and energy to export to international markets, without promoting industrialisation. The majority of FDI is extractivist in nature, reinforcing the export of unprocessed commodities without the creation of processing units or manufacturing industries. Most of these invest in infrastructure rehabilitation, construction and maintenance in order to facilitate transport of their commodities to international markets. This is part of framing the economy as a proper extractive hub, where most investments are transforming the country to accommodate commodity flows into international markets.

Extractivism, underdevelopment and relative surplus population

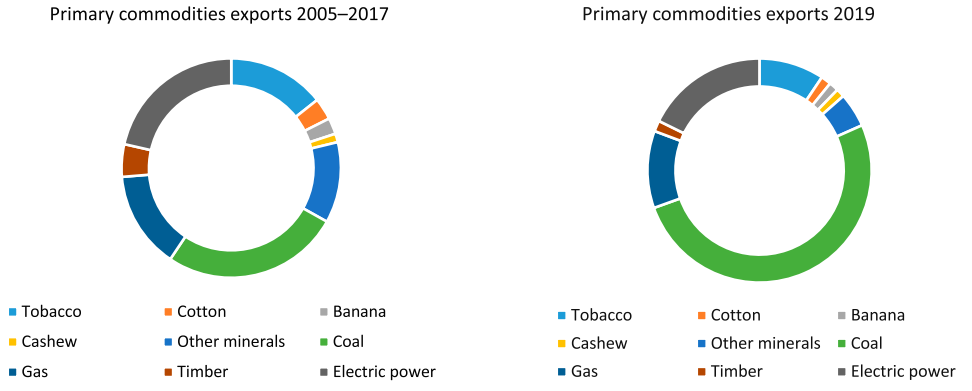
In the last two decades, the largest proportion of investment into the country has been in response to international markets. An important indicator of an extractive economy is the structure of exports, which is a better indicator than the volume of exports (Castel-Branco 2010; Hausmann, Hwang and Rodrik 2007). More than 40% of exports are primary commodities (agricultural and mineral) and energy. The structure of exports (see Figures 5 and 6) shows that Mozambique has specialised in providing raw materials and energy and has become a major exporter of primary commodities, including unprocessed or partially processed agricultural and mineral commodities.

The kinds of primary commodities exported are a clear indicator that the country is providing cheap raw materials and energy for external industrialisation, mainly in core countries or emerging industrialising countries. This situation can be interpreted in the sense either that the country does not have the economic framing and capacity to industrialise, or that investors are unwilling to invest in productive capacities in Mozambique and prefer to invest in Brazil, Russia, India, China and South Africa – the BRICS countries, which also constitute the main destination of exports, particularly South Africa, India and China. Mozambique is fuelling external industrialisation while the development of internal productive forces towards industrialisation is undermined.

With low levels of industrialisation, domestic capital is unable to supply capital and manufactured goods to FDI and mega-projects. Consequently, the volume of imports of capital goods and manufactured goods increases at rates similar to FDI. Between 2005 and 2017, the four main categories of imported goods into Mozambique have been capital goods and machinery (21%), fuel (13%), grains (7%) and automobiles



Figures 3 and 4. Foreign direct investment in Mozambique: by sector of the economy and in US$, 2011–2019. Source: Secondary data from Banco de Moçambique (n.d.).[2]



Figures 5. and 6. Exports of primary commodities by sector, comparing 2005–2017 and 2019. Source: by the author, based on Banco de Moçambique (n.d.).

(6%). South Africa, India and China play a major role in providing machinery, manufactured goods and fuel specifically for the operationalisation of FDI and mega-projects. Between 2009 and 2015, almost half of total imports were supplied by the BRICS states, with South Africa as the main seller, alongside the increasing importance of China and India.

