Extractivism, Rural Livelihoods and Accumulation in a "Climate-Smart" World:

The rise of green extractivism

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To my awesome mother, Ana Sulemane Abdul Carimo, who inspired me to be an independent woman and motivated me to pursue my dreams. A fierce worrier, who beyond her genetic material, crafted the core of the human being that I have become. She, who taught me the meaning of rigid discipline, at the same time tenderly showed me the essence of unconditional love, kindness and compassion. And in memory of my father, Gianfranco Rivi, who left us too soon.

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Acronyms

AFD	Agence Française de Développement
ANAC	Administração Nacional de Áreas de Conservação
BdeMoc	Banco de Moçambique
BRICS	Brazil, Russia, India, China and South Africa
CDM	Clean Development Mechanism
CIP	Centro de Integridade Pública
CSA	Climate-Smart Agriculture
CPI	Centro de Promoção ao Investimento
DUAT	Direito de Uso e Aproveitamento de Terra
FAO	Food and Agricultural Organization
FDI	Foreign Direct Investment
FFEM	Fond Français Pour L'Environnement Mondial
FRELIMO	Frente de Libertação de Moçambique
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GNR	Gilé National Reserve
IMF	International Monetary Fund
INE	Instituto Nacional de Estatística
IPCC	Intergovernmental Panel on Climate Change
LNP	Limpopo National Park
MASA	Ministério da Agricultura e Segurança Alimentar
MEF	Ministério da Economia e Finanças
MITADER	Ministério da Terra, Ambiente e Desenvolvimento Rural

MozFIP	Mozambique Forest Investment Project
NGO	Non-Governmental Organization
OGE	Orçamento Geral do Estado
PSDP	Portucel Social Development Plan
REDD+	Reduce Emissions from Deforestation and Degradation
RM	Republic of Mozambique
SADC	The Southern African Development Community
SDG	Sustainable Development Goals
UNFCCC	United Nations Framework Convention on Climate Change
WB	The World Bank

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Abstract

Imperialism and colonialism's historical economic, social and environmental asymmetric and exploitative exchange relations shaped and paved the way for current dynamics of global capitalism. Contemporary capital accumulation is mostly based and fed on what we today call 'extractivism'; where unindustrialized global South countries work as extractive hubs by supplying global demand for raw materials, primary commodities and energy to industrialized countries (Acosta, 2013; Gudynas, 2010; Bebbington, 2015). Through empirical and theoretical development, this research sees extractivism as a process that feeds accumulation by differentiated ways of removing and appropriating nature (natural resources) through differentiated levels of labour exploitation.

Nevertheless, the new scramble for Africa presents continuities from the old scramble. However, it presents new trends brought up by the current environmental crisis, both as a context and as a driving force of resource grabbing. Contemporary global capitalism dynamics, particularly climate change narratives and its implications for the system, call to go beyond the agrarian question's focus on 'classes of landed property, capital and labour in the countryside' (Bernstein, 2010b). Answering to this call, this research aims to explore and tackle the intellectual deficit in Marxist agrarian political economy, particularly on matters related to political ecology concerning the development of productive forces and their ecological dynamics.

Thus, the relevance to address these two drivers of resource grabbing — extractivism and climate change policies — in their intersection point, that is, resource grabbing. Both are approached as mechanisms of appropriation of resources that produce social, economic and ecological implications to be considered in the current agrarian question debates. The study will be guided by the following central research question: 'How does the intersection of extractivism and green policies relate to the global resource rush and shape global patterns of accumulation and rural livelihoods?'. Engaging in critical agrarian research, based on political economy and ecology lens, to analyse

dynamics of extractivism, environmental policies and rural livelihoods, requires both macroeconomic analysis and micro implications to rural livelihoods. On one side, macroeconomic data is relevant to understand and analyse trade relations between regions, economic performance of a country and so on. On the other side, micro implications to social reproduction, including patterns of agrarian change, particularly grasping changes over economic, social and ecological relations households is also needed. However, the research is predominantly qualitative.

By analysing the implementation and outcomes of green policies, this study shows that new strategies of capital accumulation arise through the creation of new commodities, markets, vehicles of accumulation and ways of legitimizing capital accumulation. A new and 'greener' frontier of accumulation is constituted. These emerging processes of commodification bring along new waves of expropriation that further cut into the necessary consumption of rural populations. Insights from empirical cases explored in this research show how this new wave of green investments and projects, directly linked to climate change concerns, are further expropriating livelihoods and fuelling capital accumulation in the name of the fight against climate change.

Through the experience of Mozambique's climate change policy implementation (particularly Reducing Emissions from Deforestation and Forest Degradation (REDD+) and Climate-Smart Agriculture (CSA) this study will show that green policies imply, beyond resource grabbing, the expropriation of emissions rights from rural poor. Emission rights, particularly in the case of rural households, are the ability that one has to be able to rightfully use and benefit from ecological assets. Some examples would include using and benefiting from forest resources for their livelihoods, practicing agriculture without imposed restrictions, and so on. By using the extractivism framework, one is able to grasp how emission rights are expropriated, transformed into carbon permits and transferred in favour of external accumulation. This gives rise to a new variation of extractivism that I propose to call 'green extractivism', which comes as a handy analytical tool in today's focus on reducing emissions or compensating for emissions (the era of "emissions imperative"). Green extractivism arises as an innovative way in which capitalist production, reproduction, consumption and accumulation unfolds.

By exploring green extractivism, further steps into the theoretical and empirical understanding of extractivism are made. First, in terms of tackling the differentiated processes in which extractivism unfolds as a function of nature appropriation and labour exploitation, what I call "variations of extractivism". Second, in terms of further understanding how accumulation is realized

throughout the commodity circuit (from extraction to consumption) and what are the implications for the host country in terms of economic production and development. And third, it allows the tackling of 'invisible' or 'intangible' key resources (emission rights) that are actually expropriated from the rural poor and that undermines social reproduction and puts an additional burden on the working people, especially onto rural women. This is made through the analysis of four study sites that provide empirical data to tackle different variations of extractivism and their inter-relation including: (1) Mining extractivism in the case of the South African company SASOL and natural gas extraction in Southern Mozambique; (2) Agrarian extractivism based on the case of Portucel Moçambique and its eucalyptus tree plantation project; (3) Green extractivism in the case of the Gilé National Reserve and a combination of REDD+ and CSA implementation; and (4) intersection of different variations of extractivism and their synergistic feature based on the case of Massingir that includes a big conservation project, rehabilitation of a dam and an agro-extractivist biofuel production investment. Overall, new patterns of resource grabbing, accumulation and legitimation strategies were identified and explored throughout this study. The resulting new dynamics regarding land, labour and nature were put forward to analyse social reproduction and rural livelihoods.

Extractivisme, middelen van bestaan op het platteland en accumulatie in een 'klimaatwijze' wereld: De opkomst van groen extractivisme

Samenvatting

De in economisch, sociaal en milieu-opzicht asymmetrische uitwisselingsrelaties uit de geschiedenis van het imperialisme en kolonialisme hebben de huidige dynamiek van het wereldwijde kapitalisme vormgegeven en ruim baan gegeven. Kapitaalaccumulatie is tegenwoordig vooral gebaseerd op het zogenaamde 'extractivisme', waarbij niet-geïndustrialiseerde landen in het Zuiden fungeren als extractieknooppunten voor geïndustrialiseerde landen en voorzien in de wereldwijde vraag naar grondstoffen, basisproducten en energie (Acosta, 2013; Gudynas, 2010; Bebbingtong, 2015). In dit theoretisch en empirisch onderzoek wordt extractivisme opgevat als een proces dat de accumulatie voedt door op verschillende manieren beslag te leggen op de natuur (natuurlijke hulpbronnen) door gedifferentieerde niveaus van uitbuiting van arbeidskrachten.

Toch vertoont het nieuwe gevecht om Afrika overeenkomsten met het oude gevecht. De huidige klimaatcrisis brengt echter nieuwe trends met zich mee in de context van en als drijvende kracht achter de roof van hulpbronnen. De dynamiek van het hedendaagse wereldwijde kapitalisme, vooral het narratief van klimaatverandering en de implicaties daarvan voor het systeem, maakt het ontoereikend om bij de landbouwkwestie uitsluitend te focussen op 'klassen van gevestigd bezit, kapitaal en arbeid op het platteland' (Bernstein, 2010b). Daarom is het doel van dit onderzoek om het intellectuele tekort in de Marxistische agrarische politieke economie te verkennen en aan te pakken, vooral met betrekking tot politiek-ecologische kwesties die te maken hebben met de ontwikkeling van productieve krachten en hun ecologische dynamiek.

Het is dus relevant om de twee aanjagers van de roof van hulpbronnen, extractivisme en beleid tegen klimaatverandering, te onderzoeken op het punt waarop ze elkaar raken: bij de roof van hulpbronnen. Beide aanjagers worden opgevat als mechanisme voor toe-eigening van hulpbronnen met sociale, economische en ecologische implicaties die overwogen moeten worden in het

huidige debat over de landbouwkwestie. De centrale onderzoeksvraag is: 'Hoe hangt het raakvlak van extractivisme en groen beleid samen met de wereldwijde run op hulpbronnen en geeft het vorm aan wereldwijde patronen van accumulatie en aan middelen van bestaan op het platteland?' In kritisch landbouwonderzoek vanuit een politiek-economische en ecologische invalshoek naar de dynamiek van extractivisme, milieubeleid en middelen van bestaan op het platteland moeten zowel macro-economische aspecten als implicaties voor middelen van bestaan op het platteland op microniveau in aanmerking worden genomen. Macro-economische gegevens zijn relevant om handelsrelaties tussen regio's, economische prestaties van een land en dergelijke te begrijpen en te onderzoeken. Tegelijkertijd moeten ook de micro-implicaties van sociale reproductie, waaronder patronen van agrarische verandering, worden onderzocht. Daarbij moet de nadruk liggen op veranderingen in economische, sociale en ecologische relaties binnen huishoudens. Het onderzoek is echter voornamelijk kwalitatief.

Uit dit onderzoek naar de implementatie en resultaten van groen beleid blijkt dat nieuwe strategieën van kapitaalaccumulatie ontstaan door het creëren van nieuwe grondstoffen, markten, accumulatie-instrumenten en manieren om kapitaalaccumulatie te legitimeren. Er wordt een nieuwe en 'groenere' grens van accumulatie gesteld. Dit proces van commodificeren brengt een nieuwe golf van onteigening met zich mee waardoor het voor de plattelandsbevolking nog moeilijker wordt om in de noodzakelijke levensbehoeften te voorzien. Uit de casestudy's die in dit onderzoek zijn gedaan blijkt dat deze nieuwe golf van groene investeringen en projecten, die direct verband houdt met zorgen om klimaatverandering, leidt tot verdere onteigening van middelen van bestaan en een voedingsbodem vormt voor kapitaalaccumulatie onder de vlag van de strijd tegen klimaatverandering.

Op grond van de ervaringen met beleid tegen klimaatverandering in Mozambique, met name de projecten 'Vermindering van emissies door ontbossing en bosdegradatie' (Reducing Emissions from Deforestation and Forest Degradation (REDD+) en 'Klimaatwijze landbouw' (Climate-Smart Agriculture (CSA), toont dit onderzoek aan dat groen beleid niet alleen de roof van hulpbronnen, maar ook de onteigening van emissierechten van de armen impliceert. Emissierechten, met name in het geval van huishoudens op het platteland, is het vermogen dat men moet kunnen gebruiken en vruchtgebruik van ecologische activa. Enkele voorbeelden zijn het gebruiken en profiteren van bosbronnen voor hun levensonderhoud, het beoefenen van landbouw zonder opgelegde beperkingen enenzovoorts. Vanuit de invalshoek van extractivisme wordt zichtbaar hoe emissierechten worden on-

teigend en overgedragen ten bate omgezet in koolstofvergunningen van externe accumulatie. Hierdoor ontstaat een nieuwe vorm van extractivisme die in dit onderzoek 'groen extractivisme' wordt genoemd. Dit is een praktisch onderzoeksinstrument gezien de huidige focus op emissies - focus op het verminderen van emissies of het compenseren van emissies (het tijdperk van "emissieverplichting"). Groen extractivisme is een innovatieve manier van kapitalistische productie, reproductie, consumptie en accumulatie.

Met onderzoek naar groen extractivisme worden nieuwe stappen gezet in het theoretisch en empirisch begrip van extractivisme. Ten eerste wordt het gedifferentieerde proces van extractivisme in de vorm van de toe-eigening van natuur en uitbuiting van arbeidskrachten (variaties van extractivisme) in kaart gebracht. Ten tweede ontstaat meer inzicht in de manier waarop accumulatie in de gehele grondstoffenketen (van winning tot consumptie) wordt verwezenlijkt en in de implicaties voor het gastland als het gaat om economische productie en ontwikkeling. En in de derde plaats wordt het mogelijk om wat ik noem 'onzichtbare' of 'ontastbare' essentiële hulpbronnen (emissierechten) aan te pakken. Deze rechten worden de arme plattelandsbevolking ontnomen, wat een extra belasting betekent voor werkende mensen en vooral voor vrouwen op het platteland. Dit wordt gedaan door de analyse van vier onderzoekslocaties die empirische gegevens leveren om verschillende variaties van extractivisme en de onderlinge relatie ervan in kaart te brengen, waaronder: (1) mijnbouwextractivisme in het geval van het Zuid-Afrikaanse bedrijf SASOL en aardgaswinning in Zuid-Mozambique; (2) Agrarisch extractivisme gebaseerd op het geval van Portucel Moçambique en zijn eucalyptusboomplantageproject; (3) de opkomst van groen extractivisme (door het geval van de Gilé National Reserve en een combinatie van REDD+ en CSA-implementatie); en (4) kruising van verschillende variaties van extractivisme en het synergetische kenmerk ervan, gebaseerd op het geval van Massingir, welke een groot natuurbehoudproject, de rehabilitatie van een dam en een agro-extractivistische investering in biobrandstofproductie omvat. In het algemeen zijn in dit onderzoek nieuwe patronen van roof van hulpbronnen en nieuwe accumulatie- en legitimatiestrategieën aan het licht gebracht en verkend. De hieruit voortvloeiende nieuwe dynamiek op het gebied van grond, arbeid en natuur kan dienen om sociale reproductie en middelen van bestaan op het platteland te onderzoeken.

1 Introduction

1.1 Context and Background: Extractivism, Climate Change and Resource Grabbing

Extractivism and the current global resource rush

Historical patterns of exchange relations among countries are at the core of today's global uneven and disproportional economic development and global division of labour. Asymmetric and exploitative exchange relations among countries/regions, which is considered to be the key feature of extractivism, can be traced back to the precolonial era, and intensified in the mercantilism era, especially in the pre, during and post-industrial revolution period (Acosta, 2013; Gudynas, 2010; Bebbington, 2015). Extractivism is here understood as a process that feeds accumulation by differentiated ways of removing and appropriating nature (natural resources) through differentiated levels of labour exploitation.

Since colonial times, the Mozambican economy (framing of economic, social and productive forces) was created and designed to fuel the demands of the capitalist metropolis through the intensification of agricultural production and extraction of natural resources (Mosca, 2005; Castel-Branco, 2010). Decades after independence, Mozambique's national economic policies have driven the country into a proper extractive hub with domestic routes to drain commodities from extraction sites to international markets and industrialized centres through multiple connections and links.

Although colonialism played an important role in the setting up of the country with an economic framing and geographic setting that accommodates an extract-drain-and-export scheme, the neoclassical/new institutional approach of development from the national government over the last 20 years, puts Mozambique as one of the most pursued destinations

for investment seeking the extraction and exploitation of natural resources with adverse implications for rural livelihoods. The endowment of mineral resources, low costs of land and labour, its geostrategic position towards Asian emerging markets and fiscal benefits are among the 'competitive advantages' identified by potential investors. Nowadays, we can grasp multiple and differentiated ways in which extractivism unfolds in the country.

The energy-mineral complex investments in Mozambique, and in particular the case of Sasol, present dynamics of mining and energy extractivism. In the so-called traditional or mining extractivism the resources are, as Ye et al. (2020) put it, actually 'mined'. Meaning that natural resources are 'extracted by mining' or are literally 'mined' from the earth and become commodities to be drained/transported and sold in the international markets that are further going to be transformed into final products or used as energy to feed industrial/productive cores.

Besides highly promoting Foreign Direct Investment (FDI) in extractive industry, the Mozambican Government has been actively promoting the existence of idle land and incentivizing foreign investors to dynamize the agricultural sector, which only intensified another variation of extractivism, the so called agrarian extractivism. A rush for land invaded Mozambique and it has become one of the top ten most targeted countries in terms of land acquisitions in the world: seventh in the world and the second in Africa after South Sudan (Land Matrix[1]). According to the Land Matrix database, the transnational land deals occupied an area of 1,965,403 ha.

However, there is a distinct feature of today's scramble for resources which is vastly transforming the global economy. The resource rush, production processes, packaging, distribution and consumption are contributing to the global environmental crisis. Amidst the intensification of it, the new scramble for Africa has become 'greener' than ever. Investments, projects and policies to mitigate and adapt to climate change have become a top priority especially in biodiversity-rich countries such as Mozambique. Ultimately, the relationship between humans and nature is a changing arena where climate change and the policies to address it (mitigation and adaptation) are actually pushing the boundaries of accumulation.

Following the guidelines of main funders and donors, in 2012 the Mozambican Government approved the National Strategy for Climate Change Adaptation and Mitigation for the period 2013-2025; aiming at a prosperous and resilient Mozambique with greener social and economic

sectors, (MITADER, 2017). Meaning that environmentally friendly 'green' policies would be prioritized over what is generally assumed high GHG emission practices by smallholders (The World Bank, 2007). In the case of Mozambique, most of the green policies being implemented in the name of the fight against climate change are rural and land-based, namely: REDD+, CSA and policies promoting 'green' investments such as tree plantations and biofuel production (MITADER, 2017).

Large areas of land (and other natural resources) are being expropriated from smallholders due to external interests, whether it is international market demands or international climate change narratives. Both tendencies above are considered to be capitalistic solutions to overcome not only the environmental crisis, but above all the 'convergence of multiple crises' (Borras et al., 2012). Land and resource rushes are a direct result of such neoliberal and environmental policies — the new scramble for Africa as Moyo, Yeros, & Jha (2012) put it. Rural settings became the stage of mass expropriation with negative implications to rural livelihoods and changing patterns of land use and property relations and other underlying issues regarding the agrarian question.

Shivji (2019) explains that the agrarian question in Europe was not resolved, it was indeed exported to the global South and particularly to Africa. With the intensification of globalization and systematic asymmetric and uneven trade relation between centres and peripheries, implications to the agrarian question are pointed out. Editorial (2012) explains that without the absorption of the rural workforce into industrial development, most of the workforce remained insecurely employed, underemployed or unemployed with connections to the land, giving rise to today's semi-proletarianization of rural populations, with higher and disproportional exploitation of women.

In the context of the global environmental crisis, a new variable and central organizing theme has been incorporated into the agrarian question debate: climate change narratives and politics. It is in this context that scholars (Arsel, 2012; Arsel & Büscher, 2012; Editorial, 2012; Fairhead et al., 2012; Franco & Borras, 2019; Moyo et al., 2012) call the attention to the role of nature and the continuing nature commodification in the current scramble and accumulation dynamics.

Climate change, green policies and resource grabbing

The Government of Mozambique received around USD 8.8 million just to prepare the REDD+ national strategy and legal/administrative instruments to operationalize it (MITADER, 2017). The Mozambican REDD+ national strategy aims 'to reduce emissions from deforestation and forest degradation, forest conservation, sustainable management and increase of carbon reserves through planted forests' (MITADER, 2016) by focusing in three main sectors: agriculture, forest and energy. The REDD+ strategy also integrates mechanisms of climate change adaptation such as the promotion of sustainable agricultural practices in line with 'climate-smart' techniques and enforcing of sustainable forest management including creating a favourable operational environment for forest plantation companies (MITADER, 2016, 2017). It was within this joint framework established by the Mozambican Government, within the guidelines of the United Nations Framework Convention on Climate Change (UNFCCC), that climate change mitigation and adaptation projects started to be implemented.

Despite the fact that Mozambique's CO_2 emissions per capita is one of the lowest in the world and in Sub-Saharan Africa, around 0.1 metric tons against the average of 0.7 of Sub-Saharan Africa, 0.8 from Low Income countries and 3.5 of Middle-Income countries (The World Bank, 2007), environmentally-friendly policies are prioritized and promoted by multiple international organizations that have influence over Mozambican economic and social policy. This influence is materialized through financing of multiple projects including poverty alleviation projects, direct support to the public budget, financial support for implementing climate change mitigation and adaptation policies and other aid-related activities regarding climate disasters and, more recently, the current pandemic. All this gives financial institutions the power to influence policy-making and implementation. The following chapters will further discuss this point looking specifically to economic, agrarian and climate policies. This indirect enforcement of climate change policies and the prioritization of GHG emissions in policies and projects are one of the main distinct features of the current scramble.

Due to the combination of existing 'marginal lands' (Borras, Fig & Suarez, 2011), big biodiversity potential and high levels of vulnerability to climate change, Mozambique has currently become the third largest recipient

of climate funds in Sub-Saharan Africa, with approximately US$ 147.3 million approved in 2016 from multilateral recipients for adaptation and mitigation projects until 2017 (CIAT & The World Bank, 2017: 21). Most of the projects implemented through these funds are under the umbrella of the REDD+ national strategy. However, regarding the implementation of REDD+, many scholars argue that the project and related policy programmes have the potential to reinforce existing inequities and social exclusions (Esteve Corbera, 2012; Esteve Corbera et al., 2017; Phelps et al., 2010).

These sets of projects may also be linked in parallel with debates around 'appropriation of land and resources for environmental ends', the so-called, green grabbing (Fairhead et al., 2012: 237). Others underline the resulting intensification of nature commodification and its role in global accumulation dynamics (Arsel, 2019; Arsel & Büscher, 2012; Büscher et al., 2012). More recently, Borras & Franco (2018) focus on the implications for land politics and observe the emergence of what they call 'climate-smart land politics' which consist of the combined processes of incorporating the twin objectives of purportedly combating the inefficient and destructive use of natural resources. An emerging trend of resource grabbing backed up by the fight against climate change is depicted in rural Mozambique.

Accumulation and resource grabbing under environmental discourses

In the context of land grabbing debates related to the environmental projects, Fairhead et al (2012) put forward in the discussion of 'green grabbing' and its implications that range from prevention of livelihood practice and resource uses and restructuring of labour relations (Fairhead et al., 2012; Seagle, 2012). But another major concern regarding environmental crisis is related to climate change fuelling the creation of new markets and new mechanisms of accumulation (Foster et al., 2010). For instance, CSA is considered, by both the World Bank and FAO, one of the essential tools for achieving sustainable development, claiming that 'CSA meets these expectations by improving productivity, enhancing resilience and reducing greenhouse gas (GHG) emissions' (FAO, 2013: 357).

In line with FAO's concept, The World Bank (2011) considers CSA a way to strengthens food security and still provide environmental benefits because CSA 'seeks to increase sustainable productivity, strengthen farmers' resilience, reduce agriculture's greenhouse gas emissions and increase

carbon sequestration' (The World Bank, 2011: xx). Despite being considered an 'effective' response to climate change by mainstream institutions, it is also seen as the solution for developing countries' agricultural sector as these institutions claim that agricultural practices of small-scale farmers are among the major causes of emissions.

Critiques and questionable agendas are approached regarding specificities around CSA and its 'triple-win objectives'. Clapp, Newell, & Brent (2018) claim that the emerging forms of policies to confront climate change are reshaping the markets and technology where inequality is not adequately addressed. For instance, Taylor (2018) points out the significant backing from the private sector and ways to strongly link farmers to markets and oriented production and distribution of food rather than where it is needed.

Techniques and guidelines of CSA (FAO, 2013; The World Bank, 2011) consider changes in production techniques looking for a more environmentally friendly set of decisions such as prioritizing climate resilient seeds and/or crops which are not directly answering local needs. These policies may not be expropriating land from people, but they are expropriating the control of these people's land and striping them from their right to emissions; controlling what to produce, how to produce and how much to produce in a given area in order to protect the environment and reduce emissions, but with no regards to local needs and priorities.

Both REDD+ and CSA answer directly to the international agenda of reducing emissions and carbon sequestration. This research will show that both imply, beyond resource grabbing, the expropriation of emissions rights from rural poor. By using the extractivism framework, one is able to grasp that emission rights are expropriated and transferred to another group of actors that are going to further accumulate externally (by selling carbon permits or even by using them). This gives rise to a new variation of extractivism that I propose to call 'green extractivism', which comes as a handy analytical tool in today's 'emissions imperative'. Green extractivism arises as an innovative way in which capitalist production, reproduction, consumption and accumulation unfolds.

Overall, contemporary global capitalism dynamics, particularly climate change narratives and its implications for the global capitalist system, call to go beyond agrarian question's focus on 'classes of landed property, capital and labour in the countryside' (Bernstein, 2010b). This research aims

to explore and tackle intellectual deficit in Marxist agrarian political economy particularly on matters related to political ecology concerning 'the development of productive forces and their ecological conditions, consequences and costs' (Bernstein, 2010b).

1.2. Problematique

Extractivism and climate change policies: appropriation and accumulation

In a 'climate-smart world', the classic 'Mining and energy extractivism' dynamics may present limitations to accumulation. But this doesn't mean that capitalism is not able to overcome those limitations even within its own contradictions. It is necessary to consider capitalism's ability to innovate and adapt in order to keep expanding accumulation. This is where climate change policies emerge with a set of new narratives that will ultimately transform many variables from the production, distribution and consumption sphere. Which mechanisms is capitalism going to use in order to overcome these limitations? How is it going to identify new accumulation possibilities?

Global processes of capital accumulation have been highly dependent on resource grabbing and extractivist relations (asymmetric and exploitative). Assuming that the trend prevails, the mechanisms through which capitalism operationalizes it, will be transferred to 'greener' sectors, products and production forces of the global economy. This pushes us to the direction of exploring new ways in which capitalism innovatively seeks to achieve accumulation goals conditioned to the emissions imperative. What does the agrarian question look like in the climate change era? Especially considering that rural settings and livelihoods ought to be a key factor towards a climate-smart world?

Intersections and links among extractivism, 'green policies' and resource grabbing should be explored in order to understand newer patterns of accumulation, agrarian change, particularly referring to rural livelihoods strategies and social reproduction. The relevance of approaching the binary 'Extractivism and Climate Change Policies' lies in the fact that in theory they are contradictory in nature and principles. However, it is too simplistic to end the conversation on the fact that the binary is distinct and divergent. In reality, they highly overlap in terms of their implications and

features regarding accumulation patterns and economic and social exclusion.

A deeper reflection shows that the binary portrays more similarities than what can be perceived if superficially analysed. Firstly, as is explained throughout the document, both are directly or indirectly involved with resource grabbing (although in differentiated ways) and profit-seeking activities although in one case profit is 'green washed'. Consequently, and secondly, as it was explained earlier, by openly seeking the accomplishment of economic targets (through extractive activities) or ecological targets (through climate change policies) the social dimension is highly marginalized. Thirdly, both rely on changing the relationship between human and nature and intensifying the commodification of nature as a way to overcoming the current convergence of crises. A transversal and important issue to be further examined are institutions and the role of the state as one of the main mechanisms through which the process of resource grabbing is shaped, including regulations regarding land and resources governance.

Differentiated resource grabbing mechanisms and variations of extractivism

Expropriation of land constitute the origin of capitalism, and therefore, the essence of capital accumulation. In Capital, Marx (1889) critically analyses the development of capitalism in England during the Industrial Revolution and he stated that primitive accumulation was the starting point of the capitalist mode of production and 'is nothing else than the historical process of divorcing the producer from the means of production. It appears as primitive, because it forms the pre-historic stage of capital and of the mode of production corresponding with it' (Marx, 1889: 738).

Debates around expropriation, dispossession and accumulation reemerged and was further developed since the 2007/8 crisis and its resulting debates around land grabbing. Substantive progress has been made in order to understand the roots, patterns, consequences and the dynamics of the phenomena around the world. The term 'land grabbing' has been highly debated in the last decade, and it is used when referring to processes of land enclosures that entail unjust social processes of displacement of people from their land implying unequal economic benefits to different groups of actors (see Borras & Franco, 2012; McMichael, 2012; Zoomers,

2010; and others). Moreover, it is said to be materialized through interrelated processes of privatization and financialization (Borras & Franco, 2012; Edelman et al., 2013; White et al., 2012).

Differentiated processes of resource grabbing implicate differentiated implications and outcomes. Dispossession may occur in differentiated ways and to respond to differentiated goals. For climate change mitigation and adaptation projects, differentiated mechanisms of resource grabbing and dispossession occur that include resources beyond land and/or forest resources. It has become also a matter of centring emission rights in the resource grabbing processes: if smallholders have to change their ways of farming to reduce emissions and/or protect biodiversity, and not use forest resources for their social reproduction in order to maximize carbon sequestration.

A higher level of complexity and specificities should be incorporated into existing frameworks and dispossession literature in order to adequately address the dynamics of resource grabbing under climate change narratives. Additionally, it is necessary to consider different outcomes of resource grabbing for the purpose of capital accumulation, particularly in Mozambique. Dispossession, not only involving expulsion from land, but in many ways how access and control of resources and proletarianization are shaped by the change of social relations: expulsion with relocation, expulsion with compensation, adverse incorporation and subsumption are to be considered. This research is motivated by how these outcomes of resource grabbing (driven by extractivist and environmental agendas) relates to access/control of resources — land, labour and nature — among the key determinants of rural livelihoods.

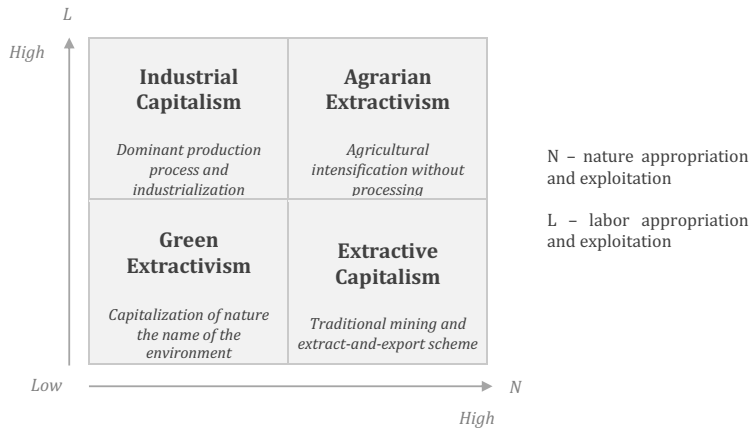
On the other side, emissions rights are now part of the global exchange relations among countries. Some countries are able to sequestrate carbon and sell them as 'carbon permits'. Other countries are on the demand side and seek to extract them. This takes us back to economic classic theories (Smith, 1976; Ricardo, 1919) which underline the importance of extractive activities and their role in wealth creation, failing to address the unwanted economic, ecological and social implications to the host countries as well as the unbalanced implications among central and peripheral countries.

Aside from economic classic theories, more critical theories on commodity exchange relations arise. The so-called 'paradox of plenty' or 'resource curse'[1] theory has been used to analyse natural-resource-rich countries whose economies are based mainly on the extraction and export of

these resources and seem to be condemned to underdevelopment (Acosta, 2013: 63). The theory suggests that natural resource abundance generates a series of economic and political distortions that ultimately undermine the contributions of extractive industry to development (Bebbington, 2015). As critical as the resource curse theory can be, it does not hold accountable the costs of extractivism such as the loss of ability to progress through the undermining of human life, ecosystems, social organization and productive forces, which altogether should and need to be depicted. It is not the resources that are cursed, but the whole system in which the exploitation of such resources is happening, including the process of identification and removal of commodities, the circuits and flows of those commodities until it reaches productive/industrial cores where those commodities are transformed and marketed.

'Variations of extractivism' is an attempt to reflect, across economic sectors, on the many different mechanisms through which resources/commodities are extracted and transferred from extractive hubs to industrialized centres. It is an attempt to consider different models in which resource grabbing takes place under extractivist agendas, and how it changes social relations considering the different patterns of expropriation and exploitation and their potential outcomes.

Figure 1.1: Variations of extractivism and its relation with nature and labour



Source: author.

Nowadays, '(Global) Extractivism(s)' – a concept put forward and debated during the 2020 University of Helsinki Exalt Conference - arises as a body of knowledge that provides theoretical lenses to grasp the patterns and implications of such relations in a micro, meso and macro level. The importance of merging it with critical agrarian studies allows to understand the fundamental local rural adversities and implications to rural livelihoods brought up by these exchange relations. For that matter, extractivism is here understood as a process that feeds accumulation based on removing and appropriating nature and on labour exploitation — each variation of extractivism is based in distinct forms of appropriating nature and differentiated levels of labour exploitation. For instance, the classic Mining and energy extractivism implies much less labour exploitation in relation to agrarian extractivism, which relies on high levels of labour exploitation. Figure 1.1 depicts an attempt to kickstart the understanding of the different manifestations of extractivism and the differentiated injustices it reproduces although it may not exhaust all of the extractivism's variations. Also, it is important to underline that this schema constitutes a heuristic tool to reflect and examine reality, with the acknowledgement that reality does not fit fully into any typology nor into the boundaries within the typology.

Rural livelihoods and social reproduction: land, labour and nature

Exploitation and appropriation of land and labour was the basis of agrarian question debates. In contexts such Mozambique, scholars refer to class differentiation as a matter of control of means of production. Moreover, the changing division of labour based on diversification of rural livelihoods through proletarianization is also a determinant (O'Laughlin, 1996; Marc Wuyts, 2001). Bryceson (2002) explains that many African countries are also going through the process of 'deagrarianization' and more specifically, 'depeasantization', which are directly connected with her definition of rural income diversification, however, involving a 'long term process of occupational adjustment, income earning reorientation, social identification and spatial relocation of rural dwellers away from strictly agricultural-based modes of livelihood' (Bryceson, 2002).

Edelman et al. (2013) build on Tania Li's question of labour and expand it into two perspectives regarding the land grab debate: (1) land grabs literature's need to be further explored regarding cases where labour is not needed; and, (2) when both land and labour are needed, the literature is

'still patchy about the extent and dynamics of wage employment creation as a result of land acquisitions' (Edelman et al., 2013: 1522). Mozambique's resources are needed — land, biodiversity, forests, water, and so on by the state and corporate interest — but people's labour is not proportionally needed. So, both forces of dispossession, extractivist and environmental, shape access and control of land as well as labour. Consequently, new patterns of bundles of farm strategies and off-farm strategies are to be depicted.

A much broader sense of labour exploitation and its relation to accumulation is taken into account within the work of critical agrarian scholars (Shivji, 2017; Bernstein, 2010a). Shivji (2017a) suggests that with the adoption of structural adjustment programmes from the Bretton Woods institutions in Africa, old and new forms of primitive accumulation were reinvigorated and he relates the concept of 'working people' to a modified definition of primitive accumulation in the neoliberalism era. Shivji's take on the concept of primitive accumulation under neoliberalism is 'the process of surplus extraction by capital based on expropriation of a part of necessary consumption of the producer. This is then the material basis common to all sectors of what I called the working people' (Shivji, 2017a).

Shivji's take on labour dynamics is in line with what Bernstein (2010a) called 'classes of labour'. The combination of both will be part of the analytical lens of this research and will be further developed in the theoretical framework section. It is important to clarify that off-farm income activities are usually but not exclusively a male activity; many women within households engage with wage labour and other commercial activities (Bryceson, 2002; Oya & Sender, 2009; Sender et al., 2006). The lack of understanding of the role of rural wage employment in Africa and particularly Mozambique leads to a biased understanding of the roots of rural poverty and consequently the dynamics of class differentiation among the peasantry (Bernstein, 2003; Bryceson, 2002; Oya, 2013).

Many scholars have approached land and labour as crucial to rural livelihoods strategies and social reproduction and the way they are implicated in processes of expropriation and resource grabbing. But under the context of climate change narratives and policies, nature's weight in social reproduction is reiterated and reconsidered as a third most important element to social reproduction and rural livelihoods' strategies.

By Marx's terms, social reproduction refers to the reproduction of the capitalist system as a whole, but recent work underlines that Social Reproduction Theory should emerge as a methodology to explore labour and labour power under capitalism leaning on feminist political economy and ecology perspectives (Bhattacharya, 2017; Nancy Fraser, 2016; Shah & Lerche, 2020). Looking at social reproduction from the lens of capitalism contradiction, (Fraser, 2016: 100) sees social reproduction as 'condition of possibility for sustained capital accumulation' but on the other side 'capitalism's orientation to unlimited accumulation tends to destabilize the very processes of social reproduction on which it relies' which she calls the crisis of care. She argues that capitalism's economic subsystem depends on social reproduction activities that are external to it, including nature both as 'a source of 'productive inputs' and a 'sink' for production's waste', (Fraser, 2016: 101).

Although some studies already underline nature and biophysical issues (Arsel, 2019; Arsel & Büscher, 2012; Büscher & Arsel, 2012; Gills & Morgan, 2020; and more), greater emphasis is needed to grasp the interlinkages within the triad land, labour and nature, and the implications of their dynamics regarding rural social reproduction and livelihoods. Political ecologists (Foster et al., 2010; Moore, 2011; Robbins, 2012) offer a range of literature calling for the inclusion of environmental issues, also to go beyond the 'politics' side of natural resources analysis; they engage with a more balanced consideration of the biophysical issues and the political side of the research problematique. That is why this research will rely on an analytical framework based on political economy as well as political ecology. By including 'nature' into the analytical framework of analysis, one can tackle the importance of nature and its ecological assets in rural livelihoods and social reproduction.

Thus, the relevance of addressing the intersection of extractivism and climate change policies, as mechanisms of appropriation of resources that produce social, economic and ecological implications is made clear. The current research looks at these sets of implications taking into account that one current could exacerbate the implications of the second or vice-versa, making it relevant to depict the overall outcome. Three main challenges are considered; the first is related to exploring and developing the conceptualization of 'extractivism', its variations and its implications in terms of dispossession and/or incorporation. The second is to engage with the en-

vironmental dispossession literature and relate it to other forms of environmental resource grabbing and its consequences. And finally, the third challenge is to understand, how these two driving forces of resource grabbing (extractivism and environmental dispossession) shape the access and control of resources and labour transformation as among the key determinants of rural livelihoods strategies.

1.3 Research Objectives and Questions

The heated debate about 'extractivism' in Latin America in the last decade, resulted in relevant insights and crucial progress regarding the understanding of this body of knowledge, empirically and theoretically. Scholars have been increasingly exploring notions of new extractivism (or neo-extractivism), patterns of accumulation, its socioeconomic and environmental implications and processes of resistance (Acosta, 2013; Arsel, 2012; Gudynas, 2010; Petras & Veltmeyer, 2014; Veltmeyer, 2012; and others). In a less regional approach, Ye et al (2020: 163) see extractivism as 'a main feature of global capitalism as a whole. More and more economic sectors are (re-)constructed in extractivist ways'.

Extractivism is explicitly linked with debates around resource grabbing. But the links and intersections of climate change policies, resource grabbing and global processes of accumulation based on extractivist schemes, have also not yet been fully tackled. The processes through which environmental policies, as a response to climate change concerns, is facilitating, legitimating and fuelling capital accumulation are still to be explored and further understood. The creation of new markets, the further commodification of nature and new vehicles of capital accumulation arise as results of the implementation of such policies, which directly shape global processes of accumulation, resource grabbing and rural livelihoods.

Processes and outcomes of resource grabbing in a context of converging crises are still relevant to this day but manifesting themselves in new and innovative ways and mostly behind 'green discourses'; similar to extractivist projects, those are also based in asymmetric and uneven social, economic and ecological relations that accommodate resource grabbing. So, a more coherent, integrated and consolidated theoretical and empirical understanding of extractivism is still needed. This study attempts to answer to this call within the approach of political economy and ecology,

acknowledging the limitations intrinsic to its research scope and theoretical framework.

Thus, the general objective of this study is to extend the extractivism spectrum, as a body of knowledge, moving beyond only efficiency-driven investments in the extractive industry or agricultural sector, by incorporating environmental policies and 'greener' mechanisms of resource grabbing. It aims to analyse how this unfolds both in terms of global accumulation strategies in a macro perspective and in terms of agrarian change, as well as a more micro perspective looking at the implications to rural livelihoods.

Three distinct research objectives were set in order to meet the general one. The first one is to further understand and systematize extractivism, theoretically and empirically and ultimately develop an extractivism conceptual framework. This will be done through the identification and development of extractivism's variations and their dynamics regarding resource grabbing and accumulation through land, labour and nature. To be able to understand extractivism across sectors, we must fully understand the role of the environmental crisis, environmental destruction, the finiteness of nature and its implications for global dynamics of accumulation and for rural livelihoods.

This leads us to the second objective of the research to the construct a theoretical link between extractivism and nature/environment in order to understand how resource grabbing as a solution to the environmental crisis can accommodate accumulation. More specifically, to look at policies that address climate change and the financial mechanisms that promote accumulation. However, the context in which the waves of resource grabbing are happening is also to be taken into account. A very distinct feature of what is driving the current wave of resource grabbing is the convergence of multiple crises, including food, energy/fuel, environment, and finance An inter-sector led analysis is needed to further understand this. In an attempt to contribute to the emerging theories around the current convergence of crises, a link between resource grabbing and the convergence of crises is established and analysed.

The third objective aims to put together both the macro dynamics of the two previous objectives and to grasp what it means for rural development and agrarian change. It aims to build a bridge between macroeconomic processes of resource grabbing and accumulation and political microeconomic processes of agrarian change at the level of rural households

— the residents of the targeted areas of resource grabbing. This third objective is to understand how the global uneven and asymmetric economic, social and ecological relations (manifested through extractivism and resource grabbing) shape rural livelihoods strategies and its determinants (access to land, labour and nature).

Research questions

The main question to be answered by this research is: **How does the intersection of extractivism and green policies relate to the global resource rush and shape global patterns of accumulation and rural livelihoods?**

To answer to this broader question, the following specific questions are posed:

a. What are the dynamics of extractivism across sectors and scales, and what are the implications with regards to land, labour and nature?

b. How does the relationship between green policies and resource grabbing shape global patterns of capital accumulation and rural livelihoods?

c. How does the intersection of extractivism and green policies unfolds and what implications does it encompass?

d. How does this intersection shape rural livelihoods, social reproduction and reactions from below?

Although the relevance of the research topic and objectives have been sporadically approached throughout the study, some points still deserve to be discussed. Whilst Feminist Africa's latest issue has approached some of the underlying issues around extractivism with a gendered emphasis, extractivism is still an issue hugely debated and theorized around the Latin American experience; meaning that current theoretical advances may be answering to specificities of political, economic, social and environmental contexts of that region. So, this research may be seen as an opportunity to broaden the discussion on extractivism in African countries in the midst of the 'new scramble for Africa' and the building of a 'climate-smart world'.

Additionally, Hunsberger et al. (2017) refer to the need for additional research strategies such as studying interactions within and across social,

ecological and institutional domains, in order to perceive spill-over effects into areas which both land-based climate change projects and large investments take place. Scholars have been arguing about future paths of research in a context where the intersection of different crises (food, energy, environmental) become the unit of analysis in order to depict overlapping implications or even spill-over effects (Borras & Franco, 2013; Hunsberger et al., 2017). In turn, this has opened up further gaps in our empirical and theoretical understanding regarding these intersections that are still to be filled.

So, the intersection between extractivist capitalism and climate change policies surely shape new forms of social and economic relations and create new patterns of agrarian change that must be depicted, especially regarding the greater pressure on land and resource access and control, and the involvement of powerful actors that impact the environmental crisis, similar to extractivist capitalism. Therefore, the era of critical agrarian studies engaged in debates around land grabbing and resource extraction as a driver of the intensification of inequality, conflict and social injustice faces a new challenge as well as the need for further and deeper analysis sustained by adequate analytical frameworks and tools.

By depicting these set of new patterns of agrarian change I will be providing a critical evaluation of the model of development adopted by the Mozambican Government and will be able to offer relevant insights for political and social change in the region. In addition, the timing of the research constitutes an opportunity to influence policies and decision-making processes of the Mozambican Government, particularly: (1) the new external investments that are engaging with the extract-and-export scheme as natural resource reserves are being discovered throughout the country and (2) the volumes of donation and aid programmes that are being directed to climate change mitigation and adaptation projects in rural areas.

1.4 Organization of Thesis

The thesis is organized in nine chapters. This introductory chapter presents a contextualization of the research, the problematique, central research question and sub questions. In Chapter two, the study's multidimensional analytical framework is presented. It offers a review of theoretical underpinning regarding the political economy and ecology of

land, labour and nature that constitutes the lens of the current research. Additionally, Chapter 2 puts forward a multidimensional framework that includes five interrelated dimensions namely: spatial, temporal, inter-sectoral, institutional and inter-scale.

Chapter three approaches methodological frames, data collection and analysis methods and describes four study sites on which this research relied on: (1) South African company SASOL and natural gas extraction in Southern Mozambique; (2) Portucel Moçambique and its eucalyptus tree plantation project; (3) Gilé National Reserve and a combination of REDD+ and CSA; and, (4) Massingir district that includes a big conservation project, rehabilitation of a dam and an agro-extractivist biofuel production investment. In chapter four, a historical background is presented, the patterns of extractivism and the general Mozambican economic policy are explored, and the role of the state and institutional settings are analysed throughout. This analysis was mainly based on historical material regarding the colonial and post-independence period, combined with macroeconomic secondary data analysis. Because the chapter underlines mining and energy extractivism patterns in Mozambique, the SASOL case is approached in order to sustain claims about this variation of extractivim.

The fifth chapter is centred on the environmental resource grabbing question in the context of the call for a climate-smart world. It starts by exploring the national goals and policies regarding climate change mitigation and adaptation. It focuses the analysis on the Mozambican REDD+ National strategy. Additionally, the chapter explores empirical data collected from the study sites that involved the implementation of green policies and investments through REDD+ (particularly Gilé National Reserve and Portucel Moçambique cases).

Whereas the sixth chapter unpacks the dynamics of capital's resource grabbing multiple agenda in the context of convergence of crisis, where land-use change and property relations are explored to further understand the implications of synergistic resource grabbing. The Chapter is mostly driven by the Massingir case experience as empirical data showed that the multiple projects were implemented in the district created synergies among themselves with high social costs. Chapter seven examines the different variations of extractivism and their implications in terms of land, labour and nature, and puts forward the notion of green extractivism. While Chapter eight focuses on the implications of resource grabbing under extractivism, looking specifically at the role of land, labour and nature

as key determinants of rural livelihoods and social reproduction. These last two Chapters put together empirical data collected in all four cases. Chapter nine presents the conclusions and answers to the research questions that guided the current study.

Notes

[1] https://landmatrix.org/charts/web-of-transnational-deals/ (03.02.2020)

2 Multidimensional Analytical Framework

2.1. Political Economy and Political Ecology of Land, Labour and Nature

The implications and outcomes of resource grabbing, expropriation and dispossession are profoundly addressed and explored by Marxist Agrarian Political Economy, on which this research is highly reliant. Bernstein's (2010) four main questions work as the broader guide of the analytical framework: (1) who owns what (property relations); (2) who does what (labour relations); (3) who gets what (distribution of income); (4) what do they do with it and how (consumption, reproduction and accumulation)? But, as the last section depicts, there is a need to address the shortcomings of current debates on fully tackling and addressing differentiated asymmetric exchange relations, particularly with regard to ecology, among people, countries and regions.

To explore and tackle some of those 'weaknesses' of agrarian political economy, critical agrarian scholars call for a reworking of the agrarian question (for instance, Bernstein, 2010) by incorporating political ecology challenges is taken into account. Transversal to the four questions, the research will engage in political ecology's relevant questions related to biophysical or environmental costs of productive forces and their social costs, by considering Bernstein's (2010) call for political ecology engagement, particularly on the three main issues regarding productive forces suggested by him: (1) ecological conditions, drivers and consequences in which they are innovatively develop; (2) how these innovations inter-relate with broader dynamics of capitalism, across sectors and spatial configurations; and, (3) variations in capitalism's historical paths, scales and structures.

It is in this regard that it becomes important to call in additional insights from political ecology and centre the value of nature within the current capitalist mode of production. It is necessary to explicitly bring this to the

debate, giving the same level of importance to the way access and control of raw materials and energy, as well as all of its implications for the creation of surplus value and accumulation trends. Political ecology offers adequate analytical tools to explore biophysical issues and injustices within ecological exchange relations by shedding light onto the importance of ecological assets both to local reproduction and national reproduction.

Given that the interrelation of land, labour and nature awakens multiple debates within critical agrarian studies, five main subsets of conceptual tools framework are to be considered. The first, resource grabbing literature, focuses on how expropriation and dispossession relates to global capital accumulation. This will allow an understanding of how differentiated ways of natural resource appropriation occurs based on extractivist and asymmetric exchange relations between regions, particularly in the current distinct periodization. By exploring interconnections between expropriation, exploitation and extraction, we are able to grasp the roots of underdevelopment and the multilevel undermining of reproduction (from rural smallholders' social reproduction to national levels of reproduction). This sets the stage to further explore the second theoretical subset, namely extractivism and the variations through which appropriation of nature and labour is observed across sectors and scales. It is by engaging with the micro level of analysis within variations of extractivism that rural livelihoods and social reproduction comes into the picture, constituting the third theoretical subset to be explored. This adds to the debate the varying implications that global dynamics of resource rush has on rural households' survival strategies, terms of incorporation and reactions.

These three main subsets of analytical tools are merged in order to analyse the broader political economy and ecology of land, labour and nature, that constitutes the fourth subset. These arise as a transversal triad that are equally incorporated throughout the analytical exercise of this research. A transversal topic, and the fifth theoretical subset of this research, is the role of the state, which also arises as a factor to be explored in a multiscale manner — local, national and global.

2.1.1. Resource grabbing and underdevelopment

The understanding of resource grabbing goes back to Marx (1889) insights regarding the process of dispossession and expropriation of an agricultural population from the land. It is seen as a necessary condition for proletarianization, as long as the processes of industrialization absorb the

population that is 'free' of land, in other words, that they are not reduced to what he called 'relative surplus population', that is, reduced to being double free: free of land and free to sell their labour power (Marx, 1889). The process of expropriation and separation of the people from their means of production, in other words, the enclosure of the commons, in which private property plays an important role, leads to redistribution and concentration of land and consequently the deprivation of subsistence of the landless, transforming them into wage labourers (Marx, 1889).

Marxist agrarian political economists have further explored the labour question and put forward very relevant approach regarding labour dynamics within the resource grabbing framework. For instance, Shivji (1987) explored the degree of exploitation of the peasantry, which he classifies as very high, because the appropriation of surplus is not only through labour ('low rate of surplus labour'), but also through the appropriation of their necessary consumption ('high degree of exploitation') through super-human labour and subhuman existence. This included inadequate and coarse diet, precarious or nonexistent education and health care and putting their whole family to work at the service of capitalism. Overall, the exploitation of labour power is fundamental to the process of accumulation as it is the 'only commodity whose use in production creates a greater value than its own value' as it was stated by Bernstein (2010: 26).

The classification of the process as primitive accumulation considers the existing debate on whether primitive accumulation is an ongoing process or if it should rather be perceived as Harvey's (2003) 'accumulation by dispossession'. Harvey (2003: 138-139) characterizes these processes as investments that constitute a profitable opportunity of overcoming the global overaccumulation character of capitalism, where resources are released at very low or zero cost. However, Levien (2013) points out Harvey's under-theorization of the political role of the state in the process of dispossession as a strong influence on extra-economic mechanisms of dispossession. Levien's contribution will be helpful to explicitly incorporate the role of the state at a much higher degree. These notions constitute the essential theoretical lens to understand patters of accumulation brought up by green policies and projects and the resulting resource and land grabbing.

The debate around land grabbing was firstly linked to the 2007-2008 crisis, particularly with the food price spike. However, interest in land has been accelerating sharply as water and green grabbing emerge

(Barbesgaard, 2018; Edelman et al., 2013; Fairhead et al., 2012; Zoomers, 2010). Borras et al. (2012) explain that key mechanisms of land grabbing arise from crises emerging from food, energy/fuel, climate change mitigation strategies and demands for natural resources by new centres of capital. In other words, what they call the 'convergence of multiple crises' as being the driver of current land grabs. All the above analytical tools will be used in the current study, in order to analyse current dynamics of the resource rush and tackle the resulting agrarian changes.

On the other side, progress has been made in understanding other ways in which, seeking accumulation and capital penetration in rural areas take place. By examining the multidimensional, political and historical nature of poverty, Hickey & Du Toit (2013) explain that adverse incorporation is one of the issues of persistent poverty. Borras & Franco (2013) clarify that large-scale land deals do not always result in people losing their land, thus it involves different political reactions from below, for instance, struggles against expulsion or demanding better terms of incorporation. Hall et al. (2015: 474) explain that adverse incorporation is present in cases where displacement do not occur, but 'accumulation proceeds without dispossession but also because peasants actively seek incorporation into new corporate value chains'.

Recent debates on land grabbing (White et al., 2012) underline the trends linked to large-scale land acquisition, namely: (1) global anticipation of food insecurity; (2) speculation on energy resources prices awakens new forms of extraction and biofuel rush; (3) green grabs or market environmentalism; (4) the establishment of extensive infrastructure corridors and Special Economic Zones; (5) financial instruments to reduce risk involving investments that increasingly include pieces of foreign territory; and, (6) international legal frameworks facilitated by aid and lending programmes. More region specific, Hall (2011) puts forward dimensions of land grabbing in Southern Africa, underlining not only the tendency of substituting food crops for biofuel production and the intensification of extraction of resources, particularly mining and forest resources, adding that 'what is being grabbed is not only the land but also the water and the minerals and, I would argue, the cheap labour with which to exploit these' (Hall, 2011: 207).

According to Ouma (2014: 163), as part of the land rush, the concept of financialization comes from the growing interest of finance (including

'sovereign wealth funds, pension funds, insurance companies, asset management companies, investment banks, family offices, endowment funds, high net-worth individuals and development finance institutions') in food production and agri-food chains. In this context, Visser, Clapp & Isakson (2015) point out some key issues in the current debate of financialization: (1) interplay of the state and private finance and the role of regulations; (2) the transfiguration of risks in the agri-food sector; and (3) origins and identity of farmers in a globalized financial sector.

While Fairbairn (2020) explores the growing interest of the financial sector in farmland. She argues that financial investors were drawn to farmland as crop prices peaked. However, with the financial meltdown of 2008, farmland because of it being a 'real asset' (against what is known as a 'financial asset'[1]), it can be used to reduce portfolio risks and hedge inflation. It also appreciates over time (because of its finite nature) and as with many other financial investments, land can be seen as a source of future capital gains, overall, as Fairbairn puts it, 'a safe haven for capital', Fairbairn (2020: 19).

Visser (2017) explores processes of land value creation in the context of financialization, and argues that 'asset making' is an advanced stage of commoditization that natural resources like land go through, thus offering additional benefits such as liquidity over a commoditized object. This nowadays, can go further in the discussion of carbon markets and commoditization of emissions.

These broader processes and trends of land grabbing dynamics, from expropriation patters, dispossession processes and outcomes, that were here described, will assist this research to look at the politics, power relations and extra-economic coercion involved in these large-scale land deals (Borras & Franco, 2013). Although this concept is usually connected with expulsion of the people from the land, there is much more complexity according to different regional contexts, institutional frameworks and local specificities. For instance, issues around deals that do not require expulsion of people from their land but imply the transfer of land control and decision-making to others or even when people are expelled and reallocated in other areas (ibid), all involving extra-economic mechanisms, should potentially be considered as part of 'dispossession' conceptualization.

But this research aims to go further and relate debates around resource grabbing and dispossession with broader development theorists' work that

focus on (historical) asymmetric exchange relation and the resulting patterns of uneven global development. The aim of this is to tackle extractivism's adversities, particularly that of undermining reproduction and development, while positioning it in the resource grabbing framework, which most of research around extractivism does not.

Development theories are believed to be filling that gap in the resource curse and classic economic theories, thereby solving many theoretical problems regarding underdevelopment. World system, dependency theory and centre-periphery theories relate international trade and global division of labour to the existence of underdevelopment, economic dependence and inequality among countries (Amin, 1977; Frank, 1972; Furtado, 1964; Hout, 1993). Hout (1993) even argues that such theories are filling the gap in the Marxist approach by explaining underdevelopment and understanding capitalism as a mode of exchange instead of as a mode of production.

Although most extractive economies (such as Mozambique) often register high rates of economic growth, development patterns are exclusive and unsustainable. Economic dependence, deterioration of social conditions, income concentration, unequal distribution of extractivim's benefits, displacement of the local population with negative implications to livelihoods, resource (land) dispossession and concentration, marginalization of local or country's priorities are amongst the most identified and explored ills of extractive capital by scholars (Acosta, 2013; Arsel, 2012; Arsel et al., 2016; Gudynas, 2010; North & Grinspun, 2016; Petras & Veltmeyer, 2014). In the context of extractive economies, Castel-Branco (2010) puts forward the country's dependence on exports and global markets volatility, inequality and unsustainable depletion of resources.

Although mainstream institutions of development refer to extractive activities and development, praising high rates of economic growth regardless of the extractivist path of economic dynamics and its lack of ability to develop the country's productive forces. Amin (2016) refers to that as the opposite of supporting the establishment of a sovereign project but setting African countries into the dead-end path of neoliberalism, and according to him, those discourses never speak to the countries' industrialization. An important issue is to understand what the implication of this model to the real development of the country is. The commonly used term 'development' itself is only meaningful if it produces an improvement in the living conditions of all, irrespective of class or social strata, or other distinctions (that is, between men and women, nationals and immigrants,

youth and adults, etc.). Growth which benefits only a minority, or even a majority whilst still excluding a significant number of the underprivileged, is not development (Amin, 2016: 149-150).

