DECONSTRUCTING AND DEBUNKING FALSE SOLUTIONS:

REDD+ AND CARBON MARKETS IN AFRICA

DECONSTRUCTING AND DEBUNKING FALSE SOLUTIONS:

REDD+ AND CARBON MARKETS IN AFRICA

This report was first published in June 2025

No REDD in Africa Network (NRAN)
Website: www.no-redd.africa

Research: Natacha Bruna

Health of Mother Earth Foundation (HOMEF)
30, 19th Street, Ugbowo-Lagos, Benin City, Nigeria
Email: home@homef.org

Justiça Ambiental (JA!)
Rua Willy Waddington, Bairro da Coop Nr. 102 – Cidade de Maputo, Mozambique
Email: jamoz2010@gmail.com

Printed in Nigeria by: NibronPrints

Layout & Design: Babawale Obayanju (Owales Graphics)

This report is published with the support of Grassroots International.

CONTENTS

EXECUTIVE SUMMARY

African natural resources and biodiversity are being promoted as central tools of the market-based solutions to the current environmental crisis, particularly through REDD+ and the production of carbon credits. The recently created African Carbon Markets Initiative (ACMI) aims to accelerate the growth of Voluntary Carbon Markets (VCM) in Africa and to drive a dramatic increase in the production of African carbon credits to one of the most exported commodities of the continent (ACMI, 2022). Projects and financing mechanisms are being implemented with the aim of "producing" carbon credits, including land-based carbon sequestration projects (such as REDD+ for conservation and reforestation), blue carbon (carbon based on coastal and marine ecosystems), projects aiming changes in traditional production techniques and systems (such as Climate-Smart Agriculture), projects promoting "more sustainable" ways of living of rural households (use of greener devices, such as highly efficient coal stoves or solar home systems).

Research shows adverse impacts to rural livelihoods and subsistence. This highly relates to green extractivism, where emission rights are expropriated and extracted from rural households in favor of external actors' compensation of emissions. Under green extractivism, rural households are not only being deprived of resources determinant for their livelihoods, having their labor further exploited but also being deprived of their ability to rightfully use and benefit from ecological assets – the right to emit (Bruna, 2022). At the end of the day, these green policies and solutions are feeding capital accumulation of the very same actors that are historically responsible for the climate crisis. These solutions rely on the same exploitative and asymmetric economic, social and ecological exchange relations that created and reproduced the current crisis and the historical socioeconomic vulnerability of developing countries.

REDD+ and carbon markets intrinsically carry inefficiencies and injustices in disfavor of African countries. They facilitate green grabbing and green extractivism and because of their legitimation strategies ("the fight against climate change", "protecting and saving the planet for future generations", "building resilience", among others), resisting against that can be challenging.

This report explores and exposes differentiated injustices that climate solutions and carbon markets carry out, and based on that, it suggests that strategies to fight green extractivism and green grabbing should involve deconstructing the "green" legitimation strategies and discourses and debunking the distracting reformisms that are supported by them. There are ineffectivenesses that show that these solutions are not solving what they claim to be solving nor achieving what they claim to be achieving. And this is the key to resist green extractivism.

Some of these were identified and listed, deconstructed and debunked, however, efforts to provide more of evidence-based analysis in other contested terrains are encouraged. Exposing and addressing the socio-environmental ineffectiveness of REDD+ and carbon markets and moving away from distracting reformisms is the key to resisting green grabbing and extractivism.

This report is important as its clearly denounces the merger of REDD-type colonialism with the explosion of the scope and scale of offsets within all ecosystems; and the privatization of living beings and iconic African species like elephants and lions for offsets and the creation of mega, multinational offset "countries" such as the Lion Carbon Kingdom, which include extractivism. Additionally, two parallel fronts of restrategizing are recommended, both actions from within the existing system and actions towards system change. Pursuing better terms of incorporation within the existing system while parallelly pursuing non-extractivist transformative climate action could help minimize the existing adverse implications on the ground. This includes bargaining for better prices of African carbon credits and better mechanisms of compensation of expropriated households that account for ecological losses.
Lastly, this report has highlighted key new scathing critiques of emblematic African REDD projects like the Kasigua Corridor REDD+ project in Kenya that was denounced by the Kenyan Human Rights Commission for decade-long sexual violence against women, which would be important to include for strategizing and alliance building with other sectors such as African women's organizations[1].
.

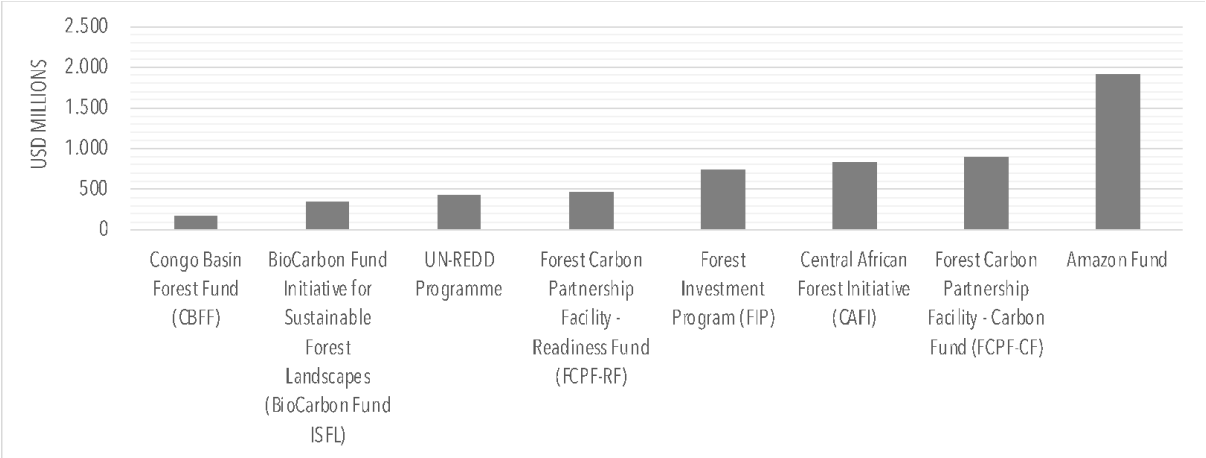
1 Carbon Offsetting Project and Human Rights Abuse in Kenya - SOMO

I. REDD+ IN AFRICA, GREEN FINANCIALIZATION AND SOCIOENVIRONMENTAL IMPLICATIONS

An overview

COP28's discussions and solutions systematically underline climate finance as one of the main accelerators of climate action, along with tripling renewable energy capacity but with a less enthusiastic emphasis on phasing out fossil fuels. Climate finance is at the core of the political economy of mitigation and adaptation. REDD+[2] is globally spreading as one of the most prominent climate mitigation strategies. UNEP's perception of forests is that they "are an available, effective and cost-efficient key nature-based solution that can provide up to a third of the mitigation required to keep global warming well below 2°C.
Forests have a mitigation potential of over 5 $GtCO_2e$ per year"[3]. Through UN REDD, a programme involving UNEP, FAO and UNDP that provides technical assistance and knowledge, 65 countries around the world have been receiving guidance and implementing REDD+. But that is not the only funding body of REDD+ globally. Graph 1 depicts global REDD+ climate funds with distinct activity and even regional focuses (contributors are listed in Annex 1, including Petrobras Brasil directly funding the Amazon Fund).

Graph 1: REDD+ funds

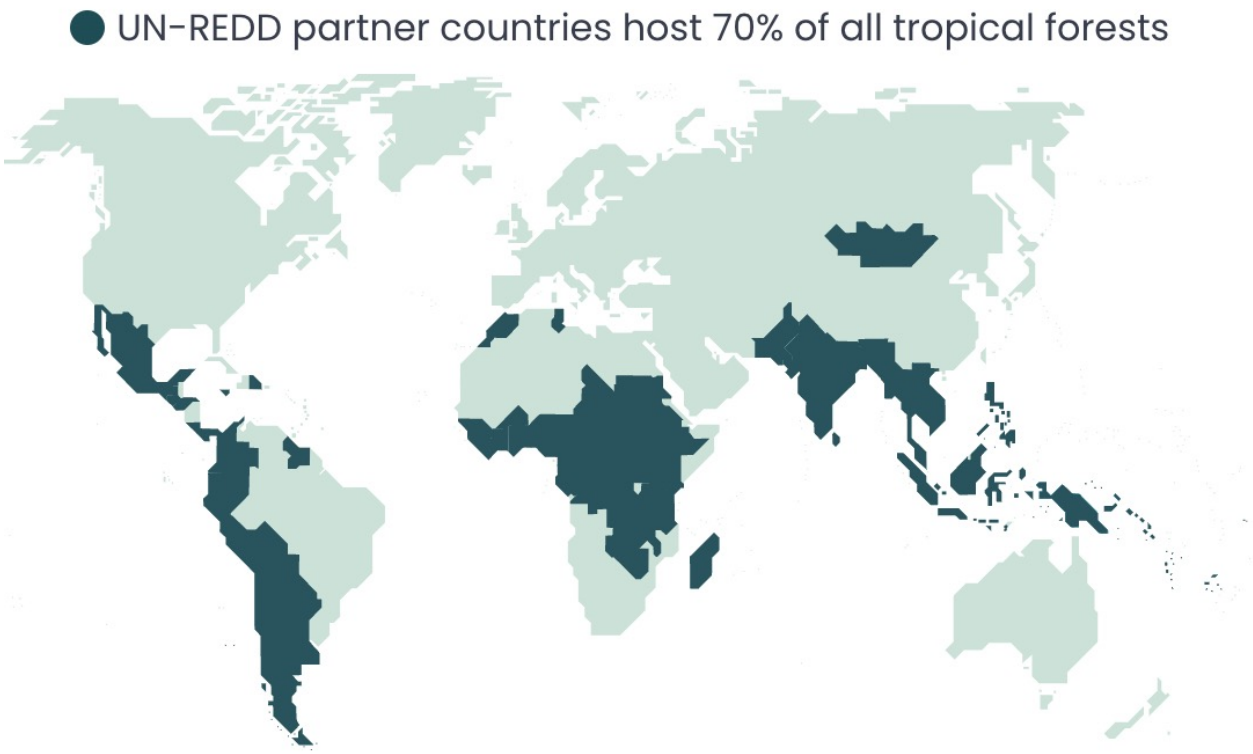


Source: author elaborated based on CFU database available at: https://climatefundsupdate.org/data-dashboard/themes/

2 REDD+ is a climate change mitigation solution developed by Parties to the United Nations Framework Convention on Climate Change (UNFCCC).
3 https://www.unep.org/explore-topics/climate-action/what-we-do/redd

Although forests are the main focus, national REDD+ programmes and activities can vary or in other words are "tailored to national circumstances and needs" but mainly aiming "… to incentivize developing countries to reduce emissions from deforestation and forest degradation, conserve forest carbon stocks, sustainably manage forests and enhance forest carbon stocks" (UN REDD, 2016: xx). Figure 1 depicts an overview of partner countries working with UN REDD.