According to the Mozambican central bank report for 2019 (Banco de Moçambique 2019a), around US$1.365 billion was invested in machinery and infrastructure for gas exploration activities in the north of Mozambique (Areas 1 and 4 of the Rovuma Basin). Only for that reason did the country's capital goods imports increase by 26% (Banco de Moçambique 2019b). Mozambique's role as a primary commodity supplier undermines its own ability to internally industrialise and supply the internal market needs, making it increasingly dependent on external resources both to dynamise the economy with high levels of FDI and to fulfil domestic needs through imports. Therefore, external actors are benefiting from rent extraction based on the country's natural resources, undermining economic production and reproduction that sustain a sustainable development path. The extraction of rents from Mozambique's natural resources is bound to reproduce dependency cycles and underdevelopment in the country. These processes frame the country as an extractive hub, including the setting up of infrastructure and transportation that support the flow of commodities.

As the first section showed, the flow of commodities is one of the central points to be analysed regarding the dynamics of extractivism. Thus, infrastructure projects such as railways, ports and roads were financialised throughout recent decades to accommodate FDI and the flow of commodities from mega-projects. Development corridors, railways, ports, roads and airports are built with the aim of connecting FDI and extraction areas to international markets and global circuits of commodities: after the extractive industries, the export-oriented transport infrastructure is the sector that has grown the most, representing around 16.5% of total FDI in 2019 (Banco de Moçambique 2019b).

The financialisation of infrastructure supports financialised extractivism. The biggest exporters are mega-projects that are usually connected with big logistics projects, infrastructure and transportation companies. Examples include the mega-project Vale

Moçambique for coal extraction; the construction, rehabilitation and maintenance of the railway (912 km) and the port, which includes a coal terminal; the Sasol project for natural gas extraction; and the construction of approximately 800 km of pipeline to South Africa.

Among many donors and besides the World Bank and African Development Bank finance programmes, the finance programmes of countries such as India, Portugal and Denmark related to the construction of infrastructure, including bridges and roads. Recently the government announced that part of the storage and distribution strategy of liquefied natural gas will be supported by a terminal project in the Beira region financed by the Export and Import Bank of India. China is increasingly financing the Mozambican public budget through this bank: US$179 million was disbursed to projects including the Zambeze Vale and Maputo's international airport.

The construction and rehabilitation of supporting infrastructure for extractivist investments in Mozambique are highly related to financialisation. China's financialised involvement in Mozambique is already shown in the government's general budget and external debt. In 2015, Mozambique's biggest lender was the World Bank, at approximately 43% of total credit received in 2015, and China was already among the biggest lenders, at around 27% (MEF n.d., annual budget for 2015). With a lot of financial 'aid' and loans directed to infrastructure development to support the flow of commodities in, within and out of the country, China became the largest lender in 2017, supplying 43% of total credit, followed by the World Bank, whose loans represented 21% of Mozambique's total credit for that year (MEF n.d., annual budget for 2017). In 2018, China was still the largest lender, at around 35% of total credit while the World Bank was still the second largest, supplying approximately 28% of total credit (MEF n.d., annual budget for 2018).

The financial burden of the construction and rehabilitation of infrastructure that support the flow of commodities is also transferred to the state, thus contributing to the country's growing public debt. Essentially, the Mozambique's population is carrying the burden of the infrastructure development of FDI and mega-projects that ultimately undermine production and reproduction at the national and local level.

Within investment and financial dynamics, employment constitutes an underlying issue to be analysed. Relative surplus population is much more predominant in countries where extractivism rather than industrial capitalism dominates, as investments tend to absorb less labour, contributing to the increase of surplus population. Despite the high inflows of FDI across sectors, unemployment remains at high levels.

Most of the FDI is directed to rural areas, where a large proportion of the population works in the agriculture sector as their main source of livelihoods and income. Around 70% are considered small-scale or subsistence farmers, and around 3% are agricultural workers (INE 2016). The dispossessed lose access to land and forest resources, thus losing their livelihoods without any employment opportunities in view, especially as many green extractivism projects do not require labour (see Figures 7, 8 and 9). This process increases the already large army of rural surplus population, without putting in place wealth redistribution mechanisms.

We have established that efficiency-driven extractivism nurtured by financialisation has unfolded in Mozambique and consolidated the extractive character inherited from colonial patterns. Several 'green' programmes are realised through financial mechanisms involving development banks and philanthrocapitalist foundations. In this context, green

extractivism becomes a mechanism to comply with the international agenda on climate change. In the following section, we analyse how the different financial mechanisms that support mitigation and adaptation policies unfold, and the ways in which they operationalise their activities.