In this context, development theorists explore the idea of 'lumpen development' (Frank, 1972; Amin, 2016) to look at peripheries with high rates of growth and persistent levels of poverty, malnourishment and other social indicators of a deterioration in well-being. Amin (2016) considered that asymmetric and historical economic relations between the centre and peripheries resulted in accelerated social disintegration and a 'dizzying growth of survival strategies' (or informal sphere) for the latter.

By seeing underdevelopment as a historical (not ahistorical) and universal process, Neil Smith (1990) brings in concepts of geographical space and the environment, and analysis of spatial relations on the surface of the earth in the theory of underdevelopment. Overall, the aim was to integrate space and society in the theory of underdevelopment. For him, uneven development 'is the systematic geographical expression of the contradictions inherent in the very constitution and structure of capital' (Smith, 1990: xiii). Smith's conceptualization incorporates exchange relations in the geographical configuration of the landscape and its relation to survival of capitalism.

The developmentalist framework argues that the global expansion of capitalism is polarizing and imperialist in nature as it results in the integration of a small minority, exclusion of a vast majority while destroying the natural ecological basis, and polarizing wealth at a global level – resulting in uneven development (Amin, 2016; N. Smith, 1990). Development theorists transversally approach appropriation of nature, the creation of spaces and production of nature that ultimately undermines reproduction in some regions in order to accommodate production, reproduction and consumptions in other regions of the globe (Bunker, 1984; Amin, 2016; N. Smith 1990). Climate change and the changing relation of humans with nature does not diverge from this theorization.

An extractivism framework should go beyond the call for attention on the appropriation of nature itself, it should also focus on the processes through which the resources that are extracted (tangible or intangible) reach their final destination. In other words, it is important to go one step further and understand processes of accumulation embedded in the circuit and flows of the resources that are extracted. This indicates that the circuits and flow of commodities are currently determinant in the country's

ability to progress and to industrialize. Bunker (1984) points out that the excessive focus on production ('the transformation of these materials by labor and capital') deviates from the understanding of relevant insights such as understanding the inequalities inherent in separating, geographically, extraction, transformation, use and profit.

2.1.2. Extractivism and its variations

Extractivism implies asymmetric and uneven relations in which commodity exchange happens between distinct regions: the region where the resource is extracted and the region where the resource is transformed and/or consumed into the highest value-added commodity, respectively.

Acritical classic economic theories would approach development or growth through commodity exchange based on concepts such as 'absolute advantage' and 'comparative advantage' and would argue that specialization is at the core of efficiency and country's wealth creation (Smith, 1976; Ricardo, 1919). Theoretical advances on neoclassic and new institutional economics create and support models of economic growth and development that focus on efficiency (Porter, 2000), ease of 'doing business' and intensification of international division of labour. They fail to consider the relevance of unbalanced power relations, class struggle and unequal exchange relations among countries.

In the context of endowment of resources and using them to reach development, the notion of 'resource curse' or 'paradox of the plenty' arises in the 1990s suggesting that natural resource abundance generates a series of economic and political distortions that ultimately undermine the contributions of extractive industry to development leading to poor economic performance and growth collapses, consequently, leading to low quality of life for its citizens (Bebbington, 2015). Resource curse critiques range from claiming that it disregards a global ecological division of labour (Caraccioli, 2015) or even that it dismisses governmentality issues (Watts, 2004). As critical as the resource curse theory can be, it does not hold accountable the costs of extractivist activities such as the loss of ability to develop through the undermining of human life, ecosystems, social organization and productive forces. It is not the resources that are cursed, but the whole system in which the exploitation of such resources is happening: including the process of identification and removal of commodities, the circuits and flows of those commodities until it reaches productive/industrial cores where those commodities are transformed and marketed.

Borrowing some conceptual tools from development theories, extractivism framework goes beyond 'blaming' the abundance of resources and goes further to tackle the process, terms and conditions, proceedings and power relations through which actors extract, drain and exchange natural resources based in an uneven process of wealth creation and distribution. Overall, it is not the abundance of natural resources that is cursed. That is why extractivism shifts the burden of the curse from the resources, and rather holds actors accountable for their proceedings and identifies flaws and injustices within the system.

Without explicitly calling it 'extractivism', Bunker (1984) underlines the differences between extractive economies and productive economies. He argues that extractive activities would have adverse implications for the economy, which were distinct from those of productive or industrial economies in terms of demographics, ecology and infrastructure, and subsequently, on the country's developmental potential. Theories (growth, development, labour and so on) based on experiences of productive economies will not accurately explain the dynamics and development path of extractive economies 'because the exploitation of natural resources uses and destroys values which cannot be calculated in terms of labor or capital', (Bunker, 1984: 1019).

With the more recent hype of the term 'extractivism' in Latin American debates, Acosta (2013) understands it as a 'mode of accumulation' based on the removal of natural resources for export. Whereas Gudynas (2010) calls it a 'mode of appropriation' meaning to 'describe different ways of organizing the appropriation of natural resources (such as matter, energy or ecological processes) to serve human purposes in their social and environmental contexts' (Gudynas, 2021). Petras & Veltmeyer (2014: 252) define extractivism as 'the appropriation of large volumes of natural resources' intended to be 'exported as raw materials to global markets', including the exploitative relation of waged labour. Distinctively, but not contradictory to Bunker's arguments, Ye et al. (2020) revived the theoretical grounds of extractivism, without explicitly challenging labour theory. Aiming to rethink extractivism, they look specifically at current dynamics within global capitalism and processes of production and reproduction, arguing that extractivism processes are followed by 'negative externalities' (including pollution and depletion of resources) and inability of livelihood reproduction.

The most recent upsurge of extractivism's debate in Africa relates to feminist perspectives on the matter, where Pereira & Tsikata (2021), Torvikey (2021) and Cunha & Casimiro (2021) explore the meanings, manifestations, key actors and resistance to it. Their approach understands extractivism as 'the longstanding colonial and imperialist phenomenon of accumulating wealth by extracting a wide range of natural resources from countries colonised in Africa, Asia and the Americas, and exporting this wealth to the metropoles'. Pereira and Tsikata (2021) underline the role of financial processes in exacerbating extractivism in agriculture, whereas Torkvey (2021) and Cunha and Casimiro (2021) underline the sharpening of gender and class inequalities under extractivism as well as conflict.

While focusing on the last two decades and focusing on Brazil, Russia, India, China and South Africa (BRICS), Ye et al. (2020) argue that extractivism went through a process of upscaling and has become a generalized feature of capitalism that resides in the control over flows of commodities and a separation between the 'real' economy and the 'virtual' economy. A particular insight from Bunker (1984) lies on the attentive way in which the author analysed how these dynamics of extractivism shaped class structures, environments, organization of labour, systems of property, state, and so many other economic and social factors of the countries from which they are extracted. All of these reflections together imply that contrary to theories revolving around industrial capitalism, extractivism as a theoretical framework, should encompass not only the exploitation and appropriation of labour, but to the to the same extent, englobe the exploitation and the appropriation of nature.

Many scholars have been expanding the concept of 'extractivism' beyond the classic dynamics of 'mining' commodities from the ground. For instance, Ye et al. (2020) argue that agriculture, forestry and fishing can also be part of the extractivist scheme of production; they state that those commodities can also be 'mined', figuratively. This is the arena of the rising concept of agro-extractivism or agrarian extractivism. 'Agro-extractivism' or 'agrarian extractivism', considered to be the agrarian question of the 21st century (Petras & Veltmeyer, 2014), is an emerging 'variation' of extractivism in which the removal of unprocessed natural resources is done in the agricultural sector.

McKay (2017) sees agrarian extractivism as an important concept to understand agrarian change that has become very extractive in nature (with various dimensions of social, economic and environmental exploitation)

rather than adding value by processing, creating sectoral linkages, generating employment, in other words, rather than following a form of industrial agricultural development. Alonso-Fradejas (2015) analyses the emergence of agrarian extractivism in Guatemala and identifies three main tendencies: (1) reshaping of commercial sugarcane and oil palm plantations by the adoption of new farming techniques; (2) a labour regime that limits wage work opportunities and maximizes surplus extraction; and, (3) in parallel to no industrialization, there is an increasing control of commodity value chains by financialized capital. In the context of the climate crisis and looking specifically at labour regimes and socioecological reproduction, Alonso-Fradejas (2021) discusses the implications of biofuel production as a way to transition to more sustainable paths and explores the resulting predatory form of agrarian extractivism that drives a process of 'impairing destruction'.

In a more micro perspective, Petras & Veltmeyer (2014) briefly explain that when the frontier of extractive activities is extended into remote areas it leads to dispossession of land of indigenous and peasant communities, loss of livelihoods, pillage and looting of their subsoil resources, degradation of the environment and their habitat and the privatization, commodification and pollution of their water. Burchardt & Dietz (2014) add to the debate ecological and social implications, such as global climate change, depletion of the soil, deforestation, loss of food sovereignty, decline of biodiversity and pollution of water. Nevertheless, current research on extractivism would benefit from further understanding concrete and local level grassroots dynamics that result from macroeconomic dynamics of accumulation.

2.1.3. Rural livelihoods, social reproduction and terms of incorporation: class and gender

Discussing extractivism and resource grabbing in the context of convergence of multiple crisis brings us to a very important element of this research: rural livelihoods. Substantial work on rural livelihoods diversification strategies has been put forward by the Sustainable Livelihoods approach (Scoones, 1999; Scoones, 2009), who underlines five key indicators towards a framework to analyse sustainable livelihood strategies: (1) livelihood resources divided into five categories of assets: natural capital, physical capital, human capital, financial and social capital; mediating process constituted by two of the five indicators: (2) context conditions and

trends and (3) Institutional processes and organizational structures; and activities and livelihood strategies, which comprises the two remaining indicators: (4) Livelihood strategies and (5) Sustainable livelihood outcomes.

To some extent, the sustainable livelihood strategies approach indicates three main dynamic strategies that generate the means of household's survival: (1) agricultural intensification or extensification; (2) livelihood diversification including non-farm activities; and, (3) migration and remittances. The framework shows how, in different contexts, sustainable livelihoods are achieved through access to a range of livelihood resources (natural, economic, human and social capitals) which are combined in the pursuit of different livelihood strategies (agricultural intensification or extensification, livelihood diversification and migration). This framework is useful to this research in so far as to understand the making of rural livelihoods and how policy changes or capital penetration would impact on their available resources and strategies.

A more analytical stand explains that the process of surplus extraction by capital is done at the cost of the working people's necessary consumption, as explained, for instance, by Shivji (2017). Shivji's concept of 'working people' describes different segments of the rural population that go through exploitation including formal workers, informal workers, peasants, women, rural poor and so on. The positionality of different segments of the working people in rural areas will portray differentiated positions, reactions and outcomes from rural households.

Another relevant approach regarding the analysis of livelihoods is the one that focus on income diversification and its implications on rural livelihood in African countries. Bryceson's (1990: 172) take lays on the fact that 'rural income diversification' is the 'expansion of rural dwellers' income sources away from own farm labour'. This is an important feature of African rural livelihoods' strategies especially after the implementation of structural adjustment programmes. Because rural livelihoods are diversified, the implications of resource grabbing and expropriation will have differentiated impacts on each segment of the working people.

Implications of land grabbing on the ground have been largely studied in the last decades, and a range of diverse reactions, resistance and adaptation from rural populations were considered (Amanor, 2012; Edelman et al., 2013; R. Hall et al., 2015; Moyo et al., 2012; Shivji, 2017b; White et al., 2012; Zoomers, 2010). Hall et al. (2015) examined the diversity of political reactions from below in the context of dispossession, oppression

and social differentiation in the countryside in the midst of resource rush. They included the dual front of 'struggle against dispossession' and 'struggle against exploitation' and the diverse range of political reactions that went beyond explicit and overt 'resistance', ranging from mobilization to seeking integration into land deals (Hall et al 2015).

Overall, there are differentiated terms of incorporation and implications of and reactions to land grabbing (Amanor, 2012; Borras & Franco, 2013; Hall et al., 2015; Li, 2011; Shivji, 2019). Integration as an outcome of land grabbing leads to debates around adverse incorporation, which happens when a rural population that goes through processes of expropriation are incorporated, through different exploitative mechanisms, into the businesses of corporations, markets and value chains, but are simultaneously excluded from accumulation processes (Hall et al., 2015; Hickey & Du Toit, 2013). Those mechanisms can include precarious jobs offered by the corporation, unfair contract farming framings, high risks market integration and so on.

Pre-existing inequalities and oppression should be taken into account when assessing patterns and outcomes of incorporation. Shivji (1987) explains that capital maximizes their rate of exploitation by letting peasants retain their means of production and retain control over labour process so that the costs of peasant reproduction is carried out by the peasants themselves. He particularly underlines the role of women regarding social reproduction and subsidizing accumulation, however it does not thoroughly examine gendered injustices. In African rural settings, Tsikata & Yaro (2014) underline the exacerbation of pre-existing gender inequalities. The few opportunities (such as employment) that arise from processes of project implementation are not gender neutral, furthermore, the most useful may not be open for women.

In this context, Moore (2018) underlines that beyond cheap nature, the necessary conditions of capitalist reproduction is the unpaid labour of women, nature and colonies, so, it works through a simultaneous process of exploitation of paid labour and appropriation of unpaid work from human and extra-human nature; is important to acknowledge what he calls the tripartite division of work under capitalism: the labour-power, unpaid human work and the work of nature as a whole.

Gender relations highly shape outcomes of land grabbing on the ground and this is why a gender lens is considered by this study when analysing expropriation processes as well as incorporation patterns. Many

cases showed that men usually get incorporated through employment and other mechanisms, while women are further excluded from these processes and gender inequalities are intensified (Gyapong, 2020; Hall et al., 2015; Julia & White, 2012; Levien, 2017; Tsikata & Yaro, 2014). Tsikata (2016) looks specifically at how gendered land tenure systems have contributed to the disadvantages of rural women livelihoods. She points out the importance of recognizing the gendered division of labour in reproduction and how the control of resources affects how women experience processes of land grabbing, implying higher levels of exploitation of this segment of the working people.

Gender agrarian studies also underline how pre-existing gender inequalities and gender biases of the projects are implicated in post-project livelihood activities (Tsikata & Yaro, 2014). They argue that even projects that include mechanism of community inclusion might not be sufficient to protect women's livelihoods, or it can even limit access to opportunities if pre-existing gender inequalities are not addressed. In the context of incorporation of smallholder farmers into global circuits of accumulation, Torvikey, Yaro, & Teye (2016) point out how men and women are positioned differentially in terms of outgrower value chain employment benefits, as men occupied high earning positions as well as permanent staff, whereas women as disposable casual workers. Still in this debate, Tsikata (2016) underline historical colonial features that shaped pre-existing gender inequalities.

Aiming to tackle questions of oppression, including gender, race and sexuality, social reproduction theory underline that those oppressive features are actually co-produced simultaneously with the production of surplus value (Bhattacharya, 2017). Bhattacharya (2017: 7) claims that 'while labor puts the system of capitalist production in motion, SRT points out that labor power itself is the sole commodity... that is produced outside of the circuit of commodity production' which entails that 'there are two separate but conjoined spaces—spaces of production of value (points of production) and spaces for reproduction of labor power'.

For that reason, social reproduction theory includes in its framework of analysis the relationship between market and extra market relations, or as Fraser (2016) and Shah and Lecher (2020) put it, making the economies of care visible by recognizing, grasping and tackling the invisible economies of care that includes a range of work from food preparation, clothing,

providing shelter, care of workers, raising children and caring for the elderly and many other activities that actually provide capitalism with labour force it relies on the produce surplus value.

The social reproduction theory was extended by Shah and Lerche (2020) extended by arguing that the relation between production and social reproduction is crucial for migrant labour exploitation by underlining the role of domestic economies of care that sustain migrant work exploitation. Stating that migrant work is sustained by the entire household (including children at some point). Meaning that all of the members of the household enable one person to migrate, so production cannot be separated from reproduction, (Shah and Lerche, 2020).

Thus, on top of labour needs specific to each investment or process of dispossession, class and gender/identity dynamics, this research situates itself within the dynamics of land and nature. Thus, the next section specifically explores the theoretical underpinnings of this triad that guide and shape this study.

2.1.4. The political economy and ecology of land, labour and nature

Exploitation of labour power is fundamental to the process of accumulation as it is the 'only commodity whose use in production creates a greater value than its own value' (Bernstein, 2010: 26). Many cases of expropriation nowadays go in line with what Li (2011) puts forward: land is needed but labour is not. So, what does this process mean to the complex of livelihood strategies of rural populations? Bernstein's (2010) classes of labour or Shivji's concept of the working people constitute adequate theoretical frameworks to address labour dynamics in the context of extractivist resource grabbing.

Rural surplus population and rural labourers are not the sole outcomes of resource grabbing and expropriation. Lenin (1982) argued, in a context of capitalism and capitalist relations, that these antagonisms of interests imply advantages for some and disadvantages for others and create new classes of rural population as a result of property inequality. Therefore, instead of diminishing the levels of inequality within the development process it will backfire by creating and increasing gaps among classes of peasants: (1) rural labourers who are free of property and free to sell labour power; (2) poor peasants or small-scale peasants; (3) middle peasants that have enough land for subsistence; and, (4) rich peasants who own cultivated area that exceeds family labour.

Rooted in human-environmental interactions, political ecology aims to merge political economy with ecology to look at intersections of political and ecological processes (Blaikie & Brookfield, 1987; Escobar, 1999; Nygren & Rikoon, 2008). Watts (2000) states that political ecology as a field, 'seeks to understand the complex relations between nature and society through a careful analysis of what one might call the forms of access and control over resources and their implications for environmental health and sustainable livelihoods'. These interactions and relations are both from the global, (in between) and local levels.

A much more focused discussion in relation to nature/environment and its connection with accumulation has been undertaken using distinct, and in a way, complementary approaches. Foster et al. (2010) centre planetary boundaries in the debate, and put forward the notion of 'global ecological rift' that is defined as the 'overall break in human relation to nature arising from an alienated system of capital accumulation without end'. This group of scholars raise the notion of converting ecological values into economic values and potentially threatening future generations' well-being (Foster et al., 2009).

On the other side, borrowing from Polanyi's contribution on fictitious commodities, political ecologist O'connor (1998) explores the depletion of resources, the role of energy in capitalist production and comes up with the second contradiction of capitalism. According to him, Marx did not pay sufficient attention to energy and its determining role in capitalist production, hence, degradation of the environment, undermining its own ability to accumulate, as 'nature is a point of departure for capital but typically not a point of return' (O'Connor, 1998: 185). He argues that nature is a tap and also a sink (a metaphor for depletion of resources and pollution, respectively) — this framework is a point of departure to answer the following questions left unanswered: Whose tap, is it? Who controls the tap? Who is benefiting from the tap? Who is in prejudice of the tap being open and the sink being clogged up?

Nevertheless, Moore (2011) criticizes O'Connor's theory stating that it does not consider natural scarcity as the prime mover. Additionally, Arsel (2019: 10) points out a problematic aspect of the second contradiction of capitalism that lies in 'its failure to anticipate that capital (with the assistance of the state) could convert its own crisis into a new accumulation strategy'.

These scholars, both building from the 'political' side and from the 'ecological' side of the issue, are feeding the highly debated field of political ecology that emerged as a response to 'apolitical' ecologies. In the specific context of climate change mitigation and adaptation policies, Robbins (2012) suggests that a political ecology lens would be useful to assess the constraints of these policies, focusing not only on the role of the state, but also how these policies do not challenge the regime of accumulation that indeed caused the current environmental crisis.

Political ecology calls for more attention to the use and impacts of energy to capitalist development and the implications to the depletion of resources and deterioration of nature. O'connor (1998) underlines the need to pay attention to the devastating effects of fossil fuel use on land, water, air, wildlife and ecosystems in general as they draw the limit of capitalist accumulation in the future.

As it was mentioned previously, appropriation of labour and nature happens through asymmetric and exploitative social, economic and ecological relations, on which extractivism is based. Higher costs, usually left unaccounted such as disruption of social and economic organization, productive forces and ecological degradation, are left to extractive cores. The social and economic gains and profits are concentrated in productive/industrial regions. But it is important to underline that these processes involve resource grabbing and the separation of people from their means of production and as it was stated previously, Marx (1889) thoroughly analysed this process and how labour power was applied to produce commodities and create surplus value.

But, Bunker (1984) questioning of the fullness in which labour theory of value explains underdevelopment and uneven commodity exchange relations should be rescued and considered in the current theoretical debates around extractivism. He argues that on top of human labour, human life as well as social organization, technology and ecosystems are also being exchanged, most importantly, in an unequal way. Bunker explains that 'value extracted from nature cannot be correctly calculated in terms of labor' and that only in 'fully capitalist economies' is the 'labor theory of value appropriate'. He underlines that 'the unbalanced flows of energy and matter from extractive peripheries to the productive core provide better measures of unequal exchange in a world economic system than do flows of commodities measured in labor or prices' (Bunker, 1984: 1018).

For this research, more attention is given to the role of raw materials and energy and their exchange value beyond labour value, that is, including value and politics behind access of resources. This is done by emphasizing the role of global exchanges and circuits of raw materials, power relations and injustices within these exchanges and circuits, the role of nature use value to industrialization and the local social, economic and environmental implications in extractive cores.

Following Bunker's argument, and besides calculating the implications of such processes locally, it is important to understand the national repercussions of such activities regarding the national level of reproduction. A political ecology framework provides theoretical tools to explore these issues and explain commodity exchange economic, social and ecological injustices and subsequent underdevelopment of extractive poles.

As Moore (2017: 600) puts it 'Society and Nature are… not only expressions of alienation but instruments of it'. With the assumption that humans cannot be separated from nature, Moore (2017) adds to the debate the idea of Cheap Nature as decisive to capitalism's expanded reproduction, including human and extra-human nature. It is in this regard that Moore (2017: 594) puts forward the idea of Capitalocene, as a distinct periodization from the 'Anthropocene's shallow periodization', where capitalism rises as a system of power, profit and reproduction based on cheap nature (labour, food, energy, raw materials) operating as an accumulation strategy and consequently with new ways of organizing nature, work and social relations.

The Capitalocene framework contributes to the understanding of how, under capitalism, environmental changes and transformations (particularly global warming) took place until it reached the current status of ecological crisis (Moore, 2018). As Watts (2000) puts it, the peculiarity of the current moment (last decades) in relation to environmental politics is not only advances in knowledge environmental degradation, stricter international and national regulations and international agreements among international policy making and humanitarian organizations, but also, and consequently, the restructuring of global capitalism itself. With the idea of production and accumulation being both 'conditioned' and 'facilitated' by GHG emissions (emissions imperative) humans' interaction with ecological processes and nature are changing.

Overall, it is indeed a matter of grasping economic, social and ecological gains and losses. Not only locally, but also nationally and globally. Not

only in terms of land and labour, but also in terms of nature. A political ecology lens provides tools to analyse and understand power relations within ecological relations within landscapes and livelihoods to better grasp the distribution of gains and losses of those relations (Blaikie & Brookfield, 1987; Peet et al., 2010; Robbins, 2012; Taylor, 2018; Watts, 2000).

Robbins (2012) puts forward five theses based on five dominant narratives in political ecologies: (1) the degradation and marginalization thesis (environmental conditions) that underlines the overexploitation of natural resources; (2) the conservation and control thesis (conservation outcomes) that focuses on the efforts to preservation that have pernicious effects on local systems of livelihoods; (3) the environmental conflict and exclusion thesis (access) that discusses the rise of conflicts (that are gendered, classed, raced struggles) over natural resources; (4) the environmental subjects and identity thesis (Identities) that explores the links between political identities, ecological ideologies and behaviours; (5) the political objects and actors thesis (socio-political conditions) where non-human natures (such as climate, soil, bacteria, etc) are intertwined and affect human struggles.

Arsel (2019), focusing mainly on Marxist literature, addresses the tension between capitalism and nature by distinguishing two broad headings: (1) the political economy of nature (ecological Marxism) that focuses primarily on the premise that nature can no longer be treated as infinitely abundant and he points out O'Connor's contribution on the second contradiction of capitalism and (Foster et al., 2010) revival of the ecological rift; (2) the premise related to the impacts of capitalism on nature leads to the second heading which is the political ecology of capitalism, which he approaches as

> Explicitly targeting power relations, political ecology concerns itself with more than the 'environmental' in the sense that the literature captures the complex interrelations between ecological change and the political economic dynamics surrounding them. The goal of this approach is ultimately to demonstrate how the creation and maintenance of environmental inequalities within capitalism are fundamentally political and interrelated with the spheres of health, gender, indigeneity, and race. (Arsel, 2019: 11).

It was clear that Marx included 'nature' in his analysis of labour processes and creation and appropriation of surplus value. It was indeed based on the reciprocate relation of change between human and nature that labour process took place in the first place. For Marx (1889)'man' would apply labour force 'in order to appropriate Nature's productions in a form adapted to his own wants'. However, Marx did not emphasize the role of global exchanges and circuits of raw materials, power relations within these exchanges and circuits, the role of nature value to industrialization and the local social, economic and environmental implications in supply regions (extractive cores).

Following Marx's arguments, to calculate the value extracted from nature one should consider the labour applied to it and the accumulated labour applied to machineries and so forth to make it possible to extract raw materials such as coal amongst others. It is necessary to address the cost of extracting that coal from a specific region, especially when a large share of labour process and transformation of that raw material into a value-added commodity is done elsewhere: 'The use of labor as a standard of value for unequal exchange also ignores the exchange inequalities inherent in extractive economies, in which value in nature is appropriated in one region and labor value incorporated in another' (Bunker, 1984: 1053).

The commodification of nature and natural resources as fictitious commodities, in the Polanyian sense, set the stage for extractive activities and extractivism to take place and to the intensification of the capitalist mode of production. Extractivism comes as a process embedded in the capitalist mode of production — including in the colonial period, industrial revolution and post-industrial revolution era. Ending up in a system where the control and flows of natural resources in the form of raw materials and energy became a crucial element of the capitalist mode of production, of course on top of the appropriation of labour value and accumulated labour value.

Commodification of nature has already been addressed by many scholars that aim to analyse for instance neoliberal conservation, market-based environmental policy and so on (Arsel & Büscher, 2012; Benjaminsen & Bryceson, 2012; Büscher et al., 2012; Büscher & Arsel, 2012). Others have used explicitly a political ecology approach to understand extractivism (more particularly, neo-extractivism) and claim that it is based on the appropriation of nature aiming to 'turn nature into a viable commodity in the world market' (Burchardt & Dietz, 2014: 478). The implications of

such models of extraction are directly determining extractive core's ability to develop and progress.

At the global level, we must consider the global ecological division of labour (Gellert et al., 2017; Hout, 1993) and understand that international ecological exchange relations should be centred at the development and international inequality debates. Gellert et al. (2017) put forward the idea that ecologically unequal exchange relations among countries with different positions in the world system — developed countries withdrawing raw materials and energy from less developed — are degrading the environment and creating adverse economic and social consequences on periphery countries.

At the local level, when the set of resources provided by nature are transferred from one group to another, this process involves not only expulsion of people from their land but also expropriation of a part of necessary consumption of the working people (Shivji, 2017). This not only will disrupt rural livelihoods but will ultimately have adverse effects in their social reproduction as ecological assets are determinant to rural livelihoods. For instance, Nygren (2000) analyses peasant-forest relations and shows how rural livelihoods strategies and social reproduction inter-relate and depend on utilization of forest resources and how this peasant-environment relation has been systematically shaping the other throughout time. Thus, the necessary consumption of rural livelihoods is based not only in land for agricultural subsistence, but also includes all the ecological assets that are expropriated from the rural population in processes of dispossession.

Looking specifically to climate change politics, Borras & Franco (2018) analyse the implications on land politics and observe the emergence of what they call 'climate-smart land politics' which are the combined processes of incorporating the twin objectives of purportedly combating inefficient and destructive use of natural resources, especially on the global South, where land control is the common denominator of these set of policies that can range from biofuel production, conservation, REDD+, CSA and other land-based policies. They define climate-smart land politics as 'a predatory type of land politics that serves the neoliberal campaign against what it assumes and perceives to be as inefficient and destructive use of scarce natural resources… sensitized to the recent corporate redis-

covery of agriculture and market-based climate change mitigation/adaptation initiatives' (Borras & Franco, 2018: 1319), ultimately seeking or resulting in the intensification of capital accumulation.

The deepening of the concept of green grabbing aim at exploring the interconnections between climate change politics and the global land rush that occur in at least three broad ways (Franco & Borras, 2019 and Borras, Franco, & Nam, 2020): (i) climate change as a trigger for land grabbing, as a context for land rush; (ii) a legitimating process for land grabs — green grabs through climate change mitigation and adaptation policies; or (iii) a de-legitimating process for people's climate change mitigation and adaptation practices, (Borras et al., 2020: 1). It is in this direction that this research will further explore environmental resource grabbing, accumulation and implications to rural livelihoods.

Overall, the discussed theoretical frameworks and analytical tools, will be useful to conduct a consolidated analysis of resource grabbing under extractivism amidst the current global environmental crisis. By centring the dynamics of the triad — land, labour and nature — in the analysis of 'green' resource grabbing, both when looking at accumulation patterns and rural livelihoods. Political ecology insights will magnify and reinforce the role of nature and its biophysical features in the analysis in many different ways. It offers insights that aim to expand and broaden the theoretical underpinnings that identify asymmetric exchange relations and exploitation.

By going beyond land and labour, political ecology allows us to problematize the research giving full importance to ecology dynamics in the debate of resource grabbing, extractivism and rural livelihoods. Nevertheless, the processes of resource grabbing, under any variation of extractivism, highly rely on the role of the state, which is, essentially, a transversal issue considered throughout the study.

2.1.5. The role of the state

The political economy and ecology of land, labour and nature's frameworks transversally addresses the role of the state as one of the key aspects. Although this research does not conduct an in-depth analysis of the state, it addresses the role played by the state in the construction of the economic, social and ecological framing of Mozambique as an extractive hub, historically and conjecturally.

Referring to the invention of the state among Greek Gens, Engels explains the creation of an institution that embraced private property and came up with new methods of acquiring it, thus perpetuating the segregation of social classes and exploitation of the non-possessing class by the possessing class (Engels, 1972). Also referring to the state as 'a product of society at a particular stage of development' and 'a power, apparently standing above society' that constituted the necessary means to avoid class antagonisms and keep order in society (ibid: 158-160), however, not in favour of the oppressed class, but in favour of economically ruling class. Overall, an instrument for exploiting wage-labour by capital.

Proceeding Marxists such as Lenin, Gramsci and Althusser contributed to the theorization of the state. Moore (1957) explains that Lenin agreed with Marx and Engels on the function of the state as 'the necessity for safeguarding a mode of production in which many are exploited by few', however, he argues that 'The critical problem for the Marxian theory of the state is to investigate the limits of independent action by state power' (ibid: 47).

Gramsci (1971) brings to the debate notions of the role of civil society as being part of the State, and as entailing both the base of political struggles as well as cultural hegemony to support the dominant class. The author states that the state does not merely entail the functions of 'safeguarding of public order and of respect for the laws' (Ibid 79), in fact, it is created while representing a class, as 'State can be constituted by elements of the old feudal classes… but who have found new forms of economic power in industry and in the banks' (Gramsci, 1971: 83).

Nevertheless, Poulantzas (1968)states that Marxism presents an instrumental conception of the State, as it considers the state to be equivalent to 'political domination' thus 'failing to touch the heart of the matter'. In his point of view, Marxist classics do not provide a general theory of the state because 'there can be no general theory of the State, posing general laws of its transformation through the various modes of production' (ibid, 22). Additionally, although assuming that the state is relatively autonomous (influenced by Althusser and Gramsci's idea of hegemony) the state accommodates capitalist class interests and he explains that apart from repression and 'naked violence' the state also engages in 'ideology to legitimize violence and contribute to a consensus of those classes and fractions which are dominated from the point of view of political power' (Poulantzas, 1968: 25-28). The state then, was an arena of class struggles.

Leaning the analysis of the state towards public management of financial resources and inspired by how classes and groups determine government expenditures and revenues' composition, O'connor (1979: 3) states that 'the capitalistic state must try to fulfil two basic and often mutually contradictory functions — accumulation and legitimation'; that is, through its action, the state should create and maintain conditions to smooth capital accumulation, coercively or even at the expense of others; however, at the same time it should make sure that social harmony is attained so that it does not lose legitimacy and support, (O'connor, 1979).

Fox (1993) presents a more interactive view of state's action, not as society centred as O'connor's claims, but in a way that both society and the intrinsic structure and actors of the state itself interactively shape and determine state actions. According to Fox (1993), in a continuum interactive process and to varying degrees, the state's autonomy (ability to set their own goals) and capacity (ability to effectively carry out those goals) are essential factors that determine how the state exercises its power. Fox (1993) underlines the essential of capitalists and their investments on the state's ability to function.

Nevertheless, in non-Western-centric and more aid-dependent contexts such as African countries, external actors, on one hand such as the Bretton Woods Institutions, which impose their economic, financial and fiscal guidelines, on the other hand such as international organizations — health, education and more recently environmental organizations — which are pursuing their interests on a global scale, play a fundamental role in how the state's action unfolds. The state must be able to accommodate the current demands of these two sets of actors that jointly are highly essential to its functioning and economic sufficiency.

Within more recent debates, land grabbing literature invokes the state as being a key player, suggesting that states are active calculating partners in land deals (Wolford et al., 2013). A common ground between extractivist projects and environmental projects' dynamics of dispossession is the role of the state throughout the process of acquiring land. Levien (2013) take on the political role of the state in the process of dispossession is not only as a driving force of extra-economic mechanisms of dispossession, but as well as an active actor in those processes with claims of aiming to improve public good.

It is also important to analyse the power relations among state actors and classes, including the role of the state as 'facilitator' or even 'instrument' of the possessive class, and also how its performance on this process shapes the outcomes of dispossession and adverse incorporation in relation to rural livelihoods. One of the main mechanisms through which the process of resource grabbing is shaped, would be current regulations regarding land and resources. The following is stated: 'Natural resources situated on the ground and in the subsoil, inland waters, the territorial sea, the continental shelf and the exclusive economic zone are State property' (Article 98 (1) of the Constitution), and 'The land is owned by the State and cannot be sold or, in any way alienated, mortgaged or impounded.' Article 3, The Land Law 19/97.

After the approval of the Land Law of 1997, citizens have the right of getting the DUAT (a document which allows the person to have the Right to Use of Land) for a determined period of time. However, on one side the law may provide a resource for peasant resistance against dispossession, and on the other side it can constitute a resource for government officials and private companies to legitimize land grabs (Borras & Franco, 2012; Li, 2011).

In line with Fox's (1993) take on the contradictory task of the state regarding political legitimacy and facilitator of capital accumulation, Borras and Franco (2013) provide a broader overview of the state's facilitative role in land deals, stating that the tasks of the state include a combination or all of the following:

> 1) invention or justification of the need for large-scale land investments; 2) definition, reclassification and quantification of what are 'marginal, underutilized and empty' lands; 3) identification of these particular types of land; 4) assertion of the state's absolute authority over these lands; 5) acquisition or appropriation of these lands; and 6) reallocation or disposition of these lands to investors… These mechanisms of land dispossession separately and altogether constitute varying shades and degrees of extra-economic coercion by the state. (Borras & Franco, 2013)

Besides looking at the state's facilitative role, this research engages with the "authoritarian populism" framework to understand Mozambican State's role on dispossession dynamics and rural development. This framework was introduced by Poulantza's discussions on authoritarian statism in the context of increased state control and decreased democracy (Hall,

1980). Scoones, Edelman, Borras, Hall, Wolford and White (2020) engaged with this debate in the context of the recent rising right-wing authoritarian populism and provoked further discussions on the issue. Scholars (Borras, 2019; Monjane and Bruna, 2020) have explored the "us against them" strategies and the different levels in which a regime is populist regardless of its authoritarian nature. Monjane and Bruna (2020) looked at the specific case of Mozambique and put forward the idea that there were varying degrees of populism throughout Frelimo's rule and that its agrarian authoritarian policies had negative implications to rural livelihoods.

Overall, to be further explored in the current research is the action of the state that can be initially categorized into two main forms of fuelling capital accumulation through resource grabbing: (1) as an instrument to foreign direct investment and international institutions such as the WB, IMF and others, by facilitating different types of dispossession; (2) as a patriarchal institution towards the people: embracing an authoritarian populist character of imposing dispossession in the name of development.

2.2. Interrelation of the multidimensional analytical framework

The interrelation of the multidimensional analytical framework builds on Schiavoni's (2017) work on the Historical, Interactive and Relational (HIR) approach regarding food sovereignty, which she employs in order to tackle complex interlinkages regarding political issues in a non-static way. The framework is based on three main lenses: historical (structures and institutions over time), relational (meanings and practices that are dynamically and contentiously shaped and reshaped) and interactive (links between state and society actors). However, this specific research also aims to study interactions within and across sectors, scales and regions. So, in order to reach a quantitative and qualitative leap in the understanding of resource grabbing, unequal and asymmetric exchange economic and extra-economic relations, a multidimensional analytical framework guided by political economy and ecology conceptualization is suggested.

The framework includes five interrelated dimensions: (1) spatial in order to grasp regional interactions, overlaps, connections and synergies; (2) temporal, that allows for engaging in an historical and conjunctural understanding of agrarian change, rural livelihoods and exchange relations of

the country.; (3) inter-sectoral dimension that look at the resource grabbing dynamics across different sectors and its implications for rural livelihoods; (4) institutional both as object and context of societal contestation; and (5) inter-scale considering the interlinkages regarding micro and macro level of analysis (from global interactions to local dynamics).

Spatial dimension

This dimension aims to underline the importance of interactions among different areas of the globe as well as interaction within specific spaces. The first perspective constitutes a basis for understanding (historical) interactions among regions and how those are constant formulations of what constitutes landscapes of peripheries and core, or industrialized and developing countries. Mitchell (2012) considers landscapes to be how things are arranged on the land (fields, sheds, roads, houses, irrigation systems and so on), how it looks and how it is stylized. The understanding of landscape takes a broader perspective in so far as the main goal is to grasp the landscape of the economic, social and ecological framing of the region/country also embedded in the spatial-temporal fix put forward and geographical expansion by (Harvey, 2003).

The second perspective of spatial dimension has to do with assessing different actors that tend to target the same or adjacent areas or regions as strategic areas to answer to their distinctive goals, whether it is to acquire cheap land, or cheap labour, extract minerals or other natural resources, access to water sources, conservational areas, and so on. This may result in competing approaches over the same blocks of land or resources or even over adjacent blocks of land.

Specifically, to the resource rush and environmental politics debate, Hunsberger et al (2017: 2) argue that 'existing work on the social impacts of climate change mitigation or land grabbing tends to focus on discrete areas, such as particular landholdings where dispossession or competing claims occur' however 'relatively little research so far has studied the cumulative and interactive effects of multiple projects within the same landscape or region'.

Another relevant issue within the spatial dimension would be to depict social and ecological spill-over effects (Borras & Franco, 2013; Hunsberger et al., 2017; Woods, 2015; Work, 2015a) and chain reactions (Hunsberger et al, 2017) within competing or adjacent land-based projects 'that change both the social dynamics of conflict and the nature of the resources

that are contested' (Hunsberger et al, 2017: 17). The spatial dimension of analysis would allow the identification of how strategic areas that can support different land uses and answer to different purposes would be creating adverse effects including not only complex of livelihood strategies of local inhabitants but as well as of other regions.

Temporal dimension

> This solidarity of the ages is so effective that the lines of connection work both ways. Misunderstanding of the present is the inevitable consequence of ignorance of the past. But a man may wear himself out just as fruitlessly in seeking to understand the past, if he is totally ignorant of the present. Bloch (1954: 36)

From the many published studies around extractivism and/or environmental resource grabbing, one gets the sense of needing more than just 'here and now' explanations and analysis that risk dismissing relevant historical specificities that are actually determinant to drawing accurate conclusions. Edelman et al. (2013: 1521) underline the importance of an historical analytical framework as the debates tend to neglect the importance of history overemphasizing the 'here and now' and state that 'impacts can only really be assessed when the pre-land grab situation is thoroughly understood and documented'.

As important as a deep horizontal approach, a substantial vertical approach presents its own advantages. In *Land's End*, Tania Li adopts a conjunctural approach as her analytical framework towards analysing Lauje highlanders in Indonesia in order to 'tease apart the set of elements…and to explore how each element set the conditions of possibility for others, in changing configurations', (Li, 2014: 16). There is clear relevance in assessing the main research questions using a conjunctural approach as the convergence of crises, extractivist and environmental in particular, belongs to a particular moment in history where global politics are being highly dominated by environmental politics.

Schiavoni's (2017) HRI framework aims to understand broader issues regarding food sovereignty research and shows how an historical approach could be useful towards understanding the conjunctural crisis of Venezuela's food system. Assuming the retroactivity between the historical and

conjunctural lens, the same approach can be replicable to the issue of resource grabbing under extractivism capitalist agenda and environmental goals.

On the other hand, Edelman and Leon (2013: 1697) point out the cycles in land grabbing and the way the pre-existing social formations and local and regional particularities shape each cycle. In this line of thought, it is important to state that the understanding of the complex of rural livelihood strategies especially in Mozambican peasantry requires a thorough awareness of its historical path, all the way back to the colonial era, socialist experience, war and market-based economy. O'Laughlin (2002) argues that the understanding of rural poverty in Mozambique requires the understanding of the concepts of livelihoods embedded within a historical understanding of proletarianization as one of the shifts in the organization of livelihoods through the colonial period. In this context, the author argues that 'Patterns of diversification in rural livelihoods today were shaped both by exploitation and oppression and by resistance to them' (O'laughlin, 2002: 513).

Overall, the temporal dimension brings forward the sense of *time* as a strong analytical tool to deal with historical and conjunctural data regarding the dynamics of rural livelihoods and development since the 'cultivation of historical sensitivity is not always all that is involved. It may happen, in a given line, that the knowledge of the present bears even more immediately upon the understanding of the past' (Bloch, 1945: 37).

Inter-sectoral dimension

Looking to the inter-sectoral dimension to analyse societies goes back to the Physiocrats, who considered an economy 'constituting interdependent sectoral relations' (Bharadwaj, 1994) followed by many other scholars who focused in the interrelations of the agricultural sector and manufacture (Bharadwaj, 1994; Lewis, 1954; Mundle, 1985). Marxism embraces 'relations' as substantial part of its method and as a constant in the way analysis is constructed (Emirbayer, 1997). Marx's consideration of interlinkages of agricultural extension and industry depicts how stimulus and interconnection between sectors may unfold — mutually shaping each other, with implications to rural societies and livelihoods.

Going further in this issue, Kay (2009) underlines the importance of analysing the relationship between agriculture and industry and the rural and urban; he shows that the success of development strategies relies on

the linkages between sectors and on how synergies between them are created and enhanced. Similarly, resource grabbing and dispossession involve linkages and interactions among multiple sectors of the economy globally and nationally. Agriculture, manufacturing industry, transportation, infrastructure and finance among others, are inherently connected and shape each other.

In the case of extractive economies, which is the case of Mozambique, extractive industry stimulus is highly correlated with the construction and rehabilitation of infrastructures and transportation services connecting extraction sites and export facilities. On the other hand, Ye et al. (2020) underline the relevance of analysing the migration of extractivism to other sectors and how the scheme of extract-drain-and-export is going beyond the extractive industry into other sectors and processes of production such as the case of agrarian extractivism.

Dispossession processes, as a result of extractivism and environmental discourses, are not isolated or static events, they work in an interrelated and interactive way. A *ceteris paribus* analytical framework would not allow for the understanding of dispossession or/and adverse incorporation as a dual process and would dismantle overlapping and spill-over effects. That is why it is relevant to engage into an inter-sectoral dimension in order to deal with the complex relations, linkages, stimuli and interactions of social and economic relations among different sectors' actors and stakeholders.

Overall, this dimension is set to bring to the understanding of the researcher the different interactive relations that exist and emerge among these two driving forces of resource grabbing (extractivism and climate change mitigation policies) that are embedded in the different sectors of society, as it is shown further in the study cases section.

Institutional dimension

The global economy dynamics and relations are currently shaped by guidelines and principles from new institutional economics. Since the adoption of structural adjustment programmes from the Bretton Woods Institutions, African countries' economies have been highly shaped by policies that aim economic efficiency while tackling market imperfections and economic distortions based on institutional mechanisms and state intervention (see The World Bank, 2007). Thus, national and global institutions highly shapes patterns of resource grabbing and its outcomes. Steinmo (2008) argues that institutions — whether assumed to be a set of formal

rules and organizations or even a set of informal rules and norms — shape actors' behaviours, political strategies and policy outcomes. Institutional analyses range from individual's rational choice to human beings being norm-abiding rule followers, or somewhere in between, where historical institutionalism stands, behaviour depends on the individual, on the context and on the rules (Steinmo, 2008; Thelen, 1999).

Institutional analyses should aim to express how institutions structure class struggles and influence their outcomes (Thelen and Steinmo, 1992). Fox (1993) points out that historical institutionalism develops an analytical bridge between state-centred analysis and society-centred analysis and he argues that explanations on state action should 'focus on the interaction between state and society, the institutions that mediate such interaction, and the factors that account for how those institutions are in turn transformed'.

Thus, both the materialization of extractivist agendas and climate change mitigation policies are keen to take unique paths according to the region's or host countries' institutional framework and the context in which they are implemented. Therefore, an institutional dimension becomes relevant to understanding the context in which these overlapping competing approaches to land emerge, and is equally useful to further answer questions regarding the outcomes of a dualism of dispossession.

This dimension includes two relevant levels of analysis: (1) the institutional context that includes the normative instruments and procedures that regulate extractivist agendas and climate change mitigation policies such as the Mozambican Land Law and its role historical path of rural development; and, (2) looking at the role of the state as an object of analysis as well as the regime in which these set of politics are enforced.

However, the emerging global environmental politics particularly regarding land-based climate change mitigation policies are highly promoted by the most powerful development 'partner', the World Bank. Which puts the government in the middle of competing approaches for land use, where none of them are of direct interest to the local inhabitants.

Such cases call for a broader analysis regarding power relations and its influences in the outcomes of these competing approaches. Would those cases be solved by the adoption of a 'national priorities first' approach where the government prioritizes economic growth through increases in GDP and investment? Or would it be a case of 'global priorities first'

where global interests towards conservational politics to mitigate climate change are above all? Or would it just be a matter of lobbying or corruption? Either way, all of the alternatives tend to be prejudicial to the less powerful.

Scale dimension

Although the Physiocrats were the first to acknowledge interconnections within the economy, Marx conducted his analytical framework focusing on structures, property relations, social reproduction and surplus distribution and appropriation related to how micro transactions (prices, wages and so on) are related to broader patterns of accumulation, (Bharadwaj, 1994).

Looking at the case of the Mozambican economy, the WB and IMF have systematically been promoting the 'successful rates of growth' registered by the Mozambican economy (except for the last two years) by looking at aggregate data. However, their analysis lacks a more in-depth framework to depict the multiple transactions that are responsible for the type of growth and their direct implications to individual units of analysis, for instance the household. Wuyts (2011) develops his arguments in a clear and useful way:

> Yet, at the same time, Mozambique has witnessed impressive rates of growth. But what matters for poverty reduction, however, is not just the rate of growth, but also the type of economy it constructs in the process, which – in the case of Mozambique – appears to be quite unbalanced in favour of export production propelled by megaprojects. The lesson appears to be that, while export production is undoubtedly important, what matters is the expansion of production of necessities for the internal market, especially food. Last year, notwithstanding a history of high growth rates, Mozambique witnessed serious urban riots as a result of food (and fuel) price increases. (Wuyts, 2011: 9)

By looking at how extractivism is operating in Mozambique, Wuyts' argument is useful to understand the relevance of considering all of the micro implications within the economic circuit that are hidden in the macro perspectives of extractivism in Mozambique. To which he adds:

> In my view, the present practice of monitoring how growth relates to the reduction in poverty incidence tells us little about how macro mechanisms actually influence how working people, including the poor, live and work

> today. My argument has been that it pays to put the macro interrelations between productivity, labour earnings and employment back at the centre of the stage in order to get to grips with the dynamics of poverty and inequality in developing economies. (Wuyts, 2011: 16)

Additionally, the discussion regarding scale in the context of ecological and social change also needs to be depicted. The adoption of climate change mitigation and adaptation policies for the sake of the planet's sustainability as a whole, fails to look at micro implications within the context of resource grabbing. The discussion regarding scale within the political ecology sphere offer relevant insights to the current study. Political ecology analysis, by integrating ecological concerns into political economy framework, calls out to the need to move through different scales (Blaikie & Brookfield, 1987). However, subsequent studies (Peet et al., 2010; Rangan & Kull, 2009; Zimmerer & Bassett, 2003) argue that the study of ecological and social change should underline interconnections among different scales and the need to move away from the pre-given scalar containers. Rangan & Kull (2009) summarize this set of arguments in three: (1) integration of ecological scales with social scales; (2) incorporating human and non-human actors into the analysis of power relations and networks; (3) cross-scale linkages to address dynamic interactions among scales.

> Most political ecologists (and critical geographers) fail to recognize or pay attention to the ways in which scale is produced, articulated, and used to interpret the outcomes of ecological change and spatiotemporal difference in socialized landscapes. The critical challenge for political ecologists is to develop analytical frameworks that begin from the basic recognition that scale is produced to explain, or argue for or against, the processes and outcomes of ecological change in different realms of politics and policy discourse. Scale is the means by which ecology is made 'political'. (Rangan and Kull, 2008: 9)

Therefore, by adopting a scale dimension of analysis that embraces different scales as interdependent dynamics that feed each other, the researcher will potentially have the ability to assess the dynamics of social and economic relations of the peasantry which are embedded in an economic circuit of extractivism and environmental politics that not only engage with national institutional context but as well as power relations within the global resource rush and environmental politics.

Notes

[1] Fairbairn (2020: 19) defines financial assets as 'those intangible assets whose value derives from an underlying contractual claim, such as stocks, bonds, certificates of deposit, and futures contracts. During economic downturns, when the value of financial assets can go up in a puff of smoke, worried investors often buy real assets'.

3 Methodology, methods and study sites

3.1 Methodology: ontology and epistemology

The need for awareness and the urge to instigate change is the overarching reason that motivated me to evolve as a researcher and to contribute theoretically and empirically to critical agrarian studies knowledge production. The decision to engage with specific fields and topics of research follows the same logic and it is believed to be the starting point to being an 'engaged scholar' or 'scholar activist'. The methodology of this research reflects what Marx put forward: 'Philosophers have only interpreted the world, the point however is to change it' — and this is grounded both in my ontological and epistemological position.

Being an engaged scholar and (aspiring) scholar-activist in social sciences, reflecting about one's ontological position is being aware that social reality should be described and understood as aiming at social change and justice. So, seeing and interpreting reality should be an exercise that does not miss the role of social relations of property, labour, income and consumption/reproduction and political relevance of the research and its outcomes. The choices made throughout the whole process of research — regarding the theoretical framework, methods and data analysis — were based on the assumption that the knowledge produced should have political relevance and should be used to influence policies and adding to the path towards social justice.

Although facts and empirical observations are useful to answer the research question, power relations are very much considered in the current research and can be explained by complexities and interactions that can be sustained by a critical realist position. The relation between adopting a critical realist epistemological position and a political economy/ecology lens takes us to a field of debate with different approaches regarding claims

that Marx and Marxists should or should not be regarded as critical realists (Cox, 2013; Pratt, 2013). Nevertheless, in this debate Pratt (2013) makes a relevant point on how realists see things as they are, and for him, all Marxists should be realist, however not all realists are Marxists.

Critical realism, initially approached by Roy Bhaskar (Wynn & Williams, 2012; Yeung, 1997) is seen as an epistemological position that lies in between positivism and interpretivism (Bhaskar, 1975; Wynn & Williams, 2012). Critical realism, considered as 'a viable philosophical paradigm for conducting social science research', implies that 'a causal explanation for a given phenomenon is inferred by explicitly identifying the means by which structural entities and contextual conditions interact to generate a given set of events' (Wynn and Williams, 2012: 787). Critical realism is often connected with retroduction as a methodological principle and mode of inference which requires the triangulation of research methods (Downward & Mearman, 2007; Wynn & Williams, 2012; Yeung, 1997).

For Downward & Mearman (2007) mixed-methods triangulation is a manifestation of retroduction and one of the forms of methodological triangulation is to make use of different methods, for instance to combine quantitative and qualitative methods. By summarizing the reasoning put forward by Downward and Mearman (2007), the main arguments that justify triangulation would be the fact that it seems to enhance the validity and persuasiveness of evidences, increase the reliability in quantitative measures and improves predictability, by uniting different traditions of economic and social thought.

The current research engages with multiple methods of collecting and analysing data, both quantitative and qualitative, however, predominantly qualitative and highly reliant in ethnography tenets, particularly interviews, informal interactions and conversations and participant observation. Burawoy (2013) states that 'All methodologies are fallible and scholars should spend more time examining the limitations of their own methodologies and less time attacking the limitations of others'.

He explains that ethnographic fallacies might limit the researchers' vision to comprehend the world. Fallacies of ignoring, reifying and homogenizing the world, or even traps such 'viewing the field site as eternal or, when the past is examined, the danger of treating the present as a point of arrival rather than also as a point of departure; and finally, the danger of

wishful thinking, projecting one's own hopes onto the actors we study' (Burawoy, 2013:527). It is by recognizing such limitations or traps that the practice of ethnography can be improved and sharpened.

3.2 Methods: Mixed methods

3.2.1 Data and data collection

Engaging in critical agrarian research based on fusion of political economy and ecology lens that conducts analysis regarding extractivism, environmental policies and rural livelihoods requires both macroeconomic analysis and micro implications to rural livelihoods. On one side, macroeconomic data is relevant to understand and analyse trade relations between regions, economic performance of a country and so on. On the other side, micro implications to social reproduction, including patterns of agrarian change, particularly grasping changes over economic, social and ecological relations households is also needed.

So, to study these processes we need to engage with distinct methods of collecting, processing and analysing data. Although quantitative data was collected, processed and analysed, the research is based in a predominantly qualitative mixed-methods approach. So, in order to answer the research questions, two important data sets were collected: macroeconomic secondary data and primary data on perceptions and characteristics of the main actors.

Quantitative data collection

The macroeconomic data was collected in official sites (online and physically) of government institutions, mainly the national institute of statistics (Instituto Nacional de Estatística - INE), the public branch of promoting private investment (former Centro de Promoção ao Investimento – CPI), Mozambican Central Bank (Banco de Moçambique, BdeM), Ministry of Agriculture and Rural Development, Ministry of Environment and other sections and departments.

The macroeconomic data set includes a set of variables that reflect Mozambican economic performance: (1) Gross Domestic Product (structure and sectors) from 1991 to 2018; trade balance indicators (including exports and imports) from 2001 to 2019; Investments (foreign and do-

mestic) from 2001 to 2019; and employment for the most recent year available (2016). These sets of variables depict not only patterns of external relations (economic and trade relations) between Mozambique and other countries but also implications of national policies in the country's economy. Both will provide inputs to analyse the dynamics and implications of extractivism in the country.

Indicators from the United Nations Human Development Report (UNHDR) were also used to describe the human development situation in Mozambique as this can be useful to get a comparative idea of social and economic indicators of the country (including poverty patterns, health and education quality and so on). Nevertheless, to construct a whole picture of social dynamics and development on the ground, qualitative data was collected and predominantly used throughout the whole analysis process.

Qualitative data collection

Whereas, qualitative data was collected both using existing literature and using primary data collection methods in the study sites. Documental analysis from governmental policies and reports were very useful to further understand the economic and environmental public policies directed to each study site and nationally. Reports from Non-Government Organizations (NGO's), banks and international institutions were also a relevant source of information. Reports from The World Bank, FAO, United Nations' agencies and other humanitarian organizations offered insights and information about their interventions and their role on the areas, projects and investments targeted by the research.

Qualitative primary data was collected from a combination of methods during fieldwork conducted intermittently between 2014 and 2019 (from 2014 to 2017 several field visits were made to rural Mozambique as part of other research works, including some of the study sites of this research). Building on the work done before the start of the PhD research, this time field visits were conducted in regions where efficiency-seeking investments and green-driven projects were implemented (including sites of extractive industry, forest plantations, environmental policies and conservation projects). The aim of primary data collection is to construct a solid database that includes the perceptions and opinions of all actors involved

in the process of the decision-making regarding resource grabbing, resource extraction and access/control of resources: rural households, state representatives, private sector investors, social movements and academics.

Primary data gathering (during the PhD journey) consisted of two field visits separated by eight months of reflection and exploratory data analysis. The first visit was exploratory in nature with the main goal of getting a sense of what was the role of different actors, how did they interact among themselves and what were their perceptions regarding the implementation of the targeted projects/investments. The main goal was also to get to know more about the context, the history, general impacts and implications.

After getting a sense and the detailed context of the study sites, an exploratory analysis of the first round of data collection was conducted. By analysing the first set of data collected, a deeper understanding of the phenomenon was possible. It was possible to identify a convergence of the overall perceptions from the local population regarding the implementation projects/investments.

The second visit aimed to further understand the differences in perceptions among different sets of smallholders. The main difference was the fact that some were selected to be beneficiaries of development projects, some were formally employed but some were dispossessed without any compensation. More in-depth interviews were conducted to these two distinct groups of smallholders that experienced the phenomenon under different conditions.