Figure 1 – UN REDD Partner countries



Source: UN REDD[4]

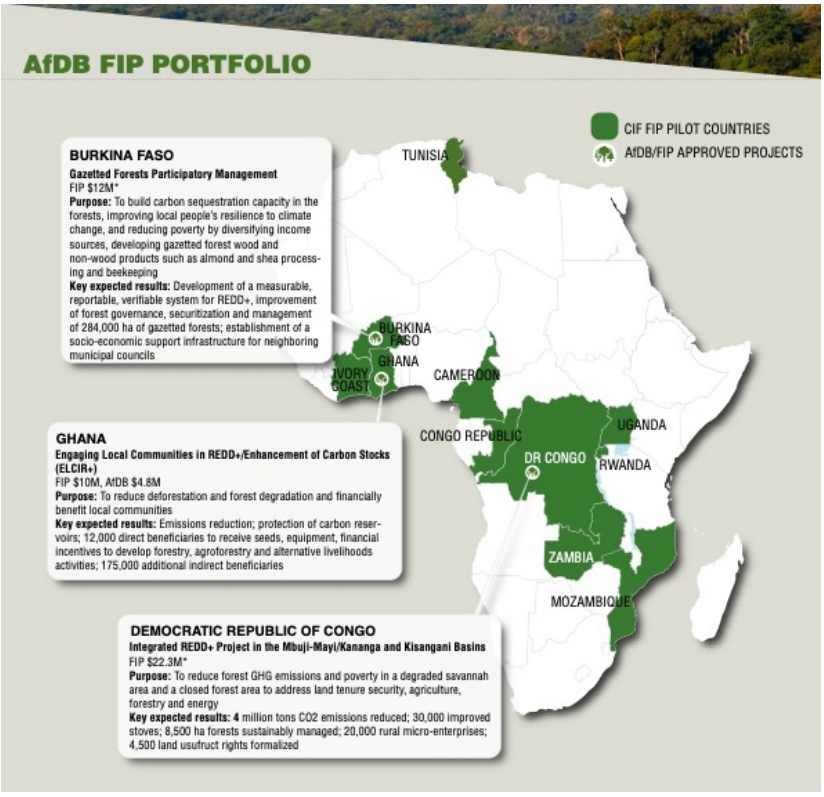
The Democratic Republic of the Congo is one of UN REDD partner countries. In 2012 they supported the creation of REDD+ National Fund of DRC (FONAREDD) as the main implementing institution of REDD+ national strategy. Involving multiple Ministries, Finance being the chair. FONAREDD is a fund managed by the Multi-Partner Trust Fund Office of

4 https://www.un-redd.org/about/our-impact

the UNDP and donors can allocate their contributions through the United Nations agencies; multilateral and regional development banks; technical bilateral agencies, such as the French Development Agency, the German Agency for International Cooperation (GIZ), Japan International Cooperation Agency, or others; international non-governmental organizations; and national entities. The national strategy includes mitigation activities beyond direct forest conservation, such as selling of clean cookstoves to households aiming reduction of emissions from using firewood/forest-based fuel for cooking. The impact reported includes 500.000 Ha of forest protected and 31.109 clean cookstoves sold[5].

However, not all countries are under the collaboration with UN REDD, other REDD+ multilaterals include the Forest Carbon Partnership Facility (FCPF) and Forest Investment Program (FIP) hosted by The World Bank (UN REDD, 2016)[6]. The African Development Bank report (AfDB and CIF, 2016) explore their operationalization of the World Bank's FIP (See Figure 2). According to the report, AfDB is an implementing agency of the Climate Investment Funds (CIF) and the FIP is one of its three strategic programs, which operates in 11 African countries: Burkina Faso, Democratic Republic of Congo, Congo Republic, Ivory Coast, Mozambique, Ghana, Cameroon, Zambia, Tunisia, Uganda and Rwanda (AfDB and CIF, 2016). FIP provides financing to plan and implement national REDD+ strategies claiming "to contribute to multiple benefits such as biodiversity conservation, protection of the rights of indigenous peoples groups and local communities, poverty reduction and rural livelihood enhancements." (AfDB and CIF, 2016: xx).

Figure 2 – FCPF partner countries



Source: AfDB and CIF (2016).

For those not directly supported by UN REDD, the mechanisms can be different but not divergent. For instance, Mozambique received around USD 8.8 million just to prepare the REDD+ national strategy and legal/administrative instruments to operationalize it (MITADER, 2017). Financed by MozFIP (the World Bank's Forest Investment Program

5 More info on FONAREDD at: https://fonaredd-rdc.org/accueil2/ and https://mptf.undp.org/fund/3cd00

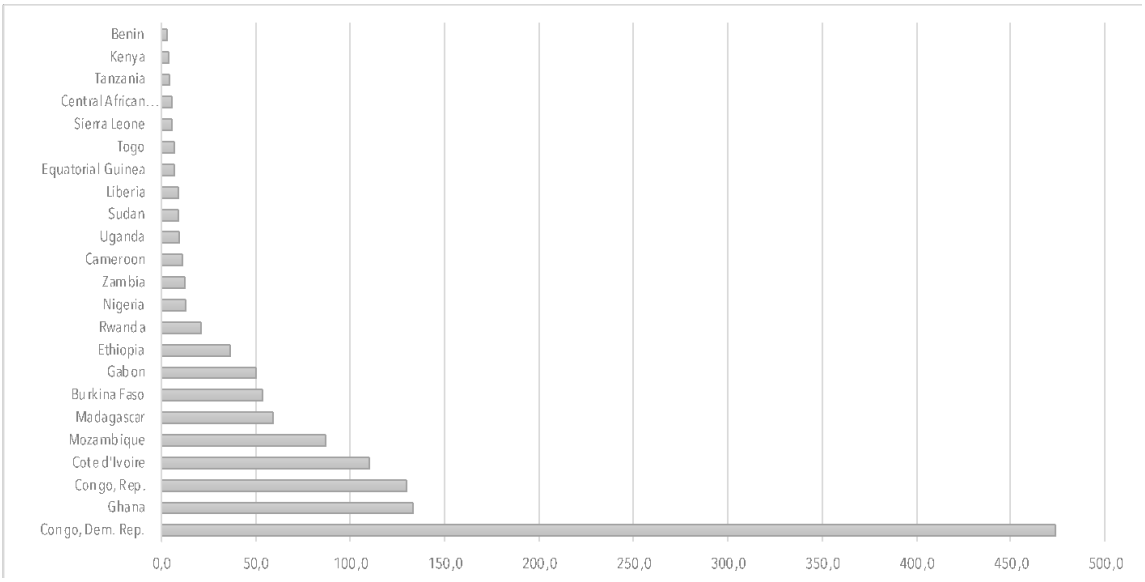
6 https://www.un-redd.org/sites/default/files/2021-10/Fact%20Sheet%201-%20About%20REDD3.pdf

(FIP) mentioned above), the 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). 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).

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. The national strategy of reforestation foresees the intensification of tree plantations and monocrop biofuel production as a synergistic way to respond to REDD+ demands and stimulate economic growth. Similarly to DRC, the implementation of the strategy involved multiple actors including financial institutions and development agencies with distinct roles throughout the carbon commodity chain (See Figure X).

Many African countries are among the top 20 REDD+ fund recipients globally. These are DRC, Ghana, Congo, Cote d'ivoire, Mozambique, Madagascar, Burkina Faso, Gabon and Ethiopia. Sub Saharan Africa recipients are depicted in the following Graph:

Graph 1 - REDD+ Fund Recipients SSA (USD Millions)



Source: author elaborated based on CFU database available at: https://climatefundsupdate.org/data-dashboard/themes/

REDD+: the role of green financialization and alliance building (for green extractivism)

A Global Climate Finance Architecture

COP28's central focus on finance is nothing new as mitigation and adaptation policies have been highly reliant on climate finance for their materialization, especially in Global south countries. It is indeed worth depicting the global climate finance architecture (CFU, 2023) and the role of financialization (Bruna, 2022). The level of complexity is recognized by the CFU's (2023) report, stating that monitoring flows of climate finance is difficult as "there is no agreed definition of what constitutes climate finance or consistent accounting rules'' (CFU, 2018)

> *The architecture has differing structures of governance, modalities and objectives. The proliferation of climate finance mechanisms increases the challenges of coordinating and accessing finance, as well as its monitoring. While the transparency of climate finance programmed through multilateral initiatives is increasing, detailed information on bilateral initiatives, regional and national funds are often less readily available.*[7]

The report presents a general overview of global climate finance, indicating a number of channels and funds dedicated to address climate change (see Figure3, extracted from CFU's report). Global Climate Funds (such as Green Climate Fund or Adaptation Fund) channel climate finance to developing countries through regional or national funds. Developing countries can also access funds through Multilateral Development Banks, international commercial banks, UN agencies or National, Regional and Sub-National Implementing Entities. Climate finance available include grants, concessional loans, guarantees and private equity.