Green financialisation in Mozambique

In Mozambique, many financial institutions and financial groups operate through climate and conservation funds, which claim to tackle the impact of climate change on vulnerable livelihoods while reducing emissions from developing countries. The most prominent green funds disbursed to Mozambique are the Green Climate Fund, the Climate Investment Fund and the Conservation Finance Alliance. These institutions collect funds from donors and investors, to subsequently disburse them as loans, grants and other financial mechanisms through development banks. The development banks usually partner up with the government and with private investors, non-profit organisations and institutions to implement policies on the ground.

For instance, the Climate Investment Fund was established in 2008 with 14 donor countries that contributed around US$8 billion. Those resources are held in trust by the World Bank and are disbursed as grants, loans and financial mechanisms to recipient countries through multilateral development banks. By working exclusively with multilateral development banks, the Climate Investment Fund claims that it benefits from the ability of 'banks to leverage financing, mobilise other actors, and harmonise policy support'; and that by so doing it is benefiting 'recipient countries, climate-friendly market growth and the [multilateral development banks] themselves'. One of the projects that the Climate Investment Fund supports is the MozFIP project, providing US$24 million (US$10.8 million in grant and US$13.2 million as a loan) to support the National REDD+ strategy in order to reduce emissions and promote rural development.

Another example is the Foundation for the Conservation of Biodiversity (BIOFUND), a private financial institution that aims to finance biodiversity conservation in Mozambique, and a strategic partner of the National Administration of Conservation Areas (ANAC). ANAC, a public entity that deals with conservation areas, was recently

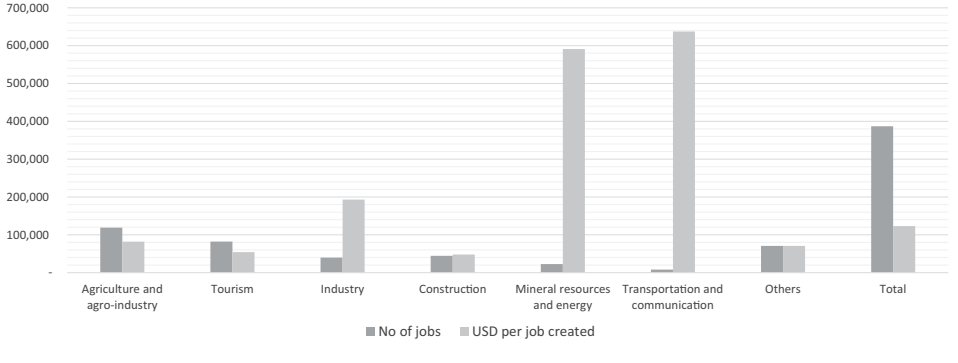
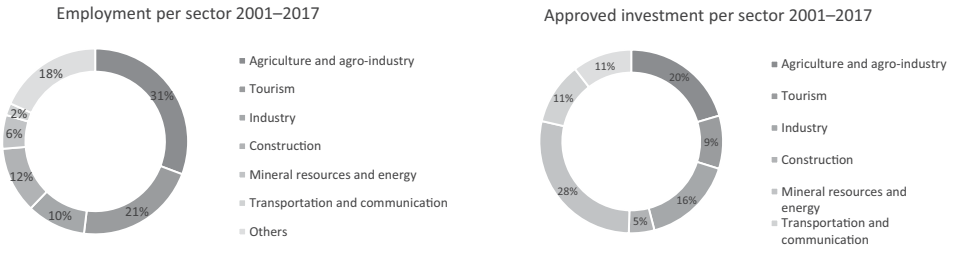


Figure 7. Ratio of the volume of investment per number of jobs to the number of jobs (in comparison to approved investment per sector). Source: compiled by the author author based on Centro de Promoção ao Investimento (CPI) database.