So, the main focus was the collection of the characteristics of rural household's regarding the dynamic complex of rural livelihoods, such as: land owned, expropriated and the role of land to their livelihoods; labour dynamics and its importance to the household economy: formal employment, casual employment, hire in or out labour within the community; forest resources and its significance to subsistence of the household; crops produced (quantity and production techniques); rural livelihood strategies adopted per household; environmental implications of projects/investments at the level of the household and so on. To collect the needed data, the following methods were carried out:

- **In-depth interviews:** a total of 149 interviews following a purposive sampling process of a selection of interviewees. This method of

data collection was aimed at all stakeholders of the research, including heads of 65 households (men and women smallholders), 35 rural workers, 14 local government officials, 11 grassroots social movement representatives and activists working in different areas of society (peasant's movement, environmental, gender, and others), 5 private sector representatives, 6 NGO's and international organizations representatives, 13 academics working directly and indirectly with agriculture, environment and political economy issues. They were asked to describe their experiences and perceptions regarding the implementation of the project. The selection of interviewees followed the snowball technique.

The interviews conducted with smallholders and all segments of the rural population encompassed different procedures that allowed us to have trustful conversational question and answer sessions. The interviews usually took place in the person's residence and were usually followed by a visit to their farm. The interviews were semi-structured to allow a grasp of individual perceptions and experiences and to go deeper into topics that each person was comfortable with. But in a general way, the interviews allowed us to get a deep understanding of their livelihood's strategies and comparable data sets and insights. The interviews aimed at understanding what strategies contributed the most for their livelihoods, what perceptions and knowledge they had regarding the implementation of projects/investments, what were the implications of interventions, of land expropriation, what new strategies were adopted after facing dispossession and what were their aspirations from now on. For the remaining groups of interviewees, the interview took a more formal and structured format, although shaped based on the role of each of the actors.

- **Focus groups discussion:** during fieldwork a total of 5 focus group discussions were organized in order to observe the interactions of experiences and perceptions of different individuals. Some focus groups discussions were conducted with different segments of rural populations: that is, only with dispossessed that got employed or only with dispossessed that did not got employed. But, another group of discussions were held with a mix of the two. These discussions/conversations were directed by an individual from the

local setting (usually a local representative of grassroot social movements) with eventual interventions from the researcher. It was a very casual way to collect perceptions and reactions from agreements and disagreements among them.

- **Observation:** the researcher engaged in participant observation including multiple visits to the study sites and spending time in the districts, 'localities' and villages of each study site. Observation included visits to extraction sites, plantation sites, conservation areas and their buffering zones (BZs), household farms, workstations of plantation workers and overall village settings (rural markets, health, school and other facilities). Also included was participation in meetings held within the area of study cases and in the capital that constituted a place in which they shared their experiences.

3.2.2 Data analysis

Quantitative data sets were analysed through descriptive statistics and construction of graphs to better illustrate the tendencies and patterns of the country's economic performance. The qualitative primary data was processed through documentation of the whole process of interviews and field notes, in order to keep track and construct a structural framework of the collected data. This process allowed me to easily go through the analytic process and effectively identify relevant patterns, explanations, causation and to answer the proposed research questions.

Working through a complementary manner, the qualitative data was analysed using *process tracing*. Approached by Bennett & George (2005), process tracing aims to keep track of the links between causes and observed outcomes, in order to trace the links between possible causes and observed outcomes. Additionally, 'in process tracing, the researcher examines histories, archival documents, interview transcripts, and other sources to see whether the causal process a theory hypothesizes or implies in a case is in fact evident in the sequence and values of the intervening variables in that case' (Bennett and George, 2005: 6).

More specifically, this method of qualitative data analysis is highly adjusted to my research as it aims to identify causal inferences with a temporal dimension of events and consequently:

> …process tracing can make decisive contributions to diverse research objectives, including: (a) identifying novel political and social phenomena and systematically describing them; (b) evaluating prior explanatory hypotheses, discovering new hypotheses, and assessing these new causal claims; (c) gaining insight into causal mechanisms; and (d) providing an alternative means—compared with conventional regression analysis and inference based on statistical models—of addressing challenging problems such as reciprocal causation, spuriousness, and selection bias. Collier (2011: 824)

For validation, besides comparing the key findings with similar and relevant studies, other issues were taken into account. Miles & Huberman (1994) show that conclusion drawing and verification are part of the interactive model of data analysis, including the cyclical process of returning to and feeding from data collection, display and reduction phase. According to Collier (2011) this tool is fundamental to describe political and social phenomena as well as to evaluate causal claims, leveraging the quantitative data analysis and conclusions.

Constant Comparison Method was applied throughout the analysis of the data from all groups of interviewees. So, during the coding process, comparison between new pieces of data and coded data were driven by trends of similarities and differences between perceptions of all groups of interviewees, following Boeije (2002) insights to conduct a purposeful approach of constant comparison. By comparing pieces of data with each other, the coding process involved:

- Open coding: code in-vivo took place at the first round of reading the interviews and as the researcher got familiar with the terms used by the interviewees to characterize specific situations or express particular feelings or opinions, in comparison to other interviewees.
- Axial coding: after ending up with solid and coherent groups of codes, the aim was to identify patterns, connections and relations. Storylines were built and by building a network of codes and categories it was possible to have a visual insight of the phenomenon and identify the similarities and differences between the storylines. Memoing was used throughout the whole process, which made it easy to structure the core themes of the results.
- Selective coding: by identifying the main categories of these storylines, it was possible to further reflect on the codes and how these

are sustaining theoretical outputs and results. The results were aggregated into three main themes; these were validated through comparing insights from different groups of smallholders (beneficiaries and non-beneficiaries) but also through comparing the additional insights collected during fieldwork — from other groups of interviewees.

3.2.3 Study sites

Gilé National Reserve, REDD+ and CSA

The Gilé National Reserve (GNR) covers an area of 2,860 Km^2 in the districts of Pebane and Gilé in Zambézia province. Gilé is a district located in Zambézia province and it has 9,042 Km^2 and 203,363 inhabitants, with around 20.9 habitants per Km^2 (INE, 2012a). Whereas, Pebane has 10,182 Km^2 and 210,793 inhabitants, with around 20.7 habitants per Km^2. In both districts, most of the households build their houses using 'precarious' materials (adobe or sticks) and around 97 per cent cover their houses using grass/palm tree leaves. Less than 1 per cent of the population has access to piped water and less than 1 per cent has access to electricity(INE, 2012c).

In 1932 an area of 5,000 Km^2 was appointed as a Hunting Reserve (Gilé Partial Game Reserve), however in 1960 it was reduced to 2,800 Km^2. Throughout the independence, civil war period the area was transformed into a 'safety net' (GDEMOC AND IGF, 2010) for smallholders' subsistence. With the emergence of environmental concerns and external interest to fund conservation areas, institutional and legislative instruments were put in place in order to manage and protect this conservation area. In 2011, the buffering zone was officially appointed, and it constitutes 1,671 km^2, forming a strip of variable width, that completely surrounds the GNR.

The vision for the creation of this reserve is to: 'Contribute to the conservation of biodiversity in Mozambique and the southern African region, while ensuring tangible benefits for local communities'. Among biodiversity conservation and rehabilitation of ecosystems-related goals, the goals include participation of local communities in the management and development of the GNR. The plan presents major risks of biodiversity degradation such as (GDEMOC AND IGF, 2010): (1) poachers; (2) community extracting biological resources mainly by hunting; (3) uncontrolled fires; (4) itinerant agriculture; (4) logging.

The reserve area, split between these two districts, was identified as one of the 1st target areas for the implementation of the REDD+ programme in Mozambique, as part of the MozFIP project development (Mozambique Forest Investment Project). As an integrated landscape management project, it aims at 'promoting community-based forest management, agroforestry, sustainable charcoal making and reforestation to restore degraded areas'[1] throughout 163,000 households in the targeted districts of not only Zambézia, but also in Cabo Delgado province (MITADER, 2016).

This project has been up and running for almost a decade and it affects around fourteen communities (around 15,000 families) that live in the buffering zone of the reserve. These families are predominantly small-scale farmers that practice subsistence agriculture and they rely heavily on forest resources from the reserve and its water sources. Nevertheless, not all were selected to be beneficiaries. Around 8,000 were selected to be part of these projects directly provided by the Reserve Administration, which include: agricultural input packages, kits for producing honey, processing of mushrooms and other small livelihoods alternatives.

Rural livelihoods in the GNR

Identified as a high rural poverty area, the Gilé National Reserve has been the source of resources for the neighbouring households. Except for some plots located in the limits of the Reserve (that were already taken away with no compensation) there are no people residing inside the Reserve, only in the BZ. Similar to the great majority of the rural population in Mozambique, the smallholders residing in the GNR BZ practice subsistence agriculture, mainly food crops such as cassava, maize, rice, sweet potatoes, peanuts, beans and others. The production techniques are very precarious, rain-fed and labour intensive; households provide their own labour force and use tools such as hoes and no fertilizers whatsoever.

Other major activities to provide their livelihoods are fishing and hunting. Forest resources become their main food source (mushrooms, honey, wild fruits, insects, etc) and are mostly searched for in the rainy season when food shortages appear (food reserves from the previous harvest are short or finished). Mushrooms are among one of the main sources of food during these periods, as they are dried and kept for up to two months after collecting (Gov de Moc and IGF, 2010). Some engage in commercialization of cashew nuts or the small surplus production in local markets.

Forest resources are also a source of income looked for by smallholders such as honey, wood to produce and sell charcoal and wood to produce handicrafts. They also rely on forest resources such as wood to build houses and some plants to use as traditional medicine by healers and non-healers. Traditional medicine is one of the main sources of health assistance that they get taking into account the lack of public health services (doctors and/or nurses) and facilities. (Gov de Moc and IGF, 2010) acknowledges that the search for natural resources is mostly seasonal, depending mostly on on-farm issues that determine household labour availability and food availability.

According to GdeMoc and IGF (2010) forest resources contribute with 52 per cent of households' 'revenues'. This means that half of the livelihoods is provided by forest resources either as food supply or as source of income. Forest resources represent a third of yearly food needs (including mushrooms; hunted meat; fish; insects). Overall, according to the study, household economy presents the following structure: 52 per cent forest resources (1-firewood; 2-hunting; 3-fishing; 4-others); 32 per cent agriculture; 9 per cent domestic animals (pigeons, chickens, pigs); 7 per cent alternative strategies.

So, mainstream assumption is that local communities represent the main threats to biodiversity and conservation of forest resources and they should change their way of living to accommodate environmental/conservation goals. The government states that local communities living around the reserve and its buffer zone need to become co-managers, as well as the main beneficiaries of its development. The Government also assumes that the households represent the main threat to the conservation, due to activities such as poaching, fishing with destructive methods, burning, etc. And therefore, they see an urgency in changing this situation quickly (GdeMoc and IGF, 2010). The Government rushes to make these statements ignoring the fact that the reserve was recently a target of illegal logging by Chinese companies (Mackenzie, 2006). Nor it mentions how there is evidence that high level government officials were involved in illegal logging and poaching schemes (CIP, 2020; Mackenzie, 2006).

Carbon sequestration and climate-smart agriculture (CSA)

Reports from the Ministry of Land and Rural Development ensure that local public consultations are conducted in order to inform the role of the different actors and establish mechanisms to ensure the conservation and

protection of the targeted area. Nevertheless, one of the main interests of such projects is related to carbon sequestration and carbon credits that are seen as big opportunities for private companies and NGOs operating in the carbon credit market.

A recent study showed that verification processes are expected to confirm the achievement of approximately 330,000 Verified Carbon Units (VCUs) for the 2010-2016 period that with the estimate of the company ETC Terra, a price of 8 USD per tonne would be possible — at the end of year 5 around 398,277 tCO2e would be the net GHG emission reduction/removals and the next steps would be to commercialize these credits. If this is achieved, it will result in a sale value of 2.64 million USD (FFEM, 2017).

Following the verification process, some intermediary entities are responsible for brokering the sale of credits in exchange for a fee, finding a buyer, and an official government entity to actually make the sale (in order to avoid punitive fiscal obligations). After all of this, a share of the revenues should be channelled back to the communities, however, one of the financiers of the REDD+ project (Fond Français Pour L'Environnement Mondial through Agence Française de Developpement) suggests that the revenues should prioritize the functioning of the reserve rather than community development. Moreover, they state that even the percentage of the revenues channelled for community development should be channelled to expansion of 'conservation agriculture' instead of cash payments (FFEM, 2017).

Therefore, projects aiming at community development and focusing on promoting environmentally-friendly agricultural practices (aligned with climate-smart agriculture practices and mitigation and adaptation to climate change principles) are being implemented by an Italian NGO — COSV. They are working with the fourteen communities living in the BZ and assist 700 households out of the 32,000 persons living around the reserve (and 12,000 living specifically in the BZ). These projects include distribution of 'resilient' seeds, technical assistance and training of 14 groups (one from each community) aiming at the production and commercialization of food and cash crops in a sustainable conservation technique they claim to be 'agroecology' (COSV, 2018) including training regarding environmental sustainability. Other activities include: building corrals, barns and planting trees in the BZ.

Portucel Moçambique: tree plantations, REDD+ and CSA

In Mozambique, forest plantations were introduced in the 1920s and intensified after independence in the socialist period and afterwards in the market economy. However, it was only in the last decade that multinational companies demanded large areas of land and established large-scale monoculture of tree plantations (mainly eucalyptus and pines) in the north and centre of Mozambique. The national strategy of reforestation foresees the intensification of tree plantations as a synergic way to respond to REDD+ demands.

It was in this regard, that Portucel Moçambique (with 20 per cent of the shares belonging to the World Bank branch International Finance Corporation), one of the largest megaprojects in Mozambique and the largest in the agricultural sector, not only in terms of land occupation but also in terms of volume of investment, started their activities in 2009 grabbing over 356,000 hectares between Zambézia and Manica province. In Zambézia the company focused on two districts, Ile and Namarroi, with a total of 173,327 hectares, predicting the plantation of approximately 120,000 hectares of eucalyptus trees.

This research focuses on the district of Ile; which is a district located in Zambézia province with 6,633 Km^2 and 318,383 inhabitants, with around 56.2 inhabitants per Km^2 (INE, 2012b). Most of the households build their houses using 'precarious' materials (adobe or sticks) and 97 per cent cover their houses using grass/palm tree leaves. Less than 1 per cent of the population has access to piped water and less than 1 per cent has access to electricity (INE, 2012b).

Very similarly to Gilé area, households are mostly subsistence producers but with higher market integration although the production techniques are very precarious, rain-fed and labour intensive; households provide their own labour force and use tools such as hoes and no fertilizers whatsoever. They produce mostly maize, peanuts, beans and cassava. Cassava represents the most produced crop in the district (more than 30 per cent of the planted area on average and more than 50 per cent of total production) (INE, 2012b).

Portucel Moçambique was created in 2009 by The Navigator Company (formerly Portucel Soporcel group), for the implementation of the largest integrated forestry project for the production of paper pulp in the country for export. The company was authorized to acquire 356,000 hectares of

land for 50 renewable years as the Government approved of their Social Development Plan for the communities residing in those areas (Zambézia, 173,000 and Manica 183,000 province). The plan is to plant 2/3 of that area. The investment was around 2.5 billion USD, with 20 per cent shares of the WB branch IFC.

The Navigator Company (formerly Portucel Soporcel group) is currently one of the world's largest producers of bleached eucalyptus pulp (BEKP) and the first European producer of uncoated fine printing and writing paper (UWF). In Mozambique, according to the company's plan, the first phase of the investment includes the plantation of a forest base of about 40 thousand hectares that will guarantee the supply of a eucalyptus wood chip production unit (to be built) for export of around 1 million tons per year; and, the second phase would comprise the expansion of the forest base to 160 thousand hectares and the construction of an industrial pulp production unit[2].

Land occupation model and climate-smart agriculture

It was estimated that around 25,000 families were residing in Portucel's area in both provinces. However, so far, around 3,500 families had their land transferred to Portucel. So far, 13,500 Ha of eucalyptus were planted in both provinces. Most of Portucel's activities are concentrated in Zambézia province (Portucel Moc, 2018). It is in Zambézia where the company installed its nursery that feeds the plantations of both provinces. It occupies an area of 7.5 hectares and has an annual installed production capacity of more than 12 million clonal eucalyptus plants. One of the biggest (if not the biggest nursery of Africa).

Contrary to the Mozambican Land Law, Portucel's land occupation model does not involve resettlement. The company negotiated with the Ministers Council to occupy land in exchange for employment and the implementation of the Portucel Social Development Plan (PSDP). The plan aims to invest US $ 40 million to improve the living conditions of approximately 25,000 families residing in its areas, as an integral part of the forestry project.

The main objective is to create and share value and prosperity with local communities through investment in forest plantation by (1) training in farming techniques (climate-smart agriculture); (2) distribution of livestock and seeds; (3) construction of barns; (4) water holes; (5) construction

and rehabilitation of roads and bridges; (Portucel Moc, 2018). The company claims that about 5,800 families (out of a total of 25,000 in the project areas) and 115 communities in the Provinces of Manica and Zambézia have already benefited from the Portucel Mozambique Social Development Programme, which has been implemented since 2015.

Massingir: Limpopo National Park, Ecotourism, Dam and failed ethanol Project

Massingir district is located in the south region of Mozambique, in Gaza province. Massingir is a district located in Gaza province and it has 5,681 Km^2 and 33,000 inhabitants, with around 5.7 habitants per Km^2 (INE, 2013b). Despite being the host of a dam (in process of rehabilitation) only 7 per cent of the population has access to electricity (INE, 2013b). Most of the households build their houses using 'precarious' materials (adobe or sticks). Less than 2 per cent of the population has access to piped water and around 6 per cent has access to electricity (INE, 2013b). The main economic activity of the district is cattle raising (livestock) and secondary is subsistence farming, from which around 80 per cent of the district get their livelihoods from. Fishing and hunting are among the main strategies of livelihood (for food). The potential of cattle raising is great in this specific district because of vast grazing areas and existence of water sources in the surroundings (INE, 2013b).

Limpopo National Park, conservation and ecotourism

The government claims that the district has great tourist and ecological potential. Around 2,100 Km^2 out of the total area of the district (5,698 Km^2) was integrated in the Limpopo National Park (LNP). The park has an area of 10 thousand km^2 covering Massingir District (2,100 km^2), Chicualacuala District (6,400 km^2), and Mabalane District (1,500 km^2), but it is also part of the Limpopo Transboundary Conservation Area established in December 2002 through a treaty covering an area of 35,000 square kilometres among the parks of Kruger (RSA), Limpopo (Mozambique) and Gonarezhou (Zimbabwe), where the main attractions related to ecotourism, adventure, water sports, and so on (INE, 2013b). The creation of this trans frontier park was assisted by the German development bank and partly by the World Bank.

This treaty included the following activities[3]: (1) development of tourism facilities; (2) removal of fences between Kruger National Park and

LNP and relocation of 5,000 animals from Kruger National Park to LNP as wildlife was lost during the civil war (Elizabeth Lunstrum, 2016); (3) construction of a barrier fence to separate the wildlife core zone from the community buffer zone; (4) relocation of 1,200 families and implementation of various community programmes; amongst others.

The inhabitants established themselves in those areas inside the park mostly because of the edapho-climatic reasons. The Environmental impact assessment of the park states that most of the people living inside the park are concentrated at the confluence of the Elephants and Limpopo rivers, an area with the best climatic and resource conditions (IMPACTO, 2012). The main sources of livelihood of the people living inside the park are subsistence agriculture, cattle raising, fishing and hunting. Agriculture is highly dependent on meteorological conditions and is mostly rain-fed using 'rudimentary agricultural techniques (cutting and burning) (INE, 2012). Additionally, as Massingir is located at the border of Mozambique and South Africa, men usually seek seasonal employment on South African farms or construction work.

Approximately 5,000 inhabitants live inside the LNP and around than 20,000 people live in the Buffer Zone (until the year 2010, no accurate more recent data — interviewees indicate that those numbers might have more than doubled) along the Limpopo and Elephants rivers, organized in about 50 villages dispersed in the districts of Mabalane, Massingir, Mapai and Chicualacuala. Since 2006, LNP has been monitoring population growth in the interior of the park in order to improve park management and create community development projects in favour of the population, in order to contain the pressure of poaching and sustainable use of natural resources (PNL, Mozbio, 2017).

The local inhabitants of the area assigned to be part of this conservation project were around 7,000 people and they were to be resettled after the treaty was established (Elizabeth Lunstrum, 2016; Milgroom, 2015), which is why it is considered one of the most protracted conservation-related displacements unfolding within southern Africa, Lunstrum, 2016). The resettlement process was to be overseen by the World Bank's Operational Policy for Involuntary Resettlement which was a condition for the continuation of the funding of the LNP (Milgroom, 2015). Nevertheless, only the inhabitants of two villages were resettled and five villages remain inside the conservation area where the treaty aims to promote wildlife.

Although the resettlement process of the remaining villages was resumed in 2017[4], there are still complaints from local inhabitants residing inside the park regarding the loss of their cattle to wild animals[5] or even loss of crops and worst of all, of human lives (Lunstrum, 2016). These wild animals were either introduced following the guidelines of the treaty or migrated from Kruger National Park when the fences were open. It is important to state that the key agricultural economic activities that are part of livelihood strategy of the local population are: livestock raising by cattle herders, charcoal production and subsistence farming (Borras et al., 2011b).

The process of resettlement is crucial to the next step predicted by LNP, that is the implementation of ecotourism projects inside the park. The strategic plan of the park states as their vison 'a prosperous Massingir, a preferred tourist destination, potentially an agricultural, fishery and industrial producer, with the socio-economic well-being of the communities'.

Procana and Massingir Dam: ethanol production and irrigation system

In a nearby area, a block of land (30,000 hectares) was assigned to be part of the many projects of biofuel production in Mozambique following Mozambique's governmental strategy on biofuel (*Estratégia Nacional de Biocombustíveis*) approved in 2009 with the intent of boosting biofuel production in the country in the context of climate change and the current environmental crisis. Climate crisis and the rising international demand on biofuels, led the Mozambican Government to put forward the national strategy of biofuel production and the potentialities presented by the country to develop a dynamic production of biofuel, to feed the internal market but primarily to respond to export and international demands (South Africa, China, US and the European Union). Despite the systematic failure of different biofuel projects, this is still an arena aimed to be further explored by the government and seeking investors mainly for sugarcane, coconut and jatropha.

The Procana project was approved by the government to be implemented in one of the areas assigned to resettle one of the communities living inside the park. However, this area was reallocated by the state to private investors (London based Procana) for sugarcane/ethanol plantation. It is believed to be a US$500 million investment along with 7,000 direct jobs with additional jobs for outgrowers/contract-farmers (Borras

et al 2011; Lunstrum, 2016). Procana dissolved in 2009, giving rise to a much bigger investment (volume-wise): Massingir Agro-Industrial (MAI), a partnership between a South African company (TBS) and a national investor (Mozambican firm SIAL), Lunstrum (2016).

Aimed to work synergistically with the Elephant River Dam irrigation system (RM, 2014) the ethanol project is conditional to operational issues related to the Massingir Dam. The construction of the Massingir Dam started in 1972, before independence, and its opening was in 1977 (RM, 2014). After an accident in 2008, the dam needed to be urgently rehabilitated. Until recent days, the government was able to get enough financing to cover the costs of the rehabilitation through the African Development Bank (total of USD 33 million)[6]. It was also justified as being a strong ally in local mitigation and adaptation projects (irrigation system and production of electricity). Although the rehabilitation works have started, it has not been yet finalized.

Although Procana cleared around 800 Ha of land, they never actually planted sugarcane and did not follow the proposed approved DUAT plan. The DUAT was extinguished and the land was transferred to another company, MAI (Massingir Agro-Industrial) with the same purpose. Transvaal Suiker Beperk (TSB) and Sociedade de Investimentos Agroindustrial de Limpopo, SA (SIAL) were successful in assigning the development of the Massingir project. So, the two partners, TSB with 51 per cent and SIAL with 49 per cent formed the Mozambican company Massingir Agroindustrial SA (MAI) to develop the project's implementation.

This company wanted to adopt the flex crop strategy by allowing the alternation of sugar and ethanol production according to market demand and price fluctuation. Also, cultivation, processing and transformation of sugarcane into sugar and ethanol, as well as the production of animal feed and biofertilizers and the development of other complementary activities. Additionally, the project aimed to be self-sufficient in terms of energy and will produce all its energy for agriculture and the factory throughout the year; and sell the surplus to the national public electricity company. However, in 2017 the government extinguished the DUAT acquired by MAI because the company did not comply with the proposed exploration plan. Although a lot of companies showed interest in investing in that area, with the systematic postponement of the resettlements in that area and the dam still to be rehabilitated, the project did not go far.

Sasol: natural gas extraction vs environmental crisis

Inhassoro is a district located in Inhambane province and it has 4,746 Km^2 and 55,740 inhabitants, with around 11.7 inhabitants per Km^2 (INE, 2013a). Most of the households build their houses using 'precarious' materials (adobe or sticks) and around 80 per cent cover their houses using grass/palm tree leaves. Less than 1 per cent of the population has access to piped water and less than 2 per cent has access to electricity (INE, 2013a). Besides subsistence agriculture, most households of the district (coastal area) rely heavily on fisheries. After natural gas, the most important sector of the district is tourism. The sector attracts a lot of foreign and domestic investment.

Besides the numerous tourism investment, the district is most known and its economy highly shaped by the megaproject Sasol, which explores gas fields in two administrative posts of the district, namely Pande and Temane. One of Africa's largest reserves of natural gas, Pande/Temane was discovered in 1961, but it was only in 1996 that Sasol acquired the exploration and development rights to the Temane and Pande fields. Sasol started by constructing an 860km pipeline to drain natural gas to Secunda, close to the border of Mozambique and South Africa. The shareholder structure shows that Sasol is owned by the South African Sasol Petroleum International (70 per cent), the public company Companhia Moçambicana de Hidrocarbonetos (25 per cent) and the International Finance Corporation (5 per cent) (CIP, 2013).

The project was approved in September 2001 and in February 2004, gas began to flow from the fields in Inhambane Province, through the 860km pipeline, to Sasol's Secunda plant in South Africa (CIP, 2013). Currently, more than 12 million cubic metres of gas is piped to South Africa daily, where it is processed and sold on global markets. Gas exploration and extraction started in Pande but they are now expanding their activities by finding new drilling spots and identifying new wells in Temane.

The company's land occupation model is quite different from agribusinesses that need to acquire large plots of land. The company holds a DUAT for their main installations in Pande (including a processing unit in Mozambique) and its multiple drilling wells throughout many points in the district. Less than ten households were resettled; however, several households were expropriated of their plots ('machambas' – farms of usually 0.5 Ha to 3 Ha or so) and/or have drilling sites right next to their

farms. To this day, new spots are being established with multiple implications to food and cash crop production.

According to the company's website, around 300 permanent jobs were created and around 600 seasonal jobs for the communities in the surrounding areas) since the beginning of the investment[7]. Additionally, the company claims to have spent around USD 30 million in multiple social responsibility projects, such as providing access to health care, education and clean water facilities along with community income generating projects[8].

With the emergence of environmental concerns, multiple policies arose in the early 2000s to promote cleaner energy. The 2001 Gas Act in South Africa aimed at diversifying South Africa's energy sources by shifting away from dirty fuels towards cleaner natural gas and to the development of a competitive gas industry in South Africa (Mondliwa & Roberts, 2018). Sasol was envisaged to switch to natural gas to reduce emissions (including the investment in Mozambique) – since the changeover, Sasol has reduced emissions by 39% (Burawoy et al., 2000)

Sasol's 2020 climate change report (Sasol, 2020) states that three pillars are needed in order to support the Paris Agreement and contribute to SDG 13 (Climate Action): (1) reduce emissions; (2) transform operations through integration of cleaner alternatives and (3) shift their portfolio to lower carbon-intensive businesses such as natural gas. Additionally, in the context of mitigating the environmental crisis, Sasol's strategies include carbon offsetting. It has defined three routes to achieve its offsets ambition: (1) buying verified credits from the market; (2) co-development of projects or (3) sole development of projects, for example own development of renewable energy projects.

3.3 Ethical considerations

The first point to be explored in the ethics of this research is the fact that doing research in rural areas in countries with authoritarian governments and rigorous traditional institutions can be quite a 'bureaucratic' process. A set of procedures are to be followed in different levels of governmental and official bodies to smoothly conduct research and especially if the research involves interviewing and collecting data in areas where land conflicts and protests took place. Authorization to conduct research or even circulate in specific rural areas is needed.

So, for this research all the steps were followed including asking and getting permission from the provincial, district and local level of governance authorities. Additionally, local traditional leaderships should also grant permission to the researcher to conduct research and interview their 'community' members. In each village that we visited we consulted relevant traditional councils and leaderships in order to be able to visit the village and interact with its residents.

The second factor is that the current research had to give serious consideration to information from research participants about the topic, purpose and objectives of the research, so that interviewees were able to make an informed decision about their willingness to contribute to this process of knowledge production or not. Before each interview, an introductory contextual conversation would take place to clarify the purpose of the research and more particularly, who the researcher is, what her role is and why she is conducting such research. An important piece of information to be shared with the participants was the many ways the research would be disseminated and published, but with anonymity assured. Thus, they were well aware that it would be published in national and international platforms, including sharing the outcomes with government officials in order to instigate changes and influence policy making. An explanation of the general purpose of the interview preceded the confirmation of the participant's consent to be interviewed and recorded, as well as photos taken in any circumstances.

The third issue is regarding the processes in which knowledge production takes place. It is important to acknowledge that knowledge production is not a solo exercise, nor are its results solely from one individual's work. I am well aware of the research participant's contribution to the process of knowledge construction and highly acknowledge their role in the co-construction of knowledge, particularly the contribution of the several segments of rural population and grassroots social movements, whose contributions were crucial for the development of this research. Although this research is grounded on the African philosophy of '*Ubuntu*' (meaning 'I am, because we are') which expresses exactly the essence of co-constructing and shaping ourselves and our knowledge production processes, it is important to underline and call attention to the huge amount of work that researchers ought to do so as not to be regarded as practising knowledge extractivism.

3.4 Limitations, risks and barriers

Political, social and environmental limitations have caused impediments, barriers and delays throughout this PhD journey. Political instability, civil unrest, armed conflicts and media repression are some of the issues that characterize the context lived in Mozambique, especially in the last four to five years. Doing research in such a context can be quite challenging. One of the most challenging ones would be the security and safety risks posed by travelling in specific regions in rural Mozambique, especially in the centre of Mozambique where armed conflicts were taking place. Driving around those areas and also very remote areas, particularly in Zambézia province, was very challenging. The government forced people to circulate with appropriate identification (including ID, credentials from an official organization and a proper '*guia de marcha*'). Those set of risks and procedures caused delays because of the adjustments to driving routes to and between study sites. Additionally, this involved more costs and enhanced budget restrictions to the fieldwork plan.

Besides the political context of the country, weather events constituted a big issue for the process of research planning and, especially, fieldwork. Ironically, the process of researching climate change was negatively impacted by climate change itself. During fieldwork in 2019, two very devastating cyclones hit the country in the surroundings of two of the study sites. Cyclone Idai (the first, most destructive and ultimately fatal of these) hit the centre of the country. Beside its socially and economically devastating impacts, many roads and bridges were destroyed and some of the study sites were temporarily inaccessible. When I was finally able to reach those regions and in the middle of the process of collecting data in the field, a second cyclone (Kenneth) was about to hit the country very close to the location of my fieldwork. The procedure was to interrupt the work and urgently evacuate and go back to the capital. Nevertheless, all flights were cancelled due to the storm and I had to stay there. Fortunately, it was not a very strong storm in the place I was staying, but unfortunately a lot more destructive in neighbouring areas.

Some limitations were identified during the process of data collection in the field. Although Portuguese is the official language of the country, more than twenty languages are spoken throughout the country. Most rural populations, especially peasant communities, speak their local language and do not speak Portuguese. I collaborated with translators who helped

me with the translation, however, there were still some issues with communication. I tried as much as possible to avoid translation biases by constantly rephrasing questions and terms, then comparing answers in order to confirm that misunderstandings were kept to a minimum. Besides language barriers, there was an identity barrier. Class, age, race and gender were targets of distrust among rural households and peasant communities. This will be further addressed in the next section.

Another point that caused, at least partially, some constraints and limitations to the research was the fact that statistics in Mozambique, generally, are not well organized and systematized. For instance, data related to land occupation, employment and others, are not fully available and may not even exist. Besides data availability, there is also the issue of data accessibility. Although I went through all the mandatory official procedures to get data from a number of ministries, in some situations I didn't get an answer, in others I got a negative answer. So, I had to work with what was available and/or to resort to other international sources, when available.

3.5 Positionality and reflexivity

Notions of reflexivity demands researchers to recognize that 'we are of the world we study' and that we should not pretend there is a demarcation between us and the people telling us their story (Burawoy et al., 2000). As Bourdieu (2004) puts it 'One cannot talk about such an object without exposing oneself to a permanent mirror effect: every word that can be uttered about scientific practice can be turned back on the person who utters it'.

It is important to recognize the influence that my background and my positionality have in my research. In 2012, right after I finished my bachelor I was recruited as research assistant for an independent research institution in Mozambique (Observatório do Meio Rural) and I had embarked on a journey that aimed at achieving social change. Since then, I have been involved in research projects, guided by the main objective of contributing evidence and tools to improving Mozambique's rural development patterns and influencing policy-makers at all levels. Instigated by the personal need to actively pursue social justice, I joined several activist and scholar-activist collectives in and out of Mozambique.

My PhD journey is not at all detached from those principles and guidance towards social justice. Researching how global markets, policies and

dynamics affects the rural poor and a country's economy generally, is by far one more attempt of mine to tackle and expose injustices in today's world and more specifically in Mozambique. In line with what Borras (2016 – inaugural lecture) states, I consider myself to be aligned with what he calls scholar-activists whom he defines as 'those who explicitly aim not only to interpret the world in scholarly ways but who also aim to change it, and who are connected -- unapologetically -- to political projects or movements'. Being a scholar-activist does not strip you of academic rigor nor of producing scientific truth, it actually arms you with the clear motivation of grasping what is wrong and how can it be improved. It is important to be highly aware that your hunches and assumptions should absolutely be a target of well executed validation and confirmation.

On the other hand, working in rural areas one should always be aware of our own positionality and how people perceive us as a person and as a researcher, and how that will influence the research itself. As a non-black urban-grown Mozambican young woman, doing research in rural poor and remote areas can be challenging in many different ways. Being non-black and belonging to a more privileged class from urban areas, rural households tended to perceive me as a representative of the private sector, an investor or even a donor, which could completely undermine the social relation, the interview process, data collection, analysis and conclusions.

Knowing that in advance from my previous experiences in the field, made me prioritize the clarification of any misunderstanding right at the first contact and establish a prior link with a trustful community 'insider' that would allow me to build their trust and comprehend my role there, then introduce me to the households with their own (traditional/habitual) procedures. I usually contacted a community teacher, a grass-root social movement representative (from a peasant union or even from other local social movements) or even an extensionist technician that worked directly with the households to help and support me in the process of integration. In that way, I made sure that people would perceive me as being as close to the truth as possible.

Additionally, I was aware of stigmatization for being an unmarried young woman traveling by herself and working with mostly men (drivers, translators, guides, and so on), although I made an effort to work with women as much as possible, but most of them weren't available to travel

with me and local contacts would only point out men because of the existent intensified dynamics of gender roles in rural/remote areas of Mozambique. Being disregarded, ignored or questioned about my capacities as a professional were some of the behaviours especially of older men from the community and leaderships. Nevertheless, to overcome this I counted on the many different sexist and misogynist encounters that I have had my whole life: reacting in a deconstructive didactical feminist way, however, without running over or disregarding cultural and traditional African norms and the respective community norms.

Notes

[1] http://www.worldbank.org/en/news/press-release/2017/03/07/world-bank-injects-47-million-to-stem-deforestation-in-mozambique

[2] http://www.portucelmocambique.com/Portucel-Mocambique

[3] http://www.limpopopn.gov.mz/about.php?header=elephant

[4] http://jornalnoticias.co.mz/index.php/provincia-em-foco/69089-governo-retoma-reassentamento-no-parque-nacional-do-limpopo.html

[5] http://www.civilinfo.org.mz/conflito-homem-fauna-bravia-origina-desavencas-entre-a-populacao-de-mavodze-e-administracao-do-parque-nacional-do-limpopo/

[6] http://www.mef.gov.mz/index.php/destaques/53-acordo-entre-governo-e-o-bad-garante-o-funcionamento-pleno-da-barragem-de-massingir

[7] https://www.sasol.com/media-centre/media-releases/sasol-s-response-mozambique-centre-public-integrity

[8] https://www.sasol.com/media-centre/media-releases/sasol-s-response-mozambique-centre-public-integrity

4 Historical Background and the Role of the State: Extractivism, Authoritarianism and Failed Neoliberal policies

4.1 Introduction

This chapter calls the attention to the relevance of understanding how Mozambique's historical (pre)colonial path shaped the dynamics of agrarian change before independence and how did that influence the success or failure of post-colonial economic and agrarian policies. This will allow a better understanding of how history contributed to the current dynamics of extractivism observed in the country, what contribution did the role of the state have, the nature of exchange relations and how the triad land, labour and nature were shaped.

The historical path of trade relations in Africa comes way before imperialism and colonialism. In east Africa and in Mozambique non-native trade relations did not begin with the European arrival in Africa. In the beginning of the 9th century until the 18th century, pre-imperial societies and states in Mozambique engaged in exchange social and economic relations with the Persian Gulf. It was around the 1500s that Portuguese traders arrived and established themselves in trade units on the coast of Mozambique looking mainly for gold at first. What started as a gold search became a consolidated trade route that would eventually include ivory, slaves and later agricultural commodities.

After the Berlin Conference, Portugal started effective colonization of Mozambique characterized by high levels of extraction both of labour and agricultural commodities. Wuyts (1989) offers a periodization of the Portuguese colonialism in Mozambique, namely: (1) from 1885 to 1926,

Mozambique as a colony was mainly dominated by foreign non-Portuguese capital leasing land for cash crop plantations and was recognized as a labour reserve for neighbouring British colonies; (2) in the second phase (from 1926 to 1960), dominated by the fascist-nationalist regime of Salazar, capital accumulation was sustained through the exploitation of 'forced labour', exemplified by forced cultivation of crops to feed Portugal's own needs; and (3) the third period (from 1960 to 1973), with the official abolition of forced labour as a result of nationalist resistance movements in other African colonies, Portuguese capitalists were forced to innovate technologically with the support of foreign capital to increase productivity such as the adoption of mechanized techniques of production. Known as the transition period, roughly from 1973 to 1977, the liberation war intensified and Frelimo occupied strategic geographic areas (Oppenheimer, 1994; Mosca, 2005). After independence in 1975, a socialist economic model was implemented.

Various types of repressive colonial rules, such as taxation, obligations to cultivate certain crops, obligation to provide labour services, obligation to migrate to provide labour, and so on, 'encouraged' peasants to search for money (Bernstein, 2005). The income from the diversification of rural livelihoods, which includes wages and remittances would be directed not only to 'simple reproduction' of the household and other consumption goods (Wuyts, 2001), but also reflects the dynamics of a household's economy nowadays. Therefore, the patterns of rural accumulation in the peasant economy, which was subordinated to the needs of private farms and plantations and additionally to labour demand from South African mines, were highly determined by colonial labour regulations (Wuyts, 2001:4).

After the independence in 1975, the revolutionary force, FRELIMO, was guided by a Marxist-Leninist ideology, thus, a socialist construction of policies was put in place. (O'Laughlin, 1996) has periodized the post-independence history of Mozambique regarding Frelimo's agrarian transitions, as follows: (1) the agrarian reconstruction from 1975 to 1980 based on rapid socialization of production and residence through the expansion of state farms, co-operatives, and communal villages; (2) 1980 to 1983, which she called a 'contradictory phase' when Frelimo shifted to a model of rapid socialist accumulation that was almost entirely based in state farms; and, (3) from 1983 until 1986, increasing support for private commercial farming including the distribution of previously state-owned farms to multinational enterprises; lastly, (4) since the end of 1986 to 1996 (and

most likely until now), a phase identified by O'Laughlin (ibid.) as liberalization of markets with large land concessions to foreign capital.

The failure of the socialist construction, marked by an authoritarian and somehow populist regime (Monjane & Bruna, 2019), led to an acute economic and social crisis, which led the country to adopt to structural adjustment programmes, leading the country to a totally different path. Market liberalization, privatization and intensification of neoliberalism was the main driver of the country's life, however, the authoritarian character of the state remained.

With the intensification of neoliberalism, the World Bank (The World Bank, 2007, 2010c) systematically underlined the role of land in poverty reduction. Policies such as institutional innovations in markets and finance, even with revolutions in biotechnology and information technology as a way to revolutionize agricultural productivity in order to promote development (The World Bank, 2007) clearly referring to smallholders in the developing countries, as inefficient users of the land. However, it also underlines the role of extractive industry in Mozambique, particularly, putting forward interventions and prospects for growth poles in resource-rich regions such as Tete, one of the biggest reserves of mineral coal in the world (The World Bank, 2010b).

In this context, a number of relevant questions arise. Was a new economic and political strategy put in place or it is rather a continuation of colonial economy? What continuations are there? What is the role of the state? What is new regarding the agrarian question in Mozambique? It is important to keep in mind that the current period adds a relatively new phenomenon that is transversal to all of the agrarian question issues that were approached: the current environmental crisis and the policies to address it.

4.2 Brief historical background

Precolonial and Colonial period: labour and agro-extractivism

The first external commercial activities in Mozambique included the creation of commercial warehouses by the Gulf's traders in the coast of Mozambique (Newitt, 1995; Serra, 2000). It was however, with the arrival of the Portuguese just before the 1500s, looking fundamentally for gold, that explicit extractivist activities started to take place. According to Serra

(2000) the intensification of gold exploration was a result of the increasing demand for gold by the Portuguese that was much higher than the previous demand by the native aristocracy/dominant class. Consequently, the peasantry changed their social relations and labour allocation. In other words, they went from looking for gold in mines and water courses in between farm work seasons to looking for gold throughout the whole year.

Around the 16th century, the Portuguese started to establish themselves on some plots of land (negotiated with pre-imperialist states or bought or occupied), in the form of unofficial political units, that facilitated the draining of commodities such as gold and ivory (and later slaves) (Hedges, 1999; Serra, 2000). This is regarded by some authors as the first form of Portuguese colonization and primitive accumulation in Mozambique — the so-called *prazos* — who were previously individual traders that were later given an official statute by the Portuguese crown and subsequently paid taxes (Serra, 2000; Newitt, 1995). The forced labour in mines, whether it was to pay *mussoco* to the native dominant class or to provide to Portuguese *Prazos*'s demands, shaped social relations and livelihood's strategies of the peasantry. The Portuguese in Mozambique established strong connections with the Portuguese settlement in Goa and Indian traders were also establishing connections and commercial units in Mozambique. Around 1550/1750 other wild and marine life commodities were exchanged such as rhino horns and agricultural commodities such as oleaginous products (mainly sesame and peanuts), (Serra, 2000).

It was around mid 18th century that the international slave demand intensified and surpassed gold and ivory demand. Numerous slaves were captured and taken from Mozambique, through the *prazos*, to work on plantations in many different regions of the world with one thing in common — the supply of unprocessed agricultural commodities that contributed to European industrial development (Hedges, 1999; Serra, 2000; Newitt, 1995). Even after the prohibition of the slave trade, there are registers that show this was still happening up until the early 20th century, although it officially ended between 1840 and 1851. With the ascendancy of trade relations and their implications to accumulation and power dynamics, during the period of roughly 1850-1880, native pre-imperialist states in Mozambique went through political transformations as a result of internal inter-lineages conflicts to control natural resources as well as trade and military conflicts and migration (*Mfecane*), Serra (2000).

However, after the Berlin Conference, the 'official' scramble for Africa took place and the Portuguese officially and systematically occupied Mozambique by militarily attacking the native states (Hedges, 1999). Effective occupation of Mozambique by the Portuguese was attained by two main strategies. One was to directly colonize the southern part of Mozambique, transforming it into a labour reserve mainly for South African mines and to export labour to neighbouring countries. The other one was to provide concessions to foreign capital (mostly English) aimed at investing in plantations such as sugar, which occupied two thirds of the country. With these strategies they had the political and economic power to exploit both labour and natural resources. With the latter Portugal demanded dividends, shares, taxes and infrastructure investments including ports and railways (Hedges, 1999; Serra, 2000). Leaning towards a Leninist conceptualization of imperialism, Portugal is claimed not to be an imperial power, but it was indeed, an intermediary of imperialists (Serra, 2000; Cabral, 1977).

Peasant-workers resistance was very present throughout different phases of precolonialism and colonialism in rural Mozambique. Besides engaging in armed conflicts with the Portuguese military and fleeing to less repressive regions, strikes and riots were organized against forced labour or precarious working conditions and salaries (for workers of plantations, infrastructure building or maintenance and so on) throughout different periods of time. A phase to be underlined was the resistance and contestation to forced crop production and its resulting impoverishment of peasant families. At the time, policies obligated every peasant family to produce cotton on their plots regardless of the availability of food crops and/or labour per family (Serra, 2000). In many different regions of Mozambique peasants would rather burn their own houses and cross the border to neighbouring countries than cultivate cotton. Other forms of resistance were to boil the seeds or to under-sow seeds so that productivity levels were low as a way to pressure the Portuguese regime to change this policy. Some riots and burning of cotton were done in order to get higher prices for the cotton produced, (Hedges, 1999).

Overall, there are five main characteristics of colonial exploitation in Mozambique (Hedges, 1999; Serra, 2000): (1) export of labour force; (2) production and export of low processed agricultural commodities such as sugar, tea, sisal, copra, cotton and others in a not substantive amount; (3) imposition of taxes (paid by labour and/or money); (4) use of seasonal

labour; and, (5) preservation of small-scale family production for subsistence. Labour force exploitation was one of the main strategies of colonial Portugal and of the foreign capital concession which have shaped dynamics of semi-proletarianization among the peasantry. In the period of 1930 to 1960/70, colonialism intensified the integration of peasants into the global capitalist economy, as well as the transformation of the south into a labour reserve for the South African mining capital; and the centre and north into a plantation economy and family sector as producers of food and cash crops for the external market (Serra, 2000).

The dominant analysis of the agrarian transformation and politics in Mozambique tends to cross-analyse land access and control with labour regimes, including migration to supply the labour demand of neighbouring colonies, as determinants of livelihood strategies adopted by rural inhabitants. As O'Laughlin (2002) explains, the struggles against forced labour and forced cropping put rural inhabitants in a situation where a bundle of choices was narrowed down to selling and buying means of production and labour.

During the colonial period, three major forms of capitalist exploitation of labour were identified, including export of the labour force from the southern part of Mozambique to work in mining in South Africa, recruitment of workers for plantations in the central part of the country (sugar, tea and copra), and forced production of cotton in the northern part of Mozambique (Mosca, 2005; O'Laughlin, 1996; Wuyts, 1980), each of them embedded in a relatively different mode of forced labour regime.

> …the multiplicity and variation in rural livelihoods in Mozambique today are the outcome of a historical process of proletarianisation grounded in violent and repressive regimes of forced labour during the colonial period. Forced labour – and resistance to it – shaped the ways in which labour and agricultural commodity markets worked and developed. Qualitative shifts in the organisation of rural livelihoods resulted from processes of commoditisation that made proletarianisation, although contingent, also irreversible. O'Laughlin (2002:511)

Land loss was not a pre-condition of proletarianization as households combined doing wage labour with hiring wage workers for their own fields for commercial production (O'Laughlin, 2002). The relation between labour regimes and control of land is explained as follows:

> Forced labour and control of labour mobility were reinforced by a rigidly dualistic system of control of land. As elsewhere in southern Africa, native reserves were set up by the colonial state where land was administered under customary tenure systems, both excluding the peasantry from prime commercial land and inhibiting the development of a landless proletariat. O'Laughlin (1996:7-8)

Access to and control of land was highly differentiated under the colonial system, although customary tenure was considered under the *regulado*[1] form of governance, the rights of the peasantry regarding land were marginalized (O'Laughlin, 1995; Bowen, 2000; Mosca, 2005). Nevertheless, geographical location is to be taken into account when analysing agrarian change (proletarianization, class differentiation, diversification of livelihoods) and implication of agrarian policy in rural areas (O'Laughlin, 2002; Pitcher, 1999; Bowen, 2000).

Bowen's take on questions of regional differences in terms of exploitation of the peasantry, patterns of social differentiation and class structure (Bowen, 2000: 27-36), adds to the debate on main patterns of 'agrarian question'[2] of the three regions of the country: (1) south: with a non-intensive plantation sector (only two sugar plantations in Maputo Province) peasants would produce mainly for subsistence and market a small surplus, additionally adult male peasants were embedded in migration as part of the labour reserve for South African mining; (2) With a higher concentration of plantations, the Centre region of Mozambique is mainly characterized by the emergence of a labour supplying and crop-producing peasantry where a 'middle peasantry'[3] developed through an increase of cotton prices after the 1950s; and, (3) similarly to the centre, the north of Mozambique, besides constituting labour supply to plantations, cotton and cashew were the main cash crops of most of the peasants, although some labour migration to neighbouring countries as Tanzania or Kenya, or even in the construction of national infrastructure (railway and ports), had occurred.

Post-independence: the failure of socialist construction

In 1975 Mozambique became independent from the Portuguese colonization and the revolutionary force of Mozambique, FRELIMO (*Frente de Libertação de Moçambique*; from here onwards, I will use 'Frelimo'), became the driving force of the state and society in Mozambique from then onwards. As a consequence, agrarian politics and rural development were

broadly patterned after Frelimo's ideology for a socialist society, at least during the early period of Frelimo's rule.

Frelimo's post-independence strategies included the nationalization of land (land and all resources belonged to the state), collectivization of productive forces and services (privatization of all businesses and all services including education and health), industrialization of the economy (mainly agro-processing units) and the prioritization of the people's needs (Mosca, 2005; Newitt, 2012). The massification of education, rural and urban, old and young, was one of the key policies towards Frelimo's aim to 'social integration' and 'political awareness' (Newitt, 2012).

Taking into account that at the time around 80 per cent of the population was rural, one of the key strategies of Frelimo in the socialist period was to collectivize agriculture based on rural villagization (creation of villages as units of agricultural production called 'aldeias comunais') (Mosca, 2005; Gracia, 2001; Newitt, 2012). There was peasant opposition towards this new policy, mainly because land access was now centralized and held by the village 'comuna' rather than the traditional kinship and social organization was characterized by a semi-urbanized unit rather than the previous family-oriented unit (Newitt, 2012). Many peasants fled back to their places of origin and the villagization units were unsuccessful and abandoned. Newitt (2012) relates it with the cultural violence that peasants went through.

Whereas other scholars argue that the lack of success was due to Frelimo's misreading of the Mozambican agrarian question. Wuyts (2001) argues that during the central planning period (1975 to early 1980s), the peasantry was seen by Frelimo as a set of subsistence producers, ignoring the fact that they depended on market-based entitlements. O'Laughlin (1996:30) refers to Frelimo's strategy of collectivization in an attempt to overcome the dualism[4] in rural areas as a failure due to its disregard of the structure of employment of the migrant labour system; as a result, rural unemployment and migration to urban centres increased.

O'Laughlin (1996:31) also refers to the impacts of the war throughout these periods mainly regarding dislocations of war as a driver of peasants stepping out of farming and impoverishment, increasing the importance of off-farm employment and income for rural livelihoods. Overall, the war affected the peasantry not only as cash crop producers but as suppliers of labour as well (Wuyts, 2001: 6) and migration to neighbouring countries

or even to other regions within Mozambique increased (Cramer & Pontara, 1998).

Monjane and Bruna (2020) argue that agrarian policies on rural and peasant populations were authoritarian and undemocratically implemented, both in colonial and post-colonial Mozambique. They portray how the rise of the 'authoritarian populist' regime of Frelimo was embedded in the historical and political path of Mozambique during the national resistance to colonialism and after independence. After the independence and the adoption of the socialist ideology by the revolutionary force (Frelimo), the party used its popular position of 'rescuer of the country' among the rural population to exhibit an authoritarian, and to some extent populist, way to implement agrarian policies (Monjane and Bruna, 2020).

Agrarian and rural policy in the socialist period had some similarities with past colonial policy. They went from '*aldeamentos coloniais*' (colonial villages) in colonial rule to *aldeias comunais* (communal villages with the objective of putting together dispersed rural household into villages aiming at higher production cooperation and economic and social progress) in the post-independence period, most scholars believe that it constituted a control policy and avoided subversion (Coelho, 1998; Garcia, 2001; Monjane, 2016). Frelimo's strategies in rural areas were also believed to be a way to minimize 'contamination' from the emerging opposition force RENAMO (Resistência Nacional de Moçambique — a movement that highly contested the one-party system and strive to democracy) and at the same time maximizing their hegemony and dominance as 'the guide of Mozambican people' and 'the leading force of the State and Society' as the Constitution stated. This set of strategies failed to address the agrarian question at the time and did not reach progress, on the contrary, these policies were followed by acute social, economic and military crisis, opening up the way to neoliberalism by the intervention of the Bretton Woods institutions and their structural adjustment programmes.

Preceded by a civil war, the one-party state was abolished by Chissano's Government, after the signing of the peace agreement in 1992. However, with the continuous electoral victories of Frelimo as the majority party amid systematic contestation from the opposition, Frelimo's hegemony continued through advantageous social and economic relations through membership, stigmatization of 'supporters of the opposition' and other political influences such as the national anthem's glorification of Frelimo as the guide of Mozambican people — with a stand of 'us against them'.

Until today, the motto 'Frelimo, driving force of the state and society', portrayed in the third article of the 1975 Constitution, is still imputed in the political culture of the country, especially in rural areas.

Emergence of a market-based economy: private property and capitalist extractivism

The intervention of the Bretton Woods institutions in many Sub-Saharan African economies, which (Bernstein, 1990) called 'a particular imperialist intervention in a conjuncture of global reaction' led to the adoption of economic reforms in Mozambique, particularly the *Programa de Reabilitação Económica* (Structural Adjustment Programme) that marked the start of neoliberalism under a capitalistic mode of development, which is known as the privatization period. As mentioned by Wuyts (2001:7), with the war going on in the 1980s, the adoption of such reforms was an attempt to set the scene for political stability. He also underlines the concerns raised regarding the foreign aid sustaining the development of trade of imported goods, rather than stimulating internal production.

Bowen (2000) and other scholars (Wuyts, 2000; Mosca, 2005; Castel-Branco et al 2001) critically explore four main policies and institutional changes from the switch from socialist ideology to market liberalization: (1) privatization process; (2) administrative decentralization; (3) market liberalization; and, (4) allocation of resources based on economic pragmatism rather than ideology (Bowen, 2000: 189). Along this area of discussion, Wuyts (2001) refers to the economic reforms of 1987 when Frelimo's strategy was based on the idea that the peasantry was a 'mass of smallholder producers,' ignoring

> […] the historically structured organic linkages between household production and off-farm employment (in particular, migrant wage employment) which shaped rural accumulation and social differentiation. Wuyts (2001: 1-2)

Access to means of production and benefits from aid programmes (from USAID and some NGOs) were not evenly spread across the peasantry resulting in an increase in differentiation within the peasantry, (Wuyts, 2001: 12). In the specific context of Mozambique:

> Under the impulse of economic reforms the patterns of social and rural differentiation have become much more accentuated. Access to land, equipment and credit is slanted – by design or by default – in favor of large-scale enterprises, on the one hand, and a rapidly developing strata of medium and small scale capitalist farmers, on the other hand. The poorer peasantry does not retreat into subsistence, however, but relies on wage labor along with household production to secure its livelihood. Wuyts (2001: 12)

Referring to the World Bank, aid agencies and African states' agricultural modernization in Sub-Saharan Africa, Bernstein (1990:27) explains that it has been unsuccessful without dynamic agrarian transformation. Similar to other African countries, the macro-level analysis of structural adjustment programmes and its macroeconomic rationality failed to address local level issues concerning rural households' survival (Moyo, 1994). Nevertheless, opposite to many other Sub-Saharan African countries, Mozambique's privatization process through the stimulus from the Bretton Woods Institutions (for example, loans directed to support privatization of ports and rail corporations) occurred on a larger scale and rhythm to solve the problem of economic inefficiency (Castel-Branco et al 2001: 1).

Bowen (2000: 186-188) explains that the process of privatization induced higher competitiveness over resources, including land, and state assets including state farms were mainly acquired by foreign capital coming from Great Britain, Portugal and South Africa (Bowen, 2000) and Frelimo party members and supporters (Castel-Branco et al 2001; Bowen, 2000; (Chivangue & Cortez, 2015).

In the context of structural adjustment programmes in African countries regarding access to land and/or other natural resources, Moyo (2000) highlights the tendency of land being used to respond to global markets as what he called 'export-oriented land uses' resulting in the intensification of rural differentiation not only among landholders but also between regions.

Land became a crucial aspect of the agrarian question especially with the emergence of neoliberalism. In Mozambique, the current distribution of land was highly determined during the 1980s when the privatization process started up as a condition to the implementation of structural adjustment programmes, marked as the period in which Mozambique transitioned from a socialist-driven economy to a market-driven economy.

Public enterprises and land were distributed among Frelimo's political elites, who maintain up until today the control of access to land and other means of production, which is the base for the intensification of rent-seeking as land demand in Mozambique increases (Bruna, 2017a; Chivangue & Cortez, 2015; Salimo, 2017).

Overall, the result of the adoption of structural adjustment programmes, reinforced by Shivji (2017), is to take back the country's agrarian economy to the classical colonial approach giving an emphasis to the increase in foreign direct investment specializing in export crops and/or luxury foods to foreign markets. Currently, this scheme is the most defining feature of the Mozambican economy; however, the extraction of natural resources to feed international demand is not limited to the agrarian sector as extractive industry arises as the most dynamic economic sector in Mozambique.