For instance, as CFU (2023) explains:

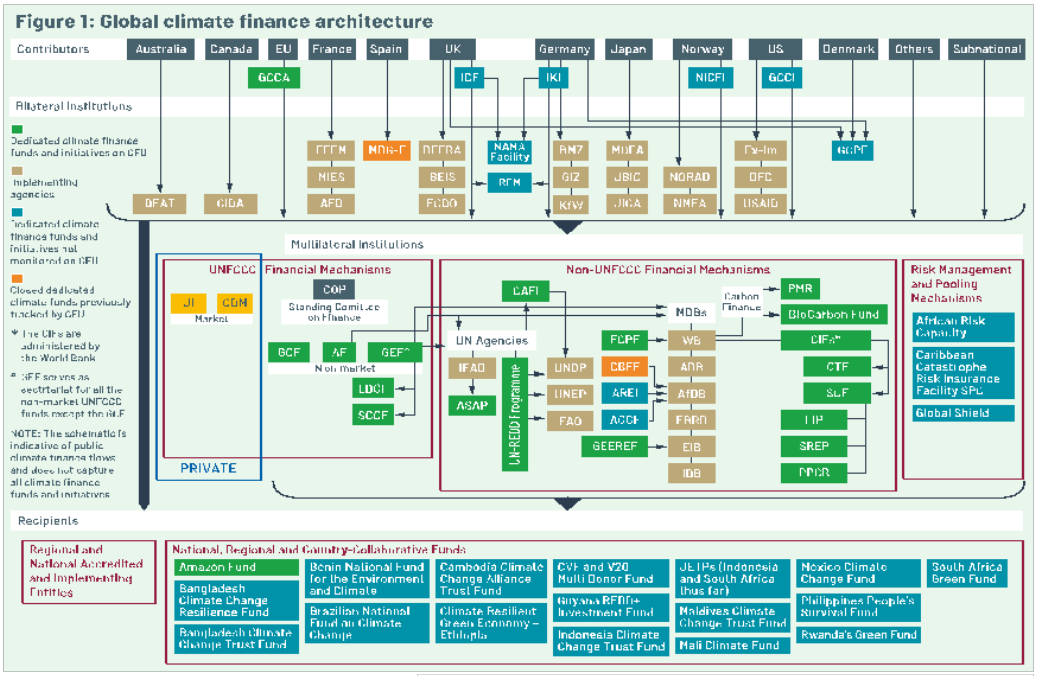
> *The Climate Investment Funds (CIFs) established in 2008 are administered by the World Bank, but operate in partnership with regional development banks including the African Development Bank (AfDB), the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD) and the Inter-American Development Bank (IDB). The CIFs finance programmatic*

7 https://climatefundsupdate.org/about-climate-finance/global-climate-finance-architecture/

interventions in selected developing countries, with the objective of improving understanding of how public finance is best deployed at scale to assist transformation of development trajectories. CFU (2023: xx)

Figure 3 - CFU Global Climate finance architecture

Source: CFU (2023)[8]



Implementing Agencies and Institutions	
AfDB	African Development Bank
AFD	Agence Française de Développement (French development agency)
ADB	Asian Development Bank
BEIS	Department for Business, Energy & Industrial Strategy (UK)
BMZ	Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung (federal ministry of economic cooperation and development, Germany)
CIDA	Canadian International Development Agency
DEFRA	Department for Environment, Food and Rural Affairs (UK)
DFAT	Department of Foreign Affairs and Trade (Australia)
DFC	United States International Development Finance Corporation
EBRD	European Bank for Reconstruction and Development
EIB	European Investment Bank
Ex-Im	Export-Import Bank of the United States
FAO	Food and Agriculture Organization of the United Nations
FCDO	Foreign, Commonwealth and Development Office (UK)
FFEM	Fonds Français pour l'Environnement Mondial (French global environment facility)
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (German technical cooperation)
IDB	Inter-American Development Bank
IFAD	International Fund for Agricultural Development
JBIC	Japan Bank of International Cooperation
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau (German development bank)
MIES	Mission Interministérielle de l'Effet de Serre (inter ministerial taskforce on climate change, France)
MOFA	Ministry of Foreign Affairs (Japan)
NMFA	Norwegian Ministry of Foreign Affairs
NORAD	Norwegian Agency for Development Cooperation
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development
WB	World Bank

Multilateral Funds and Initiatives	
ACT	Accelerating Coal Transition program (implemented through WB, ADB, AfDB, EBRD and IDB)
AF	Adaptation Fund (GEF acts as secretariat and WB as trustee)
ACCF	Africa Climate Change Fund
AREI	African Renewable Energy Initiative
ASAP	Adaptation for Smallholder Agriculture Programme
CAFI	Central African Forest Initiative
CBFF	Congo Basin Forest Fund (hosted by AfDB)
CDM	Clean Development Mechanism (implemented under the Kyoto Protocol)
CIF	Climate Investment Funds (implemented through WB, ADB, AfDB, EBRD and IDB)
CTF	Clean Technology Fund (implemented through WB, ADB, AfDB, EBRD and IDB)
FCPF	Forest Carbon Partnership Facility
FIP	Forest Investment Program (implemented through WB, ADB, AfDB, EBRD and IDB)
GCCA	Global Climate Change Alliance
GCI	Green Climate Fund
GEF	Global Environment Facility
GEEREF	Global Energy Efficiency and Renewable Energy Fund (hosted by EIB)
JI	Joint Implementation (implemented under the Kyoto Protocol)
LDCF	Least Developed Countries Fund (hosted by the GEF)
PMR	Partnership for Market Readiness
PPCR	Pilot Program for Climate Resilience (implemented through WB, ADB, AfDB, EBRD and IDB)
SCCF	Special Climate Change Fund (hosted by the GEF)
SCF	Strategic Climate Fund (implemented through WB, ADB, AfDB, EBRD and IDB)
SREP	Scaling Up Renewable Energy Program in Low Income Countries (implemented through WB, ADB, AfDB, EBRD and IDB)
UN-REDD Programme	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation

Bilateral Funds and Initiatives	
GCCI	Global Climate Change Initiative (US)
GCPF	Global Climate Partnership Fund (Germany, UK and Denmark)
ICF	International Climate Finance (UK)
IKI	Internationale Klimaschutzinitiative (International climate initiative, Germany)
MDB-F	MDG Achievement Fund (implemented by UNDP)
NAMA Facility	Nationally Appropriate Mitigation Action Facility (UK, Germany, Denmark and the EC)
NICFI	Norway's International Climate Forest Initiative
REM	REDD+ Early Movers (Germany and UK)

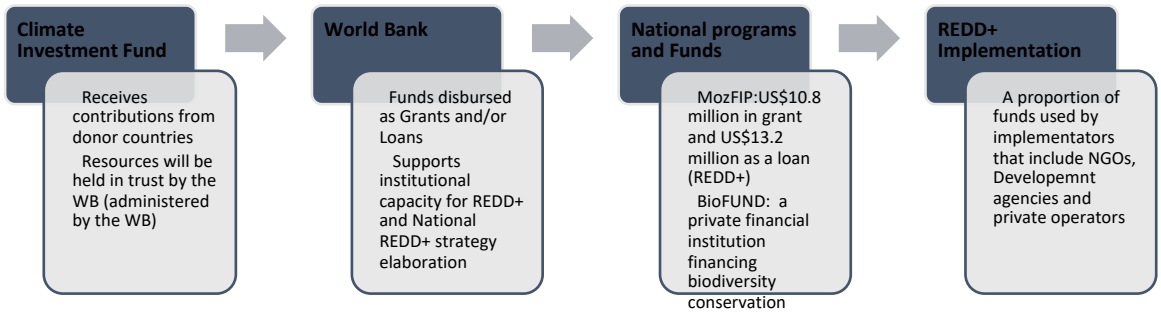
8 For more details of the role of each of the stakeholders: https://climatefundsupdate.org/wp-content/uploads/2023/03/CFF2-2023-ENG-Global-Architecture.pdf

Green financialization fueling green extractivism: intensifying extractivist model of development in African countries

The case of implementation of REDD+ in Mozambique portrays how green financialization is promoting green grabbing and enabling green extractivism. Green funds, disbursed as loans and grants, flow to Mozambique through development banks coming from the Green Climate Fund, the Climate Investment Fund and the Conservation Finance Alliance. The role of development banks is to partner up with the government and with private investors, non-profit organisations and institutions to implement policies such as REDD+ on the ground. Bruna (2022, Roape) follows the funds:

Figure 4: Climate finance flows and actors: an example from Mozambique

Source: author based on ANAC (2017); BIOFUND (2019); Bruna (2022); CIF (xxx).



Climate Investment Fund claims that the ability of banks to leverage financing and mobilize actors benefits both developing countries and themselves. Both grants and loans from the WB were aimed at the establishment and implementation of REDD+ in Mozambique, including supporting and creating institutions that support the strategy itself. The World Bank also

supports both endowment and sinking funds of Biofund[9], a private financial institution that aims to finance biodiversity conservation in Mozambique. For the endowment, the main contributors included the German Development Bank (KfW), the World Bank and Conservation International.

Bruna (2022) argues that the "constitution of such funds illustrates the ascendancy of finance into the environmental domain, beyond the agricultural and extractive sector" and underline the role of philanthropic organisations such as Peace Park Foundation, USAID, Austrian Cooperation and many others, specifically in the process of designing and implementing green extractivist projects.

Figure 6 - Example from Mozambique (financialization)[10]

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

Source: Bruna (2022, ROAPE).

Biofund, as many other newly created environmental financial institutions at national level, is an example of ascendancy of finance into the environmental domain. According to Biofund's website, approximately 54,9 million USD constitutes endowment funds[11] and USD 24,8 million were disbursed to conservation areas. In other worlds, less than 50% of funds received were directed to conservation areas.

From the total disbursed funds (USD24,8 million), it is not clear which proportion was actually directed to conservation and other climate change and environmental activities and which

9 https://www.biofund.org.mz/sobre-nos/parceiros/

10 Asiyanbi et al (2017) portrays a similar analysis for the case of Nigeria and Ghana.

11 Endowment funds are funds invested over the long term – the resulting financial gains will be used in projects, however without using the initial capital fund (https://www.biofund.org.mz/en/what-we-do/funds-managed-by-biofund/)

proportion was directed to other non-environmental expenses.