Figures 8 and 9. Employment creation and approved investment by sector, 2001–2017. Source: by the author, based on CPI database.

created and constituted with the support of the World Bank. But BIOFUND works closely with ANAC by financing biodiversity conservation in Mozambique, with the promotion of the concept of a 'conservation trust fund' guided by the parameters defined by the Conservation Finance Alliance.[3] Most of the public and private organisations active in biodiversity conservation in Mozambique are members of BIOFUND. This institution raises two separate types of funds. The first type consists in funds for investment and endowment, with approximately US$37.2 million raised from 2014 to 2019, constituting the third largest environmental endowment fund in Africa. The second type of funds for direct application are sinking funds (in which the value of the grant is used in its entirety). In 2019, sinking funds were directed to around 5.3 million hectares of protected land area in the country (BIOFUND 2019). For the endowment, the main contributors included the German Development Bank (KfW), the World Bank and Conservation International. Around 90% of the earnings were reinvested and the remainder was disbursed. The constitution of such funds illustrates the ascendancy of finance into the environmental domain, beyond the agricultural and extractive sector.

Philanthropic organisations are also part of these operations. For instance, BIOFUND receives support from partners such as the Peace Park Foundation, USAID, Austrian Cooperation and many others, specifically in the process of designing and implementing green extractivism projects. BIOFUND is channelling funds to green projects covering over five million hectares of land in Mozambique. This is already resulting in localised land expropriation and conflicts in the country, for example the case of Limpopo National Park (Borras, Fig and Suárez 2011; Lunstrum 2016; Milgroom 2015; Otsuki, Achá and Wijnhoud 2017). These organisations invest in social programmes and community development programmes which are compatible with their broader financial and environmental objectives. Within this context, the following section analyses as a case study one of the several projects funded by BIOFUND. This project aims to reduce emissions and promote rural development in Zambézia province, more specifically implementing REDD+ conservation in Gilé National Reserve.

Green extractivism through financialisation: the case of Gilé National Reserve

Gilé National Reserve was identified as one of the first target areas for the implementation of the REDD+ programme in Mozambique, as part of the MozFIP project

Table 1. Gilé National Reserve actors.

Phase	Stakeholders	Role/objective
Implementation	International Foundation for the Conservation of Wildlife	Technical and financial support to the establishment and functioning of the Reserve administration – effectively part of the administration of the Reserve
	FFEM/AFD (Fond Français Pour L'Environnement Mondial/ Agence Française de Développement)	Financing REDD+ project in the Reserve: REDD+ certification, pilot activities for community development and Reserve management
	COSV	Italian NGO aiming to implement community development projects
	Government	Represented by various national public institutions such as the Reserve administration, FNDS, MITADER, MASA and ANAC
	MozFIP/BIOFUND	World Bank-funded projects aiming to support functioning of the Reserve administration and the REDD+ project
	Private-sector service suppliers	Biotope (French company selected by FFEM/AFD to evaluate the project); EcoCert (certification company intended to carry out the offset carbon valuation process); and others
Brokering	Etc Terra	Responsible for the brokering of credits liable to result in a brokerage fee in return
	AFD–FFEM	To support Etc Terra in finding potential buyers through its network of private companies
Sale and benefit sharing	FNDS/Government	Although the brokering is undertaken by Etc Terra, the sale should be made by the government to avoid fiscal obligations and guarantee a higher benefit
	Etc Terra and International Foundation for the Conservation of Wildlife	To recommend benefit-sharing of carbon revenues among government, Reserve administration and rural households
	Reserve administration	To share benefits guaranteeing the priority of maintaining the functioning of the Reserve and, second, community support, particularly through the implementation of conservation agriculture

Source: Compiled by the author based on the stakeholder reports from MozFIP, BIOFUND and MITADER, and empirical data.

supported by the World Bank (see Table 1). Its buffering zone is home to 14 communities. The reserve is now a target for maintaining biodiversity levels and sequestrating carbon, a true carbon sink. The World Bank funded US$46 million for two conservation areas, including Gilé, with the aim of financing conservation, and promoting environmentally friendly rural livelihoods through sustainable resource management and tourism based on nature (MITADER 2016). Multiple actors, through partnerships and alliances, are involved in each implementation phase, as Table 1 shows.