4.3 The 2000s and 'the new scramble for Africa': extractivism and climate change

Economic growth, extractivism and resource rush

Moyo, Jha, & Yeros (2013) refer to the current period as 'the new scramble' for resources (establishment of large-scale farming and extractivism) in Africa. For that reason, the agrarian question, defined as 'the continuing existence in the countryside of a poor country of substantive obstacles to an unleashing of the forces capable of generating economic development, both inside and outside agriculture' (Byres, 1991). The agrarian question has continuously been addressed in critical agrarian studies debates, whether when it is being approached as 'solved' or whether it is discussed as changing in essence (Bernstein, 1979, 2003).

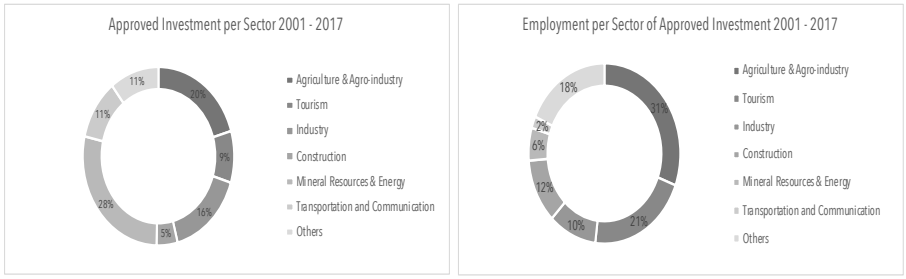
Some scholars have looked at the agrarian question as an evolving question of national sovereignty particularly under the 'new scramble' for the global South (Editorial, 2012; Moyo et al., 2012) or as a question that has been exported from Europe to the global South, particularly to Africa (Amin, 2012; Shivji, 2019). Nowadays, rural settings are highly being shaped by the new wave of resource rush, roughly since the 2008/9 crisis.

Following the reforms established by the Bretton Woods Institutions, the Government of Mozambique adopted a neoclassical[5] approach towards development which turned the country into a target of large flows of foreign direct investments (FDI) during the two last decades. Data from

the Centre of Promotion of Investment shows that approximately 90 per cent of the total approved investment in the period of 2001 to 2014 is from external investors[6] and 31 per cent meant to be directed to the sector entitled 'natural resources and energy'.

Approximately USD 47.6 billion were approved to be invested in Mozambique from 2001 to 2017. Around 50 per cent of this inflow of investment was through financial loans and 38 per cent was straight from foreign capital and the remaining 12 per cent was through domestic capital, (Database: Centro de Promoção ao Investimento - CPI). Mineral resources and energy (28 per cent) surpassed the sector considered to be the core and priority of the Mozambican economy, the agricultural sector with 20 per cent, and the one that employs the majority of the population (31 per cent of the total). Whereas, mineral resources and energy is only expected to create around 6 per cent.

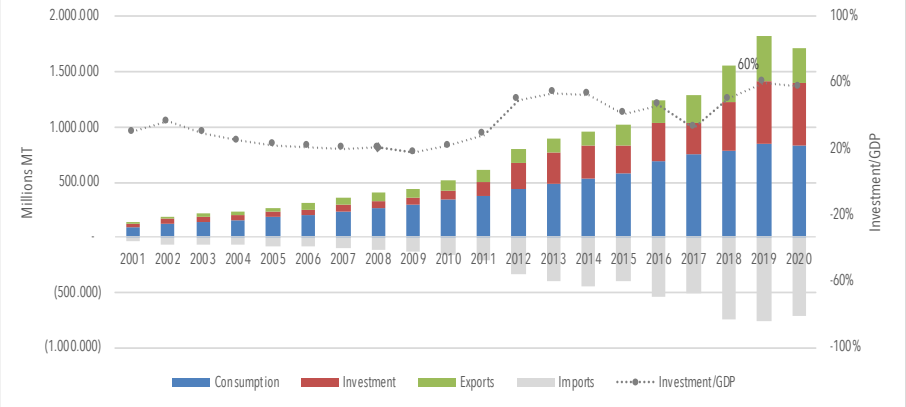
Figure 4.1 and 4.2



Source: author based on CPI database.

For 2018, the Mozambican Central Bank (BdeM, 2018) registered an inflow of FDI of around 2.7 billion USD, however, 74 per cent this total was directed to the newly approved investments in natural gas extraction in northern Mozambique. Although Mozambique is already a major target of resource-seeking and land-based FDI, more is still to come. Mozambique has become 'a booming place' in the eyes of entrepreneurs present at the last *UK-AFRICA Investment Summit 2020*. Where more than USD52.3 millions were claimed to be directed to the agricultural sector in the form of agri-business.

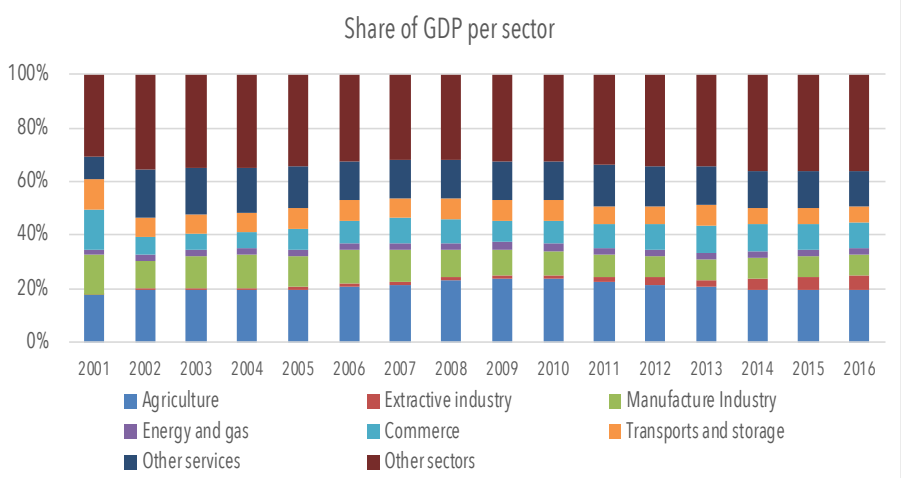
Figure 4.3: Gross Domestic Product (GDP) 2001 to 2016



Source: Bruna (2017), secondary data from Instituto Nacional de Estatística (National Statistics Institute: http://www.ine.gov.mz).

Consequently, the Mozambican economy in the 2000s was marked by high macroeconomic growth rates, that is approximately 7–8 per cent on average (Bruna, 2017). However, in this context, Castel-Branco (2014: 26) explains that despite the high rates of growth, the economy 'has been ineffective and inefficient at reducing poverty and providing a broader social and economic basis for development'. He explains that this phenomenon is based on three interlinked processes: the maximization of inflows of foreign capital without political conditionality, development of linkages between those inflows and domestic accumulation of national capitalist classes, and a labour system with idle labour reserve and under-remunerated workforce.

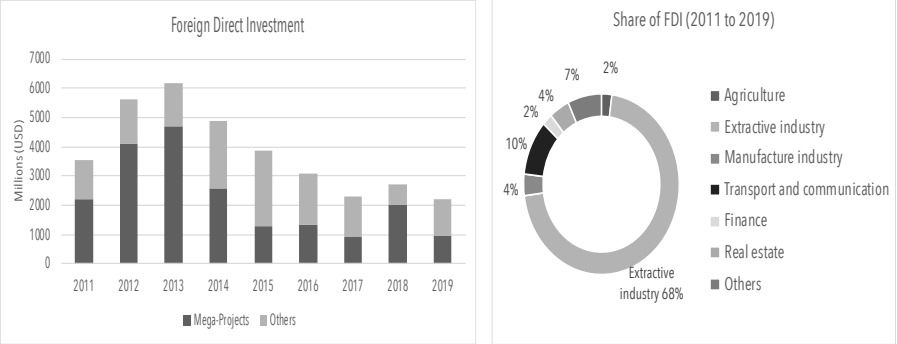
Figure 4.4: Share of GDP per sector 2001 to 2016



Source: Secondary data from Instituto Nacional de Estatística (National Statistics Institute: http://www.ine.gov.mz).

Capitalism's perennial pursuit of increasing rates of profit creates growing international demand for natural resources (land, minerals and others) at competitive costs, particularly directed to supply the international market demand for food, agro commodities and manufactured goods (Bruna, 2017b). Many transnational companies directed and still direct large inflows of investment to the new agrarian frontier, the Sub-Saharan African countries, which tend to follow neoliberal approaches of development. Castel-Branco (2014: 29-30) explains that the importance of FDI in Mozambican economy was demonstrated when South Africa switched from transport services and migrant labour demands to provider of FDI mainly on the mineral and energy complex and agriculture sector.

Figure 4.5 and 4.6: Foreign Direct Investment in Mozambique



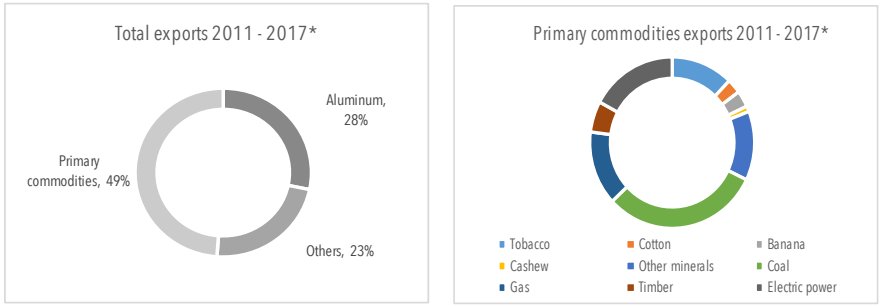
Source: Secondary data from Banco de Moçambique (Mozambican Central Bank: http://www.bancomoc.mz/)

Up to now, South Africa is the dominant trade partner of Mozambique, among many other imperialist and sub-imperialist countries, resulting in the transformation of modes of accumulation of domestic capital. Castel-Branco's take on the relation between domestic and international capital is the following:

> The image of a Mozambique 'rich' in natural resources is derived from the fact that privileged access to these resources and the opportunity to privatise them and renegotiate with multinational capital have become the specific mode of accumulation of domestic and international capital. Porosity is the general economic mechanism by which the appropriation of the resources and surplus is generated, and the negotiation with multinationals takes place. Porosity yields high social costs, but functions with relative efficiency and effectiveness as a channel of communication between domestic and international capital, giving domestic capital access to resources and surpluses for accumulation at low cost, through the expropriation of the state. Castel-Branco (2014: 43).

FDI, which consists of joint ventures of transnational companies operationalizing their activities through massive export of primary commodities, mostly agro commodities and minerals, resulted in an increase in total exports of Mozambique of more than 200 billion USD from 2001 to 2016 (Banco de Moçambique — Mozambican Central Bank reports). This is another way in which FDI contributes to the high rates of growth Mozambique registered throughout the last two decades.

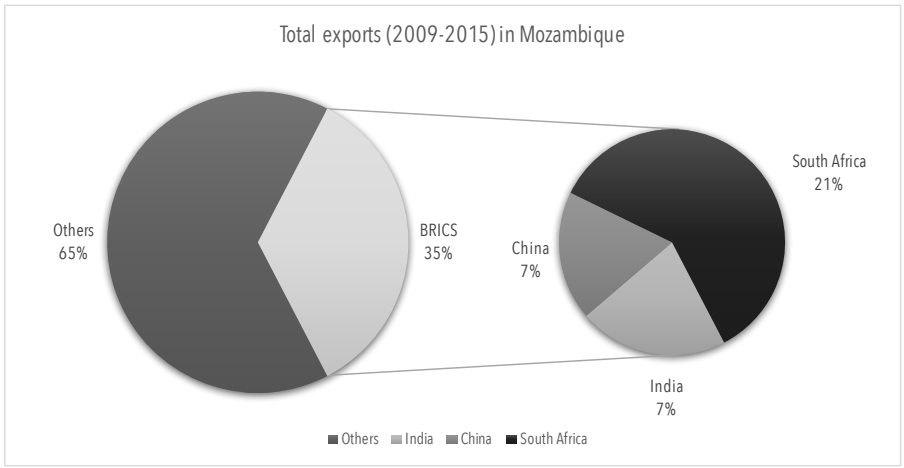
Figure 4.7 and 4.8: Exports' structure and commodities



Source: Secondary data from Banco de Moçambique: Central Bank of Mozambique database (http://www.bancomoc.mz/fm_pgTab1.aspx?id=73).

As most of the FDI is engaged in an extract-drain-and-export scheme, the balance of trade has been continuously reshaped according to the interests of the investors. The first megaproject established in the early 2000s was an aluminium smelter, Mozal (aluminium as a transit commodity), and as a result, aluminium exports achieved approximately 60 per cent of total yearly exports of Mozambique before the investments in extraction of energy and mineral resources intensified in the last decade. Although new commodities started to be exported in the last decades (such as coal and other minerals) the tendency of exporting raw materials or primary commodities prevails, however at much higher rates.

Figure 4.9: Exports' distribution



Source: Bruna (2017), secondary data from Banco de Moçambique (Mozambican Central Bank: http://www.bancomoc.mz/).

Both global North and global South actors are involved in the process described above and are interlinked in the way they explore their possibilities in the extraction of natural resources in Mozambique. However, the BRICS constitute an important capitalist association both as investors and as markets for the primary commodities.

By feeding the global North's demand for manufactured goods and the BRICS' industrialization process, that is wealth accumulation and competitiveness of both capitalist associations, Mozambique's internal industrialization is not developed nor are gains in exports of added value commodities, Bruna (2017: 10). The author also raises two main macroeconomic reasons why this kind of trade and economic interactions between Mozambique and investing countries may not be advantageous for the former: (1) most of the investment are capital intensive with low jobs created per investment ratio, exacerbated by the admission of foreign labour; and, (2) the process of 'accumulation by dispossession' is parallel to external accumulation of wealth through exportation of profit and remittances.

Despite the high inflows of FDI to many sectors of the economy, unemployment remains at high levels in Mozambique. Labour indicators are as follows:

Table 4.1: Employment indicators

Indicators (2015)	**Share of economically active population**
Employment rate, of which	67.2%
Sectors	
Agriculture	74.6%
Extractive industry	0.4%
Manufacture	3.0%
Commerce and finance	8.9%
Occupation	
Peasants	70.8%
Agricultural workers	3.1%

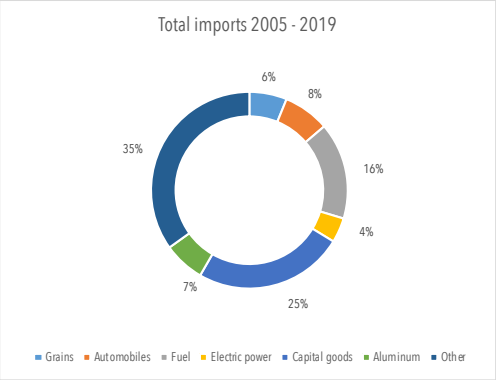
Source: INE - IOF (2016).

The neoclassical/new institutional economic approach to development adopted by the government intensified the extractivist model of economic growth of Mozambique which resulted in macroeconomic pride for the country as rates of growth reached the highest and exports were growing at relatively high rates, influencing positively the trends of balance of trade,

and consequently, of the balance of payments. Nevertheless, in a micro rural perspective, some important issues are to be taken into account. These inflows of investment resulted in an increase on the demand for land in rural areas which led to a process of land reallocation that reshaped the politics of access to and control over the means of production and the ability of wealth creation and accumulation.

Almost half of the total imports from 2009 and 2015 were supplied by the BRICS, with increasing importance of China and India. South Africa is the most important 'trade partner' of Mozambique. Besides supplying the domestic market with food and other goods, an important share of imports are mainly feeding FDI and particularly FDI in the extractive sector. According to the Central Bank report (2019), around USD 1,365 million were translated into machinery and infrastructures of gas exploration activities in the north (area 1 and 4 of the Rovuma Basin). This constitutes a clear representation of an extractive economy in which extractivism predominates. The structure of imports shows that the domestic market needs external aid to supply food and processed goods (machinery, capital goods and so on). The country does not have enough levels of industrialization to answer to domestic needs, nor does it have the ability of producing enough food for internal needs.

Graph 4.1: Structure of total imports in Mozambique (2005-2019)



Source: author based on Mozambique Central Bank database.

Nevertheless, the last Human Development Report (UNDP, 2019) ranked Mozambique on the 180th position (out of 189 countries), positioning the country in the low human development category. Besides being reported as one of the worst countries in the world regarding health, education and per capita income, Mozambique rates very badly in terms of the Multidimensional Poverty Index, which shows that, based on 2011 statistical data, 72.5 per cent of the population is multidimensionally poor and 13.6 per cent are classified as vulnerable to multidimensional poverty (UNDP, 2019). The fourth national poverty evaluation in Mozambique (MEF, 2016), and the most recent one, indicates that approximately 50 per cent of the population lives below the poverty line.

Castel-Branco (2014) points out a very important characteristic of the patterns of capital accumulation in Mozambique, economic porosity, defined as a mechanism by which the appropriation of resources and surplus is generated yielding high social costs. On one hand, he argues that the Mozambican political economy relies highly in creating linkages between foreign and domestic capital assisted by the state, dominantly promoted by economic porosity, while maintaining an exploitative labour system where the workforce is remunerated below the social cost of subsistence. On the other hand, he underlines the role of weak institutions and capabilities in this tripartite relationship and state that porosity is not only the loss of income to economies abroad but also is the social expropriation for the benefit of a domestic capitalist class.

Therefore, capitalist classes in Mozambique are a result of two waves of expropriation of the state (first by privatization process and second by the maximizing attraction of FDI) for private gains which give birth to an economy that is extractive, narrowly based and porous (Castel-Branco, 2014). In this context, Nogueira et al. (2017) looked at the economic relations between Brazil and Mozambique and argue that the Brazilian capital reinforced the economic and social porosity especially through the transfer of surplus abroad, profit repatriation, political connections, the expropriation from the labour class including resettlements and probably through illicit capital flight.

Not far from this argument and by addressing development failures in Mozambique, Cunguara (2012) justifies the persistency of poverty by underlining the concentration of economic growth in a few industries specially in form of megaprojects, particularly (such as natural gas, aluminium,

heavy sands, and charcoal). Also, with the underperformance of the agricultural sector, especially the low levels of agricultural productivity throughout decades as a result of low availability of extension services, fertilizers and no irrigation, persistent food insecurity and poverty is verified. German, Cavane, Sitoe, & Braga (2016) show how in Mozambique community-investor partnerships have resulted in limited benefits for the local communities and have failed to meet the biggest claims around the assumptions that private investment would boost rural development and alleviate rural poverty.

Others go further in this analysis and look at not only the concentration but the essence of this economy's growth, which is mainly extractive in nature and driven by high levels of FDI (Bruna, 2017a; Castel-Branco, 2014, 2018; João Mosca, Abbas, et al., 2016). Notwithstanding, the starting point of this extractivist model of economic growth, which will be further discussed theoretically and empirically, is based in one determinant resource — *land* — more specifically, the investor's access to land and its resources and the resulting expropriation of it from the rural population.

Therefore, the land question in Mozambique has been raising a lot of concerns and conflicts as it has been the stage for a pretty strong land rush (Capaina, 2019; Mandamule, 2016; Mandamule & Bruna, 2017; Mosca et al., 2016). Data related to land use and control in Mozambique is limited and not very reliable. Nevertheless, different sources show some patterns of land use and occupation in different sectors. According to the Land Matrix[7] Mozambique is on the top ten of most targeted countries in terms of land acquisitions in the world where transnational land deals occupied an area of 1,965,403 ha.

Some studies reveal that between 2007 and 2008 more than 2 million hectares were allocated to biofuel projects and 3.4 million hectares were conceded to mining companies in Tete (Capaina, 2019; Human Rights Watch, 2013; Manuel & César, 2014). Some data from 2014, shows that from the total area of Mozambican territory, around 12 million hectares were conceded to economic enterprises (tourism, agriculture and others) and mining concessions with more than 500,000 people affected by them (Manuel & César, 2014). Although being a work in process, according to the statistical data collected by Salimo (2017) the government has mapped 933 communities that occupy an area of 17,256,260 hectares within the 10 provinces of Mozambique excluding the Capital City. Additionally, the conservation areas in Mozambique occupy approximately 18,6 million

hectares (25 per cent of national territory) which include seven National Parks, nine National Reserves, twenty hunting areas, three community conservation areas and fifty *fazendas de bravio*, (ANAC, 2015).

In contemporary Mozambique, the process of enclosure involved extra-economic coercive mechanisms deployed by the state. Although the ownership of the land was consented exclusively to the state, it is still structured in a way that can also facilitate investment by protecting use and land rights to investors and guaranteeing accessibility and security in land ownership up until 50 years with approximately zero cost (Bruna, 2017b; Salimo, 2017). Salimo (2017), who conducted a study around land issues in Mozambique, states that the behaviour of elites, political and economic, use their power and authority to withdraw land from weaker groups.

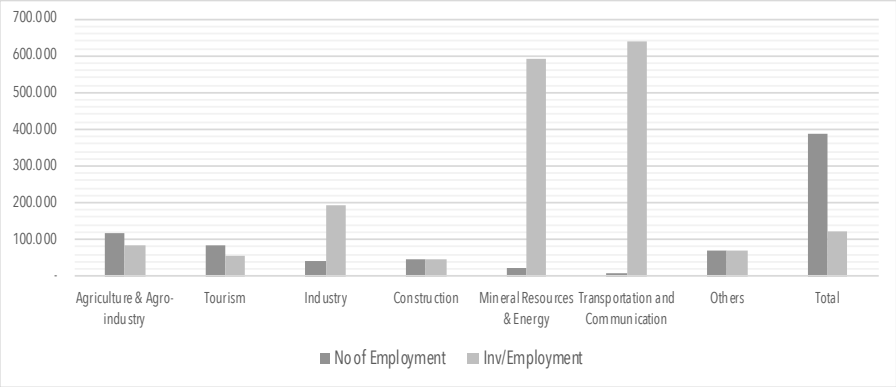
A clear example of privileged access to land by political elites and the resulting unequal distribution of resource-rich land is the case of the Chokwe Irrigation System of more than 30,000 hectares — the biggest in the country. The redistribution of the irrigated most fertile land during the period of privatization had prioritized political elites and rural elites (Abbas, 2018). Up until today, the economic benefit of this irrigation system is still concentrated in the hands of the few that had privileged access then.

Political elites, (which sometimes in the case of Mozambique overlap with economic elites, both at the national and local levels with access to relevant investment information and historical privileged access to resource rich land), usually facilitate the access to land for foreign investors, invest in the most diverse businesses (hospitality sector, transportation sector, construction and other services) that serve these external investments (Chivangue & Cortez, 2015; Joshua Kirshner & Power, 2015; Lesutis, 2019) and constitute the emerging domestic capitalist class referred to by Castel-Branco's (2014) analysis. This is the genesis of the land-based model of capital accumulation in Mozambique.

Overall, there are different ways in which the expropriation of land fuels capital accumulation in Mozambique. First, from the release of land itself at very low or even zero cost, expropriating it from rural population. If land is taken away, people are left *free* to sell their labour, which takes us to the *labour question*. Although in many cases smallholders don't end up completely landless, many end up with less land and become unable to practice shifting agriculture or are resettled to other areas where land is usually less fertile. Generally, expulsion or reallocation of small producers

from their land happens without their full absorption into the industrial or service sectors, which plays an important role of driving down wages and subsidizes the reproduction of capital by its own unremunerated labour, putting the burden mostly on working people, particularly on peasant women (Moyo et al., 2012; Shivji, 2017b). This takes us to the second way in which expropriation fuels capital accumulation in Mozambique: cheap labour released by land expropriation.

Figure 4.10: Employment creation vs approved investment



Source: author based on CPI database.

Although agriculture/agro-industry is the single greatest employment-generating sector, it is still at very low levels. An example would be the case of the forest plantation investment Portucel Moçambique, a Portuguese investing company that is part of the multinational Navigator, which invested more USD 2 billion, acquired 356,000 hectares of land and is predicted to employ around 2,000 people, including urban. Another example is the multinational mining company Vale, which is even less labour intensive. It invested around USD 1.7 billion, acquired an area of 25,000, displaced more than 2,000 households and employed less than 1,000 workers including non-rural. It is important to underline that not all employment created is rural, as the head offices of these investments are usually located at the capital city, not all employment created is for nationals, and more importantly, even the ones who are employed in rural areas are usually not the ones who previously owned the land — a distinction between the expropriated and the worker.

Although some studies show that forest plantation companies provide formal employment in Mozambique, they show that traditional livelihoods have been threatened by reducing the availability of natural resources (Bleyer et al., 2016). Even for the few that get an employment opportunity, the scenario isn't much more prosperous. Sender, Oya, & Cramer (2006) conducted an analysis of rural workers and working conditions in Mozambique and showed that besides highly depending on wage labour, they are victims of processes of depravation and humiliation.

Stevano & Ali (2019), by looking at the cashew industry and forest plantations showed that the jobs created do not lift workers out of poverty. They found some similarities in both case studies: (1) wages below the statutory minimum wage; (2) vague and unclear contracts; (3) lack of clarity over social security entitlements; (4) long working days; (5) insufficient equipment. Ali & Stevano (2019) argue that rural populations have to work multiple precarious jobs, both on-farm and off-farm, allowing the availability of a labour force at low costs. Overall, in the context of African countries, processes of agricultural large-scale investments such as plantations, ought to produce more job opportunities than outgrowing schemes and commercial farming, however, these are of low quality and mostly casual, far from the expected creation of decent jobs (Adwoa Yeboah Gyapong, 2020; R. Hall et al., 2017).

This resource rush, embedded in the land grabbing debate over the last decade, shapes land and livelihood-based governance, with associated socioeconomic, political and environmental impacts (Borras et al., 2011; White et al., 2012; Cotula, 2013). Mozambique is known as a country that engages in large-scale land deals with external investors and its government is known as being facilitative (Wolford et al., 2013). Among the consequences of the state's inability to provide tenure security for the affected rural population are widespread conflict, a greater degree of inequality and vulnerability among affected communities, in addition to their increasing inability to produce food crops for subsistence and commercialization purposes.

A well-known example is the boom of extractive industry in the central region of Mozambique, specifically in Tete province, where approximately 600 million USD were invested in Moatize in 2009, so that the mining multinational companies would start coal exploration and extraction. As a result of these large-scale land-based investments, more than 2,000 households were displaced and resettled to other areas, and still about 300

households are yet to be resettled. Like the majority of the Mozambican population, they practice agriculture for their subsistence and commercialization, something that they could not do fully in the resettlement sites.

As we have mentioned earlier, one of the main justifications by the Mozambican Government in pushing for high inflows of FDI is the anticipated increase in local employment. However, the two largest investments in Tete province directly employed only 7,500 workers (Kirshner & Power, 2015), including foreigners and administrative staff which were not locally recruited. Being resettled meant lower probabilities of being employed as the resettlement areas were located far away from the extraction area. It has to be noted though that some inhabitants from some neighbouring villages benefited from the newly created jobs.

According to Buscher (2014) the resettled community in this new area called Cateme, suffered challenging livelihood transformations such as lack of access to markets and other facilities, higher transport costs and diminished agricultural yields. The rush for resources in Tete province resulted in the deterioration of the quality of life of the displaced and social conflicts (Buscher, 2014). More recent studies (Feijó, 2016; Selemane, 2016) focusing on Tete show the same tendencies regarding changes in peasant's livelihoods: access to smaller and poorer fertile areas; reduction of the production of food and cash crops for subsistence; decreased access to rural markets and public services; and social instability like increased number of protests, rail blockages, strikes, violent riots after the resettlement process involving peasants and non-peasants.

On the one hand, land-based agricultural investments in Mozambique portray a similar scenario in the process of displacement and resettlement of rural households as some study cases show[8]. On the other hand, the stimulus of agrarian investments also intensifies the commodification tendency developed during the colonial period through the promotion of the outgrower model and private and governmental incentives to commercialization of cash crops. Structurally, the Mozambican agricultural sector only deepened the features established by the Portuguese before independence, such as extractivism, export of commodities, import of capital goods, levels of food production and cash crop production, (Mosca, 2015). This was the basis to the commodification of the peasant agriculture mainly through the outgrowing model.

In this context, Smart & Hanlon (2014) who consider subsistence agriculture in the case of Mozambique a myth, identify as main strategies for

the rural population in Mozambique either to be seeking employment in the agriculture sector, migrate and seek formal or informal employment in urban areas, expand their means of production (mainly by cultivating more land) in order to engage in commercial agriculture, or otherwise to live in poverty.

Overall, some issues of the Mozambican peasantry remain quite similar throughout history: family farming presents fragile characteristics with low levels of productivity which compromises subsistence (Wuyts, 2003), consequently 24 per cent of households are already food insecure, and 43 per cent are considered to be malnourished (MEF, 2016). According to O'Laughlin (2002) rural households tend to combine food production with diverse ways of generating income such as brewing, making charcoal, repairing shoes, doing casual wage-labour, receiving remittances and pension payments, selling livestock and many other strategies.

Monjane and Bruna (2020) state that 'we understand FRELIMO's regime as exercising a combination of dynamically changing expressions of populism and persistent presence of authoritarianism when it comes to selecting and imposing agrarian policies' (Monjane and Bruna, 2020: 5). Monjane and Bruna (2020) look at processes of displacement and resettlement in the context of the current resource rush in Mozambique, which displaced thousands of people to accommodate extractive and agrarian investments and see them as a continuation of the state's coercive, authoritarian and undemocratic policies. These processes of expropriation have resulted in localized losses of popularity by Frelimo.

4.4 Frelimo, elites and the multiscale role of the state: public spending, accountability, repression, authoritarianism and populism

Many scholars already demonstrated the tendency of Mozambique's Government to embrace large-scale land deals with foreign buyers involving domestic elites (Fairbairn, 2014) and acting as facilitator (Büscher, 2014). The power of the state regarding the land politics emerged from the 1975 Constitution when the land was nationalized. Meaning that the state could determine the conditions under which land could be accessed (Lunstrum, 2008).

Going back in history, Frelimo's constitution was based on Marxist-Leninist ideology, which officially extended for more than a decade (1975-

1989) after the proclamation of independence in 1975. Neoliberalism has dominated since then and still dominates the political and economic options of the party in power. The main efforts and political approaches are to respond to the effective exploitation of the country's comparative advantages (natural resources and 'cheap' labour), even if it means the marginalization of the country's food sovereignty and the deepening of localized and global poverty in the country. Public financial resources and efforts are continuously drawn from priority sectors such as agriculture and invested in extractive sectors — coal, natural gas, etc.

Public spending for military and repressive forces has been increasing in the last decade, the general public budget and spending (*Orçamento Geral do Estado* - OGE) shows that the state invested double (8 per cent of total spending for National defence, military house and police force) of what was invested in Agriculture (4 per cent of total state budget from 2005 to 2019) (MEF, n.d.). At the central level, the executive of the state (Presidency) still receives six times more than what the Ministry of Agriculture receives for its investment and current spending (MEF, n.d.)

Looking at 2019 OGE Central data of current/functioning expenses (2020 is an atypical year due to COVID-19), OGE allocated six times more to the Presidency compared to what the Ministry of Agriculture got (around 646 million against 108 million of local currency), (MEF, n.d.). For the military and police force, the state allocated around 22,8 billion of local currency as the first objective of the government is to 'Consolidate National Unity, Peace and Sovereignty' (MEF, n.d.). Another priority sector is the extractive sector with around 691 million allocated to the National Institute of Oil that includes natural gas as well.

OGE is also regionally disproportionally allocated. Central government receives almost six times more than what the other 10 provinces receive, a concentration of public spending in the capital is obvious (159 billion against 28 million for the rest of the country). In the provinces, investments spending is allocated mainly to education, health and infrastructures (mainly roads). The sustenance of the capital's needs and aspirations results in the concentration of wealth in Maputo. Violent riots and protests are common in the capital city if public transportation and bread prices increase; this resulted in the allocation of subsidies to the central government of about 1 billion.

So, public spending is mainly directed to sectors that (1) respond to economic dynamics of megaprojects (infrastructures, education, and so

on) — besides the fiscal incentives, including exemptions and reductions, offered to megaprojects; (2) to maintaining and reproducing power in urban areas (subsidies in transportation sector, food sector more particularly bread and other services to keep the cost of living low in urban areas and avoid uprisings) whereas the majority of rural population still depends on rain to produce food; (3) to maintain military and repressive forces.

The prioritization of the state to megaprojects or private investment (especially foreign), is clear when analysing fiscal benefits and political efforts and resources, but also regarding land allocation and in the management of land conflicts in the context of the Mozambican resource rush. Alliances between political elites and private capital are also very present in land politics of the country as explained before. Particularly in the implementation of large-scale investments, a lot of anomalies, law deviation and favouritism towards private capital are verified.

For instance, the case of Portucel's land allocation portrays the Land Law deviation. With the approval of the Ministers' council, more than 356,000 hectares of land was acquired by the company ignoring article 13 of the 1997 Mozambican Land Law that states that all of the households residing in the areas to be acquired should be consulted and should accept the 'transfer' of the right to use the land. Additionally, the government violated the Resettlement Decree that states that all of those who were expropriated should be allocated new pieces of land with equal or better livelihood conditions. This reflects the undemocratic, authoritarian and potentially illegal way that the government operates.

The government justified this position because the company promised to implement the Portucel's Social Development Plan (PSDP) that included extension services, agricultural input and income generation projects. This was negotiated by the ministers and the company (including its shareholder — the International Finance Corporation). Nevertheless, the local and central government didn't even have the capacity nor willingness to monitor the implementation of the PSDP and its efficacy in leveraging the well-being and income of those populations. Until today, the government did not evaluate the impacts (social, economic nor environmental) of the investment and its PSDP.

The efficacy level hasn't been certified by the government, but many studies and protests from social movements show the negative impacts of the investments in rural livelihoods and an increasing number of land conflicts between the company and the rural households. However, interviews

with local government representatives show that they expect the company to solve the land conflicts themselves and to sustain the costs of monitoring their own projects because the government do not have sufficient means (fuel, cars, technicians, equipment) to do so — exempting themselves from state functions. Additionally, the interviewed local government representative stated that although the communities showed resistance in the beginning of the project, they went ahead with it as it would create business opportunities, employment and progress.

The Portucel case, one of the companies that was part of the resource rush in Mozambique, shows indications of violation of law by the state, non-compliance of law by the company supported by the state, also shows the fragilities and inabilities of public institutions, undemocratic decision-making process and a tendency of alignment and alliances with private interests to the detriment of communities; who ended up landless, with no employment and with negative environmental implications. Overall, the state's performance can be considered unconstitutional according to number 2 of article 103 of the Constitution: 'The State guarantees and promotes rural development for the growing and multiform satisfaction of the needs of the people and the economic and social progress of the country'. The Portucel case depicts a classic case of classes of capital versus classes of labour, where the state becomes capital's ally and facilitates resource grabbing and disregard local needs and aspirations.

On the other hand, environmental policies are also being implemented with no regard to local needs and aspirations. The case of Gilé and REDD+ conservation area showcases how undemocratic, repressive and authoritarian the Mozambican Government operates to accommodate external interests disregarding internal priorities. The REDD+ implementation followed a non-participatory, repressive and authoritarian process of land expropriation and resource grabbing. Even though the National REDD+ strategy underlined participation (MITADER, 2016) this was not verified on the ground, moreover, it is contradicted. Lack of information was clear in the way interviewees expressed their opinions. Smallholders claim that weren't asked to participate in the process of decision making and not even in the design and implementation of the community development projects. Those projects are being implemented, but most of the smallholders were not eligible, so now they are divided into 'beneficiaries' and 'non-beneficiaries'. When asked how he got to know about the 'closing' of the area, a smallholder claimed:

> A team came and forbidden us to enter there. And then there was a meeting with all the leaders saying no one can enter the reserve. It has an owner. And now the reserve is being controlled. The reserve is owned. It's already purchased. It belongs to the 'whites' now. We had to accept because they came with troops and a team of inspectors. (Smallholder beneficiary, November 2019)

Smallholders weren't even aware of the global environmental and financial benefits of sequestrating carbon, even though they are entitled to a share of those benefits once the carbon tones are sold. The lack of participation is clear in how respondents expressed their knowledge about what was the goal, ownership and the financial and ecological benefits of the reserve. Additionally, intimidation seemed to be a key to lack of contestation or questioning about the essence of these changes to their livelihoods:

> So, if someone goes there [reserve] to get sticks and other resources for the construction of his house and is caught, he is taken to Musseia [Inspection point] and is beaten up and arrested. (Beneficiary smallholder, November 2019)

> If they find us fishing, they take us to the Reserve Inspection point. And we have to pay 5-6 million [local currency] but we have nothing. (Non-beneficiary smallholder, November 2019)

For the ones that tried to enter the reserve, either to get resources for the construction of houses, or to get food or even to get traditional medicine, they were arrested, beaten up and had to pay a fine. However, they do not even have the money to buy food, much less to pay fines. Overall, both beneficiaries and non-beneficiaries, expressed the same position towards lack of information, participation, intimidation and coercion. However, the leaders were more in communication with the reserve staff and COSVE for enforcing theses new rules.

Another issue to be approached is the role of local elites. Community leaders (chosen by lineage), local government officials and smallholders that are in a higher social class (bigger plots and more livestock) constitute the local elites. Although they are the richest among the poor, these groups of people are usually in the forefront of receiving the community projects' benefits such as agricultural inputs, livestock and extension services. They were also the first to be chosen as beneficiaries of the community projects

because they had privileged access to information, and they are usually the ones in charge of distributing the inputs.

> When something is supposed to benefit the community and it is sent to that person in charge, that leader, that secretary or that person in charge of COSVE, if you don't have money, no phone, you don't benefit from that thing there. Only those are going to benefit. We do not benefit from anything. It hurts. If it's a thing to benefit the poor, the people you're talking to right now, give it directly to us. The chief, leader or the secretary will choose her/his uncle, mother, nephew, sister. (Non-Beneficiary smallholder, November 2019)

Both groups of interviewees (non-elite beneficiaries and non-beneficiaries) shared the same insights regarding the role of local elites in the process of implementation of this project. Most of them complaint about the process of selection of beneficiaries as being unstructured and random, but that it privileged the leaders, the relatives of the leaders and the most influential members of the community. Consequently, local elites were unequally more benefited throughout this whole process, but also contributed to the enforcement of policies that support the unevenness of benefits' distribution.

4.5 Chapter conclusion

Understanding and exploring the historical background makes it possible to grasp how imperialism and colonialism shaped economic production and social reproduction in the country. This chapter explored the economic landscape of the country, its extractivist economic growth model and a brief contextualization on how this may affect rural livelihoods and shape the triad land, labour and nature. Attempting to answer the research sub question 1 (dynamics of extractivism and implications) and by applying a five-dimensional lens analytical framework this chapter offered insights on how institutional setting and the role of the state (within the framework of its contradictory functions of accumulation and legitimation) supported and accommodated a growth model that is extractivist in nature.

It is clear that the first scramble for Africa shaped agrarian societies into what they look like today. Historical processes of agrarian transformation as a result of colonialism and imperialism are still present particularly with regards to rural livelihoods, land distribution and vulnerabilities.

In the specific case of Mozambique, imposition of taxes to native population, labour exploitation, taxes and dividends from concession of land to foreign investors and plantation economy were the main features of Portuguese colonialism in Mozambique.

This historical path set the stage to multiple changes in rural livelihoods in the country. Semi-proletarianization started right after the intensification of gold demand from the Portuguese crown, when peasants would divide their time between the gold mines and the farm for subsistence. Market integration and diversification of rural livelihoods while maintaining smallholders' link to the land in order to provide them with subsistence is a clear continuity of colonialism. Maintaining smallholders' farming the land to get food while parallelly exploiting their labour was and is a strategy of capitalist classes to subsidize and smoothen their own activities and capital accumulation.

There was a clear rupture of these policies and patterns after the independence due to the adoption of a Marxist-Leninist ideology to development by the Mozambican Government. An attempt to collectivization failed because of the failure to grasp the agrarian question of the country (Wuyts, 2000). Particularities such as including the dualism of agrarian structures (in other words the co-existence of both small-scale family farms and big agribusiness such as plantations), the disregard of the importance of off-farm employment and semi-proletarianization to rural livelihoods and the peasantry class-blindness when addressing policies.

Following the failure of the socialist construction was the adoption of the Bretton Woods institutions' programmes which brought Mozambique back to foreign resource dominance and interests. The country slowly revived the colonial economic framing that was actually created to accommodate an extract-drain-and-export scheme of commodities to external markets – a good fit to accommodate the new scramble for Africa in the 2000s. The resource rush only intensified the economic and social framing of the country as an extractive hub. Patterns such as investors engaged in extract-and-export schemes to respond to international market demands and setting up infrastructures to accommodate draining commodities to external markets are among some of the colonial economy continuities.

Nevertheless, there is the need to address the transversal role of the state post independence. Although imperialism and colonialism played a determinant role to establish and intensify rural societies' vulnerabilities, it

is important to make the Mozambican state accountable to the vulnerabilities that were created and deepened during almost half a century. In the post-socialist period, Frelimo, through their authoritarian and somehow populist character, maintained the same economic model of growth: based on large inflows of foreign capital directed at overexploitation and intensive extraction of natural resources (and/or cheap labour) to respond to stimuli from international markets.

The ownership of the land was consented exclusively to the state, but it is still structured in a way that can also facilitate investment by protecting use and land rights to investors and guaranteeing accessibility and security in land ownership for up to 50 years with approximately zero cost (Bruna, 2017b; Salimo, 2017). Salimo (2017), who conducted a study around land issues in Mozambique, states that the behaviour of elites, political and economic, use their power and authority to withdraw land from weaker groups. In the case of social injustices and peasant/workers conflicts and confrontation with private capital there is an apathy of the state or the lack of responsibility to defend people's interests.

Although it is important to acknowledge the degree to which underdeveloped countries' governments have reduced autonomy, and are instrumentalized and might be kept 'hostages' by external actors through financial mechanisms and institutions (such as the World Bank and the IMF that results in minimum levels of sovereignty), it is still necessary to disclose its intrinsic repressive and corrupt nature. Frelimo's rule and its consistent and systematic failure to grasp the agrarian question and to address rural poverty has only intensified the economic fragility and dependence of Mozambique. The combined consequences of the colonial regime and Frelimo's rule led the country to be a host of multiple crises — food, financial, environmental, political and economic.

Notes

[1] Local form of governance that requires local chiefs to account for a specific area, and that particular area is denominated '*regulado*' and the chief himself '*régulo*'.

[2] Agrarian question is defined as 'the continuing existence in the countryside of a poor country of substantive obstacles to an unleashing of the forces capable of generating economic development, both inside and outside agriculture. Originally

formulated with respect to incomplete *capitalist* transition and certain political consequences of that incompleteness, the agrarian question is now part, also of the debate on possible socialist transition in poor countries'. Byres (1991: 9).

[3] In the context of class differentiation of the peasantry, Lenin (1982) explains that property inequality leads to the emergence of new classes of rural population. Lenin identified four classes within the peasantry: (1) rural labourers who are free of property and 'free' to sell their labour; (2) poor peasants who own a piece of land but hire out labour; (3) the middle peasants are the ones that own land sufficient for subsistence purposes and usually don't hire out labour; and, rich farmers who own significant amount of land and hire in labour.

[4] Frelimo assumed the existence of a dualist model of agrarian structures: homogeneous subsistence peasantry opposed to an enterprise sector (O'Laughlin, 1996: 1).

[5] After the development of the classical work of Adam Smith, Thomas Malthus and David Ricardo and many others in economics, free trade and markets, these ideas were revolutionized by the work of Alfred Marshall, William Stanley Jevons and others related to the theory of marginal laws, rationality and efficiency. Nowadays, this current is called neoclassical economics.

[6] Mainly concerning projects with volume of investment higher than 500 million USD, the so-called megaprojects embedded in joint ventures among transnational companies and in some cases the IFC from the World Bank as shareholder.

[7] https://landmatrix.org/charts/web-of-transnational-deals/ (03.02.2020)

[8] See for example land grabbing cases of land-based agricultural investments in Nacala Corridor (central region of Mozambique): https://www.grain.org/article/entries/5136-os-usurpadores-de-terras-do-corredor-de-nacala.

5 From a Threat to an Opportunity: Climate Change as the New Frontier of accumulation

5.1 Introduction

The previous chapter explored the dynamics of extractivism in Mozambique, took a glance at its macro and micro implications as well as at the role of the state within a historical lens. This chapter aims to continue the discussion on resource grabbing but focusing on the new dynamics brought up by policies to address climate change. By looking further at the changing relation with nature and its implications for a capitalist mode of production, reproduction and consumption, the chapter aims to explore how the call for a climate-smart world unfolds in Mozambique. Thus, this section will attempt to partially answer the second sub question, regarding the dynamics of environmental resource grabbing and its implications to accumulation patterns and to rural livelihoods and social reproduction (in terms of land, labour and nature).

The intensification of the global environmental crisis puts climate change at the centre of the international community agenda/debates and has been shaping policies, investments, markets, aid and finance all over the world. Africa is pointed out both as vulnerable to climate change as well as a potential solution for the current crisis, thus one of the main targets of climate change mitigation and adaptation policies. Highly vulnerable African countries, particularly Mozambique, present the following risks (The World Bank, 2010a): (1) potential 2-4 per cent decrease in yield of major crops; (2) risk of sea level rise on coastal populations (60 per cent of the population are highly vulnerable to seawater inundation) and loss of approximately 0.6 per cent of national land area; (3) 25 per cent of the population is at risk from natural hazards and extreme weather events such as droughts, floods and tropical cyclones — the country ranks third

among the African countries most exposed to weather-related hazards; (4) its geographic location makes it one of the most vulnerable countries to natural disasters (The World Bank, 2010a).

On the other side, Mozambique's biodiversity potential is internationally acknowledged too. Around 25 per cent of the national territory has conservation potential (ANAC, 2015). The crucial combination of the 'need to adapt' and the biodiversity potential of the country makes it a great receiver of climate funds and a strategic destination for climate change adaptation and mitigation projects. Consequently, a national public entity aiming at administration of conservation areas (Administração Nacional das Áreas de Conservação — ANAC) was established with the direct support of the World Bank itself along with many other projects aiming at the support and administration of climate change-related projects in the country. The REDD+ and CSA became among the main priorities of the two ministries in charge of agricultural, land and environmental issues in the country (MITADER — Ministry of Land, Environment and Rural Development and MASA —Ministry of Agriculture and Food Security).

The REDD+ strategy in Mozambique aims to reduce carbon emissions based on multi-sectoral integrated landscape interventions. MITADER (2016) claims that REDD+ National Strategy aims to achieve multiple benefits that go beyond reducing emissions as it integrates the promotion of rural development as a main pillar while attracting green investments in agriculture, forest, energy and infrastructure sectors. It reinforces and appoints conservation areas and claims that the community should use the land in a way that is compatible to conservation and tourism based on nature. By analysing the effectiveness of the implementation of REDD+ on rural livelihoods in Gilé National Reserve, implications such as diminished access to resources (including fertile land and water) and consequently, diminished household ability to produce food and cash crops, were identified.

As an integral part of REDD+ in Mozambique, CSA is directly concerned with adaptation as well as mitigation of climate change in the agriculture sector. FAO (2013) and The World Bank (2011) consider CSA a way to strengthen food security and still provide environmental benefits by increasing productivity in a sustainable way, strengthening farmers' resilience and reducing agriculture's GHG emissions. This chapter shows

that the experience of implementing CSA in the Central region of Mozambique, showed a poorly and ineffectively implemented policy that was ultimately being used as a tool to facilitate processes of land acquisition by a multinational forest plantation corporation in the name of development and under environmental discourses.

Environmental policies and projects, specifically big conservation projects, have already been linked to new forms of capital accumulation, as argued by Büscher et al. (2012), among others. These scholars underline the role of neoliberal conservation issues and converging interests that sustain alliances among corporations, NGOs and philanthropic organizations which result in intensified dispossession and legitimation of capital accumulation. Nevertheless, in the current context of climate change narratives and concerns, the enforcement of a 'climate-smart world' is intensified. Meaning that multiple international organizations are promoting and financing the implementation of 'climate-smart policies' which are 'those that enhance development, reduce vulnerability, and finance the transition to low-carbon growth paths' (The World Bank, 2010: xx). Thus, efficiency and environmental goals are the central combination of a carbon imperative in the global processes of accumulation.

At first emissions imperative was seen by many sectors and industries as a threat to accumulation — as environmental taxes arise. However, imposing more limits to accumulation did not stop capitalism's forces from seizing business opportunities within its own contradiction — referred to as the second contradiction of capitalism by O'connor (1998).

The link and intersections of climate change policies, resource grabbing, and global processes of accumulation have not yet been fully tackled. The processes through which environmental policies, as a response to climate change concerns, are facilitating, legitimating and fuelling capital accumulation are still to be explored and further understood. The creation of new markets, the further commodification of nature and new vehicles of capital accumulation arise as a result of the implementation of such policies, which directly shape global processes of accumulation, resource grabbing and rural livelihoods.

So, this chapter aims to understand what are the patterns of agrarian change under these new rural dynamics (in terms of land, labour and nature) and what implications there will be to the global processes of accu-

mulation. Additionally, the role of environmental destruction, the finiteness of nature and its implications for global dynamics of accumulation and for rural livelihoods are to be further explored.

5.2 Climate Change Policy and Environmental Resource Grabbing

Climate change policy in Mozambique

The impacts of climate change and/or climate variability on rural and vulnerable livelihoods have been thoroughly examined by several institutions and scholars. The IPCC (2007) report states that Africa is the most vulnerable continent regarding climate change and that by 2050, millions of Africans (350 to 600) will be at risk, the temperature will rise, and annual rainfall is expected to increase. In Mozambique, a wave of climate-induced resettlements of rural and peri-urban populations are already taking place as a result of extreme weather events such as Cyclone Idai and others.

Considered the 5th most vulnerable country in the world regarding climate change, Mozambique is also amongst the least prepared countries in the world with regard to natural disasters, justified by biophysical, climatic and socioeconomic factors (CIAT & The World Bank, 2017; DSU, 2015). According to the country profile, over the period between 1996 to 2015, droughts, floods and cyclones generated economic losses of around USD790 million. Other implications of climate variability and extreme whether events include sea level rise and inundation for coastal populations, increased incidence of wildfires, upsurge of pests (crop and livestock) and decrease in rainfall with high negative impacts to subsistence rain-fed agriculture (CIAT & The World Bank, 2017).

By projecting changes in average temperatures, some studies predict decreases in agricultural yield in staple food crops such as maize (11 per cent), cassava (4 per cent) and sorghum (3.5 per cent) (Brito & Holman, 2012). These set of predictions, especially regarding the negative effects of climate change on agriculture, indicates that water availability as well as food security will be negatively affected, especially because agriculture throughout the country is mainly rain-fed (DSU, 2015).

Another concern regarding extreme weather events in the country is the ability of the rural population to secure food production and availability in the context of rain-fed systems of production. Because of changes

in rainfall and temperature, it is expected that the production of rural staple food crops such maize, peanuts, cassava and sorghum will drop considerably (Brito & Holman, 2012; Joala et al., 2019). Consequently, Mozambique will become even more dependent on imports to feed the country's demands for agricultural products under the scenario of climate change.

Mainstream institutions (World Bank, FAO, UN or IPCC, and so forth) call for urgent measures to mitigate and adapt to climate change. To facilitate the goal of overcoming climate vulnerability and solving a global urgent matter, increased levels of aid and funds are being directed to climate projects. Mozambique is seen as having great potential with regards to storing carbon and turn into a major global carbon sink (Swallow & Goddard, 2013).

Climate change, land and resource grabbing

The 2019 IPCC report, 'Climate change and land', highly suggests land-related solutions, celebrates the existing ones and supports the intensification of them; consequently, creating new climate-related demands for land and land grabbing. These are the guidelines for future global land use and redistribution.

Although conservation and hunting areas were officially established in the colonial period, the current distribution of land in Mozambique, including post-independence and post-war periods, was highly determined by the privatization process which took place after the adoption of the Structural Adjustment Programmes promoted by the Bretton Woods Institutions. The role of political elites was and is highly determinant as they still retain the power to control and access land (Bruna, 2017a; Chivangue & Cortez, 2015; Salimo, 2017). Currently, land acquisition in Mozambique is expected to meet climate-related goals, whether it is by allocating and reinforcing conservation areas (REDD+), implementing 'greener' investments (forest plantations) or promoting alternative energy sources (biofuel production), all following the scheme of climate-smart land politics referred to by Borras & Franco (2018).

Mozambique is already a stage for land rush and resulting conflicts due to the intensification of FDI either by extractive industry multinationals or by large to medium scale agribusinesses (Capaina, 2019; Mandamule, 2016; Mandamule & Bruna, 2017; João Mosca, Bruna, et al., 2016). Now, Mozambique is at the same time one of the top targeted countries in the

world in terms of transnational land acquisitions and appointed 25 per cent of national territory to conservation areas (MITADER, 2017).

In the context of land grabbing debates related to the environmental crises, it is important to engage in the discussion of the emerging appropriation of nature, namely 'green grabbing' (Fairhead et al., 2012), which goes in line with the trends verified in Mozambique's rural settings. The implications of this type of resource grabbing involve the prevention of livelihood practice and resource uses and the restructuring of labour relations.

Moyo (2000) had already identified tendencies of development assistance and private resources towards environmental agendas, particularly wildlife conservation, and he identified this trend as an influencing factor of land politics in Zimbabwe — calling it a new 'land frontier' with 'questionable participatory approaches to sustainable development' (Moyo, 2000: 152). However, in the midst of the current environmental crisis, multiple and variegated mechanisms may arise that go beyond conservation projects.

As explained previously, most of the mitigation and adaptation policies implemented are land-based, whether it is to lower emissions (CSA) or aiming carbon sequestration (REDD+) or both. In the same line, the IPCC (2019) report argues specifically for land-based solutions to climate change. This implies an increase in demand for land justified by the fight against climate change. Scholars have been questioning the effectiveness and studying the implications of REDD+. These include reinforcing existing inequities and social exclusions (Corbera, 2012; Corbera et al., 2017; Phelps et al., 2010). Hunsberger et al. (2017) summarize the risks in REDD+ design and implementation: (1) disregard of rural communities' views while failing to address causes of deforestation; (2) local communities losing access and use of forest resources; deepening of existing inequalities if elites capture the policy's benefits; (3) reducing the forest to a single commodity value by assigning a price to it; and (4) uncoincidental layers of interest among actors: international, national and local institutions.

Corbera, Estrada & Brown (2010: 25) argue that policies promoting conservation areas haven't been effective as 'sustainable forest management programmes have performed poorly because it is generally less profitable than alternative uses to individual actors or groups, and there is often a lack of secure land tenure or effective rights to forests, which may

result in conflicts over land allocation. These conditions are worsened by the existence of illegal logging and trade networks'. Additionally, Corbera, Brown, & Adger (2007) call out for the need to incorporate equity and legitimacy in environmental decisions and the discourses around land use and its role in GHG emissions rather than just focusing on environmental effectiveness and economic efficiency.

Nevertheless, CSA is not free of critical approaches. Critical agrarian scholars, such as Giraldo & Rosset (2017) underline the idea of the existing risk that agroecology being co-opted, institutionalized, colonized and stripped of its political content and potentially ending up offering more tools for industrial agriculture. In other words, the authors claim that rather than picking up the transformational potential of agroecology, mainstream actors use it as a technical tool, creating a real threat of co-optation and a new frontier of accumulation as agroecology might be seen as an area to generate rents for agribusiness if linked to international markets (Giraldo & Rosset, 2017: 3).

Besides the critiques, it is already possible to observe operational land-based mitigation and adaptation projects on the ground scattered around biodiversity-rich areas of the country, with already negative implications for rural livelihoods. One of the first to be implemented was in the Gorongosa National Park Buffering Zone, one of the first targets of such policies. Many studies were conducted to grasp the impacts of REDD+ projects in poverty alleviation and livelihoods in Mozambique in a carbon project in this region. This project consists of carbon sequestration by reforestation (planting trees) and 'community development' (such as the implementation of microenterprises and promoting sustainable cash crops) through the Payment for Environmental Services scheme (Groom & Palmer, 2012; Jindal et al., 2012). The results indicated that development activities unrelated to carbon sequestration, such as getting employed in those microenterprises, had a much bigger impact on poverty alleviation, but just for a minor share of households.

To grasp the implications of environmental resource grabbing under climate change narratives, this chapter will focus on two relatively bigger projects (hectare and population wise): (1) REDD+ implementation at the Gilé National Reserve and the (2) Tree plantations investment by the Portuguese Company Portucel Moçambique, both located in Zambézia province, the epicentre of climate change mitigation and adaptation policies (MITADER, 2016, 2017).

The Gilé National Reserve: REDD+ and CSA

After the launch of the World Bank's Forest Carbon Partnership Facility (FCPF) in 2008, 47 developing countries joined this global partnership of governments, businesses, civil society, and indigenous people's organizations, whose main goal, among others, is to reduce emissions and stock carbon through conservation, commonly referred to as REDD+, funded by 17 donors that have made contributions and commitments totaling $1,3 billion[1]. Under this partnership, the first conservation area to be appointed in Mozambique was the Gilé National Reserve.

Previously established as a hunting area, the Reserve is located in the centre of Mozambique in Zambézia province, covering an area of 2,860 km^2 its buffering zone is the residence of fourteen communities. The area was identified as one of the first target areas for the implementation of the REDD+ programme in Mozambique, as part of the Mozambique Forest Investment Project (MozFIP) supported by the World Bank. As an integrated landscape management project, MozFIP combines the funds of multiple funders to put into practice REDD+'s strategies and materialize its goals mainly in two provinces: Zambézia and Cabo Delgado.