One of the issues and points of reflection is related to the question of how much of these financial flows are effectively directed to environmental operations on the ground rather than other financial applications and mechanisms that do not contribute to real climate benefits? And how much of those funds are used to make money based on financial flows feeding accumulation?

Despite the high levels of green financialization, real implications are felt on the ground. The section delves into the implications of REDD+ programs in different African countries. Thus, the implications of the emergence of green extractivism fueled by green financialization is further explored in the next section.

Socio-environmental impacts and implications of REDD+ in Africa: green grabbing, green extractivism and expropriation of emission rights

Based on experiences worldwide, existing literature indicates that REDD+ projects 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), linked with debates of green grabbing, in other words, the 'appropriation of land and resources for environmental ends' (Fairhead et al., 2012: 237). Others call the attention to the fact that nature is being further commodified to continue fueling global accumulation (Arsel, 2019; Arsel & Büscher, 2012; Büscher et al., 2012). Others discuss the implications to reshaping land politics, land access and control (Borras and Franco, 2018; Bruna, 2022).

Hunsberger et al. (2017) explores some of 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.

Environmental implications are also questioned in the context of conservation mitigation policies. 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.
Bruna (2022, 2023) analyzes the experience of REDD+ in Mozambique and argues that REDD+ and CSA 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 is ‘green extractivism’, which comes as a handy analytical tool in today’s ‘emissions imperative’.

Even with a share of the revenue effectively going back to the communities, these prioritize environmental goals rather than social development. One of the financiers of the REDD+ project (Fond Français Pour L’Environnement Mondial through Agence Française de Developpement) in Mozambique, suggested that the revenues should prioritize the functioning of the reserve rather than community development. Moreover, they state that even the percentage of the revenues channeled for community development should be channeled to expansion of ‘conservation agriculture’ instead of cash payments (FFEM, 2017).

The following table presents different regional focuses regarding implications of REDD+, but with converging conclusions regarding adverse implications for livelihoods and land tenure.

Creator: ALAN CHAVES AFP via Getty Images

Table 1 – REDD+ implications in Africa

Authors	Region	Implications
Asiyanbi et al (2017)	West Africa (focusing in Nigeria and Ghana)	The politics of design and implementation of REDD+ generally discursively involves inclusionary politics, however implementation portrays various forms of exclusion, which the authors argue it to be deliberate for furthering certain interests. Reinforcement of State control over land, forests and carbon at the expense of community rights and public access to forest resources and products, including timber. Lack of participation was identified.
Gizachew et al (2017)	Africa	Anticipated environmental, social and financial benefits do not seem to be accomplished and the major challenges of implementing REDD+ in Africa identified were governance, finance and technical capacity. Land tenure represents the most serious of governance concerns. Local institutional arrangements (regarding land) not respected and participation in decision-making and benefit sharing is needed.
Kibii (2022)	Africa	Challenges include corruption, funding appropriation, competing for limited funds from multilateral and international sources, Lack of holistic land-use planning, Competing developmental priorities and Monitoring and reporting issues. Funding appropriation is discussed in the sense that a significant portion of REDD+ funds is directed to administrative expenses (including technical support, consultants, preparatory operations, among others) in donor and recipient sides.
Malan et al (2023)	Sierra Leone	Findings indicate that although deforestation slowed by 30%, economic wellbeing and conservation attitudes seem to not have changed due to REED+ implementation.
Chomba et al (2016)	Kenya	Uneven distribution of benefits was identified as most of the benefits were concentrated in smaller segment of stakeholders. Pre-existing unequal land distribution reinforced inequality. Historical context and inequalities should be considered when designing and implementing REDD+.
Johnson (2021)	Ghana	Emerging from apolitical interventions and the resulting gaps in discourse and practice, REDD+ is bringing in financial resources that expand state control over land and forests resources at the expense of local communities.
BROWN (2011)	Congo Basin	The Congo Basin is a strategic area to implement REDD+ as it contains the second largest contiguous tropical rainforest in the world. However, it is the source of livelihood for millions of households. Men and women experience climate change impacts and REDD+ differently, however, women had limited participation. Gender dimension should be considered when designing and implementing REDD+, regarding issues related to forest access, forest management and distribution of carbon benefits.

Onyekuru et al (2021)	Nigeria	Underlining the importance of the role of forest resources in rural household's subsistence (in different ecological zones), the authors suggest that the success of REDD+ depend on the ability to support rural livelihoods, indigenous rights, and preservation of cultural/religious values of the forest target communities.
Ukuni (2023) Implementing REDD+ in Africa	Uganda	Gendered implications when discussing climate change impacts are ought to be analyzed and understood. The authors suggest special attention to the protection of women's rights when responding to climate change. Although Uganda's regulation could be gender sensitive, women are still excluded from the implementation of REDD+. Exclusion unfolds in the processes of access, ownership and control of resources (land and financial resources), but also, regarding participation. The authors underline the need to fully include women in designing and implementing REDD+ in all its phases.
Koné (2023) Implementing REDD+ in Africa	Republic of Congo	The case study shows how national regulatory framework that does not adequately protect land rights of local people increases the vulnerability of rural communities where REDD+ is implemented. Urgent attention is required to ensure free, prior and informed consent and equitable compensation of those directly affected by REDD+, to ensure inclusion, participation and land tenure.
Ashukem & Keluh (2023) Implementing REDD+ in Africa	Cameroon	The lacking of protection of customary land rights and participation threatens the sustainability of REDD+. Overall, the authors call the attention to the role of legal frameworks and the success or failure of REDD+ ensuring rights and interests of local communities, thus their development.
Jegede (2023) Eds Implementing REDD+ in Africa	Africa	Adopting a human rights' perspective, the work explores differentiated experiences of REDD+ across Africa focusing mainly on issues related to rights of vulnerable groups (including women, Indigenous populations, and forest dwellers) and shortcomings in national regulations and laws and the role of different state and non-state actors. Different regions present differentiated experiences and implications, however land tenure insecurity and lack of solid regulatory frameworks that protect the rights of affected population, and intrinsic REDD+ designs, result in exclusion and unequal distribution of benefits.
Samndong and Vatn (2018)	Democratic Republic of Congo (DRC)	The authors underline the lack of harmonization between national institutional (statutory and customary) structures of forest governance and REDD+, which negatively affect REDD+ effectiveness, but at the same time enable opportunities for powerful actors to expand their already existing use and control over forest resources.

Bruna (2022)	Mozambique	Affected smallholders experienced expropriation and dispossession of resources determinant for social reproduction and subsistence. Compensation mechanisms were put in place but were not effective enough to compensate for the incurred losses. They served as a mechanism to facilitate the process of green grabbing and green extractivism. The creation of a new commodity (carbon credits) actually represented a cut into small-holders' necessary consumption. Green extractivism implied the appropriation, extraction and transfer of emission rights to potential buyers, all in the name of fighting climate change.
Pelletier et al (2018)	DRC	Looking specifically at issues related to benefit-sharing mechanisms, implementation of REDD+ impact community members differently, being more threatening to those that already present vulnerabilities. It reduces access to land to those that are already under stress.
Bruna and Monjane (2023)	Mozambique	Looking at REDD+ cases related to reforestation, the authors identified threats to livelihoods and subsistence relate to access to forest resources, land, food security and intensified level of dependence from external investments, thus higher vulnerability to market and price volatilities.

Source: author based on literature review.

Although REDD+ is usually implemented with compensation mechanisms, in other words, different strategies to compensate rural households for the loss of forest resources (for example, community development projects, income generation projects, etc.). However, even the best practices and implementation do not thoroughly and fairly compensate for the loss of livelihoods. Most of these projects do not take into consideration the proportion through which ecological resources are determinant to rural subsistence and social reproduction.

From the literature review, it is possible to identify transversal issues such as expropriation of resources without adequate compensation, exclusionary benefit sharing mechanisms, threats to land rights and increased state control of land and resources, lack of participation of affected populations and the role of regulations in facilitating dispossession and its failure to protect rights.

II. CARBON MARKETS AND THE URGENCY OF PRODUCING CARBON CREDITS

Where are the raw materials: Carbon credits as the top export commodity from Africa[12]

The global south has been the mass producer of carbon credits through differentiated mechanisms. But currently, the rush for carbon is being directed to the African continent with the recently created African Carbon Markets Initiative (ACMI) as one of the main promoters. ACMI is supported by Global Energy Alliance for People and Planet (GEAPP), Sustainable Energy for All (SEforALL), United Nations Economic Commission for Africa (UNECA), UN Climate Change High-Level Champions, USAID, Bill and Melinda Gates Foundation, among others to promote voluntary carbon markets in African countries. ACMI has launched a number of country-level activation plans, aiming:

> *... to drive a dramatic increase in the production of African carbon credits while ensuring that carbon credit revenues are transparent, equitable, and create good jobs. Integrity of carbon credits is central to the mission of ACMI, as without integrity increasing demand for credits in the Voluntary Carbon Markets will pass Africa by. Global demand in VCMs has grown strongly in the last five years, driven principally by companies buying credits to help meet their climate pledges. (ACMI, 2022: 6)*

The discussion of carbon markets is nothing new, but a dramatic increase in land-based projects and/or with impositions of new farming techniques and ways of living to the rural population is expected. This is because of the urgency to reach net-zero in 2050 and the resulting urge to transform carbon credits into the most exported commodity in Africa (ACMI, 2022). The exponential increase of carbon projects that go beyond the traditional REDD+ is already visible on the ground. And distinctively from REDD+, which is the policy that has been

12 ACMI (2022: 8).

fully analyzed and received much attention from the media, social movements and research, the remaining carbon credits projects are still quite invisible. Some figures in Africa:

Table 1: Carbon offset projects registered in Africa (up until 2022)

	Credits issued	Nº of Projects
Agriculture	325.825	19
Chemical Processes	2.090.770	10
Forestry & Land Use	141.566.921	135
Household & Community	88.734.495	1395
Industrial & Commercial	245.419	5
Renewable Energy	14.089.242	151
Transportation	0	6
Waste Management	1.237.532	26
Grand Total	248.290.204	1747

Source: Berkeley Carbon Trading Project's Voluntary Registry Offsets Database[13]

Carbon credits are being produced in diversified projects implemented in the agricultural sector, blue carbon projects (carbon credits produced based on conservation of marine and coastal ecosystems), use of clean household technologies, among others (see the table above). All of these projects are spreading all over the continent and their impacts are worth understanding and rethink resistance strategies accordingly. Not only because this is shaping access to land, access to resources but especially is shaping control of land and control of the use of resources and further signifies labor exploitation from affected populations (Bruna, forthcoming). Overall, intensifying the already existing extractivist model of development.