This project aims at carbon sequestration and the sale of carbon permits on the international market. The marketing for carbon sequestration by the World Bank is based on showing how much countries would earn if they adopted forestry and agricultural mitigation. As stated by the World Bank, by assuming a price of US$10/tonne, African countries have the potential to sequestrate enough carbon to be on a par with Africa's development assistance (The World Bank 2010b). According to estimates by the staff of the reserve, around 14 communities, some 15,000 families, live in the buffer zone of the reserve.

These families are predominantly small-scale farmers that practise subsistence agriculture and rely heavily on forest resources from the reserve. As a result of the establishment of the reserve, they have endured a wave of resource grabbing and dispossession without adequate compensation. As a way of compensating communities for the expropriation of forest resources, NGOs and philanthropic organisations (see Table 1) implemented community development projects that involved providing agricultural input packages, kits for producing honey, processing of mushrooms and other small income-generation initiatives. Only around 8000 heads of households were selected as beneficiaries. According to the beneficiaries interviewed, the interventions that took place did not compensate for the total losses incurred. Local residents are now restricted, and are forbidden to fish and hunt and from accessing forest resources such as charcoal, medicinal plants and other items crucial to their livelihoods. Even those who were selected as beneficiaries complained, as they ended up with rotting produce, while their hopes for employment opportunities that would compensate for the loss of forest resources never materialised. As two interviewees commented:

> Last year we produced peanuts, and the NGO told us to do so in our fields, but we couldn't find buyers. The product just stayed there. We are eating part of it, but the rest is just rotting. (Interviewee 01/19, Gilé, November 2019)

> I myself was going to ask for a job to support family … so that we wouldn't always be thinking about what we lost in there [Gilé National Reserve]. Because when you work, you wait for your boss, you wait for your money … but you know you will receive that money at the end of the month … . So that job would really compensate for the loss of access. They [the organisations] only provided inputs … this did not compensate us. (Interviewee 02/19, Gilé, November 2019)

While the REDD+ guidelines state that these households should receive their share of carbon revenues, this has not happened in Gilé. Almost a decade after the original certification and measurement of carbon sequestration, project participants have not received any financial benefit, which is highly dependent on the carbon prices and the willingness and bargaining power of the Mozambican government. Overall, the participants lost their livelihoods in order for the country to protect biodiversity and subsidise a carbon sequestration programme, but they never received any financial compensation.

The green funds channelled to this specific project resulted in around 15,000 families losing access to forest resources which are determinant to their livelihoods. The real winners are the set of actors that were able to profit from the implementation of the projects: financial institutions that funded the implementation of the project, verification and certification companies, intermediaries such as the financial brokers of carbon credits, and the buyers of those credits that would be able to keep emitting and profiting by expanded reproduction.

The implementation of REDD+ in Gilé National Reserve is a manifestation of green extractivism supported by green finance and philanthrocapitalism. Carbon permits were created as a new commodity and financial asset. These permits give the buyers the right to emit. It is, indeed, the right to emit that is being extracted from poor rural households with insufficient or no compensation whatsoever. Rural households' right to emit is seized from them, as they no longer have access to forest resources and have to change their way of farming to reduce emissions. This process is constitutive of green extractivism, as a variation of extractivism which legitimises resource grabbing on the basis of climate change mitigation policies such as REDD+.

Green financialisation, land and social reproduction

Green funds have financed land-based projects for mitigation and adaptation to climate change that are based on land dispossession and thus further green extractivism. These projects are portrayed as both economically profitable and environmentally sustainable (Borras and Franco 2018) and on paper aim to combat inefficient and destructive use of natural resources in the countryside. Land control is one of the common denominators of these policies, whether from biofuel production, implementation of conservation projects and REDD+, or the Climate-Smart Agriculture initiative (Borras and Franco 2018).