In Zambézia province, the Gilé National Reserve is a target to maintain biodiversity levels and sequestrate carbon, a true sink. Many external actors contributed to the implementation of the REDD+ in Gilé (see Table 4.1 for detailed list and their respective roles). The World Bank funded (USD46 million) two conservation areas that were appointed to be part of REDD+, including Gilé, with the aim of financing conservation, rural development (promote environmentally-friendly rural livelihoods through sustainable resource management) and tourism based on nature (MITADER, 2016). Multiple actors are involved in each implementation phase, as the following table shows:

Table 4.1: Gilé National Reserve actors

Phase	Stakeholders	Role/objective
Implementation	IGF (International Foundation for the Conservation of Wildlife)	Technical and financial support to the establishment and functioning of the Reserve Administration – it is effectively part of the Reserve Administration.

	FFEM/AFD (Fond Français Pour L'Environnement Mondial/Agence Française de Developpement)	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, ANAC.
	MozFIP/BIOFUND	The World Bank's 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 aiming to do the offset carbon valuation process); and more.
Brokering	Etc Terra	Responsible for brokering the credits and susceptible of receiving a brokerage fee in return.
	AFD - FFEM	Support Etc Terra in finding potential buyers through its network of private companies.
Sale and benefit sharing	FNDS/Government	Although the brokering is made by Etc Terra, the sale should be made by the government to avoid fiscal obligations and guarantee a higher benefit.
	Etc Terra and IGF	Recommend benefit sharing of carbon revenues among government, Reserve Administration and rural households.
	Reserve Administration	Share benefits guaranteeing the priority of maintaining the functioning of the reserve and secondly community support, particularly through implementing conservation agriculture.

Source: author based on stakeholder's report review and empirical data.

The implications to rural livelihoods in the context of conservation is increasingly being studied. (Brockington, 2002) focuses on the Tanzanian case, where he questions the efficiency of conservation areas and its community development approaches, claiming that it is failing its purposes and at the same time showed that livelihoods have been adversely affected as the regional livestock economy declined. His findings show that the human cost of preservation has not been carefully considered as households went through impediment of use of gathered wild resources; reduced household herd size and performance; damaged local livestock economy; which overall, caused serious hardship to thousands of peoples, (Brockington, 2002).

Identified as a high rural poverty area, the Gilé National Reserve has been the source of livelihoods for the households living in the neighbouring areas, what is currently part of the reserve's buffering zone. Reports from the Ministry of Land and Rural Development ensure that local public consultations were conducted in order to inform the role of the different actors in order to establish mechanisms to ensure the conservation and protection of the targeted area. Although the national REDD+ strategy claimed to be implemented through a participatory process (MITADER, 2016), this is not confirmed on the ground.

Some of my interviews contradicted such claims, as a smallholder stated 'We heard they were going to close the reserve. Sometimes a team would come and warn us that this reserve is going to close and this is the buffering zone. We got to know that we can't enter because of these teams'. The lack of participation and consultation is clear on how respondents expressed their knowledge about what was the goal, ownership and the financial and ecological benefits of the reserve in a global scale. Additionally, intimidation seemed to be the key to a lack of contestation or questioning about the essence of these changes that would be happening to their livelihoods:

> Well, there was a meeting, a warning that no one can enter the reserve anymore, there would be a team forbidding the entrance. It is closed. No one can enter the reserve. It has an owner. And now the reserve is being controlled. It's already been bought. It belongs to the whites. Uh. We accept it, because they came with a team, inspectors and 'troops'. (Interview smallholder, Pebane)

Many smallholders claim that this policy was imposed by the government regardless of their opinion. Smallholders were informed, in a top-down manner, that they would no longer be allowed to use the reserve's resources, that they should change their production techniques in order to protect the biodiversity of the reserve. In return, both the Reserve Administration and an NGO would design and implement 'community development projects'. The top-down and coercive nature of REDD+ implementation facilitated the process of establishing this conservation area and meeting the environmental goals jointly established by these set of international actors and the Mozambican government.

In the case of the Gilé National Reserve, 'community development' projects are taking place in order to 'compensate' for the loss of forest

resources, including: (1) training of 14 groups (one per community) aiming at the implementation of sustainable agricultural techniques and its commercialization following the climate-smart agriculture techniques; (2) distribution of agricultural inputs and livestock; (3) environmental education; (3) promotion of value chains based on sustainable use of forest resources: mushrooms, honey, charcoal, cashew nuts and so forth; and others. These projects are implemented by the MozFIP directly (Gilé National Reserve) and by an NGO which is responsible for the implementation and technical assistance of CSA principles within the BZ. Nevertheless, these initiatives are far from compensating the loss that rural households went through and it is actually undermining social reproduction through restriction of access to resources:

> I am alone with my wife [working at the farm]. I don't have the possibility to hire someone, because when you hire someone you should at least pay. Only there [reserve] we could get *caril* [meat/protein]. The men would go in there, and hunt animals. Gazelle, rats, and also fish. Because there are rivers that have a lot of fish. Now we can't. Now we have to buy fish. Before I didn't buy. Many of us did not buy. I would go once a week. When the man goes there to hunt, the woman stayed at the *machamba* [small farm]. From there we took [money] and used for our children's clothes. (Interview beneficiary smallholder Pebane)

Fusari & Carpaneto (2006) conducted a study and concluded that hunting is an important livelihood strategy of the local inhabitants of GNR and represents the major source of animal protein supply. Additional they found out that 'a mere increase of crop production in the study area (pursued by many conservation projects as a strategy to diminish the impact of subsistence hunting) would not produce an effective decrease of bushmeat exploitation' (Fusari & Carpaneto (2006: 2493). This major source of animal protein was not, by any means, compensated by those projects. Additionally, those 'community development' projects did not cover all of the population living in the BZ. But even the few that 'benefited' from it, still struggle to maintain their livelihoods:

> I myself was exactly going to ask for a job to support my family. So that we don't always think about what we lost in there [reserve]. Because the person, when he works, waits for his boss, for money. Have a salary at the end of the month. They only promised *machamba* inputs. (Interview beneficiary smallholder Pebane)

Many argue that REDD+'s projects and related policy programmes have the potential to reinforce existing inequities and social exclusions (Corbera, 2012; Hunsberger et al., 2017; Phelps et al., 2010). Regarding rural livelihoods implications, Hunsberger et al. (2017) summarize the risks in REDD+ design and implementation that includes disregard of rural communities' views, local communities losing access and use of forest resources and potential deepening of existing inequalities if elites capture the policy's benefits. The scenario becomes even worse for the ones that are not eligible for those 'community development' projects:

> We don't go inside the reserve anymore, but we don't see the benefit in doing so. Because they don't keep their promises. Those who were selected by COSV [NGO] see the benefits. While we who are outside COSV, no benefits that we have. The ones outside COSV receives nothing in exchange. (Interview non-beneficiary smallholder Pebane)

The effectiveness and the implications of the implementation of such policies are at the centre of agrarian studies debates and labelled as the appropriation of natural resources for environmental ends, or the so-called 'green grabbing', which results in the prevention of livelihood practice and resource uses and restructuring of labour relations (Fairhead et al., 2012; Seagle, 2012). Smallholders living in the BZ of the reserve experienced both resource grabbing and dispossession, facilitated by the promise of receiving agricultural inputs and technical assistance (in other words, CSA), which were the main aspects of the community development projects. So, CSA was clearly used as a tool to facilitate the process of green grabbing.

Additionally, CSA became a mechanism through which land control was transferred from smallholders to external actors. In other words, the case of Gilé National Reserve resembles the case in which land grabbing does not involve the direct expulsion of people from their land, but they lose control over the resources, including the way they use their own land — which is enforced in order to be 'sustainable' according to the guidelines set by international institutions. In the same line, and by looking at the politics, power relations and extra-economic coercion involved, (Borras & Franco, 2013; Peluso & Lund, 2011) explore the dimensions of land grabbing that imply the transfer of access, land control and decision-making to others or even when people are expelled and reallocated in other areas (ibid), which should also be considered as dispossession.

CSA comes as both facilitator of resource grabbing and an instrument to control land use of the BZ with the ultimate goal of protecting the Reserve's biodiversity. Although there was no expulsion of smallholders, they were dispossessed as they were prohibited from accessing the reserve. Also, they lost control over their land in terms of decision making because CSA is what guides the allocation of resources and practices such as which crops to produce, how to produce them and which quantity to produce.

Portucel Moçambique: tree plantations, REDD+ and CSA

We have seen a global rise in the promotion of tree plantations as part of a climate change mitigation strategy, particularly designed to sequestrate carbon, which however are ultimately linked with the intensification of dispossession and land grabbing (Scheidel & Work, 2018). Also, these processes result in multiple directions land-use change that signifies loss of land control from smallholders (Xu, 2019).

From the point of view of unequal ecological exchange, Gerber et al (2012) focused on the growing impacts of tree plantation on neighbouring populations. They put forward the argument that conflicts (between companies and local populations) arise due to biophysical issues that result from tree plantation metabolism, including the appropriation of land and biomass, ground clearing, pollution from agrochemicals and water shortage.

In Mozambique, before being connected to climate change responses, forest plantations were introduced in the 1920s and intensified after independence in the socialist period and afterwards in the market economy. However, it was only in the last decade that multinational companies demanded large areas of land and constituted the large scale monoculture of tree plantations (mainly eucalyptus and pine) in the north and centre of Mozambique.

The national strategy of reforestation foresees the intensification of tree plantations as a synergistic way to respond to REDD+ demands and stimulate economic growth. It was in this regard, that Portucel Moçambique with The World Bank as investor (through the World Bank branch International Finance Corporation that holds 20 per cent of shares — USD30 million) and also a technical advisor of the project (USD2 million) to reinforce forest operations' sustainability (such as CSA), which is listed as part of the MozFIP project and the National REDD+ strategy (MITADER, 2016).

Portucel's land acquisition model does not comply with the Mozambican Land Law, which enforces resettlement of any household that went through expropriation of land. The company's model of land acquisition does not involve resettlement as a result of an agreement with the government, in which instead of resettling rural households, the company would acquire portions of land making sure that each household would keep 2.9 hectares for their own subsistence. In exchange for transferring their land, the households would 'benefit' from agricultural inputs and technical assistance to produce more sustainably following the climate-smart agriculture principles. For this matter, the company is working with NGOs as a way to provide extension services that are claimed to be aligned with agroecology principles. All of this is part of the seven years and USD40 million Plan, the so-called Portucel's Sustainable Development Plan (PDSP – *Plano de Desenvolvimento Sustentável da Portucel*) that aims to: (1) improve rural livelihoods though sustainable mechanisms; (2) develop economic growth opportunities; (3) improve the quality of life.

Furthermore, the implementation of the project predicted high levels of job creation. The company claimed that it would create around 7,500 jobs both rural and urban. Interviewees claimed that they transferred their land to the company because they were expecting to get permanent employment, a fixed source of income and agricultural inputs. Unsurprisingly, the company wasn't able to provide enough permanent employment for the number of households that were dispossessed (3,416 households until 2017 in both provinces, which today might be much more but no data was made available from the company). The company wasn't even able to provide seasonal employment for all of the surplus population that was released during the process of land expropriation. My previous study based on questionnaires showed that out of the 109 heads of households, only 17 per cent were employed by the company. This investment did not absorb the same proportion of free labour that it generated creating a massive rural surplus population that are left with diminished or null land.

Notwithstanding, the few who got the opportunity to be employed by the company (around 17 per cent), claimed to be badly paid for the burden of work and state that the monthly income supports their 'survival' (170 Mts a day, means around 2 to 3 USD depending on the exchange rate — equivalent to the country's minimum wage). After working for years in the company, they still struggle to improve their livelihoods and still consider farming (done by the women) essential to provide food for the household.

Most of the workers interviewed claim that the remuneration is less than they deserve for the nature of work they are doing. After working for seven years for the company, a plantation worker says he wasn't able to see any substantial improvement in his life, claiming that the salary is enough 'just to survive', while his wife works on the farm to provide food for the household.

Supported by a previous study (Bruna, 2017b) the conclusion was that the appropriation of the means of production and social reproduction were beneficial to the company as it clearly increases their ability of accumulation as it was able to get cheap land and cheap labour as a way of increasing the rates of profit. Nevertheless, intensification of class differentiation of the peasantry may have occurred as the class that was proletarianized or that were benefited by the PDSP had the opportunity of acquiring means of production including agricultural input and seeds and the chance to turn themselves into small capitalists, hiring labour from the class of the landless or people with less land. As one wage worker claims:

> My life has gotten better. Now I can buy things for my children that I wasn't able to buy before, like radio, bicycle… Before I was working with no formal contract, until 2018. But I receive the same salary since 2018, 4.200 Meticais [around USD68 to 70] per month. They say the salary depends on the government, if the government raises the salary [official minimum wage]. But as my wife works in the farm with some people we hired, we manage to get produce to sell in the market. [Portucel Guard, Ile, 2019]

The group that was 'better-off' was constituted mainly by local elites including community leaders (by lineage and kinship) and their relatives, peasants with larger plots of land and livestock and local government officials. And this was the small segment that was able to get benefits out of the PSDP. For the implementation of the PSDP, smallholders were aggregated into groups and the group leader would benefit from a demonstration plot — a portion of land to implement new farming techniques so that others would follow. For that matter, the group leader would receive seeds and all inputs and technical assistance necessary to keep the demonstration plot as an example of improved productivity and teach other smallholders how to do it. Information from the field confirmed that the most influential members of the community were chosen — they were the ones that met the criteria, including having an ID card, having enough

land and experience with commercialization of surplus and having an already established market network. By interviewing one of the elected leaders, who previously owned the community mill, some advantages were identified:

> My benefit is to be the group leader. With the income I managed to buy a motor pump to irrigate my farms using a solar panel. I thank Portucel for these improvements… What I didn't like is that they didn't keep all promises. Myself, I am fine, but others are sad. If at least they build a hospital, improve schools, build a secondary school for our children. [Demonstration Plots' Leader, Ile, 2019]

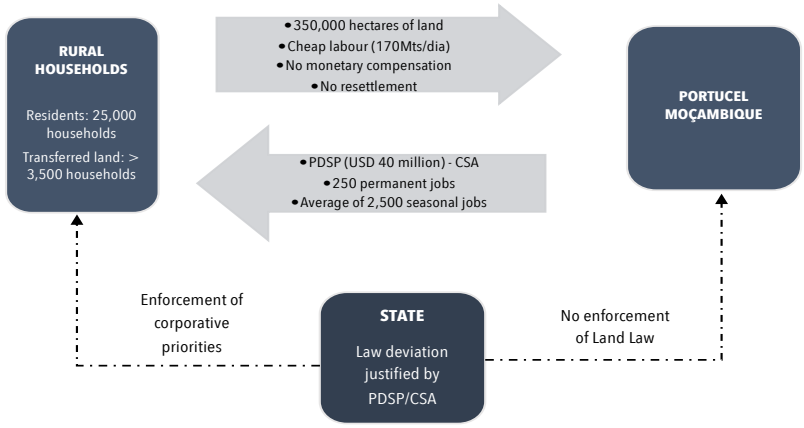
Besides having the privilege to access inputs and technical assistance, they have the capacity to hire in labour to work in their other farms where they may also apply these new techniques. Labour availability is determinant to apply such techniques because they imply more work than traditional techniques, and the rest of smallholders do not have the money to pay for extra hired labour:

> I was chosen to be responsible of a group of 24 farmers. I am responsible for taking care of the demonstration field by introducing new farming techniques. They taught me how to farm using these new techniques. The other 24 hardly make it. Maybe they can apply these new techniques in smaller areas. Because it is hard work [comparing with traditional techniques]. To do half a hectare or one hectare of that is really hard work. I have at least 6 to 8 people working for me and I pay 50 meticais per day. [Demonstration Plots' Leader, Ile, 2019]

It is important to highlight the role of the implementation of CSA as a way to 'compensate' the loss of land incurred by rural households and support a deviation from legislation. Giraldo & Rosset (2017) underline the idea of the existing risk that agroecology is being co-opted, institutionalized, colonized and stripped of its political content and potentially ending up offering more tools for industrial agriculture, in other words, the authors claim that rather than picking up the transformational potential of agroecology, they use it as a technical tool, creating a real threat of co-optation (Giraldo & Rosset, 2017: 3). Similarly, it was by designing a Social Development Programme mainly based on CSA principles and by presenting an environmentally-friendly and climate-friendly investment project, both backed up by The World Bank, that the company was backed

up by the state and got a green light even if the land acquisition model contradicts the Mozambican Land Law.

Figure 5.1: Portucel's Land Acquisition Scheme



Source: Author based on empirical data.

In the end Portucel Mocambique got the land (356,000 hectares) and all resources within it, had access to cheap labour and got control over the land and production systems used by the households that reside in those areas. Besides being ineffectively and poorly implemented (not everyone that transferred land got benefited by the PDSP) it doesn't even compensate for the majority of household's loss of resources and land. Additionally, the majority of the households that transferred land did not get permanently employed, most of them got some months of seasonal jobs and some didn't even get employed seasonally.

CSA implementation among the PDSP beneficiaries ultimately benefits the company as it prevents potential uncontrolled fires because CSA promotes alternative practices to the usual practice of 'slash and burn'. Overall, implementation of the claim to be 'sustainable agricultural practices' in the form of CSA was a way to legitimate the process of expropriation of land.

5.3 Capital accumulation in Emissions Imperative

REDD+, CSA and accumulation

Climate change is the unfolding of the second contradiction of capitalism put forward by O'connor (1998), evidence that the impediments of this contradiction are the source of new forms of accumulation as stated by Brockington & Duffy (2010), or proof that capitalism is able to convert its own crisis into new accumulation strategies (Arsel, 2019). The questioning of mainstream solutions to climate change such as technical fixes highly associated with economic growth objectives, market mechanisms and financial tools have been questioned (Asefi-Najafabady et al., 2020; Gills & Morgan, 2020). However, they are continuously being implemented.

Studies reveal how wildlife, marine and biodiversity conservation can be categorized as commodification of nature and primitive accumulation although it does not take the usual form of privatization of land (Benjaminsen & Bryceson, 2012; Kelly, 2011; Bruna, 2019). However, all of them underline resource grabbing implications such as loss of land rights, loss of access to forest resources, food insecurity and conflicts. How do these sets of strategies and new forms of accumulation unfold on the ground? Besides the explicit cases of implementing tourism based in nature, investments in conservation areas or investing in agri-businesses aiming at the production of biofuel (anchored in the environmentally-friendly discourse of alternative energy sources), a whole new space and possibilities of accumulation arise as capitalism co-opts climate change policies.

Based on the two study sites analysed throughout this section, REDD+ and CSA are being implemented in an integrated way and promoted by the same group of institutions. The main message of the *World Development Report 2008* is to put agriculture at the centre of the development agenda (The World Bank, 2007). The report centres its policy implications in intensively investing in agriculture to improve productivity and profitability of smallholders as the main pathway out of poverty, while assuring environmental sustainability. For that end, expanding domestic and global markets, financial markets, biotechnology and information technology were put into place. The call for biofuel production as a business opportunity and as a more sustainable path arises — as part of climate change mitigation policy.

Both projects, Gilé National Reserve and Portucel Moçambique, rely on guidelines of CSA to 'compensate' the loss of forest resources and land.

Critiques are put forward regarding CSA and its purported 'triple-win objectives'. For instance, Taylor (2018) points out the significant backing from the private sector and ways to strongly link farmers to markets and its implications, which ultimately do not answer to the needs of local producers. Techniques and guidelines of CSA (FAO, 2013; The World Bank, 2011) consider changes in production techniques looking for a more environmentally-friendly set of decisions such as prioritizing climate resilient seeds and crops which are not directly answering the needs of targeted areas. In both cases (forest plantation and reserve), CSA was portrayed as a trade-off. In the forest plantation case, giving up a piece of land to the company would mean that smallholders would get in return (1) agricultural inputs and (2) learn better practices of production through CSA to increase productivity (although they are left with smaller plots, productivity is expected to increase). Whereas in the case of the Gilé National Reserve, CSA would serve to compensate the loss of forest resources that smallholders went through.

However, besides the fairness of this compensation being highly debatable, it doesn't even achieve the goals that were set in the first place. First, because not everyone that was directly or indirectly dispossessed received this compensation scheme (inputs and technical assistance). Second, not everyone who got the compensation scheme felt that the loss of land was fully compensated by the implementation for such community development programmes. In other words, CSA can also be understood as a tool to facilitate and legitimate dispossession and fuel capital accumulation by releasing resources at lower costs. Besides experiencing the direct impacts of climate change, rural livelihoods are also being jeopardized by the implementation of policies and schemes to address climate change, especially regarding food security.

When asked about her worries regarding the implications of the forest plantations, a head of a household in Ile district replied: 'I don't have food. I don't understand why it does not grow next to it [Eucalyptus plantation]. Not cassava, not beans, nothing grows!'. After almost all of her land was transferred to the company and currently a full eucalyptus plantation next to her house, she says 'Life got worse. Before we were able to produce food. Now, we can't even get money'.

For instance, the REDD+ policy main aim is to reduce emissions and sequestrate carbon. But at what cost? And for whose economic benefit? As we know, carbon emissions and sequestration are at the core of the

global environmental crisis-related policy enforcement. The World Bank's marketing for carbon sequestration relies on showing potential revenues that biodiversity-rich countries would have if they opted for forestry and agricultural mitigation. Its 2010 report states that by assuming a price of $10 a tonne, African countries' revenue from carbon sequestration would be as high as Africa's development assistance (The World Bank, 2010c).

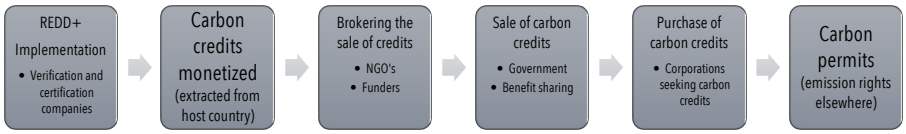
On one side, the demand for carbon rights from industrialized (or semi-industrialized) development poles and, on the other, the existence of potential carbon suppliers particularly in the global South, makes the perfect combination to create carbon transactions; consequently, a market is born, the 'carbon market'. Carbon has become a commodity. Descheneau (2012: 604) stated 'the tonne of carbon is first invented and abstracted, secondly it is monetised into something sellable, and thirdly it is financialised, transformed into a financial standardised product'.

MacKenzie (2009) carried out a thorough analysis of carbon markets, stating that the goal of carbon markets is to give a price to emissions, which can be purchased or earned. MacKenzie (2009) explains two main schemes in which carbon markets were established. The first one is 'cap and trade' — giving a monetary cost for emissions — which involves the setting of a maximum allowance of emissions per emitter (a cap); if the costs of reducing emission is high, an emitter may rather buy allowances rather than reduce emissions at higher costs or they can either sell allowances that they do not need, if that is the case. The second one, is project based — through carbon credits acquired from the implementation of projects in developing countries (for example, Clean Development Mechanism, CDM); those credits can be bought to meet the caps — so a credit earned somewhere in the global South can be transformed into a permit to emit in the global North for example.

The emergence of carbon markets has sparked debates in the technocrat arena regarding the processes and conditions in which they were created and established, the role of institutions, investors and banks, but also in terms of its efficiency, but little around the social justice dimension. Other scholars (Descheneau, 2012; Paterson & Stripple, 2012; Stephan, 2012; Stephan & Paterson, 2012) try to get a grasp of the political and social dimension of carbon markets practices and mechanism; nevertheless, their analysis lacks a further push on the politics of climate change within a historical and political economy understanding and within the global dynamics of accumulation.

Investments in sequestrating carbon constitute a rather convenient solution because they can be less expensive than actually reducing fossil fuel emissions or paying carbon taxes (MacKenzie, 2009; Tienhaara, 2012) nevertheless the burden is directly transferred to those whose livelihoods radically change to accommodate the commodification of nature, and at the same time, being expropriated of their right to emissions. This happens by REDD+'s restriction of access to forest resources and changes in production systems through CSA to accommodate the biodiversity protection. Reflecting on a summarized version of what a carbon commodity chain would look like, based on the implementation of REDD+ in conservation areas, particularly focusing in the Gilé National Reserve case, the following is put forward:

Figure 5.2: Carbon commodity chain – expropriation of emission rights



Source: author.

After almost a decade since the REDD+ was initiated, rural households have not yet received the benefits of the sale of carbon credits. Some have only received insufficient trade-offs that do not compensate for the loss of forest resources as was explained previously. Even though carbon sales are expected to be shared with the community, according to FFEM (2017) Report, the most appropriate manner to share the benefits would be to distribute them in the following manner: (1) 20 per cent for the Central Government; (2) 64 per cent for the Reserve Administration and (3) 16 per cent for community support in implementing conservation agriculture.

In other words, the carbon sales share for rural households is meant to make sure that they are farming following CSA principles, ultimately in order to protect the biodiversity of the reserve, and not exactly improving their livelihoods nor compensating for the loss of forest resources. These schemes only exacerbate the exploitation of rural households that have already been expropriated and went through negative changes in their livelihoods that mostly relied on forest resources provided by the reserve:

> Before, many had benefited from the reserve. Sometimes wood, mushroom... So as soon as they closed, hey, we're sorry. We have no benefit to live here in the buffer zone. In the past we benefited from there [reserve], but now there is no benefit. We accept that yes, we cannot go to the reserve. We will stay here in the buffer zone. So, lately a person leaving here to go cut a stick and boil it for the construction of his house, is caught and is beaten. We cannot take medication from there to benefit our body. Now, we feed on vegetables only: beans, sweet potatoes...

By cutting into the necessary consumption of these households and by expropriating their right of emission, a new commodity was created and placed in global markets. This not only constitutes a process of primitive accumulation of many actors throughout the carbon value chain, but also constitutes an opportunity for fossil fuel capitalists elsewhere to guarantee their operationalization and maintain their patterns of accumulation by expanded reproduction patterns.

This scenario shows what is behind the carbon markets and the commodification of carbon. The creation of carbon markets supports a model of transfer of carbon emission rights that sacrifice the livelihoods of the rural poor people for the right for emissions elsewhere in the globe. It is supporting the right to buy carbon permits and ultimately facilitating the buyers (usually multinational corporations seeking emissions rights) at the cost of the rural poor. Carbon markets create new vehicles and opportunities of accumulation through, first, opening up spaces to intensify fossil fuels-based accumulation processes globally by allowing emitters to buy the right to emit at the cost of rural population's livelihoods and right to emit. Second, these markets build up entire value chains (from investors, banks, to certification institutions to the buyers) and economic processes in which intermediaries and many actors would seek accumulation. Nevertheless, a new form of primitive accumulation was born through commodification of carbon: expropriation of 'emission rights' from poor people.

Emission imperative and the green frontier of accumulation

Since colonial times, rural population in Mozambique has faced expropriation and exploitation in many different ways; nevertheless they expressed their own agency into adopting diversified rural livelihoods (O'Laughlin, 1996; Wuyts, 2001). According to (Wuyts, 1989: 27) there are three main clusters of livelihood strategies for the peasantry: (i) selling crops to the

market, (ii) selling labour; and (iii) practicing agriculture for own consumption. The latter was always the main strategy to provide food for the household, so land, is the most important element of rural livelihoods.

We already know what the implications of climate change or climate variability are for rural livelihoods especially regarding food security in the context of rain-fed agriculture. However, climate change mitigation and adaptation policies also represent a threat for rural livelihoods as expropriation, land and resource grabbing takes place to answer to global concerns on reducing emissions. Restrictions on rural livelihoods in one side of the globe are transformed into allowances in industrialization and lifestyles on the other.

Also, regarding conservation, Benjaminsen & Bryceson (2012) identified three groups of actors that accumulate capital in the context of big conservation projects: (1) rent-seeking official and politicians who benefit directly from the land deal or those who own tourism facilities; (2) large transnational conservation organizations who get more and more funding through portraying 'successful' conservation projects; and (3) tourist companies (safari, hunting, accommodation, and so on). This process of capital accumulation is sustained by the loss of livelihood of the rural population that was dispossessed or those whose subsistence relied mainly on forest resources.

By focusing mainly on conservation projects, scholars have explored its link with accumulation; however, climate change and the schemes and policies to address it constitute the new priority of powerful financial institutions such as the World Bank and IMF, but also others such as the United Nations and other international organizations. As a result, climate change narratives are shaping economic policies, legislation, aid patterns, financial assets, markets, production processes, and many more factors, enforcing the 'greenization' of the global processes of accumulation.

Capitalism is undergoing one more crisis in its never-ending cycle of crises, the environmental crisis. Additional and innovative measures are needed to sustain its pursuit of accumulation in a tap that is drying and a sink that is clogged up as O'connor (1998) states. Cutting into necessary consumption is an old but effective strategy, however, the innovative character of capitalism here is both the creation of new ways to legitimate while intensifying accumulation by expanded reproduction and by further commodifying nature by creating a new commodity ('emission rights'), expro-

priating it and making profit out of it, hence a new way of primitive accumulation. Both processes are supported by the state and in the name of the environment.

In fact, it went further, it transformed its many mechanisms to address climate change into a whole new arena of possibilities of accumulation through creating innovative factors (for example, further commodification of nature, creation of new markets and new financial assets through primitive accumulation) and through expression of its intrinsic nature by legitimizing processes of accumulation that facilitates resource grabbing (for example, using environmental discourses to further accumulate through expanded reproduction). Both processes with the aid of the state. Hence, a new frontier of accumulation emerges: the *green frontier of accumulation*.

As Amanor (1994) points out, new frontiers that are incorporated into the world market are usually based on unbalanced exploitation of resources and ultimately resulting in inequality. Following the exploitative nature of capitalism, new frontiers and the expansion of the world capitalist market introduce new dimensions regarding the interactions of humans and environment embedded in a scheme of global division of labour loaded with inequality (Amanor, 1994).

This new frontier of accumulation involves the creation of new markets, new commodities and new vehicles of accumulation and tools for legitimizing resource grabbing. All of that integrated in the global system of accumulation through schemes and policies to address climate change, through the further exploitation of rural livelihoods. Climate change has become the limit and the new frontier of accumulation and triggered the emergence of new financial assets, markets and mechanisms of legitimizing accumulation.

5.4 Chapter conclusion

This chapter aimed at answering the question of what are the implications of implementing climate change policies in Mozambique. By exploring the implications of environmental resource grabbing to accumulation and rural livelihoods and social reproduction, the chapter was able to offer insights that contributed to the understanding of green policies not as imposing limits to accumulation, but opening up spaces for new accumulation and legitimation strategies.

The mainstream's call for a climate-smart world has given rise to layers, convergent or not, of economic/environmental policies, schemes and mechanisms to address climate change and to some extent the environmental crisis. As a result, climate change land politics (Borras and Franco, 2018) are prevailing, mostly in developing countries and are sustained by alliances among the state, corporations and external actors such as philanthropic organizations, NGOs and financial institutions. Countries such as Mozambique became targets of green-oriented projects and investments claimed to be part of climate change mitigation and adaptation policies, including diversified schemes such as REDD+, CSA and other land-based initiatives (for example, biofuel production land-based investments).

These sets of 'solutions' put forward and sustained by these mainstream institutions, do not challenge the regime of accumulation that caused the environmental crisis in the first place (Robbins, 2012). They are, in fact, further working in favour of that same regime of accumulation that triggered and deepened the crisis. As the chapter shows, climate change mitigation and adaptation policies have been co-opted by global capital, transformed into vehicles of resource grabbing and integrated into the global processes of accumulation with the aid of the state.

In its turn, the state's position and action is a clear manifestation of its dependence on external financial resources and aid. On one hand, the Bretton Woods Institutions, which impose their economic, financial and fiscal guidelines; on the other hand, international organizations — and their role as donors, partners or financial supporters working on diversified sectors including health, education and more recently environmental organizations — which are pursuing their interests on a global scale, play a fundamental role in how the state's action unfolds. So, the state ought to accommodate their demands that are, jointly, highly essential to its functioning and its economic sufficiency. These demands have recently become more coherently unified in relation to climate concerns and schemes aimed at solving the environmental crisis.

This is what set the stage for the constitution of the green frontier of accumulation that embraces both new forms of primitive accumulation and facilitates accumulation by expanded reproduction. This is done through the expropriation of newly created commodities (such as 'carbon permits'), and through schemes to legitimize resource grabbing (land and forest resources); all anchored in the discourse around the achievement of global climate change goals and solving the global environmental crisis. In

sum, the establishment of a new frontier of accumulation was supported by the unified and coherent discourses, policies and practices that are claimed to either be tackling the current environmental crisis or mitigating its intensification and aiming at improving adaptation of the vulnerable ones around the globe.

However, besides the questionability of these schemes' effectiveness in solving the crisis, they were ultimately converted into an opportunity to accumulate further, either by legitimizing existing vehicles of accumulation or by the creation and marketization of new commodities. And because of the intrinsic exploitative nature of capitalism, this comes at the cost of specific social classes. The implementation of climate change mitigation and adaptation policies allows the transfer of carbon rights (or emission rights) that sacrifice the livelihoods of the rural poor in exchange for a 'permit to emit' elsewhere in the globe. So, carbon markets open up opportunities to intensify fossil fuels-based accumulation processes globally, by allowing emitters to buy the right to emit at the cost of rural population's livelihoods and right to emit. Second, these markets build up entire value chains (from investors, banks, to certification institutions to the buyers) and economic processes in which intermediaries and many actors would seek accumulation.

In other words, this emerging process of commodification brings along new waves of expropriation that further cuts into the necessary consumption of rural livelihoods. Rural livelihoods are thus threatened by both the direct impacts of climate variability and the policies seeking mitigation and adaptation of climate change. From now on, the future of smallholders and rural livelihoods could be highly reliant on the carbon/profit nexus of capitalism as the 'Future land use depends, in part, on the desired climate outcome and the portfolio of response options deployed' (IPCC, 2019).

In sum, insights from both empirical cases explored in this chapter show how this new wave of green investments and projects, directly linked to climate change concerns, are further expropriating livelihoods and fuelling capital accumulation in the name of the fight against climate change. However, it is important to clarify that environmental policies and investments that go beyond the climate change agenda, for example, circular economy, green economy, and so on, could also be a trigger or constituent, intersecting with the green frontier of accumulation.

Notes

[1] https://www.forestcarbonpartnership.org/about (11.06.2020)

6 Land of Plenty, Land of Misery: Synergistic Resource Grabbing in Mozambique

6.1 Introduction

The preceding chapter explored the dynamics of environmental resource grabbing and showed how policies to address climate change have actually been co-opted by global capital and turned into new accumulation and legitimation strategies at the cost of rural livelihoods. In other words, the environmental crisis was turned into a new (green) frontier of accumulation. However, it is important to recognize that in the midst of the convergence of crises, those emerging green policies may be answering to multiple crises and agendas. This chapter considers capital's multiple agendas and how this is related to green projects and investments. Thus, answering the question related to interlinks, interconnections and synergies between extractivism and green policies.

Land grabbing debates underline the role of the food crisis in causing resource rushes; however there are other interrelated crisis in which land or resource grabbing occurs including energy, fuels (biofuels), and climate change crises (Borras, Franco, Gómez, Kay, & Spoor (2012), with a key role played by climate change policies as the preceding chapter attempted to show. In the midst of the convergence of multiple crises, contemporary land grabbing is said to be the capturing of control of blocks of land and other natural resources, specifically, involving large-scale capital. This shifts resource use orientation into an extractive character, as a response to the convergence of food, energy and financial crises, and to the current climate change mitigation and adaptation imperatives (Borras & Franco, 2018).

Massingir District fits the profile of a block of land that constitutes the solution to tentatively overcome capitalism's convergence of multiple crises as it is highly endowed with strategic natural resources. In an area that has a high potential in water sources (including a dam that aims to irrigate agricultural projects), the dynamics created between the implementation of a biofuel project and the transformation of a large block of land into a conservation area with very ambitious goals of tourism development show competing and transversal trends of resource grabbing. However, there is a clear tendency towards the creation of synergies among the land-based projects being implemented, which is supported by the grabbing of resources such as water, land and biodiversity; in other words, synergistic resource grabbing is verified.

Exploring the new dynamics of the politics of natural resources, including land, water, and biodiversity, brings us to the main objective of this chapter, that is, to identify and explore, through the experience of Massingir District, the dynamics regarding land-use change and changes in property relations in the context of convergence of crises. A central question for this chapter would be: what does this convergence of appropriation of resources from different capitalist actors mean to rural livelihoods? How does synergistic resource grabbing shape rural livelihoods? By answering these questions, this chapter will be building a bridge between research sub questions 1, 2 and 3 as it explores and tackles, interconnectedly, extractivist dynamics (across sectors) and green policies' implications for rural livelihoods.

By looking at the bulk of the land grab debates and literature through time, a common denominator is found: the displacement of people, intensification of inequalities, conflicts, social injustice, and an overall deterioration of rural livelihoods (Borras, Fig, & Suárez, 2011; Borras & Franco, 2012, 2018; Lunstrum, 2016; McMichael, 2012; Moyo et al., 2019; Zoomers, 2010; and others). Nevertheless, the need for rethinking critical agrarian studies in the era of climate change seems to be one of the main drivers of research in the current juncture as the need to make sense of changing dynamics of access and control of natural resources conditioned by climate politics are depicted on the ground (Borras et al., 2018; Fairhead et al., 2012; Franco & Borras, 2019; Hunsberger et al., 2017; Tramel, 2016; Work, 2015b).

Because a very distinct feature of what is driving the current wave of land grabs in Massingir District is the convergence of multiple crises, including food, energy/fuel, environmental, and financial (Zoomers, 2010), an inter-sector led analysis is needed for further understanding the interrelated dynamics and cross-interests of land grabbing trends and how it shapes the power relations regarding access and control of resources and, ultimately, rural livelihoods.

Conservation, development projects, and land deals in Massingir District imply displacement and resettlement of rural households to accommodate 'more efficient' and 'greener' projects. This means that different groups of peasants and pastoralists are displaced and are going through a continuous process of expropriation, including land, water, and forest resources, resulting in an unjust process of transformation of their livelihoods.

6.2 Multiple Resource Grabbing and Land Politics in Massingir district

It has been more than a decade since the analytical term 'land grabbing' or 'land grabs' was used to characterize the socially unjust and economically unequal processes through which enclosures of land occurs in the global South, especially after the food prices peak in 2008–2009 (Borras et al., 2011b; Borras & Franco, 2012, 2018; McMichael, 2012; Moyo et al., 2019). A distinct feature present in both the land grabbing debate and land grabbing/conservation debate is the heavy presence of financialization (see Table 5.1). In the context of land grabbing processes related to conservation areas, two main losses are at the core of this specific dispossession process: the land of the people and the restriction of the resources that people have access to. Studies show how the restriction of local resources is justified by degradation narratives; however, the ecotourism sector gets an opportunity to accumulate (Benjaminsen & Bryceson, 2012).

It is important to clarify the distinction between 'land grabbing' and 'resource grabbing'. Land grabbing refers to the appropriation of the land and all of the resources that are implanted in it; however, the use of 'resource grabbing' throughout the paper refers to resources that are located beyond the block of land that was specifically appropriated; it refers to resources (tangible and intangible) that were once accessed before the block of land was appropriated. Some examples would be all of the goods,

rivers, lakes, forests and biodiversity surrounding the block of land grabbed, or the easy access to higher quality water or forest resources, or even access to spiritual/traditional sites, and so on.

On the other hand, conservation might go hand in hand with other sectors, such as mining, as happened in southeast Madagascar; although these constitute distinct types of land acquisition, there might be linkages and interdependencies between them (Seagle, 2012). In the case of southeast Madagascar, the mining company's engagement with conservation, such as Rio Tinto/QIT Madagascar Minerals setting aside protected areas to preserve biodiversity, might be considered an interdependent mode of accessing and acquiring land and, of course, part of their legitimization strategy (Seagle, 2012).

But this analysis seeks to go beyond the dual forces of dispossession, it aims to understand the convergence of forces of dispossession in a specific region, looking at the patterns of land-use change and property relations. Regarding changes in land use, Borras and Franco (2012) identified four main typologies that potentially capture the diversity and complexity of land-use change: (i) food to food; (ii) food to biofuels; (iii) non-food to food; (iv) non-food to biofuels. Not all land grabs entail the same implications for changes in land use as the traditional transnational commercial land deals do, so they suggest the need for further mapping the nature and direction of land-use change as well as taking a disaggregated look at the rural poor in terms of class, gender, and other dimensions.

Regarding the changes in land-property relations, Borras and Franco discuss the extent to which access and control over land is shaped among the dominant social classes and groups (landlords, capitalists, traditional village chiefs), whether it is considered private property de jure or de facto (Borras & Franco, 2012). The authors came up with four main broad patterns in the nature and direction of land property relations change: (i) Type A — redistribution of land from private landed classes or from the state to (near) landless working poor — redistributive land reform; (ii) Type B — distribution of land from private landed classes to (near) landless working poor, but private classes are fully compensated by the state; (iii) Type C — Non-(re)distribution portrays the maintenance of the status quo, characterized by land-based inequity and exclusion; (iv) Type D — (re)concentration happens when transfer of land occurs, but the access and control over land is further concentrated in dominant social classes,

involving full ownership or not. These typologies will be used to understand land politics in Massingir. However, in institutional contexts such as Mozambique, where by law the land is owned by the state, the outcome of these land deals should be considered 'dispossession' by reallocation as usually happens. However, law deviations happen and reallocation is not always observed.

According to a government report, Massingir District has a great potential for tourism and conservation, yet to be explored, particularly the area of Limpopo National Park (LNP) integrated into the Limpopo Transfrontier Conservation Area. Around 60 per cent of the population is put in the category of 'small scale farmers', and the dominant activity among them is cattle raising. The average farm size is around 1.9 hectares and the production is mainly to provide food subsistence with about 92 per cent of food crops, predominantly rain-fed (INE, 2013b). Its endowment regarding infrastructures (including main roads and a dam being rehabilitated), water sources, biodiversity, geographic location, and unprecedented claims of the existence of 'marginal' land makes this region a strategic target for contemporary global capitalism's interests.

Massingir has been targeted by researchers using different lenses. For instance, Lunstrum (2016) approaches the issue as a competition over space between conservation, agricultural extraction and climate change mitigation that have direct influence over local inhabitants' access to resources and labour opportunities. Borras et al (2011) looked at the dynamics of the political economy/ecology of land and water use and its impacts of livelihoods of local inhabitants. (Milgroom, 2015) explores the dynamics of land grabbing and green grabbing competing for the same land, looking at LNP as her study case. She also discusses the resistance process of the local inhabitants against the Procana company in alliance with grassroots NGOs such as ORAM (Organização Rural para Ajuda Mútua) and CTV (Centro Terra Viva). Otsuki, Achá, & Wijnhoud (2017) focus on the dynamics of participatory land governance, consent building principles and consultation processes.

Nevertheless, none of the research conducted so far has incorporated the set of cross-sectoral historical specificities of land use and property relations as well as historical features of Mozambican peasantry and the way its dualistic nature shapes the complexity of their livelihoods. By bringing in all angles, it is possible to grasp how multiple investments and projects are interacting, cooperating and collaborating in order to exploit

land and resources to answer to multiple (and sometimes overlapping) accumulation agendas. Additionally, by analysing the implications to rural livelihoods, across time and sectors, a better picture of livelihoods transformations and paths shall be observed.

6.3 Massingir District: Biodiversity, Water, Energy and 'Marginal' Land

The potentiality regarding water sources in Massingir District is quite apparent. The main rivers that cross the district are the Elephants River and Mazimulhpe River, both having relatively stable flowing water. There are also eight rivers and 10 lagoons across the district. However, only approximately 6 per cent of the population has access to piped water at home. Around 42 per cent of the population access water through the river or lakes. According to the latest official records, around 7 per cent has access to electricity (INE, 2013b).

The Massingir Dam is located on the Elephants River (right next to Massingir minor town — see a map of Massingir District in Map 6.1). The construction of the dam started in 1972, before independence, and its official opening was in 1977. The construction of the dam implied the displacement of a community that was established in the surroundings of the river, mainly working in cattle raising and farming. In 1977, they were resettled into a new area called Mavodze (See Map 6.1).

Map 6.1: Massingir District

Source: (Bazin & Quesne, 2016). The LNP is represented by the dark green colour and the buffering zone of the park by the light green colour. Massingir Dam is located at the entrance gate of the park, right next to the minor town of Massingir. The arrows point out the areas in which each community inside the park was resettled. The Procana project was to be implemented in the red area surrounding Massingir minor town and the dam (Banga, Barrio, and Chitari area).

This dam was designed with multiple objectives, including irrigation and hydroelectric power generation. It has the potential to irrigate 90,000 hectares including 30,000 hectares of the biggest irrigation system in Mozambique in Chókwé (a district downstream). After an accident in

2008, the dam needed to be urgently rehabilitated. Until recent days, according to the official website of the Ministry of Economy and Finance, the government has been able to get enough financing to cover the costs of the rehabilitation through the African Development Bank (total of USD 33 million) (MEF, 2016). According to the Minister of Economy and Finance, the rehabilitation project financed by the African Development Bank aims mainly at boosting agricultural production and productivity and the production of electric energy. Additionally, the infrastructure is also expected to contribute to reducing the impact of climate change by improving the management and availability of water resources.

Conservation and The Limpopo National Park (LNP): Poor People out, Tourists in!

The west side of the Massingir District is bordered by the South African Kruger National Park (KNP), which is the largest game reserve in South Africa, covering approximately 20,000 Km^2. Both the Mozambican and the Zimbabwean borders are part of KNP's animal migratory routes. According to the LNP Administrator, created in 2001, the park (see the dark green area of the map — Map 6.1) aims to extend ecosystems and promote conservation of biological and non-biological resources for the well-being of the community, whether local or of the entire Mozambican community or humankind.

The Agence Française de Développement (AFD) evaluation document (Bazin & Quesne, 2016) states that the exceptional fauna in KNP, and, the almost intact flora formations in LNP combined with the decimated fauna during Mozambique's civil war, all together contributed to the creation of the trans frontier park. The treaty includes activities, such as (i) development of tourism facilities, such as ecotourism, adventure, water sports, and culture; (ii) removal of fences between the border of KNP and LNP and relocation of 5000 animals from KNP to LNP; (iii) construction of a barrier fence to separate the wildlife core zone from the community buffer zone; (iv) reallocation of 1200 families and implementation of various community programmes following World Bank's Operational Policy for Involuntary Resettlement; amongst others[1]. This resettlement is considered one of the most protracted conservation-related displacements unfolding within southern Africa (Elizabeth Lunstrum, 2016).

One of the communities to be displaced is in the Mavodze area (the Mavodze community), the same families that were previously resettled

more than 30 years ago to give space to the Massingir Dam's construction. In other words, the same group of people is going through a second wave of expropriation of land and resources. So far, only two communities from inside the park are already resettled, and five communities (including Mavodze) remain inside the conservation area where wildlife is being promoted. All of these activities, including the creation of the park's buffer zone, is supported by foreign donors.

Support for the development of LNP began in 2001 as part of an integrated regional and multi-donor approach: EUR 6.1 million from the Kreditanstalf für Wiederaufbrau (KfW) to finance the resettlements and EUR 11 million from AFD. The World Bank was involved in an earlier phase, with aid directed to institutional support of the LNP through the creation of the national institution of conservation — ANAC. The AFD's support had three main goals (Bazin & Quesne, 2016): (i) restore and preserve the LNP's biodiversity (EUR 1.7 million): implementation of tourism facilities, biodiversity protection, ecological research, and monitoring and ecological management programmes; (ii) improve the livelihoods and standard of living of the inhabitants of the LNP buffer zone (EUR 8 million); (iii) strengthening the administrative capacity of LNP (EUR 0.7 million).

Two main points should be underlined within the strategies of the international donors and the park itself: the promotion of tourism development and the buffer zones. According to the official plan of LNP, the main goal regarding tourism development in the park is 'to make them [tourists] come, keep them in, and keep them busy'. The first set of activities are related to the creation of strategic entry points and roads to give access to the park to let the tourists come. Afterwards, camping sites and accommodation facilities will be created throughout the park. The accommodation facilities of 3, 4, or 5 stars are going to be implemented through concessions to private investors of 8,000 to 10,000 Ha. Activities to 'keep tourists busy' include safaris and other land-related activities, as well as fishing (through concessions in Massingir Dam) and other water-related activities. So far, the number of tourists has been oscillating from 20,000 to 25,000 a year (Bazin & Quesne, 2016).

On the other hand, to keep the biodiversity, fauna, flora, and ecosystems up to tourism sector demands, the protecting function of the buffer zone is particularly determinant. The buffer zone surrounds the whole area of LNP, and it is represented in the map by the lighter green colour (Map

6.1). According to the evaluation made by AFD consultants (Bazin & Quesne, 2016), more than 20,000 people are established in the buffering zone. The aid from AFD aims to implement irrigation systems, adoption of CSA for the production of food, and a mechanism of micro-credit for increasing the income of the rural households.

Procana's Biofuel and Land Conflicts

The Mozambican Government has been actively aiming at the promotion of production of biofuel in the country since the approval of the bulk of legislation and regulations regarding biofuel in Mozambique, which is led by the main policy, namely *Estratégia e Política Nacional de Biocombustíveis*. An official publication of the Ministry of Energy states that 'several activities are underway to materialize large biofuel production projects and bioethanol, respectively, especially the project to build a biofuel plant in the Massingir District in Gaza Province - called the PROCANA Project'[2].

Procana, a London based company that acquired 30,000 hectares close to the dam (in the red area closest to the Massingir minor town — see Map 5.1), was approved in 2009 as an investment project aiming to accommodate a sugarcane/ethanol plantation, create 7,000 direct jobs, and engage in a scheme of sugarcane outgrowers. All of this is following Mozambique's governmental strategy on biofuel intending to boost biofuel production in the country. Several official government documents state that the dam is expected to meet the water demand from the potential biofuel project implementation. The 30,000 hectares, expected to be irrigated by the dam, was selected to be in the exact area, initially assigned to resettle the communities living inside the park (see a red area of the map bordering Massingir minor town), consequently, conflicts arose because the land allocated to Procana wasn't marginal after all. It was prime agricultural land for food production, strategically located with water sources (Massingir Dam and Rio dos Elefantes) and infrastructures (national road and highways) (Borras et al., 2011b).

After two years, the company lost its right to use the land, and several speculations related to delays in the implementation of the project and global financial crisis of 2007/8, might have contributed to the delay in the rehabilitation of the dam. So far, the dam hasn't been fully rehabilitated, consequently, threatening the availability of water to feed the ethanol production project. Procana dissolved in 2011; however, a new and bigger investor showed interest (volume-wise): Massingir Agro-Industrial

(MAI), a partnership between a South African company (TBS) and a national investor (Mozambican firm SIA). But this also resulted in no success.

Although many companies showed interest in investing in that area, the government published a statement approving the dissolution of MAI's DUAT (*Direito de Uso e Aproveitamento da Terra* — Right of Use of the Land), claiming that the company did not fulfil the proposed business plan. However, with the systematic postponement of the resettlements, delays in dam rehabilitated, the more difficult it is to find potential investors for the ethanol project.

Overall, in the past decades, Massingir District had many different purpose claims to major blocks of land, competing or not. This calls for a deeper understanding regarding the dynamics of land politics of the area, to potentially identify the patterns and motives behind land expropriation and resource grabbing, as well as its implications.

6.3.1 Land Use and Property Relations

Looking specifically at African history, three waves of land alienation in Africa were identified (Moyo et al., 2019). The authors state that the first wave set the stage for the classic scramble in the late 19th century by settler-colonial expansion. The second wave took off in the period of structural adjustments parallel to the wave of privatization of property under the wing of World Bank advice. This process of liberalization shaped agrarian reforms in Africa to seek commodity markets with deeper integration into the world food system.

Currently, with the intensification of neoliberalism, the third wave of land alienation arises with a wider scramble for mineral energy and biogenetic resources. It implies land and resource grabbing, shifting land control, and changing property relations, which consequently results in 'expanded marginalization of rural communities and expulsion from the countryside, without resolving chronic problems of food insecurity, unemployment, low agricultural productivity, and poverty' (Moyo et al., 2019: 4). In the case of Massingir District, the high amount of land alienated, whether it is purportedly for biofuel production or conservation, clearly implied changes in land use and property relations, specifically taking into account the specificities of official property land rights in the context of Mozambique.

According to the Land Law 19/97, the land is owned by the state and cannot be, in any way, privately owned. In order to accommodate land-based investments, the investor should apply for the right of use of the land (DUAT – Direito de Uso e Aproveitamento da Terra) which can be: (i) a temporary DUAT: the investor has the right to use the land and is given a two-year period to implement the project; after this, the investor is able to get the (ii) permanent DUAT: if the project is implemented accordingly, the investor has the right to use the land for up to 50 years, renewable over time. And again, both imply that where there are local inhabitants established in that area, they should be consulted and — in the event of a positive response from the community — resettled and adequately compensated, making sure that well-being is maintained or improved.

Going back to Borras and Franco's (2012) typology, changes in land use in Massingir District follow multiple patterns in the same block of land. The first pattern is characterized by the 'food to biofuel' typology stated by the authors, as 30,000 hectares of grazing and farming land to produce food to local inhabitants was allocated to the implementation of the ethanol production project in the region of Banga (see Map 5.1). Despite the successive failures of potential investors, the land is currently considered a 'reserve' land for the implementation of the project in the near future.

The second main pattern is the transformation of land used to produce food to an environmentally-friendly land, which brings us to an emerging pattern of land-use change, 'Food to biodiversity' that can be unfolded in two different ways: (i) directly transforming land used for food production to conservation land with eco-tourist investments (namely the Limpopo National Park) and (ii) indirectly transforming land used for food production to land used to protect biodiversity using CSA, in the case of the park's buffering zone. The land in the buffering zone is still allocated for food production, but with 'environmentally-friendly' techniques imposed by the park and its donors to protect and reproduce the biodiversity and ecosystems of the park.

Regarding the second sphere of the typology, namely changes in property relations, we see that loss of control and access to land by local inhabitants (peasants, pastoralists, and rural households) is verified. To analyse the changes in property relations, it is important to understand the four main groups of people that were implicated in these processes of land

grabbing: (1) rural households previously living inside the park that are already resettled; (2) rural households who received the resettled communities on their land and shared all of the facilities ('host communities'); (3) rural households that were appointed to be resettled but are still living inside the park; (4) rural households living in the buffer zone. Groups 1, 2, and 3 were in some way displaced and lost control over their means of production and subsistence. Group 4 is a typical example of not being dispossessed nor displaced but still losing control over their land since the decision on how and what to produce, and what resources to use are not in their power. Overall, the district depicts clear patterns of (re)concentration of land because the access and control over land are further concentrated in dominant social classes, involving full ownership or not.

From the Massingir District experience, it is clear that land is at the core of the attempt to overcome several capitalistic crises. The contemporary context of capitalism, calls for land-based solutions that can simultaneously answer to many different demands from the current conjuncture, particularly, climate change-related regulations and enforcements following the accomplishment of the twin objectives of (Borras & Franco, 2018): being efficient (profitable) and environmentally friendly, in the midst of what they called climate-smart land politics.

6.4 Climate Change, Synergistic Resource Grabbing and Rural Livelihoods

The emergence of a biofuel project, the implementation of a dam and the transformation of a big block of land into conservation with a very ambitious tourism project, are both supported by the district's high potential in water resources. Water control is currently shifting hands and will highly increase its concentration with the full implementation of the biofuel project, full implementation of the irrigation systems in the buffering zone of the park, and the full implementation of tourism activities that include rivers and the dam itself. In the context of the current wave of land grabs, some authors underline the concentration of control, ownership, and use of water resources in Africa, a continent that utilizes only 3.8 per cent of its water resources, and it is verified that the land that is being grabbed is high in water endowment areas (Moyo et al., 2019).

Table 6.1 Massingir District's resource grabbing, synergies, and actors

Land grabs that purportedly **answer to**	**Project**	**Actors**	**Prior use of land**	**Main driver/goals**	**Current/new use of land**
Energy crisis	Biofuel production	Foreign investors	Food production/subsistence (cattle and farms)	Environmentally friendly and efficiency	Agro-extractivist ethanol project
Climate change crisis	Limpopo National Park	Government, World Bank, AFD, KfW, Foreign investors	Food production/subsistence (cattle, fishery, and food crops)	Environmentally friendly and efficiency	Conservation, biodiversity, ecosystems, and tourism investments
Protection of biodiversity	Irrigation systems and extension of "agroecology" in the buffer zone	LNP, AFD, KFW, rural households	Food production/subsistence (cattle, fishery, and plots)	Environmentally friendly/efficiency	Protect biodiversity and ecosystems of LNP, food production/subsistence (under the guidelines of LNP and its donors), and tourism
Water/Energy	Financialization Massingir Dam rehabilitation	African Development Bank, Government	Food production/subsistence (cattle, fishery, and plots)	Efficiency and environmentally friendly	Irrigation to small, medium, and large-scale projects (including biofuel production and buffering zone), tourism, and energy production

Source: collected empirical data (interviews with rural households and community leaders) and National Government Strategies and Reports.

Looking at the 'Current/new use of land' column, it is possible to understand how interconnected these projects are, how they collaborate and what they can gain out of the operationalization of other projects. Although it might seem like different actors competing over the same block of land, they manage to establish a synergistic strategy of operating. They do it through synergistic grab and control of resources. This set of resources, including land, water, and biodiversity, and other resources maximize and answer to all of the actors' interests, whether it is accumulation or environmental goals.