However, this wave of dispossession doesn't seem to be in the public eye, which is a clear distinction of this green new frontier of accumulation. As it was explained previously, this new green accumulation frontier has extractivist features. Creation of this new commodity implies the extraction of emission rights from rural poor. Overall, through differentiated strategies, African households are being expropriated and exploited, imposed to stop practicing biodiversity resource-based activities for their subsistence, in order to reduce emissions, and produce carbon credits in favor of industrialized regions compensating for their emissions and further accumulating.

13 Note: contains all carbon offset projects listed globally by four major voluntary offset project registries: American Carbon Registry (ACR), Climate Action Reserve (CAR), Gold Standard, and Verra (VCS). These four registries generate almost all of the world's voluntary market offsets and include projects eligible for use under the California / Quebec linked cap-and-trade programs as well as UN Clean Development Mechanism projects that transitioned into one of the voluntary registries.

Photo by Christine Roy//unsplash.com

Who are the buyers?

Carbon Brief[14] states that the top buyers of carbon credits worldwide are world's top fossil-fuel producers, carmakers and tech firms; according to the data they were able to gather, just 34 companies have used credits to offset 38m tonnes of carbon dioxide ($MtCO_2$) during 2020-2022 and this is the equivalent to the annual emissions of Ethiopia and Kenya combined. They indicated that top users of carbon credits were Shell (9.9m units), Volkswagen (9.6m) and Chevron (6.0m).

Most of the produced African carbon credits are available in the Voluntary Carbon Market (VCM). Differently from the compliance carbon market under the Clean Development Mechanism introduced in the Kyoto protocol (for Annex I countries – countries that are obligated and committed to limit their emissions – i.e. developed and industrialized countries or largest current and historical emitters), developing countries (non-Annex I countries) can "voluntarily" reduce their emissions based on funding from Annex I countries.

VCMs are known to be self-regulated as "There is no single entity that manages the market, but rather an ecosystem of self-regulating standard-setting organizations and certifiers". So, VCMs are markets that allow "… the private sector, governments, and individuals to participate in carbon offsetting and trading, helping entities offset their emissions while they work to decarbonize their supply chains and develop new, energy efficient technology" (Spilker and Nugent, 2022: 108). Different entities can buy from the VCM, including corporations, cities, universities, etc.

Different platforms display different prices for carbon credits. Carbon Credits platform provides daily carbon credits prices for different markets. In the VCM prices can also vary according to the projects that generated them. For instance, credits generated by Forestry and Land Use were at the price of $11, Household Community Devices at $7 and Agriculture at $6

14 https://interactive.carbonbrief.org/carbon-offsets-2023/companies.html

(ton/2023)[15]. But in the European Market prices of carbon credits reached $80-100 in the same period according to the World Bank[16].

VCM prices are more volatile (Spilker and Nugent, 2022) and external (political, economic and environmental) shocks ought to have great impacts on prices. This also means a huge impact in benefit sharing mechanisms of carbon projects at the level of affected households. Whereas, compliance marketplaces for carbon credits are better established, as it is the case of the considered most developed carbon market, the European carbon market (European Union Emission Trading System, ETS):

> *Unlike in compliance markets, where one central entity issues the compliance instrument via an auction or allocation process, voluntary markets depend oncarbon projects that are certified by registries. Once certified, these carbon offset credits become freely tradable, but they have unique characteristics that are defined by the type of project, its geography, the vintage year, the certifying entity, and its certifying process as well as associated co-benefits. (Spilker and Nugent, 2022: 111-112)*

Although there are different platforms (Carbon Brief, Berkeley Carbon Credit Project, Carbon Credits and others) that monitor and attempt to structure databases on carbon offsets, prices and markets, it is very challenging to have access to comprehensive, complete and comparable databases regarding the topic. Especially for VCM, it is challenging to access information such as who were the buyers, from which specific offset projects, at what price, how was the price calculated and where did the money go through until it reached back to the affected households (in case it effectively reaches them). Carbon Brief identified gaps and missing data even when combining databases and registries and because VCMs work with different private standards it becomes difficult to track information, which could facilitate escaping public scrutiny (Trencher et al, XX).

Going back to the Carbon Brief analysis, it is important to acknowledge what is the proportion of these credits that are actually removing CO_2 from the atmosphere, and their database indicates that only about 8% offsets used are from projects that removed CO_2 from the atmosphere – predominantly tree-planting (absorb CO_2 from the atmosphere)[17]. Whereas other projects are in the category of reduction or avoidance (REDD+ - can also be considered mixed; household devices; implementing a wind farm instead of coal project; etc). A significant portion of offsets globally is coming from REDD+ projects.

15 https://carboncredits.com/voluntary-carbon-credit-buyers-willing-to-pay-more-for-quality/

16 https://carbonpricingdashboard.worldbank.org/compliance/price

17 https://interactive.carbonbrief.org/carbon-offsets-2023/companies.html

Green extractivism and expropriation of emission rights: ruralworking people subsidizing global industrialization[18]

Although after decades, VCMs are considered “a story of innovation, experimentation, mistakes, and corrections” (Spilker and Nugent, 2022: 108), they are highly promoted in African countries also as a developmental solution. Nevertheless, the production of carbon credits imply a higher demand for land both to implement REDD+ and green investments (tree plantations and renewable energy projects) but also requires changes in rural households’ ways of living and livelihood strategies (Bruna, 2023).

The understanding of labor dynamics is also relevant to grasp how different projects aiming mitigation and carbon sequestration and reducing emissions (in sum, the production of carbon credits) constitute and increase the burden to the impacted rural household’s labor as the process of expropriating emission rights undermines social reproduction and puts an additional burden on them, especially onto rural women (Bruna, forthcoming).

18 This section was based on a recente piece published on the Berliner (Bruna, 2023) and Feminist Africa (Bruna, forthcoming).

This goes in line with Shivji's take on the concept of working people, which describes different segments of the rural population that go through exploitation including formal workers, informal workers, peasants, women, rural poor and so on.

Through this lens, it is possible to understand the process through which rural working people and their labor, in differentiated levels according to gender and class, are in fact subsidizing both global environmental goals and economic agendas hidden behind mitigation narratives and objectives. The burden of climate crisis solution is being ultimately carried, by rural women, as affected households increasingly depend on female unpaid productive and reproductive labour to respond to continuously respond to the loss of resources and livelihood strategies.

By cutting into the basic consumption of rural households and restricting their emission, they are forced to adopt alternative livelihood strategies including men migrating to urban centers in search of jobs. The women who stay behind are left with the burden of subsistence farming, even selling their labour to neighbouring farms. This is in addition to women's traditional caring and social reproduction responsibilities. Moreover, because of REDD+, women have to endure longer distances to access water and forest resources. As if all that is not egregious enough, they are forced to use more labour-intensive farming techniques prescribed by the guidelines of "climate-smart agriculture."

In sum, expropriating emission rights from rural households means more labour exploitation, particularly the unpaid reproductive labour of women. Ultimately, the burden of the climate crisis solution is carried by rural women as affected households increasingly depend on female unpaid productive and reproductive labour to continuously respond to the loss of resources and livelihood opportunities.

Photo by Jahanzeb Ahsan// unsplash.com

III. THE ROLE OF FOSSIL FUEL COMPANIES AND DECARBONIZATION: TECHNO-FIXES AND CLIMATE FINANCE

Decarbonization and techno fixes

Due to climate change and carbon neutral obligations, fossil fuel companies are adopting a number of strategies in response. Discursively, these companies claim to be committed to offset their customers' carbon footprint, in other words, offering "increasingly decarbonized products to reduce its customers' carbon footprint"[19]. The so called decarbonization process involves both reducing emissions and compensating for emissions. Besides changing their portfolio (for example relying more on natural gas extraction), most companies aim at reducing emissions through technological fixes in their extraction and refinery process, but also producing biofuel for their transport sector and producing hydrogen as a greener energy alternative.

For instance, as many others, ExxonMobil's leading strategy of low carbon solutions is "Carbon capture and storage", a process that aims to capture carbon from any industrial facility before it escapes to the air and immediately injected underground where it is stored and locked away. Exxon aims to transform it into a profitable opportunity and build carbon capture and storage infrastructure for other companies as potential "industrial customers" to reduce their emissions. Their potential customers include a major fertilizer company, an industrial gas producer, and a leading steel manufacturer[20]. This portrays how a new frontier of accumulation was established in the name of the "fight against climate change".

Hydrogen can be produced in three different ways: "'grey' hydrogen is defined as that obtained from methane (the most common form of production in the world), 'blue' hydrogen as that obtained from methane but with the capture of the CO_2 emitted in the process, and 'green' hydrogen as that obtained from water via electrolysis powered by renewable sources"[21].

Hydrogen can be used in refining processes but with a huge potential to be used in transportation sector (road and maritime).

19 https://www.eni.com/en-IT/media/stories/carbon-footprint.html

20 https://corporate.exxonmobil.com/sustainability-and-reports/advancing-climate-solutions/low-carbon-solutions#Carbon-captureandstorage

21 https://www.eni.com/en-IT/actions/energy-sources/hydrogen.html

For instance, ENI largely uses hydrogen for their refining processes and claims to be the largest producer and consumer of hydrogen in Italy. Producing hydrogen is in the agenda of many natural gas extraction companies as it is "a zero-carbon energy source that can generate the high temperatures needed to produce steel, cement, and refining and chemical products without carbon dioxide emissions"[22]. In other words, another big business opportunity for these multinationals. Nevertheless, the environmental and social risks of these technological solutions are not clear.