The conservation areas in Mozambique occupy approximately 18.6 million hectares, which is 25% of the national territory, including seven national parks, nine national reserves, 20 hunting areas, three community conservation areas and 50 wildlife farms (ANAC 2015). In Mozambique, land conflicts from efficiency-driven investments have been raising a lot of concerns and conflicts as Mozambique experienced a land rush. As increasing financial resources are directed to Mozambique through green funds, land is at the centre of these mitigation and adaptation programmes which explicitly advocate in favour of land use change for environmental conservation. This wave of expropriation and dispossession in rural areas in Mozambique has been adversely impacting the subsistence and social reproduction of the rural population.

Prior research on mining and agrarian extractivism showed that the rural population suffers from economic, social and ecological losses caused by land expropriation, which changes the environment and ecosystems and negatively affects all aspects of subsistence. Green extractivism leads to the increase of rural surplus population, which is a visible phenomenon in the regions of Mozambique where agro-extractivism is dominant (Bruna 2021).

At the local level, the loss of many sources of livelihood has an impact on labour dynamics. People who get the opportunity to get paid work are highly exploited, especially in the case of tree plantations where workers, who tend to be mostly male, claim to be paid very little for a heavy workload performed under precarious working conditions. Those

who are not employed search for informal work opportunities outside or inside the community. The consequence of this dynamic is an increase in the burden of work for women. Women ensure social reproduction, staying home and engaging in further self-exploitation to guarantee the basic needs of the household, like food and shelter.

Unlike other projects that revolve around tree plantations, the Gilé National Reserve REDD+ project is focused on conservation and generates little to no employment. The fact that the few workers employed were not local aggravated the local communities' grievances in a locality that has a large surplus population. By furthering dispossession and decreasing access to natural resources, this REDD+ project cut into the necessary consumption of the affected households and undermined their social reproduction. In the words of a local resident, who was not among the selected beneficiary groups:

> Before, many benefited from the reserve. Sometimes wood, or mushrooms … . So as soon as they closed, 'Hey, we're sorry'. We don't benefit from living here in the buffer zone. In the past we benefited from [the reserve], but now there is no benefit. We accept that yes, we cannot enter the reserve. We'll stay here in the buffer zone. So, recently a person leaving here to go cut some wood and boil it for the construction of his house was caught and beaten. We can't take herbal medicines from there for our health. Now, we eat only vegetables – beans, sweet potatoes. (Smallholder, Gilé National Reserve, November 2019)

This portrays the new emerging trends on the agrarian question raised by the environmental dynamics underlined by Bernstein (2010). These losses from rural households, including land and ecological assets, are actually subsidising external actors' profit-making from nature while undermining local social reproduction. These trends reflect how capitalism was able to convert its own crisis into new accumulation strategies (Arsel 2019; Arsel and Büscher 2012) while furthering the commodification of nature. The creation of carbon markets supports a model of transfer of carbon emission rights that sacrifice the subsistence of the rural poor for the right to emissions elsewhere around the globe (Bruna 2021).

Other aspects of green financialisation are questionable, such as the actual proportion of funds effectively invested and directed towards conservation projects on the ground. In 2019, the main expenditures of the BIOFUND's conservation areas indicated that the greater proportion of the funds goes to the operational costs of the reserve, such as maintenance of equipment and infrastructure and general running costs, including fuel and food for rangers, while only 7% goes to community development projects, and a mere 3% is directed to conservation and ecology expenses.

Another critique pertains to whether these funds are providing effective and sustainable outcomes for conservation, both ecologically and socially. The Gilé case exemplifies a very unequal distribution of the financial benefits of a REDD+ project: while companies profited from the activities, the project caused an increase in rural poverty while undermining social reproduction (see Table 1). Under the banner of the fight against climate change, financial institutions are profiting from financial mechanisms and accumulation is ensured through environmental services such as verification and certification processes, brokering and selling carbon permits in carbon markets, and the accrual of interests gained through loans and green financialisation processes.

The final critique pertaining to the features of green extractivism is that resource grabbing is legitimised through green discourses throughout the whole process of

fundraising, constituting investment funds, generating revenues and implementing conservation projects. Although these financial entities claim to be not-for-profit private entities, there are multiple actors throughout the processes of implementation that are profiting and accumulating in the name of nature conservation and climate change mitigation and adaptation, including multilateral development banks, private companies, intermediaries and so on. While only a small share of these funds is actually being used to fund conservation, more substantial shares are furthering the accumulation of capital through multiple mechanisms.