On the other hand, although the twin objectives are present in all of the projects, the environmentally-friendly factor is quite determinant and most a common denominator of this capitalistic patterns of land and resource grabbing and control. That said, there has been a quite clear tendency of land-based projects to be 'climate-smart', such as in Massingir District, in other words, the tendency to ultimately follow climate-smart land politics.

Climate-Smart Land Politics and Implications for Livelihoods

Table 5.1 shows a summary of the trends of land/resource grabbing happening in Massingir District. Although 'green grabbing' and its most known implications go in line with what has been happening in Massingir District, it is important to reflect with a much broader and multidimensional lens, such as evaluating the multiple agendas and other patterns of grabbing going on and the ways they synergistically inter-relate to one another. This case portrays resource grabbing both for the profit and environmental ends, and through the 'efficiency' and 'environmentally-friendly' goals, therefore it is relevant to look at the logic behind the reallocation of land and other resources. The neoliberal logic of distribution and allocation of resources, based on the most 'efficient' and/or 'competitive' economic agent, currently extends through the most environmentally friendly use of resources and with the greatest expansion of carbon metrics to nature conservation and climate change politics (Borras & Franco, 2018).

Overall, land-based climate change policies incorporate the twin objective of combating inefficient and destructive use and users of natural resources in the countryside, especially in the global South. Land control is said to be one of the common denominators of these policies in the countryside, whether it is from biofuel production, implementation of conservation projects and REDD+ or even through CSA.

Massingir District's patterns of land concentration are an example of how a climate-smart land would look in the context of convergence of multiple crises and responses to them. It is continuously going through a transformation, mostly from land used to produce food to subsistence to climate-smart projects and investments. All of this process is regardless of the opinion and consent of the population that has to change their ways of living to accommodate such interests. In this context, the leader of Mavodze stated:

> We lived a good life from 1977 to 2001. We even had enough grazing land to our cattle. But in 2001, some government representatives came and informed us that this place, which was a hunting concession before, will be turned into a National Park. We did not agree with that. We are used to living here. The other community that lived inside the park was already resettled, and they are in a very bad situation now; they received compensation, but it is not enough! [Interview Mavodze]

These are the words of a smallholder that would rather live inside the park, constantly confronting wildlife, than being displaced somewhere where resources are scarce. Little by little, resources and agricultural land available in this particular area is becoming more and more scarce for local inhabitants that rely on it as their main means of subsistence.

To understand how rural populations' livelihoods are shaped by these predatory processes, one should understand what the set of livelihoods looked like and in which way they were transformed. According to the primary data collected among rural households, in Massingir District, most of the households engage in the following activities: (i) cattle raising; (ii) farming; (iii) hunting; (iv) fishing. Additionally, rural households follow what Bryceson called 'rural income diversification' referring to the tendency of rural dwellers to expand their income sources and not just rely on their farm work. Additionally, in the context of convergence of multiple crises, contemporary capitalism has resulted in forcing 'working people' (Shivji, 2019) or the 'classes of labour' (Bernstein, 2010a) to combine various strategies to construct and defend their livelihoods to survive. So, it is very common that these rural households engage in other activities, such as wage employment (in urban areas or even intracommunity wage employment) to meet their subsistence needs and even reproduction.

Apart from selling labour, empirical data showed that most of them engage in commercial activities such as (i) brewing and selling alcoholic beverages; (ii) producing and selling charcoal; (iii) offering traditional health services; etc. Of course, the set of strategies adopted by each household will then be determined by the amount of land and labour available for that particular household throughout time. What then has happened to this dynamic set of livelihood strategies of Massingir District's inhabitants when they face this emergence of climate-smart prioritization of allocation of land and other resources? When asked about this matter, a peasant/pastoralist responded in the following way:

> In the past, we were able to hunt, we could eat meat, but now we no longer have that right of hunting. In the past, when it was a dry season, we could hunt, sell it, so that we could afford to pay some expenses for the children in the schools, for instance. My wife is a healer. Last week, we went to the bush in search of medicinal plants, but the Park inspectors caught us and told us to go back, they said we could not take the medicinal plants. Even firewood has a limit [Interview Massingir]

To understand this further, it is necessary to have in mind all of the processes of dispossession and of grabbing control over resources. To analyse this matter, we have looked at the experience of four of the many communities that suffer some kind of dispossession or lost control of their resources:

***Table 6.2.** Communities affected by the processes of reconcentration of land in Massingir District*

Community	Description	Current situation	Risks, losses, and implications to livelihoods
Mavodze	Living inside the park and in the process of being resettled	Facing the second wave of expropriation	Unsecure and unsafe environment: people getting injured, cattle attacks, and plots destroyed by animals Restrictions on fishing, grazing land, hunting, and use of forest resources Did not get wage employment from the Park
Macavene	Previously living inside the park but already resettled in Banga	Second wave of expropriation Currently have to share the land, water, and public services with Chiangane (Banga Community)	Loss of land (were given smaller plots to share with households from Banga community) Loss of convenient water sources Did not get wage employment from the Park Diminished rights to access to resources – dependent on the goodwill of Banga inhabitants
Chinhangane (Banga)	Their area was appointed to host Macavene community in an exchange of compensation	Share land and public services with "comers"	Less land to farm and raise cattle (as they have to share with "comers" from Macavene) Increased risk of not getting enough water as demand increased Inter and intra-community conflicts
Buffer Zone communities (BZC)	Previously established in the surrounding areas of the Park	Incorporated into the project financed by AFD and KfW, including irrigation and protection of biodiversity and ecosystems of the park	Loss of decision-making power regarding livelihoods: limitations on the number of cattle to raise and the quantity of production of crops Enforcement of agricultural new techniques Restrictions on fishing, hunting, and use of forest resources Limitations regarding commercial activities, such as the production of charcoal

Source: collected empirical data (interviews with rural households and community leaders).

The Mavodze community, although they did not go through displacement, is suffering from the restriction of resources that they had access to

before, plus, they are now facing risks from living amid wildlife promotion. For Macavene, the community was dispossessed and lost access to forest resources; but they were reallocated to another land where they have to share resources that belonged to other people, the Chinhangane community. Consequently, because of the scarcity of the resources left to both communities, conflicts arose. When asked about the well-being of the recently resettled community, its leader responded:

> Things changed. First, they put us in an area that belongs to other people, other leaderships. We no longer have spaces to cut wood because when we go to the bush, people say 'no, this is my area, you cannot cut anything here', so we feel limited. The same situation for areas to practice agriculture, they already have owners. Macavene [the area where they lived before the resettlement] felt good. I had rights, I had space to research until I get the things I needed out of the forest so that I could use it. Here, I no longer have that possibility because here everything has owners. Us, men, did not suffer in buying meat, when we had an appetite to eat meat, we would just go to the bush and catch a rabbit to feed our families, but here it does not happen anymore. Even fishing, fishing is no longer easy because the areas we were used to fishing already belong to LNP.[Interview Massingir]

Nevertheless, the host community — the community that received the resettled community on their land, namely Chinhangane community — counter-argue in the following way:

> When we negotiated with the park to receive the resettled, we understood that they would compensate us, but we did not get anything. Also, the plots given to the 'comers' was land from the residents of Chinhangane, and they were plots of the residents of Chinhangane. The community is revolted and want to recover the goods that they gave to the 'comers'. Because they [residents of Chinhangane] gave their land to have some positive return, but since it is not happening, they are thinking of taking these goods back, everything they gave to the 'comers'. Maybe it is a way to solve the problem….[Interview Massingir]

On the other hand, the buffering zone residents were not fully dispossessed (they kept the land), but they are suffering from the restriction of resources that they had access to before and are going through an involuntary process of livelihood transformation. Although all of them are going through the involuntary process of livelihood transformation, each group of rural livelihoods has been shaped differently. Nevertheless, all of

them are now facing risks regarding the production of enough food and income for subsistence. As Table 5.2 shows, even communities that haven't been directly displaced or reallocated (Banga and Buffering Zone residents) are going through the same process of exponentially narrowing down the set of livelihood and subsistence strategies. Particularly, the communities being (or to be) resettled and the ones 'hosting' their resettlements are left with scarce resources to share amongst them.

6.5 Synergistic resource grabbing beyond environmental ends and capital accumulation

Similar to Massingir, there are many regions in Mozambique that are endowed with multiple potentialities in terms of natural resources and could be stages of synergistic resource grabbing of a cross-sectoral nature. The World Bank proposed and promoted several growth poles for Mozambique, aiming to 'assist' the government in designing and implementing strategies to promote private investments integrating different sectors (agriculture, tourism, mining and energy, services and transport infrastructure) in specific resource-rich areas which they refer to as Spatial Development Initiatives (SDI), connecting them with other resource-rich areas through development corridors and ultimately connecting all of them with distribution hubs to international markets. The main objective, according to them would be to find synergies among the various actors, especially the private sector (The World Bank, 2010b).

They have indicated the best prospects to be the Tete growth pole and the Nampula growth pole. Both regions have become the epicentres of multi-sector foreign capital alliances with marginal participation of domestic capital and public companies that support such alliances. Nogueira et al. (2017) and Bruna (2019b) address the case of capital alliances (particularly Brazilian and Japanese) of current and planned investments supported by the Mozambican state in the Nacala corridor that integrates the deepest natural port on the east coast of Africa — the Nacala Port — which constitutes the main exit of mineral and agricultural commodities from the country.

Mining (Vale and Mitsui with coal and phosphate mine), logistics (Vale and Japanese Mitsui), agribusiness (Brazilian Agromoz and triangular Japanense/Brazil and Mozambique, ProSAVANA), infrastructures (construction and/or rehabilitation of dams, railways, roads, ports, airports –

Brazilian Odebrecht and Camargo Correa) all seem to have their operations synergistically aligned in the corridor region. Additionally, the corridor (including connecting roads from and to other agriculture potential regions of the country) are under JICA (Japanese cooperation agency) finance. Agricultural land, minerals and other resources are being expropriated from the rural population to accommodate such alliances with extractivist agendas that support the maximization of capital accumulation of mainly multinationals. These alliances create synergies among these actors with implications to rural livelihoods.

The ProSAVANA project was designed to be a determinant element of this growth pole. It constitutes a triangular project among Brazil, Japan and Mozambique aiming at the implementation of three main activities aimed at the most fertile regions (approximately 11 million hectares). This policy was highly 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). It included around 19 districts of three different provinces of the region and it highly supported domestic and foreign agribusinesses subsidized by Japan's financial resources and Brazil's technical inputs and investors. The ProSAVANA Master Plan stated that it was aiming to transform the agricultural sector into a more business-friendly sector. However, it was strongly aligned with Vale and Mitsui interests in that region, such as the potential to supply fertilizers from Vale's prospect in phosphate mine in Nampula province (Bruna, 2019; Nogueira et al., 2017).

In sum, one might think that given that resources such as land, water and minerals (which are finite and inelastic), competing approaches within resource-seeking actors over the use of those resources may arise. However, in some cases the creation of synergies in the use of resources available is the way capitalism tends to operate. Environment is now at the forefront of resource seeking, either for alternative sources of energy such as biofuel production, for application of environmentally friendly guidelines for land use, for conservation or in order to maximize carbon sequestration. However, with a spatially integrated approach to develop alliances and projects in resource-rich areas, whether it is answering to environmental or extractivist agendas, land use is the main tool to accommodate intersectoral synergistic resource grabbing and a very suitable strategy to maximize capital accumulation in Mozambique and elsewhere. Nevertheless,

rural livelihoods also need those resources, especially with the growing number of rural inhabitants.

6.6 Chapter conclusion

This chapter aimed at understanding the dynamics of capital's multiple agendas with the common denominator being the global environmental crisis. It is through this analysis that we observe how extractivist agendas might be merged and intertwined with environmental goals, which is the main issue of question 4. Both Procana, Massingir Dam and the big conservation projects are financed and managed by external actors aiming to extract, drain and export a commodity (whether it is biofuel, electric energy or emission rights). By identifying synergies among efficiency-driven and environmentally friendly projects across sectors, one is able to further understand that those synergies, to grab and expropriate resources, are actually working for external goals (accumulation or environmental) while undermining national priorities and aspirations and local reproduction.

Climate-smart land use seems to be the current strategy of contemporary capitalism, and cases such as Massingir District where politics are driven by these twin factors (efficiency and environmental-friendliness), will become more common as climate change narratives predominate and its mitigation and adaptation policies are implemented.

The dynamics and synergies created between the implementation of these projects are clear. For instance, the biofuel project will be fed by the functioning of the dam; transformation of a block of land into a conservation area will promote ambitious goals of tourism development; ecotourism projects will use the dam to develop water sports for tourists; the dam will also be used to irrigate climate-smart agriculture in the buffering zone in order to protect the park's biodiversity. All of these interlinkages show how synergistic resource grabbing can happen as a response to the convergence of multiple crises, particularly, a transversal one — the global environmental crisis. A clear example of this is the way that the water sources are strategically expected to feed all of the projects of the blocks of land that are being grabbed: the ethanol project, LNP/tourism, and the buffering zone.

By revisiting the typology of changes in land use, as well as changes in property relations through the experience of Massingir District, two main

patterns of changes in land use were identified: (i) food to biofuel (Procana/ethanol project) and (ii) food to biodiversity. The latter emerges as the 5th pattern of land-use change that fits current dynamics of capitalism and the demand for land for environmental goals that end up being also for commercial goals, with tourism (ecotourism or nature tourism) as the main vehicle of accumulation. Consequently, changes in property relations show a high tendency of (re)concentration of land control by a group of actors: private investors and the government itself. By analysing each of the four groups of rural households that were implicated in this process of land reallocation, it becomes clear that all of them lost control of resources, even the ones that did not suffer displacement or direct expropriation, which includes the resettlement 'host' communities and the communities living in the buffering zone of the park.

The common denominator of these processes of land-use change in Massingir District is the reallocation of the land/resources and the claim to be an environmentally friendly project, whether it is to produce fossil fuels substitutes or to protect biodiversity. These claims aim to answer directly to the current global narratives and enforcements related to the convergence of climate change, energy, and food crises, but have adverse implications for local inhabitants. Taking a closer look at these processes of land-use change and property relations chronologically and complementing it with an in-depth analysis of current dynamics, it is possible to understand how cumulative effects of resource grabbing contribute to the scarcity of resources in rural societies. Consequently, precariousness, vulnerability, and conflicts emerge or are intensified as rural livelihoods are highly shaped.

Risks related to food security and sovereignty, loss of control and access to resources, the consistent narrowing down of the set of livelihood strategies, and intercommunity conflicts over scarce resources are the main implications of such emerging climate-smart land politics on rural livelihoods. Overall, local inhabitants lost not only the means of food production, but also lost the control of how and what food to produce or eat and were ultimately left fighting over the crumbs of capitalism.

Overall, climate-smart policies induced changes in land use and property relations that incited synergistic resource grabbing and multiple waves of expropriation with differentiated patterns and outcomes of dispossession, such as dispossession by reallocation, (partial) dispossession with loss of control and dispossession by the re-allocated. Nevertheless, besides

having 'environmental goals' as a common denominator of the synergistic resource grabbing, those projects had an extractivist agenda and character that should be tackled. Each of them is extractivist in nature; however, they are distinct in their processes of appropriation of resources, namely: agrarian, energy and green extractivism. The next chapter will explore the different patterns of extractivism and further develop each of those variations.

Notes

[1] http://www.limpopopn.gov.mz/about.php?header=elephant (accessed on 22nd July 2019).

[2] https://energypedia.info/images/9/95/PT-Realizacoes_do_Sector_de_Energia_2005-2008-Ministerio_da_Energia.pdf (accessed on 22nd July 2019).

7 The Rise of Green Extractivism

7.1 Introduction

The previous two chapters explored the twin objectives of efficiency and being environmentally friendly and how they relate to new vehicles of capital accumulation backed up by the fight against climate change. Chapter 6 explored how climate-smart policies are inducing land-use change and property relations and paving the way for synergistic resource grabbing with extractivist agendas. Thus, green polices and investments shall engage in processes of resource grabbing with extractivist agendas with differentiated exchange relations across sectors.

Historical patterns of exchange relations among countries are at the core of today's global uneven and disproportional economic development and global division of labour. Asymmetric and exploitative exchange relations among countries/regions can be traced back to the precolonial era and intensified in the mercantilism era, and especially in the pre, during and post-industrial Revolution period. Many global South countries such as Mozambique have always been targets of natural resource extraction and appropriation. Consequently, the country has become proper extractive hubs feeding other regions' industrialization with energy and primary commodities. Parallelly, a net importer of manufactured goods and food.

As chapter 4 showed, although colonialism played an important role in the setting up of the country with an economic framing and geographic setting that accommodates an extract-drain-and-export scheme, the neoclassical/new institutional approach of development from the national government over the last 20 years, puts Mozambique as one of the most pursued destinations for investment seeking the extraction and exploitation of natural resources with adverse implication to rural livelihoods. Whereas, chapter 5 explored the distinct feature of today's scramble, the emergence of a global environmental crisis and the green wave of resource

grabbing. A closer look at these sets of 'green policies' and their implications show that they ultimately constitute new strategies of resource appropriation and extraction that ultimately seek capital accumulation, constituting a new and greener frontier of accumulation. But resource grabbing can be done through differentiated mechanisms of resource appropriation and extraction, whether by creating new commodities (carbon permits) or by facilitating, justifying and legitimizing the extraction of old commodities. While the whole process is being sustained by green discourses of solving, mitigating and adapting to climate change. It is in this context that the concept to green extractivism is put forward, a variation of extractivism, in which resource appropriation and extraction is materialized through climate change policy guidelines and legitimized by green discourses.

This shows that there isn't a unique way of appropriating and extracting commodities based on natural resources. Extractivism comes as a process that feeds the capitalist mode of production and accumulation and it was at the core of initial phases, for instance through looting of raw materials and energy that fed the industrial revolution. It wasn't always of the same intensity. Its features and the actors involved also changed over time. It presented throughout history differentiated regimes of extractivism. The colonial regime of extractivism passed away and a new post-independence regime of extractivism arose which some would call neo-colonialism or even new imperialism, whatever one calls the persistent and polarizing resource grabbing between the global South and global North under intensification of financialization. Extractivism still lives through appropriation and exploitation of labour and nature; however, with differentiated processes of removing and appropriating in varying degrees, labour and nature values.

Thus, extractivism is here understood as a process that feeds accumulation by differentiated ways of removing and appropriating nature (natural resources) through differentiated levels of labour exploitation. The extracted commodity is transferred from region A to region B and accumulation is materialized throughout all levels of the commodity's chain, circuits and flows until it reaches region B. Region A is usually a peripheral or extractive economy and region B is usually a productive core or industrialized region where transformation, consumption and maximized accumulation happens. So extractivism implies the appropriation of

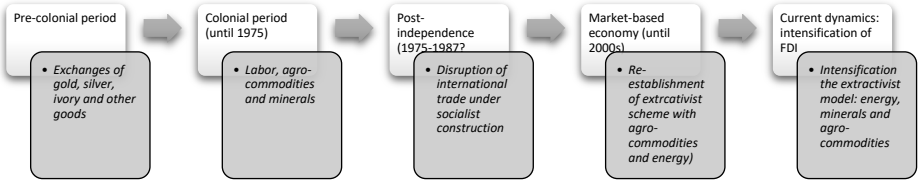
labour value and nature value from the extractive cores through asymmetric and exploitative social, economic and ecological relations. Higher costs, usually left unaccounted for such as disruption of social and economic organization, productive forces and ecological degradation, are left to extractive cores. Whereas the social and economic gains and profits are concentrated in productive/industrial regions.

Variations of extractivism may not be limited to those presented in the scheme in chapter 1. The scheme emerged as a way to distinguish variations of extractivism as a function of labour exploitation and nature appropriation. Thus, this chapter aims to explore and unpack variations of extractivism under and beyond green policies in order to transversally address the four research sub questions. By engaging in a multiscale level of analysis this chapter will further discuss the country's differentiated exchange relations across sectors using an extractivism framework. It starts by differentiating the context and the conditions in which each variation happens. Two main patterns of extractivism were identified, namely: (1) efficiency-driven extractivism and (2) green-driven extractivism. Variations, differentiated schemes and legitimation strategies are further explored throughout the chapter.

7.2. Efficiency-Driven Extractivism

This pattern of extractivism focuses mainly on efficiency goals rather than environmental goals. Efficiency-driven extractivism is basically a central feature that characterizes imperialism, colonialism and neoliberalism's exchange relations and central strategy of imperial powers, thus, accumulation. Throughout, Mozambique was a big supplier of gold, silver, ivory and labour (initially as slaves and later by exploitation of cheap labour). During the colonial period, Mozambique went through three major differentiated forms of capitalist exploitation of labour, including the export of its southern labour force to South African mines, recruitment of plantations workers in the centre (sugar, tea and copra), and forced production of cotton in the northern part of Mozambique (Mosca, 2005; O'Laughlin, 1996; Wuyts, 1980). Agro commodities and minerals have always been major exports of Mozambique through extractivist schemes.

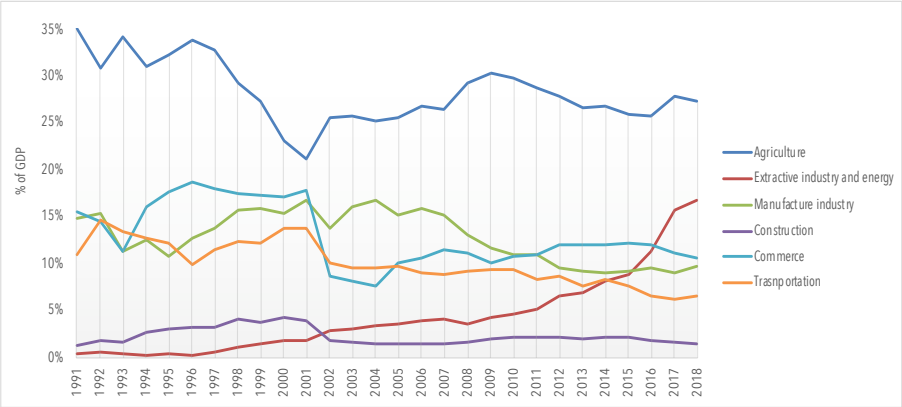
Figure 7.1: Historical path of commodity exchange in Mozambique

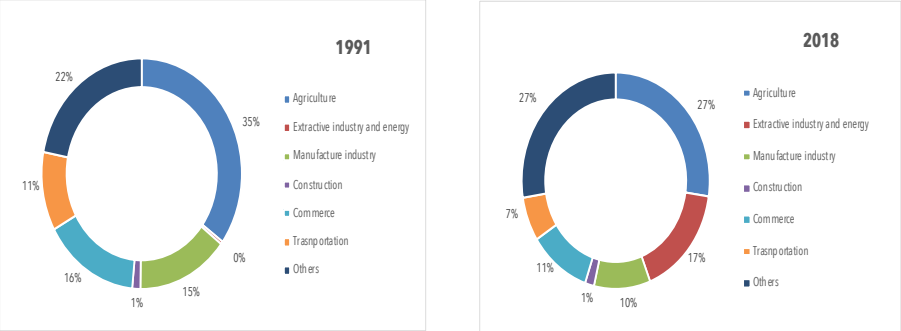


Source: author.

Within the current dynamic, the extractive industry became the sector that grew the most and went from the lowest to the second largest of the economy while the agricultural sector and the manufacturing industry diminished their importance, percentage wise. All of this is justified by the fact that investment, public spending and the political efforts of the country are more and more being directed to extractive activities, particularly extractive industry, including infrastructures and services to support them.

Figure 7.2, 7.3 and 7.4: Mozambique's Gross Domestic Product (GDP) — 1991 to 2018





Source: author based on the National Statistics Institute database (Instituto Nacional de Estatística, INE).

Moreover, the result of more than two decades of efficiency-driven foreign investment consolidated the extractivist economic framing leading to augmented negative implications of the population's well-being. The country ranked in 180th position in the Human Development Report (out of 189 countries in 2019), positioning the country in the low human development category. The Multidimensional Poverty Index shows that, based on 2011 statistical data, 72.5 per cent of the population is multidimensionally poor and 13.6 per cent are classified as vulnerable to multidimensional poverty (UNDP, 2019). Overall, poverty is still a predominant issue, approximately 50 per cent of the population lives below the poverty line, despite the 'macroeconomic successes'.

To explore specificities of the efficiency-driven extractivism in the country, we will further understand patterns of exchange relations between Mozambique and the most prominent current trade partners. By analysing the country's trade balance, we will be able to grasp how exchange relations unfold and the implications for Mozambique's productive forces, industrialization and wealth creation.

Exports: fuelling the global market's demand and BRICS' industrialization

An important indicator of an extractive economy is the structure of its exports — what sort of commodities are being exported? In what stage of the value chain are these commodities being exported? In which stage of the chain is the most value added? It is clear that Mozambique has become a major primary commodity exporter — which includes unprocessed or partially/minimum processed agro commodities, minerals and energy. On

one hand it shows the poor capacity of the country to industrialize or the unwillingness of investors to invest in the processing of commodities. On the other hand, Mozambique is fuelling BRICS' industrialization by supplying relatively low-priced raw materials and low-priced energy.

The majority of these commodities are exported to the BRICS. Even though the BRICS account for 21 per cent of the FDI, 35 per cent of total exports were directed to them, reaching a peak in 2018 (51 per cent of the total exports from Mozambique); implying that more than half of the exports from Mozambique are feeding BRICS' demands and industrialization by supplying cheap raw materials and energy. This is a significant number of exports, especially when taking into account that more than 30 per cent of total exports from Mozambique is constituted by aluminium, a 'transit commodity' for Mozambique; implying that more than half of the exports from Mozambique are feeding BRICS' demands and industrialization, as the main commodities exported are energy and minerals. The clear example of this case would be South Africa, the receptor of 21 per cent of the exports mainly composed of natural gas and electric energy.

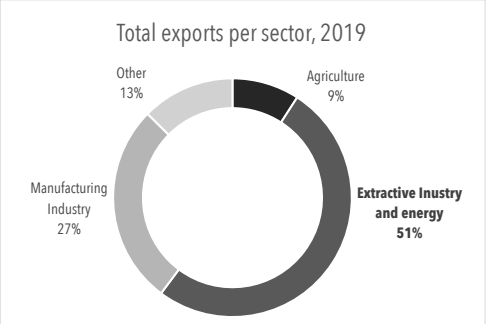
Mozambican exports clearly show the concentration of economic power in a few megaprojects and a few economic sectors (energy and extractive industry). For instance, 30 per cent of the exports in the last 15 years belong to only one company: Mozal — with a 'transit commodity' — aluminium. The last year of analysis (2019) shows that 70 per cent of total exports of the country belong to megaprojects (multinationals operating in the energy and extractive industry: predominantly Vale and Jindal (coal), Sasol (natural gas), Mozal (aluminium) and Kenmare (heavy sands). All of them, are highly vulnerable to international market price volatility — which says a lot about Mozambican economic vulnerability and external dependence.

Table 7.1: Structure of exports and destinations

Destination	Most exported commodity	% of total exports
South Africa	Electric energy, natural gas, bananas, wigs, coal	18.9%
India	Coal, beans and peas, cashew nuts, cotton	17%
China	Heavy sands, coal, aluminium	6.9%
Italy	Aluminium, aluminium wires, heavy sands, sugar	6.4%
The Netherlands	Aluminium, coal, tobacco	5.2%

Source: Elaborated based on BdeM (2019).

Figure 7.5: Exports per sector (total of 2019)



Source: Elaborated based on BdeM (2019).

On the other hand, Brazil was the major investor amongst the BRICS (essentially in coal extraction) but not a very significant receptor of commodities, but it clearly pays attention to global market demands, particularly Asian emerging markets (especially China and India). In 2018, India was the major receiver of Mozambique's commodities with approximately 28 per cent of exports directed to the country (among the most exported are mineral coal, cashew nuts, cotton and precious stones). South Africa received 17 per cent of total exports, mainly natural gas, electric energy, bananas and crustaceans. China took 5.8 per cent of the exports, with commodities such as heavy sands, timber, oleaginous products and seeds, crustaceans and cotton. The destination of Mozambican exports reveals the existence of an external market domination downstream. All of the mentioned investments, characterized by joint ventures of multinational companies, operationalize their activities through massive export of commodities, which resulted in an increase in total exports of Mozambique of more than 200 billion USD from 2001 to 2016.

Besides what is shown in official trade data and statistics, extractive activities go beyond the official and legal spectrum. For instance, studies reveal unregistered timber exports (wood logs) to China extracted from the north and centre of Mozambique based on corruption by the respective government institutions and Chinese actors (Mackenzie, 2006). So, we have to acknowledge that extractivist processes are much more predominant than what official records show.

Imports: Mozambique as a net importer and manufactured goods buyer

While Mozambique is exporting raw material, energy and primary commodities to fuel other countries' industrialization and accumulation, it has become a net importer of manufactured goods to feed the country's internal needs but also the demands of extractive foreign capital, that is, multinationals operating in extractive industries. Almost half of the total imports from 2009 and 2015 were supplied by the BRICS, with the increasing importance of China and India.

South Africa is the most important 'trade partner' of Mozambique. The protocol from the SADC agreement[1] focuses on the elimination of barriers to trade, customs cooperation, harmonisation of trade documentation, transit facilities and trade development. The effect of the agreements resulted in an unbalanced increase in imports which gives a clear advantage to the South African trade balance if we consider only flows from and to Mozambique. A surplus of 12 per cent was registered in favour of South Africa during the period of 2009 to 2015 (the difference between imports of 33 per cent and exports of 21 per cent). This increase is justified by the supply of competitive manufactured goods and diminished competitiveness of the Mozambican economy.

Besides supplying the domestic market with food and other goods, an important share of imports is mainly feeding FDI and particularly FDI in the extractive sector. According to the Central Bank report (2019), around USD 1,365 million were translated into machinery and infrastructure for gas exploration activities in the north (areas 1 and 4 of the Rovuma Basin). This constitutes a clear representation of an extractive economy in which extractivism predominates. The structure of imports shows that the domestic market needs external aid to supply food and processed goods (machinery, capital goods and so on). It does not have a high enough level of industrialization to answer to domestic needs nor does it have the ability to produce enough food for internal needs, as private and public resources are employed directly to answer to international market interests.

Although most of these projects and trade relations might be hidden in 'mutual benefit' and south-south 'solidarity' discourses, it is clear that asymmetric and uneven exchange relations have been established between them, in which Mozambique is clearly a 'loser'. These exchange relations are not only distorting the Mozambican economy, promoting inequality

(domestic and international), they are also contributing to environmental degradation and depletion of the country's resources. Such exploitative relations between countries of the global South are equally contributing to a global environmental catastrophe and climate crisis. In this context, (Gray & Gills, 2016) underline the role of these exchange relations in the changing nature of human relations with nature.

Although the current research goal is not to engage in such debate, it is important to underline the vast work of scholars focusing on south-south relations in which they show that this actually portrays sub-imperialist features with intensification of economic dependence and reproduction of underdevelopment (Bond, 2013; Gray & Gills, 2016; Moyo et al., 2012). These sub-imperial powers materialize their hegemony through extractivist schemes and processes to feed external accumulation goals. Consequently, Mozambique is exporting raw materials, energy and primary commodities to fuel other countries' industrialization while becoming a net importer of manufactured goods that feed the country's internal needs but mostly the demands of extractive foreign capital.

All of these features of an extractive economy are accommodating the development of extractive capitalism in the country rather than a productive model of capitalism that could induce sovereign economic growth that could potentially lead to a sustainable (economic, social and environmental) and equal path of economic development. This is not to say that it would be the ideal path of development, but it could be considered less harmful than the extractivist path which is a model that has a bigger potential to perpetuate underdevelopment.

Beyond the balance of trade, extractivism also frames multiple sectors of the economy to accommodate the extract-drain-and-export scheme. Because extractivism goes beyond the extraction of the commodity itself, it is also about the flows of those commodities (Ye et al, 2020) and the strategies of accumulation embedded in them. Infrastructures and transportation services are among the sectors that are mostly shaped by these dynamics.

Infrastructure, logistics, transportation and the control of flows of commodities

After the extractive industry, Transportation, storage and communication is the sector that has grown the most with regard to FDI, having absorbed

around 16.5 per cent of total FDI. Additionally, according to the 2019 Central Bank report, the sectors showing the most growth of investment (FDI) that are not megaprojects are in supporting activities such as infrastructure and railway equipment. So, the implementation of FDI and megaprojects comes along with the implantation of a set of infrastructures and establishment of regional and global circuits to drain commodities to international markets.

So, the biggest exporters are mostly megaprojects that are usually connected with big logistics projects and/or infrastructure and/or transportation companies. For instance, Sasol is amongst the first set of megaprojects to be implemented in Mozambique. It started its activities in 2001, that included the construction of an 860km pipeline to drain and export natural gas straight to a plant in Secunda, South Africa. These infrastructures directly respond to the investment interest of feeding South African markets rather than domestic markets.

In another region of the country, the great mineral coal potential started being exploited by the Brazilian Vale Moçambique in 2009, followed by a few multinationals extracting and exporting coal. After starting operationalizing their activities in Tete province, Vale sold 15 per cent of their shares to the Japanese mining, logistics and infrastructure (among other businesses) company Mitsui &Co. Both of them jointly held a concession to the Nacala Logistic Corridor that included a railway from Tete, passing through neighbouring Malawi, all the way to the deep-water port of Nacala, which was also included in the Logistic Corridor. Vale claimed it to be the biggest investment outside of Brazil, totalling USD 4,4 billion for the management, construction, rehabilitation and maintenance of the railway (912 km) and the port itself (including a coal terminal).

Additionally, the project included the construction of an airport in Nacala and the rehabilitation and construction of roads connecting coal mines to many strategic regions (inside the country and to neighboring inland countries). Vale Moçambique and Mitsui &Co not only controls the extraction of mineral coal, but also the flow of this commodity: transportation and infrastructure that supports the export of the commodity.

In the same area (centre/north — a resource rich region), the Japanese Agency for International Cooperation (JICA) financed a number of projects relating to development. The biggest project was to be implemented throughout the Nacala Corridor (an area with high agricultural potential). This agricultural project, which also included Brazil as a partner, aimed at

increasing agricultural production and productivity through differentiated mechanisms of finance. In parallel, JICA financed (through loans) supporting infrastructures, mainly the construction and rehabilitation of roads, the Nacala Port and bridges, connecting production potential areas to the Nacala port and strategic port cities within the country (JICA, 2016).

The connection between extraction sites, transportation, logistics and export-supporting infrastructures is a key feature of an extractive economy. Besides direct investment in extractivist projects, large amounts of FDI is also directed to logistics and supporting infrastructure. The Central Bank reports confirms that the balance of trade, as well as the balance of services is marked by the life cycle and stage of the investment projects embedded in the extract-and-export scheme. This is evident in the initial phases of investment where large amounts of machinery and assistance services are imported, or when the investments lead to the exportation of commodities, or even when they support the construction, maintenance or rehabilitation of infrastructures that are part of the circuits and flows of commodities from the place of extraction until it reaches its final destination.

7.3. Variations of Extractivism Under a Productivist Lens

The last section shows that the Mozambican economy accommodates efficiency-driven extractivism across sectors and is based on a diverse set of commodities being extracted, drained (transported) and exported by multinationals across sectors. It is also synergistically supported by the development of the transportation and infrastructure sector. But not all commodities are extracted in the same way or exported with the same level of transformation. Thus, processes of appropriation of resources also take differentiated features and shapes.

The different variations of extractivism reflect differentiated processes of grabbing natural resources based on differentiated ways of appropriating labour value and nature value, aiming at maximizing accumulation and surplus value (profit). Each of these processes of extracting natural resources requires a different combination of labour exploitation and nature appropriation. The different variations of extractivism explored in this chapter (but not limited to them) can combine different and varying degrees of labour exploitation and nature appropriation. The two most prominent efficiency-driven methods of extractivism were identified and

explored in this section, whereas in the next section we will explore the emergence of a third variation of extractivism under a productivist lens, the rise of green extractivism.

7.3.1 Mining and energy extractivism

One of the main pillars of Mozambique's economic policy is the intensification of natural resource exploitation in the name of development and economic growth. The energy-mineral complex is among the priorities of the Mozambican Government since the post-socialist period. Sasol is a particular case to be analysed as it was the oldest megaproject of the extractive industry and the company exports represented 5 to 8 per cent of total exports since the operationalization of the pipeline in 2004.

The project consisted of the extraction of approximately 122 million gigajoule per annum of natural gas and the transportation of it through an underground pipeline to South Africa (Secunda, Mpumalanga). The area (Temane and Pande) is considered one of the top natural gas reserves of Africa, estimated at 2.5 trillion cubic feet (TCF) or 2,700 million Gigajoules (MGJ) capacity, with an estimated potential of 3.2 TCF. The first area to be drilled would be Temane, with the capacity of producing 20-40 million cubic feet per day (AfDB, 2002).

Social, economic and environmental implications are to be taken into account. It was clear from SASOL's environmental impact assessment that the risks and hazards of such project should carefully be taken into consideration. These included hazardous and non-hazardous waste management worries, to five major concerns regarding their operations such as the release of mercury into the atmosphere, the need to control high nitrogen oxide (NOx) emissions, incineration of medical waste, and the resulting release of dioxins, or the treatment of stormwater or firewater with high levels of organic contaminants (PDA, 2001).

Although the real environmental impact of Sasol is still not clear today, the local population, that is mostly agriculturally based, claims that the company's operations are highly impacting agricultural production and have been causing ruptures in their livelihoods. Besides going through a process of land expropriation, smallholders that live in the surroundings of the drilling areas complain about changes in the environment and ecosystems that negatively affect their economic life and health. They report tremors, changes in rain patterns, decreased soil quality and productivity

and bitterness in food crops produced close to Sasol's areas. Health related issues were also reported which had strong implications to the social reproduction of the local population.

> After Sasol arrived, rainwater no longer could be drunk. Pumpkin leaves, cassava leaves and other plant leaves could no longer be eaten… They tested the rainwater and there were problems with that water, is poisoned… You can get sick. We saw that the leaves from our *machambas* [plots] changed colours and flavors… Sasol is bringing poverty, is increasing poverty. They keep destroying what the community is trying to build. (Interview Inhassoro, Resettled smallholder, Data).

Taking a more macro perspective, there are few benefits resulting from the implementation of the Sasol extractivist project. The Mozambican Government, whether it is justified by its lower bargaining power, or by the low levels of transparency in contract and concession negotiations, or corruption claims, has set a 5 per cent royalty rate. Additionally, it provided a lot of fiscal benefits to Sasol (see Table 7.2).

The study conducted by CIP (2013) shows that very low revenues are collected by the government compared with what was expected, not only because of the low royalty rate but also because the pricing agreement does not benefit the country. According to the study, Sasol purchases natural gas in Mozambique for $1/5^{th}$ of the price it sells it in South African market. Mondliwa & Roberts (2018) conclude that the biggest winners of the Sasol project and gas extraction in Mozambique are (1) Sasol, through the removal of production sharing, margin of profit based on price differences and large deductions related to capital overspend; and (2) the South African Government through taxes paid by Sasol in South Africa.

South Africa answers to its industrial policy by reducing emissions through diversification of energy sources (from coal to natural gas) and overall by feeding the industrialization needs of the country. Castel-Branco (2014) analysed three major megaprojects in the energy-mineral complex in Mozambique: Mozal, Kenmare and Sasol. He showed that the fiscal benefits (corporate tax incentives and free repatriation of capital) of these contributed to more than 20 per cent of Mozambique's GDP and less than 2 per cent of total tax revenue of the government in the first four years of generating taxable profits — between 2008 and 2012 (Castel-Branco, 2014). By combining all of their tax contribution (corporate and workers' income tax) it corresponds only to 3 per cent of their total sales,

and he underlined that revenue from workers' income exceeds corporate tax (Castel-Branco, 2014). Overall, the combination of tax incentives, free repatriation of capital and low profit re-investment rate is at the core of external accumulation and low wealth retention in the country.

Table 7.2: Example of megaprojects' fiscal benefits

Megaproject	Fiscal benefit
Vale Moçambique	Reduction of 25% on collective tax income for the period of 5 years Reduction of 25% on profits for the period of 10 years
Sasol Petroleum - Temane	Exemption of Value Added Tax Exemption of Import Taxes for a period of 5 years.

Source: CIP (2013).

The energy-mineral complex investments in Mozambique, and in particular the case of Sasol, present dynamics of 'traditional' extractivism, the same one that preceded neo-extractivism in Latin America. Large amounts of investments have been aimed at extracting natural resources, with a consolidated strategy of developing infrastructure, logistics and transportation systems to support the drain and export of these natural resources to international markets. Additionally, tax incentives do not allow for the broadening of fiscal revenue and investment in social projects (redistributive policies as it happens in neo-extractivism). Overall, the country is grabbed of its ability to win from the 'exploitation' of natural resources. The country ends up in a structural and economic framing of extract-drain-export, with its consequent land use, as well as being left with disrupted ecosystems, ecological degradation and degradation of productive forces. Consequently, it loses the ability to generate a social and economic basis or organization to achieve progress and sustainable development.

In this variation of extractivism the resources are, as Ye et al. (2020) put it, actually 'mined'. This means that natural resources are 'extracted by mining' or are literally 'mined' from the earth and become commodities to be drained/transported and sold in the international markets where they

are further transformed into final products or used as energy to feed industrial/productive cores.

For the Mozambican economy the extractivist model of development presents an important feature regarding labour dynamics, that is 'the reproduction of a labour system in which the workforce is remunerated at below its social cost of subsistence', and consequently 'families have to bear the responsibility for maintaining (especially feeding) the wage-earning workers by complementing their wages or trying to maintain the availability of the enormous idle reserve of labour'.

Additionally, because of being an extractive economy Mozambique presents many macroeconomic distortions and inefficiencies such as 'economic porosity' which is 'an inefficiency in retaining uncommitted surplus that could be utilised for the reproduction of the economy as a whole', (Castel-Branco, 2014: 28). Overall, the distortion of economic dynamics (macroeconomic and dependence intensification) and the disruption of local social reproduction processes are among the implications of Sasol's operationalization of gas extraction. However, it is important to underline the ecological implications: (1) depletion of resources of the country that are asymmetrically and unevenly benefiting domestic capital classes and elites and mostly benefiting the South African economy, industrialization, and the state; and, (2) ecological and ecosystem destruction such as air pollution, less fertile soils, possible disruption of rain cycles and contamination of food crops — that impact negatively on a household's health and ability to produce food.

7.3.2 Agrarian or Agro-extractivism

Many scholars have been relating the concept of 'extractivism' beyond the traditional dynamics of 'mining' commodities from the ground. For instance, Ye et al. (2020) argue that agriculture, forestry and fishing can also be part of the extractivist scheme of production; they state that those commodities can also be 'mined', figuratively. This is the arena of the rising concept of agro-extractivism or agrarian extractivism. 'Agro-extractivism' or 'agrarian extractivism' (Alonso-Fradejas, 2015; McKay, 2017; Petras & Veltmeyer, 2014), considered to be the agrarian question of the 21st century (Petras & Veltmeyer, 2014), is an emerging 'variantion' of extractivism in which the removal of unprocessed natural resources is done in the agricultural sector.

Whereas Alonso-Fradejas (2021) calls attention to the interrelation of agrarian extractivism and the fight against the current ecological and social crisis. He argues that biofuel and tree plantations are praised as climate stewards and vehicles of sustainable development, but in reality, they are actually a predatory form of agrarian extractivism which results in processes of 'impairing destruction' affecting everyone, but working families are hit harder, especially women.

Mozambique is a potential area for the development of agrarian extractivism. The government has been actively promoting the existence of idle land and incentivizing foreign investors to dynamize the agricultural sector, following the WB's 'campaign' since the 2008 report. In this line, and also as part of the climate change national strategy, Portucel Moçambique arises as a very promising investment with the potential to promote economic growth, rural and social development and employment generation. Portucel Moçambique was created in 2009 by The Navigator Company (formerly Portucel Soporcel group), for the implementation of the largest integrated forestry project for the production of paper pulp in the country for export.

Initially the company expected exports of paper pulp production estimated at around US $ 1,000 million per year. The company's main markets were the Asian market (80 per cent) and the European market (20 per cent). However, it became economically unsustainable (unprofitable) to export pulp — exports are going to happen earlier in the value chain. The company postponed their plans of installing a factory in the country and decided to export woodchip, approximately one million tons per year instead. However, a eucalyptus woodchip production unit has not been built, and they are already cutting down grown eucalyptus to test the export route.

The 2015 Portucel Report presents the risks (social and environmental) of implementing the project that were pointed out by the Environmental Impact Study: (1) fragmentation, alteration and/or loss of habitats; (2) loss of biodiversity; (3) water absorption by plantations; (4) increased risk of forest fires; (5) conflicts in access to land; (6) loss of agricultural areas; (7) risk of malnutrition; (8) loss of ecosystem services for communities.

The company was authorized to acquire 356,000 hectares of land for 50 renewable years. It was estimated that around 25,000 families were residing in Portucel's area in both provinces. However, so far around 3,500

families had their land transferred to Portucel. So far, 13,500 Ha of eucalyptus were planted in both provinces. According to the company, they employed 251 permanent workers and have paid 3.6 million daily remunerations (equivalent to 2,000 to 3,000 seasonal workers) from 2013 to 2018.

Land grabs, rural exclusion, disruption of ecosystems and negative developmental outcomes (local and national) have been acknowledged as major implications of monoculture tree plantations (Ehrnström-Fuentes & Kröger, 2018; Kröger, 2014; Overbeek et al., 2012; Wolford, 2021; Xu, 2019). With the state as a supporter or even a 'promoter' of such projects, these projects usually overlap with climate change mitigation and adaptation projects such as the REDD+ and CSA. This is actually the case of Portucel Moçambique and its tree plantation project that are operationalized under the REDD+ National Strategy.

A lot of changes were identified regarding land use and ownership in the areas occupied by Portucel. Overall, agro-extractivism is particularly more land-consuming and with more exploitative labour relations. The intensification of the mono-crop model of production also presents ecological implications in terms of water availability and levels of soil fertility. At the household level, the crucial factor was the decrease in food produced per household.

An interview-based study (Bruna, 2017) showed that there was a significant decrease in the quantity of food produced, when comparing production before and after the transfer of land to Portucel Mozambique. There was, on average, a decrease in production of approximately 100 kg per crop in maize, beans and cassava, which indicates a possible food deficit for the households that had their land transferred to Portucel Mozambique. Additionally, there were also changes in the production structure. Because of the decrease in land and income, households produced less variety of food crops than they did before, which may indicate a lesser variety of foods available per household.

Attention should be given to labour relations in this case. Not all labour released from the expropriation of land process was needed, but some labour was needed, especially in the initial phases of the plantation process. Two main types of labour relations could be identified in this case. The first was a big (unstable) demand for seasonal workers to clean, plough and sow vast portions of land. They were paid on a daily basis and with very low levels of daily wages. The second was basically a small proportion

of permanently employed workers in low-level positions such as guards and cleaners. Both of them claim to be badly paid for the burden of work and classify the salary as a 'survival' salary:

> … the amount [salary] is small for the work here. We work from 7h to 14h30 to receive 170Mt [national currency/day]… if at least we got 200, it will be normal. I have been working for the company for 7 years now and I got nothing. It is just enough for survival. (Worker Portucel)

Seasonal workers were also needed when rehabilitating the infrastructures to support and accommodate Portucel's operations. Roads (more than 1,000km of road), bridges and so on, connecting plantations, the company's offices and the nearest port city were financed by Portucel. Distinctive from the traditional mining extractivism, higher levels of labour exploitation and land appropriation are usually verified in this variation of extractivism. Nevertheless, disruption of local social, economic and ecological framing are equally verified in this case.

7.4. The Rise of Green Extractivism

Climate change, extractivism and the green frontier of accumulation

This section explores the dynamics of green-driven extractivism in the context of climate change mitigation and adaptation policies implementation. Nature has always been a fuel to the capitalist mode of production. Polanyi (2001) showed how the market would turn nature's gifts into fictitious commodities, from which O'connor built the argument of the second contradiction of capitalism. Commodification of nature is nothing new. What is new is that in the midst of the current global environmental crisis, within the Capitalocene, climate change mitigation and adaptation policies are further changing human relations with nature and shaping and transforming the global economy and accumulation strategies, especially for the most vulnerable countries.

Arsel & Büscher (2012) and Büscher & Arsel (2012) importantly underline the geographical uneven relations between dominant economic actors and poor populations. This calls attention to the fact that the climate crisis could 'offer' opportunities for capital accumulation embedded in asymmetric and exploitative exchange relations. In the context of carbon markets, Bridge (2011) calls attention to the rise of the hydrocarbon commodity chain, in which 'carbon economies are constituted are at the same

time processes of dispossession: resource making, then, is a form of taking or theft in which the material and cultural attachments of existing resource users are alienated'.

In a climate-smart world, mainstream are aiming urgent climate measures straight to biodiversity-rich African countries and other regions of the global South. These sets of measures mostly involve integrated land-based projects to lower emissions but most importantly aiming at carbon sequestration in poor countries to overcome industrialization damages from developed or emerging economies.

Table 7.3. *Implementation of major 'green' investments and projects*

	Hectares	Objective	Obs.
Approved 'green' investments			
Portucel Moçambique	356,000	Eucalyptus forest plantation	Implementation of CSA as a way to compensate land expropriation
Chikweti forest	63,040	Forest plantation	No resettlement
Green Resources	133,000	Forest plantation	No resettlement
Procana	30,000	Sugarcane/ethanol plantation	No resettlement
Conservation/Climate change policies			
Limpopo National Park	1,123,316	Reestablishment of a conservation area	Several communities living inside the park Implementation of CSA as a way to compensate loss of forest resources
Gilé National Reserve	286,000	Reestablishment of the reserve	Implementation of CSA as a way to compensate loss of forest resources
Reserva do Niassa	4,200,000	Reestablishment of the reserve	Several communities living inside the reserve
Quirimbas national park	750,000	Reestablishment of the reserve	Several communities living inside the reserve

Note: 25 per cent of national territory was appointed to be reestablished as conservation areas, whether as reserves or national parks. The table shows a selected group of the largest projects and investments with recent or ongoing land conflicts.

Source: direct data collection; company's website and http://www.biofund.org.mz/base-de-dados/plataforma-sobre-as-ac/?areaid=209

As shown in the preceding chapters, Both CSA and REDD+ are policies that are synergistically merged with profit-making projects/investments in agriculture, energy, extractive sector and beyond. For instance,

the tree plantation project operationalized by the company Portucel Moçambique is part of the REDD+ National Strategy and was only able to acquire 356,000 hectares of land if the company implemented a social development plan that included providing inputs and technical assistance that enforce the implementation of CSA in smallholders' farms. Also, in the same context of mitigating and adapting to climate change, the National Strategy for biofuel production aims to promote biofuel production in the country mainly for export, such as the case of Procana — an agribusiness investment in Massingir that aimed to acquire 30,000 hectares of land to produce ethanol mainly to export to South Africa. So, a set of capitalist agro-extractivist projects with high profit margins expected are justified and legitimized by green discourses, particularly, claimed to be strategies to mitigate and adapt to climate change.

On the other hand, discourses around the need of intensifying the so called 'clean energy' investments as a way to combat climate change are predominant globally. The construction of dams, eolic energy projects, solar energy projects, or even the prioritization of natural gas over fossil fuels are also large-scale projects and investments that are legitimized by the fight against climate change, but are in fact, profit-making opportunities subsidized by cutting into necessary consumption of rural populations.

Overall, an emerging restructuring of the global economy leaning towards the 'greenization of the economy' throughout all levels of the value chain is observed. Meaning that investment portfolios, production processes, packaging, distribution, markets and consumption are all following the emission imperative: reducing emissions or turning greener, or at least that is what they claim to be doing. However, in reality these green policies and discourses are actually creating new spaces, opportunities and even commodities that ultimately aim to increase accumulation in the name of the fight against climate change, which constitutes a new frontier of accumulation legitimized by green discourses.

Thus, again, poorer global South countries will have their resources extracted as a way to respond to global (and especially industrialized countries') demands and interests. Differently from past centuries in which efficiency-driven extractivism dominated, the rise of the emission imperative re-directed extractivist activities towards greener paths of accumulation and extraction are becoming evident. Emission rights and carbon permits constitute the new commodities being extracted. The next section will explore these dynamics through the lens of the REDD+ implementation.

Green extractivism in Gilé National Reserve and REDD+

With the intensification of climate change policies and the emergence of the green frontier of accumulation, the 'new scramble for Africa' (Moyo, Jha & Yeros, 2012) has become 'greener' than ever and the dominant issue when designing policies and investments projects. And these projects or investments seek appropriation and extraction of resources to feed their accumulation goals, whether it is land, minerals, water, biodiversity and so on. Some even engage in the same extractivist scheme of extracting-draining-and-export as is the case of Portucel Moçambique.

But a closer look at these processes tells us that those 'tangible' resources are not the unique resource that is being expropriated and extracted. In a world where 'emissions' have become a top priority and monetized, these processes require additional attention. The implementation of REDD+ in the Gilé National Reserve calls the attention to how emission rights are being expropriated from the rural population and transferred to potential buyers, all in the name of fighting climate change.

Smallholders residing in the surroundings of the reserve (including the buffering zone) are highly dependent on forest resources for their subsistence. Households' livelihoods are structured as follows: 52 per cent forest resources (1-firewood; 2-hunting; 3-fishing; 4-others); 32 per cent agriculture; 9 per cent domestic animals (pigeons, chickens, pigs); and 7 per cent alternative strategies. With the implementation of REDD+, smallholders' livelihoods went through a shocking rupture and now they struggle to get food and income (as shown in the preceding chapters).

Also, data collected in the field indicates that implementing CSA did not compensate for the loss of livelihoods. It is actually a strategy to protect the biodiversity of the reserve, as the main goal here is carbon sequestration and sale rather than improving livelihoods. What is happening here is that a new commodity is born — carbon permits and it is born by cutting into the necessary consumption of rural households and a diminished household ability to produce food and cash crops. Besides implementing these projects, a percentage of the sales of carbon permits are supposed to be channelled to the benefit of these communities, however, after 10 years of REDD+ none of those financial benefits have reached them.

The Reserve has a potential of producing around 330,000 Verified Carbon Units (VCUs) within five to six years' time, that would be confirmed

by the verification process (FFEM, 2007). The process of extracting carbon permits ('emission rights') includes different stages, since carbon offset valuation processes all the way to sales. The structure of the value chain shows how different actors accumulate in different stages of the value chain that is controlled by a group of stakeholders (See Figure 5.2 - carbon commodity chain). Thus, similarly to efficiency-driven extractivism, the flows and circuits of commodities in green extractivism should be taken into account. As the carbon commodity chain shows, the flow of carbon permits, from production to consumption, imply profit and gains from multiple actors in different phases of the chain.

The way this commodity is created, produced and sold imply processes of removing/denying the ability of the local population (and countries) to exercise their emission rights and to benefit from the natural resources that the reserve area contains. By analysing the implementation of REDD+ on rural livelihoods, it was clear that there was a cut in smallholders' necessary consumption. And although CSA was used to compensate for the loss of forest resources, it actually forced them to change their traditional ways of farming and adopt new techniques that are, according to the implementing actors, lower in emissions. So besides being expropriated of forest resources for the sake of carbon sequestration, smallholders are being expropriated of their emission rights of their own farms.

So, green extractivism implies the appropriation, extraction and transfer of emission rights where the expropriated are being grabbed of resources determinant for their social reproduction as well as their right to emit. Green extractivism, in the case of conservation areas, distinctively from other cases and variations of extractivism, does not necessarily imply (direct) environmental negative implications (pollution, loss of biodiversity, etc) in the extracted host country. However, it grabs the ability of the local population to reproduce themselves by using or benefiting from their natural resources (biodiversity, forest resources, emission rights and so on).

It implies limitations for the social productive forces of the region — protecting biodiversity at the cost of rural livelihoods. Nevertheless, it implies (indirect) degradation of the environment elsewhere by opening up spaces and opportunities to further pollute elsewhere. The multinationals buy 'emission rights' at productive cores, which is another way that extractive cores feed industrialization elsewhere, besides supplying raw materials or energy. What is being 'mined' is carbon credits (emission rights)

that result in the rupture of rural livelihoods: through forest resource grabbing ('green grabbing'), control of land and expropriation of emission rights. This case shows how global policies to overcome climate change are actually creating local adversities, feeding external industrialization and accumulation.

Green extractivism beyond REDD+

The previous section aimed at understanding what green extractivism is and how it unfolds, and what are the implications with regards to accumulation, appropriation and social reproduction. But REDD+ is not the only case where green extractivism can be observed. This new (green) frontier of accumulation created by global concerns around climate change comes with extractivist mechanisms that support processes of uneven distribution of gains and losses based on varying processes of appropriation of natural resources and labour exploitation.

For instance, the case of Portucel Moçambique would also fit in the green extractivism framework as its strategies of accumulation go beyond appropriation of land, but also goes hand in hand with climate change mitigation policy as tree plantations are part of the Mozambican REDD+ National Strategy. Besides being integrated in the REDD+ National Strategy, the case of Portucel goes further in the greenization of its capital accumulation in so far as it is enforcing CSA to smallholders residing in those 356,000 hectares. Consequently, smallholders' farming emissions are reduced by expropriating them from their emission rights. Again, emission rights are being grabbed from smallholders as they adopt these new techniques promoted by the company and the IFC. All of this, while the company aims at the mass production of eucalyptus logs for export. Similar to the Gilé case, Portucel's resource grabbing is being facilitated and legitimized by green discourses. But distinct from green extractivism happening in Gilé, the case of Portucel implies local direct adverse consequences to the environment and destruction of biodiversity and ecosystems.