Critical analysis on decarbonization strategies of fossil fuel companies are much needed. Some scholars have explored some of the issues, but certainly more interdisciplinary political economy and ecology analysis is needed. A study focusing on BP, Shell, Chevron and ExxonMobil (Trencher et al 2023) examined if their decarbonisation pathways represents a true shift away from fossil fuels and concluded that decarbonization plans from major fossil fuel companies does not promote transformation of business models and do not shy away from fossil fuels as they rely heavily in offsetting and decarbonizing energy products.

The authors point out questionable climate benefits for offsets from the analyzed companies and:
Our analysis of net-zero strategies found that no oil major's decarbonisation pathway reflects a fundamental business-model transformation aimed at shifting away from fossil fuels, no major has a concrete plan to decrease its overall supply of fossil fuels, inclusive of both production and sales. BP and Shell have omitted sales of third-party products from plans to reduce oil production, while Chevron and ExxonMobil are aiming to increase fossil-fuel production, each major is using or plans to use off- sets as a core instrument for reaching net-zero goals and for reducing the climate impact of conventional fossil-fuel products. (Trencher et al, 2023: 83).

In line with the findings of this study, is the debate of the emergence of hydrogen as a greener energy alternative. Vezzoni (2024) questions how environmentally clean hydrogen really is and its transformative potential when most of the production depends on fossil fuels. In addition to that, the author indicates that:

> *Currently, the hydrogen economy is responsible for emitting as much greenhouse gases as global aviation, or more than half of Africa's total emissions. The hydrogen economy, from production to consumption, is predominantly controlled by the oil and gas industry. On the supply side, other GPNs involved in downstream applications, such as the chemical industry and automotive groups, are emerging as key players... oil and gas industry (along with a few other sectors like mining, industrial chemicals, and automotive) wields significant influence over hydrogen development – from policymaking, ownership of production facilities, and control of patents. (Vezzoni, 2024: 1)*

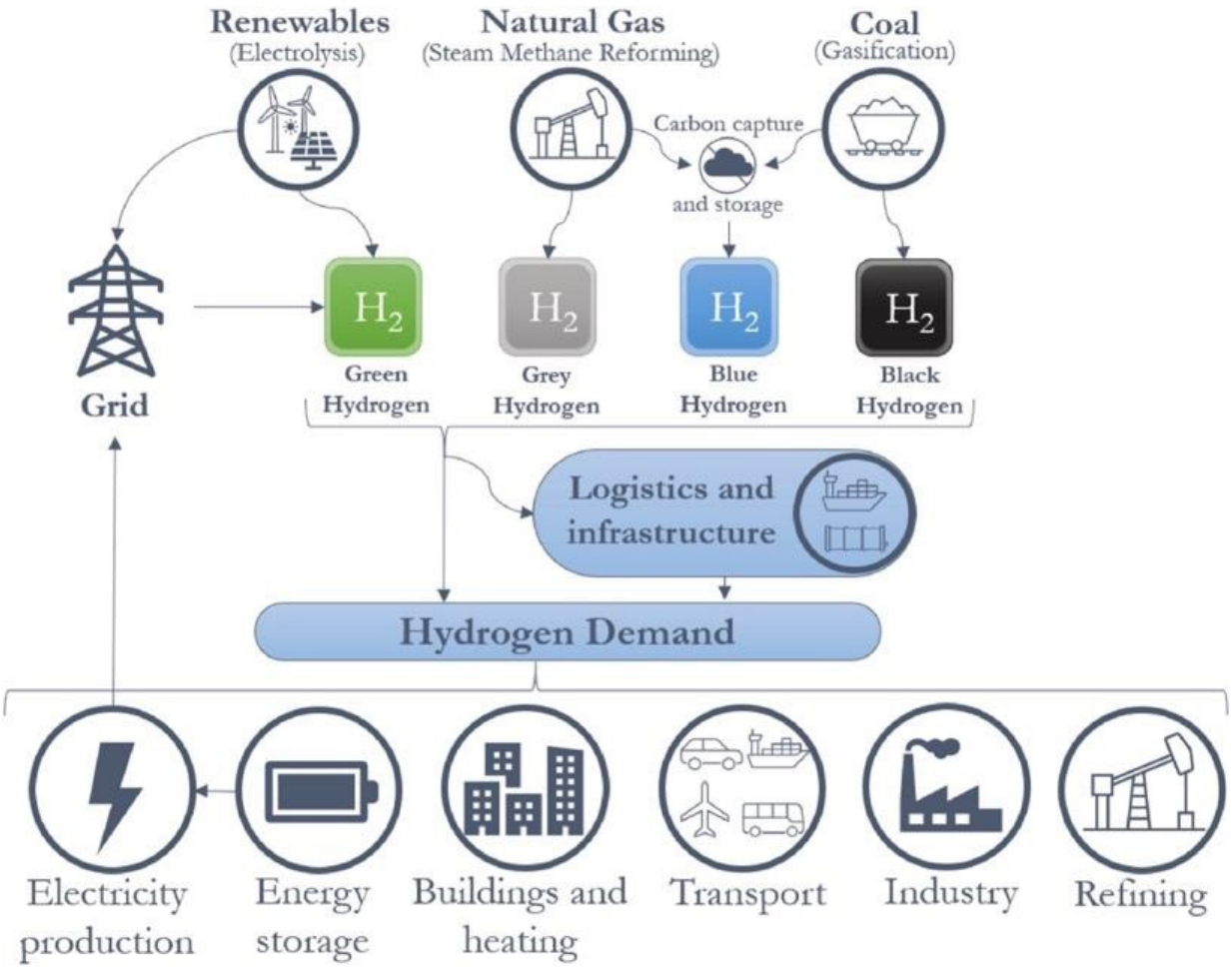
Dillman and Heinonen (2022) underline that understanding social impacts across the hydrogen

22 https://corporate.exxonmobil.com/sustainability-and-reports/advancing-climate-solutions/low-carbon-solutions#Carbon-captureandstorage

economy is needed as social injustices could occurs throughout the value chain.

They identify potential injustices such as elite capture of benefits, unclear revenue sharing, green colonialism, benefits only seen by the wealthy, among others throughout the hydrogen economy:

Hydrogen economy



Source: Dillman and Heinonen (2022).
It is important to underline the role of Global South resources, particularly African resources in the production of hydrogen. Fossil fuel companies operating in the continent are the same actors that are producing, consuming and selling hydrogen based on already existing extractivist infrastructure and channels.

Reducing and compensating through offsets: The case of ENI and offset projects

For compensating for emissions, fossil fuel companies rely on financing carbon offset projects such as REDD+ for conservation (reducing emissions through conservation of forests) or financing technological solutions (reducing emissions through adoption of clean technologies such as improved cookstoves). Among the above strategies to decarbonize, under "Nature based solutions" fossil fuel companies are also involved in supporting "policies, national strategies and initiatives that aim to scale up the use of high-quality natural climate solutions and we focus on initiatives that help ensure that natural climate solutions are used responsibly" as mentioned by the Oil and Gas Climate Initiative (OGCI)[23].

Through the so-called Natural Climate Solutions, OGCI claim to aim to contribute to improving the capacity of oceans, forests, grasslands, peat, mangroves and soil to act as natural sinks for carbon dioxide. Supporting different carbon credit production projects in the Global South, the members of the OGCI include BP, Chevron, CNPC, ENI, ExxonMobil, PetroBras, Shell, Total Energies and others (OGCI, 2023).

ENI is not only extracting fossil fuels in Africa, but claiming to be saving forests in Africa to offset their emissions. Through an agreement of a REDD+ implementing organization, the BioCarbon Partners, ENI is now an active member of the governance of the forest conservation REDD+ Luangwa Community Forests Project (LCFP) in Zambia. Although the role of ENI is still not completely clear, ENI claims to be financing the project through the purchase of carbon credits generated in the area until 2038 (about 1 million hectares)[24]. Involving 17 communities and more than 200.000 so called "beneficiaries", the LCFP is known as the largest REDD+ project in Africa. It is understood that by purchasing future generated credits, ENI will finance REDD+ activities to guarantee the production of carbon credits. There are also ethical considerations when a buyer of carbon credits is involved in the governance of the offset project because of potential conflict of interests. Mulungo (2021) analyzed the involvement and interests of the Italian company and concluded that in order to meet its offsetting targets, ENI would need more that 12,5 millions of hectares of forest, in other words, ENI would need more than 13 projects similar to LCFP.

The author also demonstrates that despite the dimension (in terms of land) of natural resources needed and social impacts, it would still be a very cheap alternative for the company as it would only represent an investment of 0.8% of its gross profit (Mulungo, 2021).

This indicates that fossil fuel companies are further dispossessing and expropriating to

23 According to their website, the Oil and Gas Climate Initiative is a CEO-led organization bringing together 12 of the largest oil and gas companies worldwide to lead the industry's response to climate change (https://www.ogci.com/about/governance)
24 https://www.eni.com/en-IT/sustainability/environment/decarbonisation/carbon-offset-solutions.html

keep expanding their polluting operations in the continent. Many perceive ENI's investment in carbon credits as a strategy to compensate for their expanding operations in extracting natural gas in Mozambique. But REDD+ is not the only way in which ENI plans to offset their emissions. According to their website, ENI is implementing projects to promote the adoption of improved cookstoves, another cheap solution based on expropriation of emission rights. ENI is already distributing (usually this occurs in form of selling cookstoves to households that could result in debt) cookstoves in Côte d'Ivoire, Republic of Congo, Kenya, Rwanda, Angola and two new projects have been launched in Mozambique. In Mozambique ENI plans to distribute around 450,000 improved cookstoves in the city and province of Maputo and the provinces of Sofala and Manica. In Côte d'Ivoire, ENI is aiming to distribute in total more than 300,000 ICSs over a 6-year period, reaching over 1 million people and generate over 2 million Carbon units over 10 years. These schemes will certainly affect livelihoods of millions of households in Africa, especially women. Studies already indicate adverse implications directly related to labor dynamics.