Conclusions

Extractivism is at the core of Mozambique's macroeconomic performance, particularly high rates of growth, and increases in exports and imports. The concentration of investments and financial resources in extractivist projects and the lack of industrialisation create an obstacle to the expansion of the country's productive forces. This pattern does not generate enough employment to absorb the increasing surplus rural population, while it furthers their expropriation and eviction from the land.

Mozambique is increasingly dependent on financialisation and imports to feed its internal market needs, thus intensifying the country's level of dependency and consolidating its role of a periphery that fuels external industrialisation and wealth creation. Rather than prioritising domestic market needs, national sovereignty and the well-being of the population, rural development is being shaped by the interests of external actors, alongside the dynamics of international markets. Mozambique has been transformed into an extractive hub with economic, social and ecological framing that undermines its own ability at reproduction and wealth creation and retention.

Because of the high levels of financialisation to accommodate resource grabbing and expropriation, economic growth does not translate into increased well-being of the population, particularly in the rural areas. As shown through the case study of Gilé, the ascendancy of finance into the environmental domain, which incited green extractivism, exacerbates adverse implications particularly to rural subsistence and social reproduction.

The triad of green extractivism, financialisation and philanthrocapitalism has reinforced global patterns of uneven development, reproducing underdevelopment in host countries. The unprecedented amount of funds, grants and other financial mechanisms being channelled and directed to green policies are all aiming at the capitalisation of one of the most profitable arenas in contemporary capitalism: the environment. It is in this regard that financialisation mediates and promotes the appropriation of natural resources – such as emission rights, biodiversity units and others – with the high probability of rent generation under extractivism. Green extractivism promotes uneven wealth creation based on nature appropriation, in the context of a highly financialised global economy where the fight against climate change has been turned into a vehicle for capital accumulation.

Green extractivism is reinforcing resource grabbing and feeding external accumulation. Resource grabs for the purpose of 'green investment' and mitigation and adaptation policies are disrupting local ecosystems and causing ecological degradation, both locally and globally. In addition to questioning the effectiveness of green policies and hidden accumulation agendas, it is important to grasp the implications of green financialisation processes for the real rural economy. While the financial mechanisms

are running smoothly and accruing revenues and profits for the financial actors, the rural population is excluded from access and expropriated from multiple natural resources determinant to their survival – all in the name of environmental conservation and climate change adaptation.

Green extractivism reinforces the pattern of financialisation, which hinders the development of productive forces in Mozambique, further entrenching the structure of an extractive economy which lacks the ability to generate sustainable rural development. The case study shows that, with the support of philanthrocapitalism, the process of financialisation led by mature economies supports nature appropriation through green extractivist programmes in the periphery, with adverse implications for development processes and, particularly, for rural subsistence. In other words, financialisation from mature economies sustains accumulation in core economies at the cost of rural subsistence in peripheral countries, while undermining the possibility of development in the peripheries.

Notes

1. Instituto Nacional de Estatística (INE) is the Mozambican national institute of statistics. Their databases are available at their website (http://www.ine.gov.mz/).
2. The database from Centro de Promoção ao Investimento (CPI) was collected directly in 2017. It presents the list and data (name of the company, data of approval, volume of investment, number of jobs to be created, and much more) of all the country's approved investments. CPI, whose name was recently changed to APIEX (Agência para a Promoção de Investimento e Exportações) is a governmental institution, established by Decree no. 60/2016, that aims to promote and facilitate private and public investment and exports, in accordance with the objectives and goals of the government's economic policy.
3. According to their website, the 'Conservation Finance Alliance (CFA) is the leading global professional alliance of conservation finance experts, practitioners, and organizations'. Its 'mission is to promote awareness, expertise, and innovation in conservation finance globally'. In addition, 'Conservation finance instruments and solutions seek to leverage and effectively manage economic incentives, policies, and capital to achieve the long-term well-being of nature and the services nature provides to society' (https://www.conservationfinancealliance.org/what-we-do).

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