Many other policies, financing and investment promoting biofuel production, renewable energy projects (based on water, solar and wind energy) and natural gas extraction are also backed up and legitimized by climate change narratives and green discourses. Those narratives and discourses facilitate resource appropriation and extraction based on unfair, asymmetric and exploitative social, economic and ecological exchange re-

lations. Overall, green extractivism encompasses green discourses and policies aiming at emission reduction that are used to justify and legitimize resource appropriation and extraction.

As the case of Portucel depicts, variations of extractivism may not always be operationalized independently of each other. A synergistic fusion between agro-extractivism and green extractivism is observed. Another example is the Massingir district, where the same block of land is subject to a host of multiple investments and projects with an extractivist nature: (1) Procana - biofuel production, (2) Massingir dam, (3) Limpopo National Park — this is a large conservation project right next to the dam. These projects were able to create interconnections between variations of extractivism and were able to create operational synergies in order to facilitate resource grabbing and maximize accumulation at the cost of rural livelihoods. These synergies between variations of extractivism may be based on shared infrastructures to drain commodities (construction of ports, roads and so on), projects to facilitate operations (dam to irrigate a biofuel production investment and to provide electricity to industrial poles) or even the case of the same project synergistically serving as a conservation project and tourism attraction.

7.5. Conclusion

Extractivism is not only about what is taken, nor what is left, but is at the same time, about what was lost and can't be recovered. Some of these include economic productive forces and organizations (that permit sustainable development) and resources determinant to local social reproduction, opposite to patterns of perpetuating underdevelopment. This chapter attempted to further understand differentiated dynamics of extractivism across sectors and, particularly, emerging patterns of extractivism amidst climate change narratives. This chapter attempts to show that in this distinct phase of the Capitalocene periodization, where there is growing awareness and concern regarding climate crisis, environmental degradation and resource deployment, a new variation of extractivism is emerging — green extractivism. By exploring and unpacking variations of extractivism under and beyond green policies, the chapter tackled the central question of this research and transversally contributed to answering the four sub questions. Thus, it puts forward an emerging green-driven variation

of extractivism that goes beyond the historical and classic patterns on this matter.

Though it is important to acknowledge that the historical past of Mozambique (precolonial and colonial period) left behind extractivist economic framings and social organization that do not sustain the development of productive forces to achieve a sovereign, sustainable growth and development. But it did not take long until neoliberalism dominated in the post-independence period right after the adoption of structural adjustment programmes, where that economic framing and social organization easily accommodated external resource-seeking investments with extractivist agendas. Most of the infrastructures that connect resource rich regions and export points were already in place since colonial times, most of them were rehabilitated or updated according to the recent plans.

As many studies show, extractivism goes beyond extractive industry and keeps migrating to other sectors. With the emergence of the green new frontier of accumulation, the rush for resources is changing in its nature but not in its essence, appropriation and exploitation are still necessary conditions, but the discourse around it has changed. It is all about emissions now. It is strategic to legitimize resource grabbing using the fight against climate change. It is based on new commodities being created and exchanged and accumulation realized. Thus, intensifying the extractive character of the Mozambican economy.

Grounded in the new frontier of accumulation, this variation predominates in the new spaces that capitalism creatively identified as 'greener' accumulation strategies. Although it also considers labour exploitation and nature appropriation, this variation underlines ecological exchange relations injustices between regions and actors. Constituting an important tool for both agrarian/climate social movements and a relevant input to be considered in the debates and action toward climate justice.

It is important to distinguish each variation of extractivism, their global dynamics and their distinct implications on the ground, locally and nationally, as they must be delt with differently. This chapter showed how global processes and policies can impact local rural societies through exploitation and appropriation. It was clear how localized injustices are subsidizing synergistically global environmental goals and capital's accumulation goals. To accomplish these two goals is crucial to capitalisms expanded reproduction in the current juncture, where limitations and opportunities are grounded in the climate crisis and the policies to address it.

One important factor to be underlined here is the fact that the weight of climate crisis resolution might be falling on the shoulders of actors that did not contribute significantly to the current global environmental crisis, not the local population where such projects are implemented nor the country where such policies are enforced; however, the adversities are unfairly falling on them to accommodate demands, ways of life and production processes of industrialized and richer countries. This will be further discussed in the next chapter where rural livelihoods and social reproduction will be analysed.

Overall, countries like Mozambique are exempt from using their resources (raw materials, energy, emission rights and so on) for their own good, to satisfy its domestic needs and goals and fuel its own growth and development. Besides fuelling external market demands, international industrialization and accumulation goals, the country is actually undermining its own ability to focus on its real priorities such as production of food, diversification of the productive basis and development of industrialization and productive forces, and consequently failing to achieve sustainable and equal development.

Notes

[1] http://www.sadc.int/documents-publications/show/Protocol%20on%20Trade%20(1996)

8 Understanding Livelihoods, Social Reproduction and Reactions

8.1 Introduction

The preceding chapter puts forward the central argument of this research. Each variation of extractivism actually portrays differentiated outcomes, implications and reactions. Similar to efficiency-driven investments, the implications of the implementation of green policies, include land expropriation followed by the known implications of resource grabbing on rural households that highly rely on land for their subsistence. Additionally, labour exploitation is also observed in relatively intensive labour investments such as biofuel production and tree plantations. The point is that there is an underlying common issue regarding extractivism, present in all study sites, that it is done through cutting into the necessary consumption and self-exploitation of labour of rural lives and households. Whether it is by expropriation of land and forest resources, or by further exploiting rural women's labour to subsidize household's social reproduction or even by extracting emissions rights.

Besides labour and land, other constituents from nature are equally crucial to analyse rural livelihoods and social reproduction. Biodiversity, forest resources, soil, air and water quality are some of the 'assets' that rural households rely on for their subsistence. This research aims to explore the role played by ecological assets in rural livelihoods and acknowledge ecological losses undergone by rural population in the context of resource grabbing. *Ecological assets* are here understood as the set of organisms or components found in nature that are at some point useful, determinant or that contribute to social reproduction of rural households. From fauna, flora, water, soil (quality), forest resources, rain, ecosystems to the rights of carbon emissions. Everything from nature's gift that a rural population has access to and that contributes to the reproduction of rural livelihoods and well-being.

By centring the triad land, labour and nature, this chapter will explore the implications and outcomes to rural livelihoods and social reproduction. It is known that as a result of decades of efficiency-driven extractivism, the country persists in high poverty indexes, most predominantly in rural areas (50.1 per cent), (MEF, 2016). Rural social exclusion and loss of livelihoods are common, as are the converging implications of such investments, but not all segments of the working people are affected or react in the same way. Pre-existing structures and inequalities, that resulted from the historical colonial path, economic, traditional and legal contexts, determined how heterogeneous a rural population is; and consequently, how differently they experience and react to processes of land grabbing. This chapter aims to understand the differentiated outcomes, implications and reactions of each segment of the rural population, using the theoretical lens of Shivji's concept of working people.

Another important factor to be considered in this analysis is the fact that investments follow a new institutional approach of implementing mechanisms to incorporate smallholders in development or to compensate smallholders for their losses, mainly expropriated land. These mechanisms include social responsibility and development plans, community development plans for income generation, creation of employment and so on. A critical examination of such policies is presented, by looking particularly at smallholder's integration strategies that were materialized through corporate social development plans. Thus, the present chapter aims to further understand the differentiated ways in which implications, outcomes and reactions unfold focusing on the triad land, labour and nature as determinants of rural livelihoods.

8.2. Livelihoods and Social Reproduction: Land, Labour and Nature

Historical processes of agrarian transformation as a result of colonialism and imperialism are still present particularly with regards to rural livelihoods, land distribution and vulnerabilities. In the specific case of Mozambique, imposition of taxes on the native population, labour exploitation, taxes and dividends from concessions of land to foreign investors and the plantation economy were the main features of Portuguese colonialism. This historical path set the stage to multiple changes in rural livelihoods.

Semi-proletarianization started right after the intensification of gold demand from the Portuguese crown, when peasants would divide their time between the gold mines and the farm for subsistence. Market integration and diversification of rural livelihoods while maintaining the smallholders' link to the land in order to provide them with subsistence is a clear continuity of colonialism. Maintaining smallholders' farming of the land to get food while parallelly exploiting their labour was and is a strategy of capitalist classes to subsidize and smoothen their own activities and capital accumulation. Peasantry resisted and exercised their agency by choosing and creating their own strategies of livelihoods and survival (O'Laughlin, 2002).

Throughout time, rural households resisted, adapted and incorporated multiple livelihood strategies. Nowadays, diverse combinations of strategies are to be found in rural societies. Households combine multiple strategies according to the availability of means of production (land, labour and ecological assets) and those are segregated into two main groups: on-farm strategies and off-farm strategies.

Table 8.1: Complex of rural livelihood strategies

Strategies	Dynamic combination of Household's land and labor
On-farm	Subsistence agriculture
	Commercialization of surplus
	Commodification: Outgrower scheme Direct market integration
Off-farm	(Semi-)Proletarianization Formal employment Informal employment (extra and intra community) Migrant wage labor
	Forest-based strategies (hunting, fishing and plant-based resources)
	Migration to urban areas
	Services (such as healers)
	Commercial activities (selling charcoal, local alcoholic beverages, etc.)

Source: Author based on empirical data.

According to Bryceson (2002) non-farm sources of African rural household's income (specifically Ethiopia, Nigeria, Tanzania, Malawi, Zimbabwe and South Africa) constitutes roughly 60 to 80 per cent of total household income. In a context of diversification of livelihoods, land ownership is a key determinant to secure food production, however, the

amount of labour available to each household and the amount of ecological assets accessible to each household will also have great impact on food production and availability. Usually, households would adopt a combination of multiple livelihood strategies where the combination of available land, labour and ecological assets, puts limits on each household's choices and determines the bundle of choices available to each of them.

It is clear that both drivers of resource grabbing, efficiency and green-driven, rely highly on land. Previous chapters showed how land use change has been unfolding in rural Mozambique. The convergence of efficiency-driven and green-driven resource grabbing and extractivism are changing land use from food purposes (subsistence agriculture and social reproduction) to accommodate efficiency and environmental goals that synergistically seek accumulation. Rural settings are being transformed into extractive arenas, from where resources are extracted and transferred to other regions in the world through consolidated support infrastructures including pipelines, roads, railways and ports.

Regardless of expropriation and displacement, rural populations and smallholders keep their relationship with the land even if in smaller or more distant plots and still rely on land to meet food needs; even if it meets a relatively smaller share of food needs. Castel-Branco (2018) states that the persistent link to the land is highly strategic in order to subsidize capital with labour while keeping wages low.

Some of these climate-smart land-based projects, such as REDD+ and CSA (as was explained in the previous section), rely in the fact that even if the smallholders are not expelled and keep their land, they are pressured into changing their ways of production to more environmentally friendly ones. The projects enforce the application of climate-smart principles to produce food in order to keep emissions to a minimum, a clear new way of land control.

Because these forces of expropriation are extractivist in nature, the relative surplus population is exacerbated. Employment creation is not proportional to the exponential growths of land reallocation and expropriation. Most of the investment, particularly in extractive industry (mineral resources and energy) are capital intensive instead of labour intensive.

The increasing levels of land expropriation reshape labour relations between the households and the company and among the household of the expropriated community. These labour relations are reshaped in two main

given situations. The first is when land is needed and labour is not (Li, 2011) which results in close to zero absorption of labour by the company. In this case the diminished land ownership by rural households is not compensated by applying their labour in the company or project's operations as seen in the Sasol case or the Gilé case.

The second case would be when labour is needed, but there is no full absorption of it by the project, as seen in the Portucel case. Those who get employed usually own large plots of land even after being expropriated and they are usually better off. This changes the labour relations within the community as poorer smallholders — both men and women — hire out their labour to better-off employed smallholders — usually men — while still connected to their smaller plots. It is a fallacy to believe that better-off individuals (employed and with bigger plots of land) are satisfied with their conditions. Even those that get employed, are still in a situation of high labour exploitation.

It is important to underline that in both situations, usually men from poorer households, opt to migrate to look for employment opportunities (mostly informal) in peri-urban areas, while leaving the farm duties for the women, who become responsible for the household food needs and reproductive labour. This kind of household labour division further exploits women's labour and role regarding social reproduction as they also engage in intracommunity labour markets to meet household needs. With the emergence of these new labour relations among and within the community households, the land's role as a means of production and subsistence becomes smaller as it contributes less and less to fulfil their subsistence needs. They become more reliant on their own labour exploitation to survive. Not only for the loss of land, but also for the loss of nature (ecological assets) as will be further explained.

The combination of land availability and the exploitation of their own labour (on and off-farm) will highly determine rural livelihoods strategies. These contributions underline the first contradiction of capitalism, that is, capitalist exploitation of labour released from expropriation of land. Thus, it pays less attention to the second contradiction, which centres nature and the current environmental crisis in the resource grabbing and accumulation debate. Although when referring to 'land' grabbing, authors usually mean all the resources *in it*, there is still the need to underline the ecological value of the land itself and of the land they have/had access to (forest resources, rivers, biodiversity, and so on). This is a way to identify and

acknowledge the value of those sets of ecological assets that are being grabbed, expropriated or taken control of (even without expropriation). Underlining, per se, the exchange value of nature itself that O'connor (1998) refers to.

The work of Scoones (1998; 2009; 2015) incorporates 'natural capital' or 'the environment' (Scoones, 2009: 177) as one of the key elements of rural livelihoods' framework as a group of resources that contributes to the generation of people's means of survival. The framework is highly relevant for policy makers to take into consideration, because of being a broad description of rural livelihoods; however, its static nature limits the analytical ability of the framework. As a result, it does not answer to the question of access (under what conditions who gets to access to what), it does not deepen the idea of how livelihoods are shaped by access or control of those resources.

Natural destruction, depletion and expropriation of ecological assets are to be considered. It is worth pointing out that the study sites analysed in this research showed that ecological losses were incurred. The main losses of ecological assets, that were determinant for their livelihoods and social reproduction, that the households identified can be segregated into four main groups: (1) loss of forest food sources (animal and plant-based): mushrooms, meat (gazelles, rabbits, rats and other small animals) and fish; (2) loss of forest sources of inputs for off-farm commercial activities (income): for the ones that were selling honey, forest resources for craftwork or medicinal plants for traditional healers, and so on; (3) forest sources for improving their living conditions: straw and wooden sticks for construction work (houses, stockyards, and so on), forest resources to build furniture and home accessories, roots for oral hygiene and other purposes; (4) for health purposes and traditional endeavours: such as the medicinal plants used for a traditional rite/ceremony that took place once a month in Gilé (hunting of gazelles for the event is done by all the men from the community called *cabeça*).

Thus, by analysing the ecological losses, it is possible to identify additional injustices and grasp the full picture of what is being expropriated and grabbed. Also, one gets a better idea of how and in which proportion or level those losses are actually undermining the local social reproduction ability of the households in particular, but of the 'community' in general.

These sets of ecological assets are crucial for rural livelihoods and their social reproduction as they provide sources of food, components for food

production and constitute a solid source of income. The loss of ecological assets should be placed in an important position when analysing rural livelihoods and social reproduction, particularly in a context of resource grabbing. Because, as was shown throughout this chapter, overall, social reproduction of rural livelihoods is based on a dynamic complex of land ownership, household labour relations and access to ecological assets with varying shares regarding to their contribution to subsistence.

8.3. Implications and outcomes to social reproduction

Most cases of land expropriation and resource grabbing tend to involve some kind of compensation, whether it is enforced by law (the case of Mozambique and land expropriation), or the promise of employment creation, or through corporate social responsibility and community projects. The central questions become: 'was the compensation sufficient to cover the losses incurred by the households?' and 'was it fair?'.

In the four cases explored in this research, a kind of compensation was promised (see Table below), but not all of the households were eligible — meaning that there were households that were not compensated at all. This means that some were compensated or benefited (by being integrated in a social development project), others were employed (permanently or seasonally); but, was that enough and fair? For some, the compensation mechanisms are still unfair and they are still being exploited and excluded but other accumulation from below was possible. This section aims to further explore these issues.

Table 8.2: Compensation mechanisms

Study Site	Compensation mechanism employed	Description
Portucel Moçambique	PDSP mainly based on CSA	Only selected people got full benefits
	Employment creation	Only selected people got permanently employed
Sasol	Corporate Social Responsibility	Only selected beneficiaries (none of the expropriated got selected)
	Health, education and other facilities	Appointed areas to be implemented
Massingir	CSA for the communities in the buffering zone of the park	Only selected people got full benefits

	Resettlement for the communities living inside the park (new houses and plots)	Sharing education and health facilities with host communities
	Employment creation (for Procana)	Not implemented
Gilé National Reserve	Community development projects (income generation)	8000 beneficiaries out of 14 communities with 15000 families
	CSA	700 current beneficiaries

Source: Author based on empirical data and official records from the projects.

Nevertheless, independent of which kind of compensation mechanism, the implications and outcomes of those investments, distinct segments of the working people were differently affected by the process of resource grabbing. However, there are some converging outcomes with which most groups of the rural population agree.

8.3.1. Converging outcomes and implications

Beneficiaries: erratic and inefficient implementation of compensation mechanisms

The community development projects based on CSA aimed to increase the productivity of smallholders' farms by providing agricultural inputs and technical assistance, and to compensate the loss of protein by providing livestock. The beneficiaries across study sites where CSA or other social development plans were implemented (such as Sasol) acknowledged that they have been receiving some inputs (seeds, tools and livestock) and technical assistance, however they identified some inefficiencies during this process.

Usually, seeds were distributed very late in the season, which ended up jeopardizing production. Most of the time the inputs were not enough for all of the beneficiaries and they prioritize the leaders or the leader's relatives. For the few that succeed in increasing productivity, they ended up with their surplus rotten because of a market shortage or difficulties in reaching urban and peri-urban markets.

> Last year we produced peanuts, and the NGO told us to do so in our fields, but we couldn't find buyers. The production just stayed there. We are eating one share, but the other share is just rotting (Beneficiary smallholder Gilé, November 2019).

> …yes, they distributed seeds including beans and maize. But because the soil is not compatible, they have to change to other seeds that are compatible here… most of us are asking for seeds that are compatible to our land. For example, peanuts, beans [a different type of beans], because maize does not grow here, maybe with manure. [Community Leader, Portucel, Ile, 2019]

Although this group received 'something' in exchange, they still face economic problems because these initiatives are far from compensating the loss that rural households went through when their access to the reserve and its forest resources was restricted.

Non-beneficiaries: unkept promises and intensification of poverty

The scenario becomes even worse for the ones that are not benefiting from the compensation mechanism projects because they did not get any of the 'benefits' described above, although the investments/projects promised they would get them. A lot was taken, but they got nothing in exchange. And this group constitutes the majority of the expropriated and affected.

> We don't go inside the reserve anymore, but we don't see the benefit in doing so. Because they don't keep their promises. Those who were selected by COSVE see the benefits. While us, who are outside COSVE, we have no benefits at all. The ones outside COSVE receives nothing in exchange. (Non-beneficiary smallholder, Gilé, November 2019)

Besides not getting any benefits, the feeling of worsening livelihoods and subsistence is clearly exacerbated in this particular group. They lost access to forest resources that were determinant for their livelihoods, not only for the supply of protein and other foods, but also to support small businesses within the community. For the people that didn't get the promised benefits such as permanent jobs, after being expropriated they feel increasing poverty:

> … our life is worsening. There are people working there, but those people are not from this region, they are people from outside… and we are here suffering, like we are animals, we are people. Those people work there as cleaners and so on, is it that we, in this region, do not know how to clean? How to make beds? The things that they do there, we can also do. That is why poverty here is increasing. (Interview Inhassoro, Sasol expropriated smallholder, Data).

There was a rupture in their livelihoods without any compensation for it. Not even an erratic and inefficient one. This group of smallholders see themselves in a worse poverty scenario, food insecure and with levels of nutrition that are far below acceptable, both in relation to their past scenario and in relation to the other groups of smallholders (the beneficiaries).

Uneven trade-offs: unkept promises and livelihoods left to worsen

'We kept our promises, they didn't' — this was a very recurrent phrase among the interviewees, both beneficiaries and non-beneficiaries, while explaining that everyone was promised agricultural inputs, employment and a better quality of life in return. Along with the sense of unfairness and injustice regarding the trade-offs of this process:

> I myself was going to ask for a job to support family. So that we don't always think about what we lost in there [reserve]. Because the person, when he works, waits for his boss, for money. To have a salary at the end of the month. They only provided inputs. (Beneficiary smallholder, Gilé, November 2019)

There was convergence with respect to the unfair and insufficient compensation of the community's total losses. Both beneficiaries and non-beneficiaries claimed that there were uneven trade-offs between what the community lost and what they gained in return. However, while the non-beneficiaries don't see any benefit coming from the implementation of the project, the ones who got the chance of benefiting, point out some benefits, however they considered them not to be enough to compensate their total losses. In sum, the implementation of these projects was negatively perceived by smallholders, either to have provided insufficient compensation or to have intensified the levels of local poverty.

8.3.2. Differentiated implications and outcomes to social reproduction

The last section showed how this process of land expropriation provided unfair and insufficient the compensation for rural households in a context where their voices were not heard and the repressive mechanisms that were put in place in order to accommodate external interests. With the exception of local elites, there was a convergence among the interviewees that the PSDP and the employment opportunities provided by the company was insufficient to cover their losses. This process of land acquisition

was negatively perceived by most households and is believed to have intensified localized poverty.

But the affected rural households did not constitute a homogeneous class. On the contrary, factors such as class, gender, kinship, age and so on, segregated the working people into different groups that went through differentiated experiences, terms of incorporation and outcomes out of this process of resource grabbing. In other words, local pre-existing historical and conjunctural inequalities within rural societies highly shape dynamics of incorporation and determine the experiences of each segment of the working people.

It is important to clarify that the segments of working people are not clearly delimited and segregated. They may present grey boundaries and households that migrate from one segment to another or even belong to multiple segments. For the purpose of this chapter, the most prominent groups of households were segregated according to their main characteristics and similarities in terms of their experiences and outcomes, without undermining the analysis and conclusions.

So, in order to explore this issue, this chapter looked at the following four segments of the working people and their experiences and terms of incorporation: (1) beneficiaries of compensation mechanism which constitute the 'better-off' segment of the working people which includes permanent wage workers and beneficiaries of social development plans; (2) poorer peasants including those that were erratically/partially benefited from compensation mechanisms or those who were not at all benefited from them; (3) peasant women, both married, unmarried, young and old; and, (4) local elites who are a small sub-segment within the 'better-off' categories, but with higher privilege worthy of their own category.

Gender inequalities are very clear and culturally present in this particular area and because women usually undergo multiple forms of marginalization within and outside the community, it is indeed relevant to underline their experiences. Whereas local elites are a product of precolonial, colonial and post-independence rural structures and traditional native leaderships that had access to opportunities of accumulation from below (either based on owning larger plots of land, appropriation of economic assets left behind by colonial investments, or even based on links to the revolutionary force – Frelimo – the party in power ever since the independence).

Beneficiaries and wage workers: more land, higher benefits

Most of the households that are endowed with larger plots of land are able to diversify the allocation of the land. Beneficiaries (as shown in the previous section) were able to better enjoy the opportunities offered by compensation mechanisms as they had enough land to produce for the market and for their own subsistence, maximizing the benefits provided by these projects (see the case of Gilé). In the case of Sasol, beneficiaries of income generating projects were visited and during fieldwork it was possible to identify multiple beneficiaries, who were not even expropriated, having relatively successful micro business with livestock and egg production.

But the case of wage workers may go even beyond that. In the case of Portucel, some were able to transfer large amounts of land to the company and keep enough land to continue practicing shifting agriculture, while others did not. The more land you transfer to the company, the more benefits you would get from it (employment or being a PDSP beneficiary). Those who gave larger amounts of land were selected to be permanent employees.

Because they owned more land than relatively poorer peasants, they were able to transfer plots of land to the company and remain with smaller plots for their own subsistence and they were the first to be called and offered a job. Being employed means that they get a fixed monthly income that is partially invested in the farm (inputs and labour) and they are able to produce enough food and cash crops to sell in the markets. They begin to hire in labour (approximately 5 to 8 people plus their wives) for their farms — usually women and poorer peasants. On top of the benefits of being employed and receiving seeds, this group also usually receives technical assistance on farms as part of the PSDP, which poorer peasants do not.

To have access to employment in rural settings implies that you will have the means to buy inputs, hire in labour and increase production levels and even sell your surplus. This segment presents some particularities that are ought to be underlined. They are usually men who had relatively larger plots of land that were not in use or used as fallow in subsequent seasons or to distribute among the next generations.

Nevertheless, accumulation from below and significant life improvement was not confirmed during the interviews. Wage workers would

acknowledge the benefits of a monthly salary but would complain about the burden of work versus the amount of money they received. A permanent worker — a guard — oversees 48 blocks of eucalyptus and controls fires. A cell phone and a bicycle is needed to do the work but have to be provided by the worker. Some are able to and some are not and they have to walk long distances to take care of distant blocks of eucalyptus. Although they have access to more money, the overall household expenses are still not fully met. They have to compensate with overexploitation of their own labour, including the wives' labour and their contribution to social reproduction. So, they end up subsidizing capital with self-exploitation:

> Since I started working in the company my life improved, not totally, but at least the minimum. But the negative part is the working time [load of work]. We can't add our value to the community and have businesses that help the community grow… For instance, I was working in the field and lost my phone. It costs 600 meticais and I receive 500 or 400 meticais. I am not going to be able to buy a new one. We want a salary that enable us to grow. It is hard to wake up and go to my farm at 4am to 7am and then go work the rest of the day for the company. [Portucel Worker, Ile, 2019]

Although many permanent wage workers have connections to local elites by kinship, most of them do not own enough means of production to easily accumulate from below as the local elites. They might be better off than many other segments such as poorer peasants and women, but they still struggle to fulfil their livelihoods and social reproduction. They do this by further self-exploitation, receiving a salary that is just enough to keep them from engaging in struggles against dispossession or even protests and so on. But they certainly claim that they want better terms of incorporation.

Poorer peasants: intensified drudgery and self-exploitation of labor

This segment is constituted by smallholders that own relatively less land and do not have links with local elites. This segment mostly relies on practicing subsistence agriculture and forest-based livelihoods, and maybe eventually would sell any surplus (if there were any) in the market. This segment of the working people, goes through expropriation of land, forest resources and ecological losses, without being compensated for it.

They may also engage in informal employment (intra or extra community). In the case of Portucel, because of the big employment and PSDP promises that were made by the company, most of them transferred their land to the company (for some they were forcibly expropriated) ending up with not enough land to survive or even with no land at all. For those who were 'lucky' to be called for casual work, they were also went through labour exploitation:

> They want us to work from dawn to dusk. It is very hard work, and the pay is low, does not compensate and we are not happy with that, the money is so little. They hire us to work only a few days and then try to make [explore] the most of our work during each day from dawn to dusk. [Expropriated peasant man, Ile, 2019]

Nowadays this segment of the working people is going through intensified poverty and food insecurity and has had to adopt other livelihood strategies for survival. Three most adopted common strategies include: (1) selling labour to better-off households (wage workers or rural elites); (2) borrow or rent land from family or other members of the community; (3) engage in migrant work and/or (4) migrate. Besides going through dispossession of most of their land (or all of it), poorer peasants are going through difficulties to secure food also because of the rupture of access to forest resources to fulfil their food needs (hunting small animals and collecting mushrooms).

> …most of our diet [protein] came from the forest [Gilé National Reserve]. In addition to hunting, that's where the fish came from, also small animals to hunt. Almost all of the community's life was there. So, some would go there to get these animals, others to fish. There are almost five types of animals that we used to eat that we could only get there. The community can't count on that anymore. (Peasant, Gilé, November 2019)

Despite all of the implications discussed above, the households' that went through resettlement (Massingir and Sasol) complain about the precariousness of their houses (flaws and malfunctions) and lower quality of soil fertility of newly allocated plots.

> We lost a lot [by being displaced from the Park to a new resettlement area]. We don't know what we are going to eat… I no longer have cattle to raise to support my children. We don't know what the future holds. I need a job, or at least if they can pay indemnity from the cattle we lost on the way here

> [resettlement area]. The house have a lot of issues, such as cracks, it gets wet when it rains. We are suffering here, and we don't even have a hospital. (Resettled smallholder, Massingir)

Additionally, displaced households as well as neighbouring inhabitants complain about the environmental impacts of the company that directly implicate their economic life and health. Beside the direct impacts on people's health, they also reported tremors, changes in rain patterns, decreased soil quality and productivity and bitterness in food crops produced.

Women: exclusion and subhuman lives

Although women and poorer peasants present many similarities in terms of the implications of this process of expropriation, and many unmarried or widowed women are part of the poorer peasant segment, there are very relevant specificities that should be underlined. Differently from men, many women interviewed claimed that they were not consulted before the projects/investments were implemented. This may be justified by the gender inequalities in rural Mozambique, as traditional and customary cultural habits usually exclude women from the decision-making process. This includes excluding women from meetings with outsiders and government to decide the future of the community. Usually, men, mostly elite men, are present in such meetings and decision-making processes. Even in order to interview women in one particular community, men (particularly the community leader) have to be present.

In relation to labour dynamics, many women interviewed, were never formally employed at all. In the Portucel case, some were employed by the company as casual workers rather than long-term permanently and formally employed. But they are also badly paid: 'I worked for less than a month. With the money I bought salt and food. Didn't even buy a bicycle. The money just wasn't enough'. A community leader in Ile explained that, in his view, (usually older) women that transferred their land should transfer their casual job opportunity ("offered" by the company as exchange for her land) to young and capable men, who at the end, will share the remuneration with her in half. On a woman's, behalf he explains this situation as follows:

> She [previous land owner] and her daughter gave their land. But because they are women, they can't handle this type of job, only men can handle. After the men got the job [casual employment] they shared the income in

> half. One half for them as land owners and the other half for the men that worked… For the other one as well, because they don't have sons, don't have men in their families, it was the same process. [Community Leader, Ile, 2019]

Many women in other communities were able to get casual employment. This clearly shows how opportunities can be grabbed from women by men due to gender inequalities. On the other hand, one of the strategies of poorer peasants was to flee to peri-urban areas to look for jobs, while their wives stayed back and remained responsible for household social reproduction and farm work.

> Before we were farming our 3 Ha… we produced enough maize for the whole year and enough to sell in the market… I don't understand why this year I couldn't produce anything. Not cassava, not beans, anything, it just doesn't grow next to it (Eucaplytus plantation). They took 2 Ha and I kept 1 Ha… When my husband comes back from the construction work [in the city] he gives me some [money]. Now I am not even able to get surplus production to sell in the market. I must work in other people's *machambas* [small farm]. [Peasant woman, Ile, 2019]

Before Portucel expropriated land, Dona Deolinda and her husband would work on the farm with the help of people that would get paid for their labour in exchange for food (from the farm). After Portucel and the loss of their land, her husband went to city looking for works in construction. She stayed at home farming on borrowed land and offering her labour to better-off households from the village and experiencing the burden, over-exploitation and subhuman life that this process of land grabbing entails for this specific segment of rural population.

> It's bad. I don't have anything. Not cassava, anything. I don't understand why cassava and beans do not grow next to the eucalyptus; it absorbs all the water. My husband had to move to the city to work in construction and he send me a little money that is not enough. I have to work in other people's farms to get some money. [Expropriated Peasant Woman, Ile, 2019]

In this context, (Shah & Lerche, 2020) argue that the relation between production and social reproduction is crucial for migrant labour exploitation by underlining the role of domestic economies of care that sustain migrant work exploitation. They state that migrant work is sustained by

the entire household (including children at some point), so all members of the household enable one person to migrate, (Shah and Lerche, 2020).

Overall, on top of all the negative implications that poorer peasants go through, women carry the above additional adversities just for being women. And most of those interviewed, differently from men, said that instead of struggling for better terms of incorporation, they would rather have their land back, as Dona Zita claims: 'I would rather have my land back. They took over our land in vain!'. Pereira & Tsikata (2021) and Torvikey (2021) underline the role of women resisting extractivism in African settings. Torvikey (2021) argues that women were opposed to extractivism and struggled to regain control of their traditional systems of production.

Local elites: intensification of social differentiation by accumulation from below

Community leaders (by lineage and kinship) and their relatives, richer/better-off peasants (larger plots of land and livestock) and local government officials constitute rural local elites. They are usually very influential within the community and are at the forefront of decision-making and negotiation processes with external actors. This puts them in an advantageous position in terms of access to information and eligibility, and the opportunity of being at the forefront of receiving the benefits of community development projects and even employment.

A clear example of this is the process through which the PSDP was implemented and the beneficiary selection process. For the implementation of the PSDP, smallholders were aggregated into groups and the group leader would benefit from a demonstration plot — a portion of land to implement new farming techniques so that others would follow. For this, the group leader would receive seeds and all inputs and technical assistance necessary to keep the demonstration plot as an example of improved productivity and to teach other smallholders how to do it. Information from the field confirmed that the most influential members of the community were chosen — they were the ones that met the criteria, including having an ID card, having enough land and experience with commercialization of surplus and having an already established market network. By interviewing one of the elected leaders, who previously owned the community mill, some advantages were identified:

> I didn't get employed. My benefit is to be the group leader. With the income I managed to buy a motor pump to irrigate my farms using a solar panel. I thank Portucel for these improvements… What I didn't like is that they didn't keep all promises. Myself, I am fine, but others are sad. If at least they build a hospital, improve schools, build a secondary school for our children. [Demonstration Plots' Leader, Ile, 2019]

Besides having the privilege to access inputs and technical assistance, they have the capacity to hire in labour to work in their other farms where they may also apply these new techniques. Labour availability is determinant to applying such techniques because they imply more work than traditional techniques, and the rest of the smallholders do not have the money to pay for extra hired labour:

> I was chosen to be responsible of a group of 24 farmers. I am responsible for taking care of the demonstration field by introducing new farming techniques. They taught me how to farm using these new techniques. The other 24 hardly make it. Maybe they can apply these new techniques in smaller areas. Because it is hard work [comparing with traditional techniques]. To do half a hectare or one hectare of that is really hard work. I have at least 6 to 8 people working for me and I pay 50 meticais per day. [Demonstration Plots' Leader, Ile, 2019]

The efficiency of these demonstration plots has been questioned because most smallholders are not even able to reproduce the new techniques. Also, it is clear how unevenly distributed these 'benefits' from the PSDP are on the ground. In some cases, besides integration into the PSDP, other local elites have benefited both by being employed and at the same time holding a demonstration plot, which will further allow accumulation from below. But because of this uneven distribution of benefits, the company is able to form alliances and have the local elites on their side. In a way, this unfair incorporation of local elites into this process facilitates the company's modus operandi and cushions sparks of resistance within the community.

8.4. Differentiated reactions from below

Differentiated reactions from different segments of the working people were observed on the ground. A mix of struggles for better terms of incorporation and struggles against dispossession were identified. With the

exception of local elites, it is clear that a significant share of households is not satisfied and to some extent frustrated with the process of land expropriation, compensation and the implications of the implementation of this project — including economic, social and environmental implications. So, some forms of unorganized, covert and unstructured resistance are unfolding, resembling Scott's (1989) everyday forms of resistance.

Complaints and badmouthing are very common when people refer to the implementing actors and the company's modus operandi, even in conversations with 'outsiders'. For the case of the Gilé National Reserve, people claim that some of them still go inside the reserve to get their food needs. In Massingir some turn to poaching as a strategy to overcome the intensification of poverty. In the case of Portucel, multiple cases of people quietly cutting down eucalyptus trees as a form of protest were registered. Or even starting fires in order to destroy big plots of eucalyptus plantations in different parts of the region, either because they didn't get compensation or because they wanted their land back.

> Nothing got better. We are here crying. We want our land back to farm because we see nothing now. They fooled us and brought nothing that they had promised. They said they would bring zinc plates for our homes, that we would benefit from this company for 50 years and so on. Nothing was done. That is why we are crying. Even the seeds they promised, they don't bring them anymore. And then I think "why did I accepted this transfer of land in the first place?" [Expropriated Peasant Woman, Ile, 2019]

Some feel that they still need to be compensated and others feel that they were unfairly compensated and that the company/project should do more to integrate them in the process of development. But others, mainly women, would rather have their land back so they can farm again and get their food and life back. A sense of injustice is shared among most of the households, even the ones that got some benefits out of it, because they are all able to grasp that the community is only getting a small share of the pie, and, they feel they deserve more:

> Why doesn't the company hire us from the community to do the jobs that their technicians and their contractors [outsourcing of planting eucalyptus] do? The money they pay these outcomers they could be paying us? Why do we, land owners, have to suffer in order to gain something? The contractors receive 40 or even 50,000 and community members work and receive only

> 700 meticais. These creates adversity to the community. We already transferred our land, where our children would be producing. But now, someone else is making profit out of it. We feel very sad. When we work there [casual work] they come and abuse us, insult us, offend our people working there. We already complaint to the company and call them out in order for them to change this situation. The community is crying, is still crying. It is sad. If we transfer the land is because we were afflicted, we needed help. We are not against the company, we are against seeing other people benefiting from this project but us. [Portucel Worker "Agente de ligação", Ile, 2019]

8.5 Chapter conclusion

This chapter aimed at assessing rural livelihoods and social reproduction in the context of resource grabbing driven by extractivism. It is a relevant reflection to address the question of implications of extractivism on livelihoods put forward by sub question 1 and partially the central question of the current research. Because extractivism absorbs less labour than industrial capitalism, employment creation is not enough as a compensating mechanism. New institutional policies enforce the implementation of corporate social development plans in order to compensate rural livelihoods loss and aiming to maximize integration and inclusion.

Conservation-based green extractivism, which is even less labour intensive, calls for wider and more inclusive mechanisms of compensation. Evidence shows that because not all ecological losses are taken into account, those compensation mechanisms are far from working properly nor compensating fairly. Thus, green extractivism calls for closer attention to nature and ecological assets (including emission rights) as a determinant to rural livelihoods. As the commodity being extracted is intangible, a closer look to the implications of this pattern is important — to look at how restricted access to resources and limitations to social reproduction are involved in the extraction of emission rights. By further examining the role of nature in rural livelihoods in the context of resource grabbing, we see that capital exercises the following: (1) expropriation of ecological assets and (2) destruction of ecological assets and (3) depletion of ecological assets determinant to rural livelihoods.

Changing labour relations were also a visible implication of the company's land expropriation. Three main patterns were identified: (1) formal employment from the company/project: for those formally employed,

mostly men with vast amounts of land, they got better conditions and hire in labour to their farms; (2) intracommunity labour relations: poorer peasants/landless, working for not so poor peasants; (3) men looking for jobs in the city, while women took care of the farm and the household.

This chapter also contributed to understanding how such new institutional policies enforcing compensation mechanisms ignore the heterogeneity of rural societies. The mechanisms through which smallholders are incorporated highly matters for the outcomes of land grabbing. Intracommunity relations and inequalities exacerbate the implications of dispossession and expropriation. Local elites were able to be incorporated in so far as they were able to accumulate from below. Whereas workers, poorer peasants and women, underwent further exploitation of their labour to feed accumulation by the company and by the local elites. The weight and costs of social reproduction was further transferred and carried ultimately by women, who were the most excluded from the process.

It showed how different segments of the rural population went through expropriation of land, exploitation of labour and ecological losses through differentiated experiences. The differentiated outcomes are shaped by the compensation mechanisms of the projects or investments. But the pre-existing historical and conjunctural inequalities largely determine how each segment of the working people experience resource grabbing, which in turn, sets up the stage for differentiated reactions.

It is important to underline that both pre-existing structures and inequalities and the mechanism of incorporation are heavily determinant of the outcomes of land grabbing and the reactions from below; this is because they determine both the level of exclusion that each segment goes through as well as the compensation for their losses resulting from expropriation. This chapter underlines and strengthens the argument that the working people is not a homogenous class, with the same aspirations and experiences. Their struggles may diverge, converge and overlap among different segments of this class and they may differ in reactions and implications.

A mix of struggles against dispossession and wanting their land back and struggles for better terms of incorporation were verified in the different segments of the working people. Struggles against dispossession was a trend in the most marginalized segments whereas struggles against better terms of incorporation was identified in better-off segments. Everyday forms of resistance, acquiescence and struggles for incorporation are

among the most prominent reactions from below verified in all four study sites. Overall, both drivers of resource grabbing were proved to leave behind environmental, economic and social settings — at the macro and micro level — that undermine local reproduction. The environmental crisis came as fuel to a profit-oriented paradigm that reproduces inequality and exclusion, that needs to be re-evaluated especially among the lines of climate justice. As Gills and Morgan (2020) suggest: a new paradigm, one that tackles ecological destruction and human insecurity.

Notes

9 Conclusion

The central research question that guided this study was 'How does the intersection of extractivism and green policies relate to the global resource rush and shape global patterns of accumulation and rural livelihoods?'. As demonstrated through this dissertation, this intersection is verified under resource grabbing processes, where both extractivist agendas and environmental goals are met. In isolation, climate change policies were co-opted by global capital and incorporated into global dynamics of accumulation. Thus, constituting a whole new frontier of accumulation, where new commodities are being created, new markets established and new legitimation strategies (for resource grabbing and accumulation) are emerging. Under a climate-smart world new strategies of resource grabbing arise, and appropriation and expropriation of resources are legitimized by the fight against climate change.

Furthermore, green policies constitute the common denominator of capitalism's contemporary multiple agendas. Thus, in the midst of the convergence of crises, synergies are created in order to meet the twin objectives of efficiency and environmentally friendly while responding to multiple issues: food, fuel, energy, finance and so on. Consequently, synergistic resource grabbing arises as capital aims to respond to multiple crises, while keeping environmental goals as a common denominator.

It is important to capture the existing conjunctural features of contemporary global capitalism in which accumulation is mostly based on unindustrialized global South countries working as extractive hubs and supplying global demand for raw materials, primary commodities and energy to industrialized countries. Green policies emerged and were inserted in and implemented during this global order and global (ecological) division of labour. And this is why, the new frontier of accumulation presents extractive features. It is a reflection of how global processes of production, reproduction and consumption are predominantly organized. It is by the

intersection of extractivism and green policies, that a new way of appropriating and extracting resources emerges, hereby called 'green extractivism'.

By exploring green extractivism, further steps into the theoretical and empirical understanding of extractivism are made. First, in terms of tackling the differentiated processes in which extractivism can take place as a function of nature appropriation and labour exploitation (variation of extractivism). Second, in terms of further understanding how accumulation is realized throughout the commodity circuit (from extraction to consumption) and what are the implications for the host country in terms of economic production and development. And third, to identify 'invisible' or 'intangible' key resources (emission rights) that are actually expropriated from rural poor and that undermines social reproduction.

Overall, new patterns of resource grabbing, accumulation and legitimation strategies were identified and explored throughout this study. And the resulting new dynamics regarding land, labour and nature were put forward to analyse social reproduction and rural livelihoods. Those are going to be further explored and elaborated in the remainder of this chapter. It will also discuss some of the research implications regarding extractivism and resource grabbing literature.

Extractivism and resource grabbing under a subservient, but authoritarian state

Extractivism has been at the centre of historical capital accumulation based on asymmetric and exploitative exchange relations between regions. In Mozambique, imperialism and colonialism have framed economic production, social reproduction and the overall landscape of the country into an extractive hub, in other words, they have set the stage for the smooth functioning of extractivism. But it is the action of the post-independence state and institutional setting that further facilitated and accommodated a model of growth that is extractivist in nature and sustains external accumulation and wealth creation. Mozambique's colonial path included high rates of natural resource extraction and labour exploitation that resulted in multiple changes in rural livelihoods in the country such as semi-proletarianization, market integration and the diversification of rural livelihoods. Cutting into necessary consumption, increased self-exploitation of

labour especially from women, are still subsidizing capital accumulation under Frelimo's failed neoliberal stand.

Nowadays such continuities do not subsidize colonial states, they actually subsidize multiple layers of actors and their accumulation agendas such as external private foreign investors and multinationals, financial institutions, development agencies, domestic political and economic elites and others. These external accumulation patterns are supported and facilitated by an authoritarian and repressive state ruled by a radically changed socialist to neoliberal and capitalist Frelimo that has systematically (potentially intentionally) failed to grasp the priorities and the agrarian question of the country. The resulting failed economic and social public policies of the country are strategically benefiting the few, which among them, are the same political elites that design and implement such failed policies.

The state is, at this point, a hostage of international development agencies and financial institutions. Besides directly financing the general public budget (spending), those external actors are involved in multiple aid and humanitarian projects in several sectors (water, health, education, food, gender, agriculture and so on), especially in rural areas. It is through these financial relations that the state becomes subservient and an instrument, as most Marxist such as Gramsci and Engels would categorize, to international agendas and goals from economic policy, health, education, and now, environment and land governance. Thus, leading to the belief that besides lacking capacity, the state is not sovereign at all, there is also lack of autonomy. So, the state is a key element in the process of converting climate-smart and green policies into accumulation strategies and to assist related extractivist agendas, as Arsel (2020) puts it. But at the same time, the state exercises its relative autonomy through authoritarianism onto, particularly, the rural population, not only to answer to those external agendas but also to benefit its own political elites that are accumulating throughout.

Thus, the state is beyond purely being an instrument of the capitalist class, especially in a country such as Mozambique where the land is owned by the state and the land distribution process in the post-independence period was done in favour of political elites that are still in power. Those political elites today benefit from corporate land acquisition for multiple purposes (extractive industry, agriculture and so on), whether in isolation or in alliance with capitalist classes.

The fact that the land is owned by the state, increases its control over resources, on the other hand, the inactivity of the state towards cases of violation of the law itself during the process of land acquisition and resettlement processes, leads to the questions regarding the state's role as negligent, incompetent and/or corrupt. The result is mainly the prioritization and accommodation of the interests of capital to the detriment of the interests and rights of the local population, concentration of wealth, non-reduction of poverty and the intensification of inequality.

The repressive and authoritarian nature of Frelimo's rule only supported the emergence of a reduced segment of political and economic elites that are actually gaining and becoming wealthier with the current model of development of the country, that are mainly a set of policies that are economically unfit, socially unjust and environmentally destructive. The latter is the common ground of capitalism's modus operandi and gave rise to the current global environmental crisis, with impacts to global production processes, distribution and consumption and with very high implications to the agrarian question and accumulation.

Climate-smart land use, synergistic resource grabbing and uneven development

What does a climate-smart world mean to capitalism? This study set out to investigate the implications of a climate-smart world with regards to accumulation, resource grabbing and rural livelihoods. The common threat is land; as the policies to address climate change are predominantly land-based. This is reinforced by the IPCC (2019) statement: 'Future land use depends, in part, on the desired climate outcome and the portfolio of response options deployed'. Meaning that, from now on, land governance and use are conditioned to climate outcomes and it will constitute the main guide to global land use.

The global environmental crisis shaped other sectors and accumulation dynamics, pushed further the convergence of crises and made climate change mitigation and adaptation policies (including conservation policies, agricultural policies, energy policies, financial mechanisms to cope with environmental targets) a transversal priority and a central issue in international policies and accumulation patterns, all focusing on land politics, land use and property relations — all being guided by what Borras and Franco (2018) call climate-smart land politics.

Climate-smart and green policies constitute, indeed, capitalism's strategy to convert its own crisis into accumulation strategies. Under a climate-smart world, capitalism constituted a new frontier of accumulation within the global environmental crisis itself. The global environmental crisis emerged as a challenge to the capitalist accumulation status quo. At first, it might have been perceived as if the crisis was imposing impediments/limits to processes of accumulation. Nevertheless, capitalism's innovative capacity came up with different variations in which climate change, and the policies and schemes to address it, were co-opted by global capital and integrated into the global processes of accumulation, with the aid of the state; hence, a new frontier of accumulation arises insofar as climate change is further augmenting new forms of primitive accumulation (with and without land expropriation), creating new commodities and new opportunities for accumulation by expanded reproduction (legitimized by mitigation and adaptation policies).

Land appears as a common thread to all these processes. As land use is now conditioned to climate-smart goals (accumulation and emissions), new emerging patterns of land use arise (using Borras and Franco's typology). As this study showed, a new pattern was identified: changes in land use from food production to biodiversity in order to answer to climate change goals, whether it is to produce biofuels or to establish tree plantations (under the umbrella of REDD+). The immediate analysis would be to assume competing approaches around the same blocks of land and resources, however, the case of Massingir shows how the same block of land can answer to multiple crises, in which, the environmental crisis is transversal. So, the same block of land, conditioned to the feature of endowment of resources, can answer simultaneously to the food crisis, energy crisis, environmental crisis, financial crisis, and so on, if the resources are synergistically being grabbed and explored/extracted.

Thereby, capitalism's ability to innovate is not limited to the conversion of its own crisis into accumulation strategies. The global environmental crisis is a common denominator in all remaining crises, meaning that across all sectors and accumulation strategies, the 'emission imperative' is dominating and capitalism is able to synergistically respond to multiple crisis through synergistic resource grabbing. This is done through allocating land and organizing land use in a synergistic manner, aiming to maximize, exploit and extract natural resources and labour to respond to its multiple agenda.

The process of synergistic resource grabbing requires a strategic alliance formation among the interested actors coordinated by the state and financiers (particularly development banks) to create growth poles or any other economic links among them. But the implications of these are even worse than 'traditional' resource grabbing. The case of Massingir shows how the same group of people can go through multiple processes of expropriation until they are left to 'fight' for the 'leftovers'. Synergistic resource grabbing reveals high expropriation levels and induces intercommunity conflicts over resources. So, besides causing ruptures in rural livelihoods, it causes ruptures in social relations within classes of labour as a result of highly maximizing the number of resources expropriated from rural population.

These processes of expropriation, under synergistic resource grabbing, bring along new and multiple waves of expropriation that further cut into the necessary consumption of rural livelihoods. Going back to the predominant features of contemporary global capitalism — extractivism and global (ecological) division of labour — the implications for rural development and rural livelihoods are distinct from those of industrial capitalism, resonating with Bunker's (1984) argument. The study puts forward the concept of green extractivism, a new variation of extractivism that is equally based on asymmetric and exploitative exchange relations, but distinctively, backed up and legitimized by the ultimate goal of fighting climate change.

Green extractivism, usually fused synergistically with profit-seeking projects, depicts the process through which emission rights are expropriated and transferred from rural poor to capitalist classes. Emission rights are determinant in processes of resource grabbing as they were never before in the history of capitalism. But this study also calls attention to the role played by nature (particularly ecological assets) in social reproduction and rural livelihoods strategies. Similar to other variations of extractivism, green extractivism also expropriates other ecological assets that are key to social reproduction and rural livelihoods strategies.

In a more macro perspective, besides expropriating emission rights, under extractivism irreversible losses of ecological assets (water, minerals, land, forests, soil quality, and so on) are incurred by the host country, through extraction, pollution and/or depletion of resources. Nature and asymmetric and exploitative exchange relations based on nature, are at the

core of uneven global development. Economic production and reproduction are geographically separated from the place of extraction of the raw materials, primary commodities and energy. This is part of the irreversible losses of the host country. Neil Smith (1990) explains that 'The production of nature not only provides a rather philosophical foundation for discussing the uneven development of capitalism, but it is a very real result of the development of this mode of production'.

By specializing in the supply of raw materials, energy and primary commodities, Mozambique feeds external industrialization while undermining both its internal capacity to industrialize and its ecological wealth. Consequently, the country feeds from imports to satisfy the internal market's needs for food, fuel and capital goods. It buys back from the countries it supplies energy and raw materials to (mainly China, India and South Africa). Moreover, the result of more than three decades of efficiency-driven foreign investment and extractive framing of the economy lead to negative implications for the population's well-being. Poverty is still predominant issue, approximately 50 per cent of the population lives below the poverty line, despite the 'macroeconomic successes' such as high rates of growth and the balance of payments' surplus that the country registered.

The extractivism framework should go beyond the call for attention to the appropriation of nature itself. It should also focus on the processes, flows and circuits through which the resources that are extracted (tangible or intangible) until they reach their final destination. Bunker (1984) points out that the excessive focus on production ('the transformation of these materials by labour and capital') deviates from the understanding of relevant insights such as understanding the inequalities inherent in separating, geographically, extraction, transformation, use and profit.

In the context of a globalized economy, flows of commodities to and from extractive cores, to and from productive cores are 'big businesses'. Multiple channels of accumulation are apparent throughout the whole value chain until it reaches the final consumer. Big shipping, freight, logistics and transport companies accumulate throughout this process and are part of the scheme of extracting, transferring and exchanging raw materials. For that matter, extractive cores are ecologically exploited, economically structured and socially organized to accommodate extraction and draining of commodities. Infrastructures such as deep-water ports, roads and railways connecting resource extraction sites to global markets are prioritized investments financed by development banks, external investors

and so on and sometimes even as cooperation projects (for example, JICA). Peripheries such as Mozambique, become extractive economies with strategic circuits to drain commodities to international markets with underdeveloped productive forces. Public financial and social resources are transferred from priority sectors such as agriculture, to extractive sector and infrastructures. Universities and education institutions direct their efforts to answer the call to extractive sectors.

Because of these specialization strategies, peripheries/extractive cores enter an enclave and concentrate economic forces and policies in fewer sectors. This type of economic and social organization of the country's resources and productive forces results in the need to feed other sector's lack of productive forces with imports. These countries become import dependent to provide food and processed goods to their domestic markets and become consumers of the productive core's processed commodities.

The connection between extraction sites, transportation, logistics and export supporting infrastructures is a key feature of an extractive economy. And at the same time, it is a feature that only serves to reproduce this extractivist model of growth that benefits industrialized regions, while undermining a sustainable development path for the host country. This is to confirm Neil Smith's argument that 'uneven development [is] not simply a gap between developed and less developed region — it is a systematic product of previous capitalist development and the fundamental premise of the future of capitalism'. The losses incurred by the host country are crucial to economic production and reproduction. Meaning that productive forces are not proportionally developed compared with extractivist activities, which then reproduces underdevelopment and a multilevel undermining of reproduction is observed (including economic production, reproduction and social reproduction). The distinct implications of extractivism on social reproduction and livelihoods are further explored in the following section.

Rural livelihoods under extractivism in a climate-smart world

Resource grabbing generally narrows down rural livelihood strategies. However, resource grabbing under extractivism presents augmented adversities to rural livelihoods and social reproduction. It is important to acknowledge that extractivism is highly based on nature appropriation and extraction without necessarily inciting local reproduction of production

forces, and, absorbs less labour than industrial capitalism. These two distinct features of extractivist capitalism exacerbate adverse implications of resource grabbing.

Rural Mozambique has systematically been characterized by high levels of poverty and food security issues throughout time. Extractive activities, labour exploitation and its resulting external accumulation was only possible by maintaining smallholders' link to the land (Castel-Branco, 2011) so that their over and self-exploitation of labour subsidizes colonial and post-colonial accumulation strategies. One of the propositions of this research is to further analyse rural livelihoods going beyond land and labour. Thus, the incorporation of 'nature' as an intrinsic element to rural social reproduction is a key feature of this study.

By doing that, it is possible to identify additional resources — ecological resources and its biophysical values — that are being expropriated from the rural population. Fauna, flora, soil quality, water quality and emission rights are some of the ecological assets that are being expropriated from the rural population; exposing the elevated burden on the economy of rural households, in other words, are determinant to their livelihoods and crucial to their livelihood's strategies.

Although different segments of the working people experience resource grabbing implications in differentiated ways, in the context of the intersection of extractivism and green policies, additional irreversible losses and injustices are incurred by all the working people. It is important to acknowledge the role ecological assets in subsistence and the role of ecological losses in the undermining of current and future social reproduction. Also, by acknowledging the implications of ecological losses to the subsequent additional need for (self) exploitation of labour; especially from women, resonating with the work of Tsikata (2013), who have less opportunities to be integrated in mechanisms of compensation and who end up carrying the burden of household reproduction. Thus, this should be an important contribution to be included in the social reproduction theory.

Expropriating emission rights is going to be the basis of the current and future scramble as a climate-smart world is installed. This unfolds in many different ways, such as the following: (1) climate-smart policies that impose changing traditional farming systems into labour intensive CSA techniques in order to reduce emissions from smallholders and the agricultural sector; (2) expropriating emissions rights by restricting access to

forest resources in order to maximize carbon sequestration in the context of conservation-based climate-smart policies; (3) by enforcing 'green' investments (biofuel production or tree plantations) and using climate-smart projects to compensate for the loss of livelihoods, while synergistically transforming rural livelihoods into 'more environmentally friendly' livelihoods, but ultimately aiming at emission reduction. All of those, imply extracting and transferring emission rights from the rural poor to capitalist classes in different regions of the world.

Extractivism as a lens: tackling injustices and calling for accountability

Capitalism is the dominant system of our times and has been for centuries now. It presents multiple strategies of accumulation and profit maximization that have evolved and been transformed over time. A constant feature of capitalism's modus operandi is extractivism; it can be traced back to imperialism, colonialism, post-colonialism up until the current scramble. Based on asymmetric and exploitative exchange relations, extractivism as a theoretical framework, goes beyond the theory of labour value to further explain global (asymmetric and exploitative) exchange relations, global patterns of accumulation and exploitation of livelihoods and natural resources.

An extractivism framework allows for the further understanding of the regional flows of what is being extracted/appropriated and the local implications of economic and ecological loss to social reproduction, national implications to economic production and global implications to capital accumulation. Extractivism literature puts forward variations of extractivism as it migrates to other sectors, and it is embedded in intertwined dynamics of global and local scales. It comes as a response to international market demands and global policy enforcements with high localized implications and transformations. Through the framework it is possible to grasp how global accumulation (primitive accumulation plus accumulation by expanded reproduction in productive cores) is fed, while cutting into the necessary consumption of rural livelihoods, causing ecological degradation, disrupting social organization and distorting the economic/productive forces and structures of the extractive cores.