Photo Credit: carboncredits.com/

IV. RECOMMENDATIONS:

1. Deconstructing green legitimation strategies and debunking distracting reformisms

REDD+ and carbon markets intrinsically carry inefficiencies and injustices in disfavor of African countries. They facilitate green grabbing and green extractivism and because of their legitimation strategies ("the fight against climate change", "protecting and saving the planet for future generations", "building resilience", among others), resisting against that can be challenging. Additionally, carbon markets are also distinctive from other tangible commodity markets. It also results in alienation and inequality, but it is particular in the sense of the invisibility of its operationalization. In other words, its materiality is not as explicit as commodities that require big infrastructural support and machinery for its production and transportation and for most of the projects there aren't a lot of landscape changes as it occurs with extractive industry. If it is difficult to pin point the materiality of this rush, is becomes equally challenging to resist it.

However, a first step would be to clearly assess and grasp the multiple level of injustices that climate solutions and carbon markets carry out. Research and social movements can make them visible and incorporate them into climate justice debates. With the implementation of carbon offset projects, a multilevel manifestation of climate injustice is perceived:

- *Non-polluters suffering the biophysical implications of climate change due to historically created (by polluters) socioeconomic vulnerabilities – that currently determine the level of environmental vulnerability.*
- *Negative implications of the solutions to the crisis – the set of top-down mitigation and adaptation policies and green investments. The socioeconomic and environmental implications of those were referred in previous sections.*
- *Non-polluters carrying out the responsibility of reducing emissions: mitigation policies and carbon markets allow reduction of emission to happen in regions that are not historically responsible for the crisis. Non-polluters are imposed to change their ways of living to enable industrialization and ways of living of historical polluters. This also allows cheaper ways to reduce emissions for those who have to comply with emission reduction.*

These and other tiers of climate injustices could be further explored and exposed in order to fight green extractivism and green grabbing disfarçados de soltuions of the crisis. These solutions rely in the same exploitative and asymmetric economic, social and ecological exchange relations that created and reproduced the current crisis and the historical socioeconomic vulnerability of developing countries. The way to go in terms of resistance doesn't really to shy away from transforming the relations of production that generated climate change in the first place (reparation, redistribution and decolonisation).

Nevertheless, strategies to fight green extractivism and green grabbing should involve deconstructing the "green" legitimation strategies and discourses and debunking the distracting reformisms that are supported by them. There are intrinsic shortcomings and ineffectivenesses that show that these solutions are not solving what they claim to be solving nor achieving what they claim to be achieving. And this is the key to resist green extractivism. Some of these were identified and listed, deconstructed and debunked below, however, efforts to provide more of evidence-based analysis in other contested terrains are encouraged.

"African rural households are to blame for environmental degradation"

Mainstream institutions justify the need to implement mitigation and adaptation policies due to environmental degradation resulting from African rural poor. Whether it is that their traditional ways of farming produce high levels of deforestation, or that their cookstoves produce a lot of emissions or even that their ways of relating to nature and conservation areas are degrading existing forests. There are two big problems with these assumptions and the first is that illegal or legal industrial operations, including logging, spillover effects of agricultural and extractive industry land grabbing, and others, are not as emphasized and often ignored in such analysis. Evidence-based unbiased historical comparative analysis of emissions is needed in order to hold each actor accountable for their environmental footprint.

Secondly, and even though these communities have been the guardians of the same territories, forests and biodiversity that mainstream institutions are currently eager to protect, when accounting to the total emissions of these regions, they are still significantly below the level of real geographical emitters. For instance, African countries are those that emit the less globally (currently and historically). Most of African countries contribute with around 0.01% to 0.02% of global emissions per year (with some exceptions from oil exporting countries, South Africa and Morocco) against top emitters like China (30%), USA (14%)[25] and others.

This indicates the erroneous direction of climate action in concentrating in addressing insignificant environmental footprint from non-polluters, rather than the real causes of the crisis. This could be considered systematically giving the privilege of environmental depletion to specific groups and actors and undermining well-being and development of other actors

25 https://www.worldometers.info/co2-emissions/co2-emissions-by-country/

and regions by expropriating their right to emit (Bruna, 2023). Different studies focusing in the region, call the attention to the fact that main causes of deforestation are actually large scale and market-oriented aiming for profit (Samndong and Vatn, 2018; Moonen et al, 2016) rather than small-scale subsistence driven use of resources.

But still, strategies and impositions coming from mainstream institutions such as the WB promote the idea that more investment and efforts from developing countries should aim to reduce emissions. The WB (2023) report clearly mentions that developing countries should invest "an average of 1.4% of GDP annually could reduce emissions in developing countries by as much as 70% by 2050 and boost resilience". However, the question remains: what would be more environmentally effective and efficient, and also morally/socially just, countries like Congo or Mozambique reducing 70% of their emissions, or USA reducing 0.1% of their emissions? By doing the math, it would signify the same level of reductions. However, it is cheaper (in capitalist terms) and socially facilitated (in colonial terms) to reduce 70% in Africa. It is more acceptable and less expensive for a peasant in Africa stop hunting for their subsistence, than to a global north citizen to consume less and/or decrease the number of international flights. So, it is not about the environmental footprint of African rural poor, it is indeed about going after cheap alternatives based on further expropriation of resources and emission rights and labor exploitation.

This also constitutes a strategy to diverge accountability from those that are actually responsible for the crisis, regionally but also economically. The Carbon Majors (2024)[26] report traces cumulative historical emissions from 1854 through 2022 to 122 industrial producers and indicates that over 70% of these global CO_2 emissions historically can be attributed to just 78 corporate and state producing entities. 31% are attributed to investor owned companies including companies such as Chevron, ExxonMobil, and BP as the three largest contributors. 33% are attributed to state-owned companies including Saudi Aramco, Gazprom, and the National Iranian Oil Company as the largest contributors. And 36% are attributed to nation states including with China's coal production and the Former Soviet Union the largest contributors.

More efforts into tracing real causes and global and historical contributions is part of the solution, but transformative actions go beyond making them accountable; especially if the actors responsible are able to adopt solutions and strategies that rely in the same exploitative and asymmetric exchange relations do not transform the status quo and the system. In reality, the same actors responsible for the crisis are still able to go after African potential in biodiversity to get cheaper ways of reducing emissions based on same exploitative relations that created the crisis in the first place. The set of net-zero solutions benefit unequally different actors and their interests and keeps systematically giving depletion privileges to historical polluters.

26 "Carbon Majors is a database of historic production data from 122 of the world's largest oil, gas, coal, and cement producers. This data is used to quantify the direct production-linked operational emissions and emissions from the combustion of marketed products that can be attributed to these entities" (Carbon Major, 2024: 3).

“Mitigation policies are environmentally effective and efficient”

The main justification and legitimation strategy of mitigation policies (such as in the case of REDD+) is to achieve environmental goals. Although social goals are also used in discourses as a way to make it sound as if they constitute a solution for African poverty trap. Nevertheless, this claim has been scientifically proven wrong and/or with a lot of shortcomings even when the best practices are put in place (*Badgley et al, 2021 Gill-Wiehl et al (2024) Haya et al, 2023Haya (2010) Haya et al, 2023; Wara, 2007; and others).*

For instance, Gill-Wiehl et al (2024) identified poor quality credits in mitigation strategies, Badgley et al (2021) identified systematic over-crediting in carbon offsets programs (meaning that offsets do not effectively reflect real climate benefits) due to flawed calculations and methodologies of measuring offsets; the authors also identified problems beyond methodological shortcomings such as non-additional projects, emissions leakage, or forest carbon permanence; estimating an excess of credits estimated value of $410 million.

Haya et al (2023: 3) also identified flaws in REDD+ schemes stating that “Many REDD+ credits are created from unrealistically high baselines, unrealistically low estimates of leakage and durability risk, and high estimates of carbon stocks in forests”. The authors concluded that carbon markets are not effective at reducing deforestation as they generate poor-quality credits while having negative implications to vulnerable populations. They also underline the tendency of exaggerating successes of carbon offset projects in order to some actors being able to benefit financially.

There are also environmental inefficiencies identified in the case of mitigation policies related to the promotion of improved cookstoves. Gill-Wiehl et al (2024) conducted a comprehensive, quantitative, quality assessment of cookstoves offsets and found methodological misalignments, and adoptoion issues that impact directly in the amount of reductions accounted, including percentage of stoves actually in use, percentage of meals cooked using the stove or using both improved and traditional stoves, amount of fuel used after and before the adoption of improved stove, emissions and rebound (Increase in a household’s overall cooking energy consumption with access to an improved stove).

On the other side, the so-called green investments that are promoted by these mitigation strategies are actually causing more harm to the environmental. A clear example of this would be the case of tree plantations. Studies question its efficacy in terms of reducing emissions, however, even more worrying than that is the environmental degradation that results from them: changes in plant diversity and pressure in ecosystems; impacts on the availability of water or reduction of soil humidity (surface and underground due to higher demand for water from Eucalyptus and Pines); loss of habitats and fauna diversity; reduction of soil productivity and quality; contamination of water courses, among others.

“Are Carbon markets reducing emissions globally?”

Building on the last point regarding environmental ineffectiveness of mitigation policies, we ought to question the role of carbon markets in effectively reducing emissions globally as the promotors and implementors claim. Many authors implicitly and explicitly (Paterson, M, 2012; Haya et al, 2020; Gill-Wiehl et al, 2024; Pearse and Böhm, 2015; and others) indicate that state that even the best practices result in uncertainty regarding true emission reductions and climate benefits. Haya (2010), who extensively studied carbon market efficiency questions their ability to effectively reduce emissions and considers it to be an efficient way to avoid reducing emissions instead of actually reducing emissions.

Additionally, both issues with accurately measuring emission reduction and quality of credits measured contribute to the risk of, actually, at the end of the day, emissions being increased and not decreasing or being effectively compensated as these projects claim to be doing. In other words, instead of reducing emissions, carbon markets could be increasing emissions.