Furthermore, this theoretical lens allows for the identification of interconnections across sectors and extractivist agendas. For instance, this study showed how different projects were able to create interconnections

between variations of extractivism and were able to create operational synergies in order to facilitate resource grabbing and maximize accumulation at the cost of rural livelihoods. These synergies between variations of extractivisms may be based on shared infrastructures to drain commodities (construction of ports, roads and so on), projects to facilitate operations (a dam to irrigate a biofuel production investment, to provide electricity to industrial poles or even to serve as tourism attraction to big conservation projects).

On the other hand, the development of capitalism in industrial and productive cores, realized through asymmetric and exploitative economic and non-economic relations, implied costs to local populations and societies in extractive cores that were left unaccounted. This study shed light on those costs that are determinant in the perpetuation of underdevelopment. It was clear how extractive regions are left with an economic, social and ecological framing that undermines and inhibits social reproduction and progress, locally, regionally and nationally.

Acritical economic theories and approaches advocated for specialization under the insights of comparative advantage and more recently competitive advantage. These theories fail to address power relations and the unbalanced distribution of gains and losses throughout processes of exchange of commodities among regions. On the other side, resource curse theorists are too centred in the resources and the implications for the host country 'blaming' mostly the abundance of resources for the negative macro and micro implications. However, it misses the inherent flaws and injustices within the capitalist system itself that feed accumulation through asymmetric exchange relations and appropriation of those resources. Additionally, the resource curse theory does not fully tackle class dynamics and power relations among the actors involved in the process and most importantly, it does not hold accountable individual actors and regions that are in advantageous positions and responsible for the costs incurred by local populations and extractive cores.

To answer to those gaps in these sets of conceptual frameworks, the extractivism framework aims to look at the roots of underdevelopment in a context of global relations of exchange of commodities, centering not only on labour exploitation but also nature appropriation. This framework interconnects global flows and circuits of commodities with local implications; especially as an attempt to grasp economic, social and ecological

framing of extractive economies to hold the costs incurred accountable and better understand the development paths of such countries.

Besides paying attention to the exploitation of labour and appropriation of labour value, the extractivism framework elevates the level of importance of exploitation and appropriation of nature as an intrinsic part of the capitalist mode of production in an ever-growing globalized world economy. Extractivism also takes into account the accumulation dynamics throughout the process of commodity exchange (the so-called flows of commodities), logistics and shipping of resources (raw materials and energy) that are extracted and exported all the way to the productive core (and usually back to the extractive core as final commodities), as they also represent a determinant to the final surplus value.

Implications for future research

The first important issue to be further explored is the dynamics of resistance and how the current dynamics of extractivism have been shaping resistance locally and globally. Some scholars have already highlighted the debate around resistance. For instance, Ye et al (2020) underline the need to identify a whole new arena of class struggles that emerge from extractivism contexts. These new modalities, according to them, are different from previous modalities of struggle as they are trying to address distinct dynamics of the capitalist mode of production. In this context, Veltmeyer (2012) and Petras and Veltmeyer (2014) emphasize the changing nature of class struggles that is changing from the workplace to the communities. From struggles for land, to a healthier relation with the environment and to the emergence of emancipatory alternatives, this remains a field to be further explored within the extractivism framework.

This research aims to understand nature also as a space of exploitation, a source of accumulation and subsistence and a space through which the rural population exercise their social reproduction, agency and resistance. It is important to distinguish each variation of extractivism, their global dynamics and their distinct implications on the ground, locally and nationally, as they must be delt with differently. This study showed how global processes and policies can impact local rural societies through exploitation and appropriation. It was clear how localized injustices are subsidizing synergistically global environmental goals and capital's accumulation goals.

Accomplishing these two goals is crucial to capitalisms expanded reproduction in the current juncture, where limitations and opportunities are grounded in the climate crisis and the policies to address it.

One important factor to be underlined here is the fact that the weight of climate crisis resolution might be falling on the shoulders of actors that did not contribute significantly to the current global environmental crisis, not the local population where such projects are implemented nor the country where such policies are enforced; however, the adversities are unfairly falling on them to accommodate the demands, ways of life and production processes of industrialized and richer countries. Consequently, countries like Mozambique are constrained from using their resources (raw materials, energy, emission rights and so on) for their own good, to satisfy their domestic needs and goals and fuel their own growth and development. Besides fuelling external market demands, international industrialization and accumulation goals, the country is actually undermining its own ability to focus on its real priorities such as production of food, diversification of the productive basis and development of industrialization and productive forces, and consequently failing to achieve sustainable and equal development.

This takes us to the second underlying issue to be further explored, an agenda towards climate justice, which is highly connected with resistance that was mentioned previously. This research offer insights into climate justice debates and reinforces the need to further explore this concept. This study reveals the importance and need to incorporate notions of ecological injustices on designing, making and implementing global climate change policies. It also reveals the need to ensure the participation of the populations that are directly affected by the implementation of such projects. Nevertheless, future research should further explore the conceptualization of climate justice, the role of historical ecological footprints, the role of emerging 'green' financialization, further examine ecological injustices within the climate change policies and identify and expose emerging alternatives to mainstream climate change solutions.

Notes

References

Abbas, M. (2018). *CHOKWÉ: EFEITOS LOCAIS DE POLÍTICAS INSTÁVEIS, ERRÁTICAS E CONTRADITÓRIAS* (Observador Rural No 62; Observador Rural No 62).

Acosta, A. (2013). Extractivism and neo extractivism: Two sides of the same curse. In M. Lang & D. Mokrani (Eds.), *Beyond development: Alternative visions from Latin America* (pp. 61–86). Transnational Institute.

AfDB. (2002). *Natural Gas Project: Environmental and Social Impact Assessment. July*.

Ali, R., & Stevano, S. (2019). Work in the Agro-industry, Livelihoods and Social Reproduction in Mozambique: Beyond Job Creation. In *IDeIAS* (No. 121).

Alonso-Fradejas, A. (2015). Anything but a story foretold: multiple politics of resistance to the agrarian extractivist project in Guatemala. *Journal of Peasant Studies*, *42*(3–4), 489–515. https://doi.org/10.1080/03066150.2015.1013468

Alonso-Fradejas, A. (2021). 'Leaving no one unscathed' in sustainability transitions: The life purging agro-extractivism of corporate renewables. *Journal of Rural Studies*, *81*, 127–138. https://doi.org/10.1016/j.jrurstud.2020.10.001

Amanor, K. S. (1994). The New Frontier: Farmers' Response to Land Degradation—A West African Study. In *United Nations Research Institute for Social development* (p. 414).

Amanor, K. S. (2012). Global resource grabs, agribusiness concentration and the smallholder: Two West African case studies. *Journal of Peasant Studies*, *39*(3–4), 731–749. https://doi.org/10.1080/03066150.2012.676543

Amin, S. (1977). *Imperialism and unequal development*. Monthly Review Press.

Amin, S. (2012). Contemporary Imperialism and the Agrarian Question. *Agrarian South: Journal of Political Economy*, *1*(1), 11–26.

Amin, S. (2016). To the Memory of Sam Moyo. *Agrarian South: Journal of Political Economy*, *2*, 138–157.

ANAC. (2015). *Plano estratégico da Administração Nacional das Áreas de Conservação 2015-2024* (Vol. 151). https://doi.org/10.1145/3132847.3132886

Arsel, M. (2012). Between "marx and markets"? The state, the "left turn" and nature in Ecuador. *Tijdschrift Voor Economische En Sociale Geografie*, *103*(2), 150–163. https://doi.org/10.1111/j.1467-9663.2012.00709.x

Arsel, M. (2019). *Climate change and class conflict in the Anthropocene*. International Institute of Social Studies.

Arsel, M., & Büscher, B. (2012). Nature™ Inc: Changes and Continuities in Neoliberal Conservation and Market-based Environmental Policy. *Development and Change*, *43*(1), 53–78. https://doi.org/10.1111/j.1467-7660.2012.01752.x

Arsel, M., Hogenboom, B., & Pellegrini, L. (2016). The extractive imperative in Latin America. *Extractive Industries and Society*, *3*(4), 880–887. https://doi.org/10.1016/j.exis.2016.10.014

Asefi-Najafabady, S., Villegas-Ortiz, L., & Morgan, J. (2020). The failure of Integrated Assessment Models as a response to 'climate emergency' and ecological breakdown: the Emperor has no clothes. *Globalizations*, *0*(0), 1–11. https://doi.org/10.1080/14747731.2020.1853958

Banco de Moçambique. (2018). *RELATÓRIO ANUAL 2018*.

Barbesgaard, M. (2018). Blue growth: savior or ocean grabbing? *The Journal of Peasant Studies*, *45*(1), 130–149.

Bazin, F., & Quesne, G. (2016). *Avaliação Ex Post escrita e filmada do projecto de desenvolvimento do Parque Nacional do Limpopo*. AFD, No 61.

Bebbington, A. (2015). *Political Ecologies of Resource Extraction : Agendas Pendientes Author (s): Anthony Bebbington Source : European Review of Latin American and Caribbean Studies / Revista Europea de Estudios Latinoamericanos y del Caribe , December 2015 , No . 100 , 50th. 100*.

Benjaminsen, T. A., & Bryceson, I. (2012). Conservation, green/blue grabbing and accumulation by dispossession in Tanzania. *Journal of Peasant Studies*, *39*(2), 335–355. https://doi.org/10.1080/03066150.2012.667405

Bennett, A., & George, A. L. (2005). *Case studies and theory development in the social sciences*. Cambridge, Mass.

Bernstein, H. (1979). African Peasantries: A Theoretical Framework. *The Journal of Peasant Studies*, *6*(4), 421–443. https://doi.org/10.1080/03066157908438084

Bernstein, H. (1990). Agricultural 'Modernisation' and the era of structural adjustment: Observations on sub-saharan africa. *The Journal of Peasant Studies*, *18*(1), 3–35. https://doi.org/10.1080/03066159008438441

Bernstein, H. (2003). Land reform in Southern Africa in world-historical perspective. *Review of African Political Economy*, *30*(96), 203–226. https://doi.org/10.1080/03056244.2003.9693495

Bernstein, H. (2010a). *Class dynamics of agrarian change*. Fernwood Publishing and Kumarian Press.

Bernstein, H. (2010b). Introduction: Some questions concerning the productive forces. *Journal of Agrarian Change*, *10*(3), 300–314. https://doi.org/10.1111/j.1471-0366.2010.00272.x

Bharadwaj, K. (1994). *Accumulation, exchange, and development: essays on the Indian economy*. Sage Publications Pvt. Ltd.

Bhaskar, R. (1975). *A Realist Theory of Science*. Harvester Press.

Bhattacharya, T. (2017). Introduction: Mapping Social Reproduction Theory. *Social Reproduction Theory: Remapping Class, Recentering Oppression*, 1–20.

Blaikie, P., & Brookfield, H. (1987). *Land Degradation and Society*. Methuen.

Bleyer, M., Kniivilä, M., Horne, P., Sitoe, A., & Falcão, M. P. (2016). Socio-economic impacts of private land use investment on rural communities: Industrial forest plantations in Niassa, Mozambique. *Land Use Policy*, *51*, 281–289. https://doi.org/10.1016/j.landusepol.2015.11.011

Boeije, H. (2002). A purposeful approach to the constant comparative method in the analysis of qualitative interviews. *Quality and Quantity*, *36*(4), 391–409. https://doi.org/10.1023/A:1020909529486

Bond, P. (2013). Sub-imperialism as lubricant of neoliberalism: South African "deputy sheriff" duty within BRICS. *Third World Quarterly*, *34*(2), 251–270. https://doi.org/10.1080/01436597.2013.775783

Borras, S. M., Fig, D., & Suárez, S. M. (2011a). The politics of agrofuels and mega-land and water deals: Insights from the ProCana case, Mozambique. *Review of African Political Economy*, *38*(128), 215–234. https://doi.org/10.1080/03056244.2011.582758

Borras, S. M., Fig, D., & Suárez, S. M. (2011b). The politics of agrofuels and mega-land and water deals: Insights from the ProCana case, Mozambique. *Review of African Political Economy*, *38*(128), 215–234. https://doi.org/10.1080/03056244.2011.582758

Borras, S. M., & Franco, J. C. (2012). Global land grabbing and trajectories of Agrarian change: A preliminary analysis. *Journal of Agrarian Change*, *12*(1), 34–59. https://doi.org/10.1111/j.1471-0366.2011.00339.x

Borras, S. M., & Franco, J. C. (2013). Global Land Grabbing and Political Reactions "From Below." *Third World Quarterly*, *34*(9), 1723–1747. https://doi.org/10.1080/01436597.2013.843845

Borras, S. M., & Franco, J. C. (2018). The challenge of locating land-based climate change mitigation and adaptation politics within a social justice perspective: towards an idea of agrarian climate justice. *Third World Quarterly*, *39*(7), 1308–1325. https://doi.org/10.1080/01436597.2018.1460592

Borras, S. M., Franco, J. C., Gómez, S., Kay, C., & Spoor, M. (2012). Land grabbing in Latin America and the Caribbean. *Journal of Peasant Studies*, *39*(3–4), 845–872. https://doi.org/10.1080/03066150.2012.679931

Borras, S. M., Franco, J. C., & Nam, Z. (2020). Climate change and land : Insights from Myanmar. *World Development*, *129*, 1–11. https://doi.org/10.1016/j.worlddev.2019.104864

Borras, S. M., Moreda, T., Alonso-Fradejas, A., & Brent, Z. W. (2018). Converging social justice issues and movements: implications for political actions and research. *Third World Quarterly*, *39*(7), 1227–1246. https://doi.org/10.1080/01436597.2018.1491301

Bridge, G. (2011). Resource geographies 1: Making carbon economies, old and new. *Progress in Human Geography*, *35*(6), 820–834. https://doi.org/10.1177/0309132510385524

Brito, R., & Holman, E. (2012). *Responding to climate change in Mozambique: Theme 6 – Agriculture*.

Brockington, D. (2002). *Fortress conservation: The preservation of Mkomazi game reserve, Tanzania*.

Brockington, Dan, & Duffy, R. (2010). Capitalism and conservation: The production and reproduction of biodiversity conservation. *Antipode*, *42*(3), 469–484. https://doi.org/10.1111/j.1467-8330.2010.00760.x

Bruna, N. (2017a). Economia política da governação: Política económica de controle, manutenção e reprodução de poder 1. *Revista NERA*, *38*, 13–40.

Bruna, N. (2017b). *Plantações Florestais e a Instrumentalização do Estado em Moçambique* (Observador Rural N.º31; Observador Rural N.º31).

Bruna, N. (2019). Reflexões sobre o Modelo de Desenvolvimento Rural e Cooperação no Corredor de NacalaReflections on the model of rural development and cooperation in the Nacala Corridor. *Cadernos de Estudos Africanos*, *37*, 185–211. https://doi.org/10.4000/cea.4056

Bryceson, D. (1990). *Food insecurity and the social division of labour in Tanzania, 1919-85*. Springer.

Bryceson, D. (2002). The scramble in Africa: Reorienting rural livelihoods. *World Development*, *30*(5), 725–739. https://doi.org/10.1016/S0305-750X(02)00006-2

Bunker, S. G. . (1984). *Modes of Extraction , Unequal Exchange , and the Progressive Underdevelopment of an Extreme Periphery : The Brazilian Amazon , 1600-1980*. *89*(5), 1017–1064.

Burawoy, M. (2013). Ethnographic fallacies: Reflections on labour studies in the era of market fundamentalism. *Work, Employment and Society*, *27*(3), 526–536. https://doi.org/10.1177/0950017012460316

Burawoy, M., Blum, J. A., George Zsuzsa Gille, S., Gowan, T., Haney, L., KlAWITER STEVEN, M., Lopez, H., Thayer, Miu., Los Angeles London, B., & Angeles, L. (2000). *Global Ethnography Forces, Connections, and Imaginations in a Postmodern World*.

Burchardt, H. J., & Dietz, K. (2014a). (Neo-)extractivism - a new challenge for development theory from Latin America. *Third World Quarterly*, *35*(3), 468–486. https://doi.org/10.1080/01436597.2014.893488

Burchardt, H. J., & Dietz, K. (2014b). (Neo-)extractivism - a new challenge for development theory from Latin America. *Third World Quarterly*, *35*(3), 468–486. https://doi.org/10.1080/01436597.2014.893488

Buscher, B. (2014). Investing in Irony? Development, Improvement and Dispossession in Southern African Coal Spaces. . *The European Journal of Development Research*, *27*(5), 727–744.

Büscher, B., & Arsel, M. (2012). Introduction: Neoliberal conservation, uneven geographical development and the dynamics of contemporary capitalism. *Tijdschrift Voor Economische En Sociale Geografie*, *103*(2), 129–135. https://doi.org/10.1111/j.1467-9663.2012.00712.x

Büscher, B., Sullivan, S., Neves, K., Igoe, J., & Brockington, D. (2012). Towards a synthesized critique of neoliberal biodiversity conservation. *Capitalism, Nature, Socialism*, *23*(2), 4–30. https://doi.org/10.1080/10455752.2012.674149

Byres, T. J. (1991). The agrarian question and differing forms of capitalist agrarian transition: an essay with reference to Asia. . *Rural Transformation in Asia, 3-76*.

Capaina, N. (2019). TITULAÇÃO E SUBAPROVEITAMENTO DA TERRA EM MOÇAMBIQUE: ALGUMAS CAUSAS E IMPLICAÇÕES. In *Observador rural* (No. 73; Observador Rural).

Caraccioli, M. J. (2015). Of Cursed States. *The Political Economy of Rare Earth Elements*, 197–217. https://doi.org/10.1057/9781137364241.0016

Castel-Branco, C. (2010). Economia Extractiva e Desafios de Industrialização em Moçambique. In *Cadernos Iese*.

Castel-Branco, C. (2014). Growth, capital accumulation and economic porosity in Mozambique: social losses, private gains. *Review of African Political Economy*, *41*, S26–S48. https://doi.org/10.1080/03056244.2014.976363

Castel-Branco, C. (2018). LÓGICA HISTÓRICA DO MODELO DE ACUMULAÇÃO DE CAPITAL EM MOÇAMBIQUE. In L. de B. Brito, C. N. Castel-Branco, S. Chichava, S. Forquilha, & A. Francisco (Eds.), *Desafios para Moçambique 2017* (pp. 257–302). IESE.

Chivangue, A., & Cortez, E. (2015). *An Analysis of Mozambique's Political and Economic Networks* (CEsA CSG 136).

CIAT, & The World Bank. (2017). *Climate-Smart Agriculture in Mozambique. CSA Country Profiles for Africa Series. International Center for Tropical Agriculture (CIAT); World Bank. Washington, D.C. 25 p. Acknowledgments*.

CIP. (2013). *PANDE TEMANE GAS EXPORTS TO SOUTH AFRICA : First major extractive sector projects fails Mozambique*. *17*.

Clapp, J., Newell, P., & Brent, Z. W. (2018). The global political economy of climate change, agriculture and food systems. *Journal of Peasant Studies*, *45*(1), 80–88. https://doi.org/10.1080/03066150.2017.1381602

Collier, D. (2011). Understanding Process Tracing. *Political Science & Politics*, *44*(4), 823–830.

Corbera, E., Brown, K., & Adger, W. (2007). The equity and legitimacy of markets for ecosystem services. *Development and Change*, *38*(4), 587–613.

Corbera, E., Estrada, M., & Brown, K. (2010). Reducing greenhouse gas emissions from deforestation and forest degradation in developing countries: revisiting the assumptions. *Climatic Change*, *100*(3–4), 355-388.

Corbera, Esteve. (2012). Problematizing REDD+ as an experiment in payments for ecosystem services. *Current Opinion in Environmental Sustainability*, *4*, 612–619.

Corbera, Esteve, Hunsberger, C., & Vaddhanaphuti, C. (2017). Climate change policies, land grabbing and conflict: perspectives from Southeast Asia. *Canadian Journal of Development Studies*, *38*(3), 297–304. https://doi.org/10.1080/02255189.2017.1343413

Cox, K. R. (2013). Notes on a brief encounter: Critical realism, historical materialism and human geography. *Dialogues in Human Geography*, *3(1)*, 3–21.

Cunguara, B. (2012). An exposition of development failures in Mozambique. *Review of African Political Economy*, *39*(131), 161–170. https://doi.org/10.1080/03056244.2012.657881

Cunha, T., & Casimiro, I. (2021). "Cinderellas" of Our Mozambique Wish to Speak: A Feminist Perspective on Extractivism. *Feminist Africa*, *2*. https://feministafrica.net/

Descheneau, P. (2012). The currencies of carbon: Carbon money and its social meaning. *Environmental Politics*, *21*(4), 604–620. https://doi.org/10.1080/09644016.2012.688356

Downward, P., & Mearman, A. (2007). Retroduction as mixed-methods triangulation in economic research: Reorienting economics into social science. *Cambridge Journal of Economics*, *31*(1), 77–99. https://doi.org/10.1093/cje/bel009

DSU. (2015). Climate Change Profile: Mozambique. In *Dutch SUstainability Union* (Issue October, p. 19).

Edelman, M., Oya, C., & Borras, S. M. (2013). Global Land Grabs: Historical processes, theoretical and methodological implications and current trajectories. *Third World Quarterly*, *34*(9), 1517–1531. https://doi.org/10.1080/01436597.2013.850190

Editorial. (2012). The Agrarian Question: Past, Present and Future. *Agrarian South: Journal of Political Economy*, *1*(1), 1–10.

Ehrnström-Fuentes, M., & Kröger, M. (2018). Birthing extractivism: The role of the state in forestry politics and development in Uruguay. *Journal of Rural Studies*, *57*, 197–208. https://doi.org/10.1016/j.jrurstud.2017.12.022

Emirbayer, M. (1997). Manifesto for a relational sociology. *American Journal of Sociology*, *103(2)*, 281–317.

Engels, F. (1972). *The origin of the family, private property and the state*.

Escobar, A. (1999). Steps to an Antiessentialist Political Ecology. *Current Anthropology*.

Fairbairn, M. (2020). *FIELDS OF GOLD Financing the Global Land Rush*.

Fairhead, J., Leach, M., & Scoones, I. (2012). Green Grabbing: A new appropriation of nature? *Journal of Peasant Studies*, *39*(2), 237–261. https://doi.org/10.1080/03066150.2012.671770

FAO. (2013). *CLIMATE-SMART AGRICULTURE Sourcebook* (Vol. 3, Issue 2). https://doi.org/10.3224/eris.v3i2.14

Feijó, J. (2016). *Investimentos, Assimetrias e Movimentos de Protesto na Província de Tete* (Observador Rural No 44).

FFEM. (2017). *Reducing deforestation and degradation in the Miombo forests of the National Reserve of Gilé and its periphery" pilot project*.

Foster, J. B., Clark, B., & York, R. (2009). The midas effect: A critique of climate change economics. *Development and Change*, *40*(6), 1085–1097. https://doi.org/10.1111/j.1467-7660.2009.01613.x

Foster, J. B., Clark, B., & York, R. (2010). *The Ecological Rift: Capitalism's War on the Earth*. Monthly Review Press.

Fox, J. (1993). *The Politics of Food in Mexico: State Power and Social Mobilization*. Cornell University.

Franco, J. C., & Borras, S. M. (2019). Grey areas in green grabbing: subtle and indirect interconnections between climate change politics and land grabs and their implications for research. *Land Use Policy*, *84*(October 2018), 192–199. https://doi.org/10.1016/j.landusepol.2019.03.013

Frank, A. G. (1972). *Lumpenbourgeoisie: lumpendevelopment: dependence, class, and politics in Latin America*. Monthly Review Pr.

Furtado, C. (1964). *Development and underdevelopment*. Univ of California Press.

Fusari, A., & Carpaneto, G. M. (2006). Subsistence hunting and conservation issues in the game reserve of Gile, Mozambique. *Biodiversity and Conservation*, *15*(8), 2477–2495. https://doi.org/10.1007/s10531-004-8229-1

Gellert, P. K. (2019). Neoliberalism and altered state developmentalism in the twenty-first century extractive regime of Indonesia. *Globalizations*, *16*(6), 894–918. https://doi.org/10.1080/14747731.2018.1560189

Gellert, P. K., Frey, R. S., & Dahms, H. (2017). *Introduction to Ecologically Unequal Exchange in Comparative Perspective*. *23*(2). https://doi.org/10.5195/JWSR.1

German, L., Cavane, E., Sitoe, A., & Braga, C. (2016). Private investment as an engine of rural development: A confrontation of theory and practice for the case of Mozambique. *Land Use Policy*, *52*, 1–14. https://doi.org/10.1016/j.landusepol.2015.11.012

Gills, B., & Morgan, J. (2020). Economics and climate emergency. *Globalizations*, *00*(0), 1–16. https://doi.org/10.1080/14747731.2020.1841527

Giraldo, O. F., & Rosset, P. M. (2017). Agroecology as a territory in dispute: between institutionality and social movements. *Journal of Peasant*

Studies, *45*(3), 545–564. https://doi.org/10.1080/03066150.2017.1353496

Gov de Moc and IGF. (2010). *Reserva Nacional do Gilé: Plano de Maneio*.

Gramsci, A. (1971). *Selections from the prison notebooks*. International Publishers.

Gray, K., & Gills, B. K. (2016). South–South cooperation and the rise of the global South. *Third World Quarterly*, *37*(4), 557–574. https://doi.org/10.1080/01436597.2015.1128817

Groom, B., & Palmer, C. (2012). REDD+ and rural livelihoods. *Biological Conservation*. https://doi.org/10.1016/j.biocon.2012.03.002

Gudynas, E. (2010). The New Extractivism of the 21st Century: Ten Urgent Theses about Extractivism in Relation to Current South American Progressivism. *Americas Program Report*, 1–14.

Gudynas, E. (2021). *Extractivisms: Politics, Economy and Ecology*. Fernwood Publishing.

Gyapong, Adwoa Yeboah. (2020). How and why large scale agricultural land investments do not create long-term employment benefits: A critique of the 'state' of labour regulations in Ghana. *Land Use Policy*, *95*(March). https://doi.org/10.1016/j.landusepol.2020.104651

Gyapong, A.Y. (2020). *Political Dynamics of Global Land Grabs: Exploring the Land-Labour Nexus on Ghana's Eastern Corridor*. Erasmus University Rotterdam.

Hall, S. (1980). "Popular-Democratic Versus Authoritarian Populism." In Marxism and Democracy, edited by A. Hunt, 157–187. London: Laurence and Wishart.

Hall, D. (2013). Primitive Accumulation, Accumulation by Dispossession and the Global Land Grab. *Third World Quarterly*, *34*(9), 1582–1604. https://doi.org/10.1080/01436597.2013.843854

Hall, R. (2011). Land grabbing in Southern Africa: The many faces of the investor rush. *Review of African Political Economy*, *38*(128), 193–214. https://doi.org/10.1080/03056244.2011.582753

Hall, R., Edelman, M., Borras, S. M., Scoones, I., White, B., & Wolford, W. (2015). Resistance, acquiescence or incorporation? An introduction to land grabbing and political reactions 'from below.' *Journal of Peasant Studies*, *42*(3–4), 467–488. https://doi.org/10.1080/03066150.2015.1036746

Hall, R., Scoones, I., & Tsikata, D. (2017). Plantations, outgrowers and commercial farming in Africa: agricultural commercialisation and implications for agrarian change. *Journal of Peasant Studies*, *44*(3), 515–537. https://doi.org/10.1080/03066150.2016.1263187

Harvey, D. (2003). *The new imperialism*. Oxford University Press.

Hickey, S., & Du Toit, A. (2013). *Adverse incorporation, social exclusion, and chronic poverty* (Chronic Poverty).

Hout, W. (1993). *Capitalism and the Third World : development, dependence and the world system*. E. Elgar.

Human Rights Watch. (2013). *"What is a House without Food?" Mozambique's Coal Mining Boom and Resettlements*.

Hunsberger, C., Corbera, E., Borras, S. M., Franco, J. C., Woods, K., Work, C., de la Rosa, R., Eang, V., Herre, R., Kham, S. S., Park, C., Sokheng, S., Spoor, M., Thein, S., Aung, K. T., Thuon, R., & Vaddhanaphuti, C. (2017). Climate change mitigation, land grabbing and conflict: towards a landscape-based and collaborative action research agenda. *Canadian Journal of Development Studies*, *38*(3), 305–324. https://doi.org/10.1080/02255189.2016.1250617

INE. (2012a). *Estatísticas do Distrito de Gilé*. www.ine.gov.mz

INE. (2012b). *Estatísticas do Distrito de Ile*. www.ine.gov.mz

INE. (2012c). *Estatísticas do Distrito de Pebane*. www.ine.gov.mz

INE. (2013a). *Estatísticas do Distrito de Inhassoro*. www.ine.gov.mz

INE. (2013b). *Estatísticas do Distrito de Massingir*. www.ine.gov.mz

IPCC. (2007). *Climate change 2007: impacts, adaptation and vulnerability*. https://doi.org/10.1016/B978-008044910-4.00250-9

IPCC. (2019). Climate change and land grabbing. In *Climate Change and Land*. https://doi.org/10.4337/9781784710644.00020

JICA. (2016). *Agência Japonesa de Cooperação Internacional Factos e Figuras Sobre a JICA*.

Jindal, R., Kerr, J. M., & Carter, S. (2012). Reducing Poverty Through Carbon Forestry? Impacts of the N'hambita Community Carbon Project in Mozambique. *World Development*, *40*(10), 2123–2135. https://doi.org/10.1016/j.worlddev.2012.05.003

Joala, R., Abbas, M., Santos, L. dos, Bruna, N., Serra, C., & Ribeiro, N. (2019). Repensar a segurança alimentar e nutricional: Alterações no

sistema agro-alimentar e o direito à alimentação em Moçambique. In *Conselho Nacional de Segurança Alimentar e Nutricional. Brasília*.

Julia, & White, B. (2012). Gendered experiences of dispossession: Oil palm expansion in a Dayak Hibun community in West Kalimantan. *Journal of Peasant Studies*, *39*(3–4), 995–1016. https://doi.org/10.1080/03066150.2012.676544

Kay, C. (2009). Development strategies and rural development: Exploring synergies, eradicating poverty. *Journal of Peasant Studies*, *36*(1), 103–137. https://doi.org/10.1080/03066150902820339

Kelly, A. B. (2011). Conservation practice as primitive accumulation. *Journal of Peasant Studies*, *38*(4), 683–701. https://doi.org/10.1080/03066150.2011.607695

Kirshner, J., & Power, M. (2015). Mining and extractive urbanism: Post-development in a Mozambican boomtown. *Geoforum*, *61*, 67–78.

Kirshner, Joshua, & Power, M. (2015). Mining and extractive urbanism: Postdevelopment in a mozambican boomtown. *Geoforum*, *61*, 67–78. https://doi.org/10.1016/j.geoforum.2015.02.019

Kröger, M. (2014). The political economy of global tree plantation expansion: a review. *Journal of Peasant Studies*, *41*(2), 235–261. https://doi.org/10.1080/03066150.2014.890596

Lenin, V. I. (1982). The class differentiation of the peasantry. In J. Harris (Ed.), *Rural development: theories of peasant economy and agrarian change*. Routledge.

Lesutis, G. (2019). Spaces of extraction and suffering: Neoliberal enclave and dispossession in Tete, Mozambique. *Geoforum*, *102*(March), 116–125. https://doi.org/10.1016/j.geoforum.2019.04.002

Levien, M. (2013). Regimes of Dispossession: From Steel Towns to Special Economic Zones. *Development and Change*, *44*(2), 381–407. https://doi.org/10.1111/dech.12012

Levien, M. (2017). Gender and land dispossession: a comparative analysis. *Journal of Peasant Studies*, *44*(6), 1113–1136. https://doi.org/10.1080/03066150.2017.1367291

Lewis, W. (1954). A model of dualistic economics. *American Economic Review*, *36(1)*, 46–51.

Li, T. M. (2011). Centering labor in the land grab debate. *Journal of Peasant Studies*, *38*(2), 281–298. https://doi.org/10.1080/03066150.2011.559009

Lunstrum, Elizabeth. (2016). Green grabs, land grabs and the spatiality of displacement: Eviction from Mozambique's Limpopo National Park. *Area*, *48*(2), 142–152. https://doi.org/10.1111/area.12121

Mackenzie, C. (2006). *Forest governance in Zambézia, Mozambique: Chinese take-away*. In Forum das ONGs da Zambezia (FONGZA).

MacKenzie, D. (2009). Making things the same: Gases, emission rights and the politics of carbon markets. *Accounting, Organizations and Society*, *34*(3–4), 440–455. https://doi.org/10.1016/j.aos.2008.02.004

Mamdani, M. (1996). *Citizen and subject: contemporary Africa and the legacy of late colonialism*. Fountain Publishers.

Mandamule, U. (2016). *Tipologia dos conflitos sobre a ocupação da terra em Moçambique* (Observador Rural No 37; Observador Rural No 37).

Mandamule, U., & Bruna, N. (2017). Investimentos, migrações forçadas e conflitos de terra: representações sociais de populações reassentadas no corredor de Nacala. In João Feijó (Ed.), *Movimentos migratórios e relações rural-urbanas: estudos de caso em Moçambique*. Alcance Editores.

Manuel, L., & César, F. (2014). *OCUPAÇÃO DA TERRA POR EMPRENDIMENTOS ECONÓMICOS NO PAÍS* (Issue Relatório de investigação No 5). https://doi.org/10.4324/9781315853178

Marx, K. (1976). *Capital : a critique of political economy*. Penguin.

McKay, B. M. (2017). Agrarian Extractivism in Bolivia. *World Development*, *97*, 199–211. https://doi.org/10.1016/j.worlddev.2017.04.007

McMichael, P. (2012). The land grab and corporate food regime restructuring. *Journal of Peasant Studies*, *39*(3–4), 681–701. https://doi.org/10.1080/03066150.2012.661369

MEF. (n.d.). *Orçamento Geral do Estado (OGE)*.

MEF. (2016). *PUBLICAÇÕES DO PROGRAMA IGM 2016-2019*.

Miles, M. B., & Huberman. (1994). *Qualitative data analysis: An expanded sourcebook*. Sage.

Milgroom, J. (2015). Policy processes of a land grab: at the interface of politics 'in the air' and politics 'on the ground' in Massingir, Mozambique. *Journal of Peasant Studies*, *42*(3–4), 585–606. https://doi.org/10.1080/03066150.2014.991721

MITADER. (2016). *Plano de Investimento Florestal (FIP) para Moçambique*.

MITADER. (2017). *ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)* (Issue January).

Mitchell, D. (2012). They saved the crops: Labor, landscape, and the struggle over industrial farming in Bracero-Era California. In *They Saved the Crops: Labor, Landscape, and The Struggle Over Industrial Farming in Bracero-Era California*. https://doi.org/10.1215/15476715-2149721

Mondliwa, P., & Roberts, S. (2018). Economic Benefits of Mozambican Gas for Sasol and South African Government. *SSRN Electronic Journal*, 1–24. https://doi.org/10.2139/ssrn.3103605

Monjane, B., & Bruna, N. (2020). Confronting agrarian authoritarianism: dynamics of resistance to PROSAVANA in Mozambique. *Journal of Peasant Studies*, *47*(1), 69–94. https://doi.org/10.1080/03066150.2019.1671357

Moore, J. W. (2011). Transcending the metabolic rift: A theory of crises in the capitalist world-ecology. *Journal of Peasant Studies*, *38*(1), 1–46. https://doi.org/10.1080/03066150.2010.538579

Moore, J. W. (2017). The Capitalocene, Part I: on the nature and origins of our ecological crisis. *Journal of Peasant Studies*, *44*(3), 594–630. https://doi.org/10.1080/03066150.2016.1235036

Moore, J. W. (2018). The Capitalocene Part II: accumulation by appropriation and the centrality of unpaid work/energy. *Journal of Peasant Studies*, *45*(2), 237–279. https://doi.org/10.1080/03066150.2016.1272587

Moore, S. W. (1957). *The critique of capitalist democracy: An introduction to the theory of the State in Marx, Engels and LEnin.* . Paine-Whitman publishers.

Mosca, J. (2005). *Economia de Moçambique: Século XX*. Instituto Piaget.

Mosca, João, Abbas, M., & Bruna, N. (2016). *Governação 2004 – 2014. Poder, Estado, Economia e Sociedade*. Alcance Editores.

Mosca, Bruna, N., & Mandamule, U. (2016). Economia Política da Agricultura. Ênfase para o Agronegócio. In João Mosca (Ed.), *Agricultura e Políticas Públicas em Moçambique*. Escolar Editora.

Moyo, S. (1994). *THE LAND QUESTION IN ZIMBABWE*.

Moyo, S. (2000). *Land reform under structural adjustment in Zimbabwe: land use change in the Mashonaland provinces*. Nordic Africa Institute.

Moyo, S., Jha, P., & Yeros, P. (2013). The Classical Agrarian Question: Myth, Reality and Relevance Today. *Agrarian South: Journal of Political Economy*, *2*(1), 93–119. https://doi.org/10.1177/2277976013477224

Moyo, S., Jha, P., & Yeros, P. (2019). *Reclaiming Africa: Scramble and Resistance in the 21st century*. Springer. https://doi.org/10.1007/978-981-10-5840-0

Moyo, S., Yeros, P., & Jha, P. (2012). Imperialism and Primitive Accumulation: Notes on the New Scramble for Africa. *Agrarian South: Journal of Political Economy*, *1*(2), 181–203. https://doi.org/10.1177/227797601200100203

Mundle, S. (1985). The agrarian barrier to industrial growth. *The Journal of Development Studies*, *22:1*, 49–80.

Nancy Fraser. (2016). Contradictions of Capital and Care. *New Left Review*, 99–117.

Nogueira, I., Ollinaho, O., Pinto, E. C., Baruco, G., Saludjian, A., Pinto, J. P. G., Balanco, P., & Schonerwald, C. (2017). Mozambican economic porosity and the role of Brazilian capital: a political economy analysis. *Review of African Political Economy*, *44*(151), 104–121. https://doi.org/10.1080/03056244.2017.1295367

North, L. L., & Grinspun, R. (2016). Neo-extractivism and the new Latin American developmentalism: the missing piece of rural transformation. *Third World Quarterly*, *37*(8), 1483–1504. https://doi.org/10.1080/01436597.2016.1159508

Nygren, A. (2000). Development Discourses and Peasant-Forest Relations: Natural Resource Utilization as Social Process. *Development and Change*, *31*, 11–34.

Nygren, A., & Rikoon, S. (2008). Political ecology revisited: Integration of politics and ecology does matter. *Society and Natural Resources*, *21*(9), 767–782. https://doi.org/10.1080/08941920801961057

O'connor, J. (1979). *The fiscal crisis of the state*. Transaction Publishers.

O'connor, J. (1998). *Natural Causes: Essays in Ecological Marxism*. The Guildford Press.

O'Laughlin, B. (1996). Through a divided glass: Dualism, class and the agrarian question in Mozambique. *Journal of Peasant Studies*, *23*(4), 1–39. https://doi.org/10.1080/03066159608438618

O'Laughlin, B. (2002). Proletarianisation, agency and changing rural livelihoods: Forced labour resistance in colonial Mozambique. *Journal of Southern African Studies*, *28*(3), 511–530. https://doi.org/10.1080/0305707022000006495

Otsuki, K., Achá, D., & Wijnhoud, J. D. (2017). After the consent: Reimagining participatory land governance in Massingir, Mozambique. *Geoforum*, *83*, 153–163. https://doi.org/10.1016/j.geoforum.2016.09.011

Ouma, S. (2014). Situating global finance in the Land Rush Debate: A critical review. *Geoforum*, *57*, 162–166.

Overbeek, W., Kröger, M., & Gerber, J.-F. (2012). *An overview of industrial tree plantations in the global South Conflicts, trends and resistance struggles*. www.ejolt.org

Oya, C. (2013). Rural wage employment in Africa: Methodological issues and emerging evidence. *Review of African Political Economy*, *40*(136), 251–273. https://doi.org/10.1080/03056244.2013.794728

Oya, C., & Sender, J. (2009). Divorced, separated, and widowed women workers in rural Mozambique. *Feminist Economics*, *15*(2), 1–31. https://doi.org/10.1080/13545700902729516

Paterson, M., & Stripple, J. (2012). Virtuous carbon. *Environmental Politics*, *21*(4).

PDA. (2001). *Sasol Natural Gas Project Mozambique To South Africa: Environmental Impact Study. August*.

Peet, R., Robbins, W. P., & Watts, T. M. (2010). Global political ecology. In *Global Political Ecology* (Vol. 9780203842). https://doi.org/10.4324/9780203842249

Peluso, N. L., & Lund, C. (2011). New frontiers of land control: Introduction. *Journal of Peasant Studies*, *38*(4), 667–681. https://doi.org/10.1080/03066150.2011.607692

Pereira, C., & Tsikata, D. (2021). Extractivism | Resistance | Alternatives. *Feminist Africa*. https://feministafrica.net/

Petras, J., & Veltmeyer, H. (2014). Extractive Imperialism in the Americas. In *Extractive Imperialism in the Americas*. https://doi.org/10.1163/9789004268869

Phelps, J., Webb, E. L., & Agrawal, A. (2010). Does REDD+ Threaten to Recentralize Forest Governance? *Science*, *328*, 312–313.

Polanyi, K. (2001). *The Great Transformation, and Contemporary Capitalism*. https://doi.org/10.1007/s11614-019-00341-8

Poulantzas, N. (1968). *Political Power and social classes*.

Pratt, A. C. (2013). '… the point is to change it' Critical realism and human geography. *Dialogues in Human Geography*, *3(1)*, 26–29.

Rangan, H., & Kull, C. A. (2009). What makes ecology "political"?: Rethinking "scale" in political ecology. *Progress in Human Geography*, *33*(1), 28–45. https://doi.org/10.1177/0309132508090215

Ricardo, D. (1919). *On the Principles of Political Economy*.

Robbins, P. (2012). *Political Ecology: A critical introduction* (Second Edi). John Wiley & Sons.

Salimo, P. (2017). *Perfil de Terras em Mocambique*.

Scheidel, A., & Work, C. (2018). Forest plantations and climate change discourses: New powers of 'green' grabbing in Cambodia. *Land Use Policy*, *77*(September 2017), 9–18. https://doi.org/10.1016/j.landusepol.2018.04.057

Schiavoni, C. M. (2017). The contested terrain of food sovereignty construction: toward a historical, relational and interactive approach. *Journal of Peasant Studies*, *44*(1), 1–32. https://doi.org/10.1080/03066150.2016.1234455

Scoones, I. (1999). SUSTAINABLE RURAL LIVELIHOODS: A FRAMEWORK FOR ANALYSIS. In *IDS Working paper 72* (Vol. 42, Issue 2). https://doi.org/10.1057/palgrave.development.1110037

Scoones, Ian. (2009). Livelihoods perspectives and rural development. *Journal of Peasant Studies*, *36*(1), 171–196. https://doi.org/10.1080/03066150902820503

Scoones, I., M. Edelman, S. M. Borras Jr, R. Hall, W. Wolford, and B. White. (2017). Emancipatory Rural Politics: Confronting Authoritarian Populism. *The Journal of Peasant Studies* 45: 1–20.

Seagle, C. (2012). Inverting the impacts: Mining, conservation and sustainability claims near the Rio Tinto/QMM ilmenite mine in Southeast Madagascar. *The Journal of Peasant Studies*, *39*(2), 447–477.

Selemane, T. (2016). *Entre a Implosão do El Dorado e a Contínua Degradação das Condições de Vida dos Reassentados* (Observador Rural No 45).

Sender, J., Oya, C., & Cramer, C. (2006). Women working for wages: Putting flesh on the bones of a rural labour market survey in Mozambique. *Journal of Southern African Studies*, *32*(2), 313–333. https://doi.org/10.1080/03057070600656291

Shah, A., & Lerche, J. (2020). Migration and the invisible economies of care: Production, social reproduction and seasonal migrant labour in India. *Transactions of the Institute of British Geographers*, *45*(4), 719–734. https://doi.org/10.1111/tran.12401

Shivji, I. G. (1987). The roots of the agrarian crisis in Tanzania: a theoretical perspective. *Eastern Africa Social Science Research Review*, *III*(1), 111–133.

Shivji, I. G. (2009). Accumulation in an African periphery: A theoretical framework. *Accumulation in an African Periphery: A Theoretical Framework*, 1–100.

Shivji, I. G. (2017a). The Concept of 'Working People.' *Agrarian South: Journal of Political Economy: A Triannual Journal of Agrarian South Network and CARES*, *6*(1), 1–13. https://doi.org/10.1177/2277976017721318

Shivji, I. G. (2017b). The Concept of 'Working People.' *Agrarian South: Journal of Political Economy*, *6*(1), 1–13. https://doi.org/10.1177/2277976017721318

Shivji, I. G. (2019). Sam Moyo and Samir Amin on the Peasant Question. *Agrarian South: Journal of Political Economy*, *8*(1–2), 287–302. https://doi.org/10.1177/2277976019845737

Smart, T., & Hanlon, J. (2014). *Galinhas e cerveja: uma receita para o crescimento.* . Ciedima.

Smith, A. (1976). *An Inquiry into the Nature and Causes of the Wealth of Nations*. Oxford University Press.

Smith, N. (1990). *Uneven development : nature, capital and the production of space* (2nd ed). Blackwell.

Lunstrum, E. (2008). Mozambique , Neoliberal Land Reform , and the Limpopo National Park. *Geographical Review*, *98*(3), 339–355.

Steinmo, S. (2008). Historical institutionalism. In *Approaches and Methodologies in the Social Sciences*. Cambridge University Press.

Stephan, B. (2012). Bringing discourse to the market: The commodification of avoided deforestation. *Environmental Politics*, *21*(4), 621–639. https://doi.org/10.1080/09644016.2012.688357

Stephan, B., & Paterson, M. (2012). The politics of carbon markets: An introduction. *Environmental Politics*, *21*(4), 545–562. https://doi.org/10.1080/09644016.2012.688353

Stevano, S., & Ali, R. (2019). *Working in the Agro-Industry in Mozambique: Can These Jobs Lift Workers Out of Poverty? Sara Stevano and Rosimina Ali Introduction* (No. 117; Issue IDeIAS).

Swallow, B. M., & Goddard, T. W. (2013). Value chains for bio-carbon sequestration services: Lessons from contrasting cases in Canada, Kenya and Mozambique. *Land Use Policy*, *31*, 81–89. https://doi.org/10.1016/j.landusepol.2012.02.002

Taylor, M. (2018). Climate-smart agriculture: what is it good for? *Journal of Peasant Studies*, *45*(1), 89–107. https://doi.org/10.1080/03066150.2017.1312355

The World Bank. (2007). *World Development Report 2008: Agriculture for development*. https://doi.org/10.1596/978-0-8213-7297-5

The World Bank. (2010a). *Economics of Adaptation to Climate Change*.

The World Bank. (2010b). *Prospects for Growth Poles in Mozambique Summary Report* (Issue August 2010).

The World Bank. (2010c). *World Development Report 2010: Development and climate change*. https://doi.org/10.3334/CDIAC/cli.002

The World Bank. (2011). *Climate-smart agriculture: A Call to Action*. https://doi.org/10.4324/9781315621579-4

Thelen, K. (1999). HISTORICAL INSTITUTIONALISM IN COMPARATIVE POLITICS. In *Annu. Rev. Polit. Sci* (Vol. 2). www.annualreviews.org

Tienhaara, K. (2012). The potential perils of forest carbon contracts for developing countries: Cases from Africa. *Journal of Peasant Studies*, *39*(2), 551–572. https://doi.org/10.1080/03066150.2012.664137

Torvikey, D. (2021). Reclaiming Our Land and Labour: Women's Resistance to Extractivist Agriculture in South-eastern Ghana. *Feminist Africa*, *2*. https://feministafrica.net/

Torvikey, G. D., Yaro, J. A., & Teye, J. K. (2016). Farm to Factory Gendered Employment: The Case of Blue Skies Outgrower Scheme in Ghana. *Agrarian South: Journal of Political Economy*, *5*(1), 77–97. https://doi.org/10.1177/2277976016669188

Tramel, S. (2016). The Road Through Paris: Climate Change, Carbon, and the Political Dynamics of Convergence. *Globalizations*, *13*(6), 960–969. https://doi.org/10.1080/14747731.2016.1173376

Tsikata, D. (2016). Gender, Land Tenure and Agrarian Production Systems in Sub-Saharan Africa. *Agrarian South: Journal of Political Economy*, *5*(1), 1–19. https://doi.org/10.1177/2277976016658738

Tsikata, D., & Yaro, J. A. (2014). When a Good Business Model is Not Enough: Land Transactions and Gendered Livelihood Prospects in Rural Ghana. *Feminist Economics*, *20*(1), 202–226. https://doi.org/10.1080/13545701.2013.866261

UNDP. (2019). *Human Development Report 2019 Inequalities in Human Development in the 21 st Century*.

Veltmeyer, H. (2012). The natural resource dynamics of postneoliberalism in latin America : New developmenta lism or extractivist imperialism ? *Studies in Political Economy*, *90*, 57–85. https://doi.org/10.1080/19187033.2012.11674991

Veltmeyer, H. (2020). Latin America in the vortex of social change: Development and social movement dynamics. *World Development*, *130*, 104916. https://doi.org/10.1016/j.worlddev.2020.104916

Visser, O., Clapp, J., & Isakson, S. R. (2015). Introduction to a Symposium on Global Finance and the Agri-food Sector: Risk and Regulation. *Journal of Agrarian Change*, *15*(4), 541–548.

Visser, Oane. (2017). Running out of farmland? Investment discourses, unstable land values and the sluggishness of asset making. *Agriculture and Human Values*, *34*(1), 185–198. https://doi.org/10.1007/s10460-015-9679-7

Watts, M. (2000). Political Ecology. In *A Companion to Economic Geography*. Blackwell Publishing Ltd. https://doi.org/10.1111/b.9780631235798.2002.x

Watts, M. (2004). Resource curse? Governmentality, oil and power in the Niger Delta, Nigeria. *Geopolitics*, *9*(1), 50–80. https://doi.org/10.1080/14650040412331307832

White, B., Borras, S. M., Hall, R., Scoones, I., & Wolford, W. (2012). The new enclosures: Critical perspectives on corporate land deals. *Journal of Peasant Studies*, *39*(3–4), 619–647. https://doi.org/10.1080/03066150.2012.691879

Wolford, W. (2021). The colonial roots of agricultural modernization in Mozambique: the role of research from Portugal to ProSavana. *Journal of Peasant Studies*, *48*(2), 254–273. https://doi.org/10.1080/03066150.2019.1680541

Wolford, W., Borras, S. M., Hall, R., Scoones, I., & White, B. (2013). Governing Global Land Deals: The Role of the State in the Rush for Land. *Development and Change*, *44*(2), 189–210. https://doi.org/10.1111/dech.12017

Woods, K. (2015). *Intersections of land grabs and climate change mitigation strategies in Myanmar as a (post-) war state of conflict*. http://rcsd.soc.cmu.ac.th

Work, C. (2015a). *Intersections of Climate Change Mitigation Policies, Land Grabbing and Conflict in a Fragile State: Insights from Cambodia*. http://rcsd.soc.cmu.ac.th

Work, C. (2015b). *Intersections of Climate Change Mitigation Policies, Land Grabbing and Conflict in a Fragile State: Insights from Cambodia*. *2*, 34.

Wuyts, M. (2011). *THE WORKING POOR A Macro Perspective: valedictory address*.

Wuyts, Marc. (1980). *Economia Política do colonialism português em Moçambique* (pp. 9–22).

Wuyts, Marc. (1989). *Money and planning for socialist transition: the Mozambican experience*. Dartmouth Publishing Co. Ltd.

Wuyts, Marc. (2001). *The agrarian question in Mozambique's transition and reconstruction*.

Wynn, D., & Williams, C. K. (2012). *PRINCIPLES FOR CONDUCTING CRITICAL REALIST CASE STUDY RESEARCH IN INFORMATION SYSTEMS 1*.

Xu, Y. (2019). Rethinking the politics of land-use change: Insights from the rise of the industrial tree plantation sector in Southern China.

Land Use Policy, *87*(June), 104025. https://doi.org/10.1016/j.landusepol.2019.104025

Ye, J., van der Ploeg, J. D., Schneider, S., & Shanin, T. (2020). The incursions of extractivism: moving from dispersed places to global capitalism. *Journal of Peasant Studies*, *47*(1), 155–183. https://doi.org/10.1080/03066150.2018.1559834

Yeung, H. (1997). *Critical realism and realist research in human geography: a method or a philosophy in search of a method?*

Zimmerer, K. S., & Bassett. (2003). *Political Ecology: An Integrative Approach to Geography and Environment-Development Studies*. Guilford Press.

Zoomers, A. (2010). Globalisation and the foreignisation of space: Seven processes driving the current global land grab. *Journal of Peasant Studies*, *37*(2), 429–447. https://doi.org/10.1080/03066151003595325

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She started her PhD in 2017 aiming to investigate the implications of extractivism based on resource grabbing and its intersections with climate change mitigations and adaptation policies in Mozambique. Relying in a political economy/ecology lens, in the context of climate change policy enforcement, she explored agrarian change brought up by different variations of extractivism in the country, its implications to global patterns of accumulation and the implications for rural livelihoods and social reproduction. She has presented the findings of her PhD research at seminars, workshops and international conferences. She has also published in top academic journals including the Journal of Peasant Studies and Land.

Peer reviewed publications:

Monjane, B., & **Bruna, N.** (2020). Confronting agrarian authoritarianism: dynamics of resistance to PROSAVANA in Mozambique. *The Journal of Peasant Studies*, *47*(1), 69-94.

Bruna, N. (2019). Land of Plenty, Land of Misery: Synergistic Resource Grabbing in Mozambique. *Land*, *8*(8), 113.

Bruna, N. (2019). Reflexões sobre o Modelo de Desenvolvimento Rural e Cooperação no Corredor de Nacala. *Cadernos de Estudos Africanos*, (37), 185-211.

Bruna, N. (2017). Economia Política da Governação: Política Económica de Controle, Manutenção e Reprodução de Poder. *REVISTA NERA*. 38: 13-40.

Book chapters and working papers:

Monjane, B. **& Bruna, N.** (2018). Between populist rhetoric of market-oriented agricultural development and rural resistance in Mozambique. Conference paper of ERPI 2018 International Conference Authoritarian Populism and the Rural World.

Bruna, N. (2017). Reflexions on the south-south new sub-imperialism in Mozambique: a "24h open business" for natural resources? Conference paper No 33. The 5th International Conference of the BRICS Initiative for Critical Agrarian Studies.

Mandamule, U. & **Bruna, N.** (2017). Em nome do desenvolvimento: Investimentos, migrações forcadas e conflitos de terra no Corredor de Nacala. Em Feijo, J. (2017). *Movimentos Migratórios e Relações Rural-Urbanas: Estudo de Caso em Moçambique*. Escolar Editora. Maputo.

Bruna, N. (2017). Plantações Florestais e a Instrumentalização do Estado em Moçambique. Observador Rural No 53.

Mosca, J. & **Bruna, N.** (2016). ProSavana: Discursos, Práticas e Realidades. Observador rural No 31.

Conferences, Seminars and Workshops (presentations)

Bruna, N. (2017). "Reflexions on the south-south new sub-imperialism in Mozambique: a "24h open business" for natural resources?". *The*

5th International Conference of the BRICS Initiative for Critical Agrarian Studies,13-16 October 2017, Moscow, Russia.

Bruna, N. (2018). "Extractivism and agrarian change in Mozambique". Seminar on *Agrarian change, labour and agency in rural Mozambique. ISS PE seminar. The Hague, The Netherlands.*

Bruna, N. (2018). "Forest plantation and State instrumentalization in Mozambique". *LandAc Conference. Utrecht University, The Netherlands.*

Bruna, N. (2018). "BRICS extractivism in Mozambique: sub-imperialism, resource curse and underdevelopment". *6th international Conference of the BRICS Initiative for Critical Agrarian Studies. November 2018, Brasilia, Brazil.*

Bruna, N. (2019). "Climate Change as The New Frontier Of Accumulation In Africa: Redd+ And Climate Smart Agriculture In Mozambique". *YARA-PLASS Theory Workshop. Cape Town, South Africa.*

Bruna, N. (2019). "Models of extractivism in Mozambique and implications for rural development". *International Extractivism symposium. Centro de Estudos Africanos, Universidade Eduardo Mondlane. Maputo, Mozambique.*

Bruna, N. (2019). "BRICS extractivism in Mozambique: sub-imperialism, resource curse and underdevelopment". *Sam Moyo African Institute for Agrarian Studies Summer School Programme. January, 2019, Harare, Zimbabwe.*

Bruna, N. (2019). "Massingir: The Land of the Plenty, the Land of the Misery: Synergistic Resource Grabbing in a Context of Convergence of Multiple Crisis". *JPS-COHD-FAC Annual Summer Writeshop-Workshop in Critical Agrarian Studies and Scholar-Activism for PhD. July 2019, China Agricultural University, Beijing, China.*

Bruna, N. (2020). "The rise of green extractivism in Mozambique". *EXALT Symposium 2020: Extractivisms and Alternatives. University of Helsinki, Finland.*

Bruna, N. (2020). "From a threat to an opportunity: Climate change as the new frontier of accumulation". *African Commons IASC 2020 Web Conference. International Association for the Study of the Commons.*

Bruna, N. (2021). "The global environmental crisis and emission rights: the rise of green extractivism in Mozambique". *ISS Research In Progress Seminar. The Hague, The Netherlands.*

Bruna, N. (2021). "Climate change, extractivism and tree plantations in Mozambique". *A Conversation on the Plantationocene. Cornell University, USA.*

Bruna, N. (2021). "From a threat to an opportunity: Climate change as the new frontier of accumulation". *15th International Conference of Africanist, Institute for African Studies Russian Academy of Sciences. Moscow, Russia.*