Furthermore, besides the risk of increasing emissions, carbon markets also work in favor of enabling emissions as they are currently working as substitutes of effective and transformative climate action, in other words, they contribute to the avoidance of real system change and transformative climate action. In parallel, they have been serving as fossil fuel subsidy (Pearse and Böhm, 2015). Among the main buyers of carbon credits are fossil fuel companies and the Carbon Majors (2024) report finds that most fossil fuel companies extended their operations since the Paris Agreement stating that “58 out of the 100 companies were linked to higher emissions in the seven years after the Paris Agreement than in the same period before”. The report also underlines the increase on coal consumption by 8% from 2015 to 2022, where it reached a peak of 8.3billion tonnes.

And because carbon markets are seen as fossil fuel subsidy and unjust form of mitigation as they enable developed and industrialized countries to appear to be reducing emissions, but in reality, emissions are being reduced in developing countries, in other words, non-polluters are taking the role of effectively reducing emissions (Pearse and Böhm, 2015). In this context, Mathews (2008) argues that carbon markets provide excuses for inaction and constitutes a barrier to taking effective industrial change. Again, one more way in which mitigation policies, in particular carbon markets, are not only environmental inefficient but are also harmful to the environment).

Overall, if these policies are not achieving the goals they claim to be aiming for, why is it that they are still largely being implemented and promoted by different actors? It only shows the proportion to which economic interests outweigh environmental and social goals. Also, the economic value of carbon markets goes beyond new profit opportunities as it constitutes a cheap strategy to cope with the imposed emission reduction. Additionally, not only are they not efficient but they have the potential of actually being harmful for the environment.

“Carbon markets constitute an opportunity for African growth and socio-economic development of affected communities”

Carbon markets are being promoted especially by the ACMI as a window of opportunity to African countries and that the continent should rush into this market to get as much economic benefits and development as possible before 2050. Nevertheless, the first section of this report demonstrated how mitigation policies and carbon market have resulted in adverse implications to affected livelihoods and well-being. Carbon markets constitute another market-based and highly financialized resource rush hidden behind mitigation and green policies that lead to resource and land expropriation, negative environmental implications (i.e. case of tree plantations), negative impacts to rural subsistence and development (Bruna, 2022; Bruna, Monjane e Samuel, 2022; Jindal et al, 2012; Tramel, 2016; Tienhaara, 2012, entre outros).

The “window of opportunity” discourse is nothing that we haven’t heard before. Many other natural resources (coal, oil, etc.) were on the list decades ago and the promised development is still to come. Carbon credits are also a commodity that highly depends on international prices and market volatilities, based on schemes that promote higher external economic dependence and with high social costs to the host countries. Powerful actors are the ones benefiting from new cycles of investment, profits and growth (Paterson, 2012). Being based on the same exploitative exchange relations, carbon markets are primarily answering to external interests, external industrialization and feeding capital accumulation of the very same actors that are historically responsible for the climate crisis with predatory implications to non-polluters and their development path.

Mitigation policies are legitimizing another resource rush, where the biodiversity and labor from developing countries are subsidizing external production, industrialization and ways of living that are harming the environment. Green policies and carbon markets are intensifying the existing extractivist model of (rural) development through green extractivism, which implies further expropriation and labor exploitation from non-polluters.

Moreover, it is important to understand that projects that aim to reduce emissions to produce carbon credits that are afterwards bought and utilized by external actors can work are not accounted for in the environmental efforts of the host countries. Meaning that they cannot afterwards be used in favor of its own industrialization, possibily limiting their own development path. For instance, ENI is able to deliver carbon neutral LNG cargo to Taiwan based on credits sourced from REDD+ projects in Zambia, that means that those credits can not be used by Zambian own emission-based development. So, for many different reasons, carbon markets are actually undermining the development path of African countries.

2. Actions from within to actions towards system change: punctual reforms to redirecting political energy to non-extractivist transformative climate action[27]

As Vezzoni (2024) stated “the cleanest and most just source of energy is energy savings”. Rather than compensating, effectively reducing emissions is urgent. Amid a global imperative to reduce emissions, it is urgent to demand alternative ways for the biggest polluters to cut their own emissions. These alternative strategies should focus on changing consumption and production patterns and all levels, rather than relying on compensating emissions or decarbonising the economy with technological fixes, which subsequently require further extraction to maintain the same patterns of consumerism and ways of living in the global North and industrialized regions of the global south.

This means redirecting political energy in resisting and pursuing alternatives to the top-down mitigation pathways and false solutions like those endorsed by ACMI or the WB. But more importantly, Africa should pursue alternatives that lead to non-extractivist solutions which speak to the priorities and socioeconomic vulnerabilities of its societies. In short, the continent should move away from instrumentalising its resources and labour power for the benefit of external global climate and economic goals.

Policies that aim to solve environmental vulnerability usually lack the understanding that the root causes of the problem lie in two main factors. First, is the fact that developmental policies and programmes adopted to mitigate climate change continue to be based on the extraction of natural resources. Secondly, is the problem of exploiting African labour, particularly female unpaid productive and reproductive labour. Historically, this is what has determined socioeconomic vulnerability, which in turn creates environmental vulnerability. Without a thorough and wide-ranging reassessment of these issues, it would be impossible to move away from the colonial and extractivist model that resulted in the impoverishment of Africa in the first place. This is why environmental social movements should engage more with agrarian and land resistance movements towards a joint agenda. Climate justice requires moving away from fragmentation of movements and academia towards convergence of feminist, agrarian and environmental scholar-activism.

27 Bruna (forthcoming)

But before systemic and structural changes are achieved, carbon markets continue to grow. Re- strategising within the system is also urgent. Pursuing better terms of incorporation within the existing system while parallelly pursuing non-extractivist transformative climate action could help minimize the existing adverse implications on the ground. This includes bargaining for better prices of African carbon credits and better mechanisms of compensation of expropriated households that account for ecological losses.

Additionally, more action is needed regarding ongoing regulation of carbon markets in Africa especially in cases of the subregional forest offset initiatives like the Congo Basin Forest Partnership - which are the mega, multinational REDD-type initiatives that are extremely dangerous drivers of the continent grab[28].

New or existing regulations, laws and policies are being financed and shaped to accommodate extraction of emission rights and other market-based solutions to climate change. Knowledge gaps, regulation and legislation (regarding property rights, compensation mechanisms, pricing, and so on) are contributing to the risk embedded in these schemes.

28 https://pfbc-cbfp.org/home.html

REFERENCES

AfDB and CIF (2016). REDD+ in Africa: Context, challenges and next steps of REDD+ mechanisms in the continent. AfDB KNOWLEDGE SERIES. OCTOBER 2016

ACMI (2022). Carbon Markets Initiative (ACMI): Roadmap Report. Harnessing carbon markets for Africa. 2022.

Borras Jr, S. M., Franco, J. C., Gómez, S., Kay, C., & Spoor, M. (2012). Land grabbing in Latin America and the Caribbean. The Journal of Peasant Studies, 39(3-4), 845-872.

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

Bruna, N. (2023). The rise of green extractivism: Extractivism, Rural Livelihoods and Accumulation in a Climate-Smart World:. Routledge, London.

Bruna, N. (2022). A climate-smart world and the rise of Green Extractivism. The Journal of Peasant Studies, 49(4), 839-864.

Bruna, N., Monjane, B e Samuel, E. (2021). Para Além do Gás e Carvão: Créditos de Carbono na Corrida Extractivista aos Recursos Naturais Em Moçambique. Destaque Rural No 135. Observatório do Meio Rural. Maputo, Moçambique.

CDP (2024). The Carbon Majors Database: CDP Carbon Majors Report 2024.

Fairhead, J., Leach, M., & Scoones, I. (2012). Green Grabbing: A new ap- propriation of nature? Journal of Peasant Studies, 39(2), 237–261. https://doi.org/10.1080/03066150.2012.671770

Gill-Wiehl, A., Kammen, D. M., & Haya, B. K. (2024). Pervasive over-crediting from cookstove offset methodologies. Nature Sustainability, 1-12.

Gill-Wiehl, A., Ray, I., & Kammen, D. (2021). Is clean cooking affordable? A review. Renewable and Sustainable Energy Reviews, 151, 111537.

Haya, B. K., Evans, S., Brown, L., Bukoski, J., Butsic, V., Cabiyo, B., ... & Sanchez, D. L. (2023). Comprehensive review of carbon quantification by improved forest management offset protocols. Frontiers in Forests and Global Change, 6, 958879.

Leach, M., & Scoones, I. (Eds.). (2015). Carbon conflicts and forest landscapes in Africa. Routledge.

MEF (2023). Mercados de Carbono: Contextualização. Apresentação PPT no âmbito do lançamento do Plano de Activação do Mercado de Carbono em Moçambique.

Pearse, R., & Böhm, S. (2015). Ten reasons why carbon markets will not bring about radical emissions reduction. Carbon Management, 5(4), 325-337.

Shivji, I. G. (2017). The Concept of 'Working People.' Agrarian South: Journal of Political Economy, 6(1), 1–13. https://doi.org/10.1177/2277976017721318

van Kooten, G. C. (2009). Biological carbon sequestration and carbon trading re-visited. Climatic Change, 95, 449-463.

World Bank (2023). Climate change and Development Report: Mozambique. Washington, 2023.

ANNEX 1 - Global REDD+ climate funds contributors

Contributor	Fund	Pledged	Deposited
Australia	Forest Carbon Partnership Facility - Carbon Fund (FCPF-CF)	18	18
	Forest Carbon Partnership Facility - Readiness Fund (FCPF-RF)	24	24
	Forest Investment Program (FIP)	35	35
Canada	Congo Basin Forest Fund (CBFF)	21	21
	Forest Carbon Partnership Facility - Carbon Fund (FCPF-CF)	5	5
	Forest Carbon Partnership Facility - Readiness Fund (FCPF-RF)	41	41
Denmark	Amazon Fund	22	0
	Forest Carbon Partnership Facility - Readiness Fund (FCPF-RF)	6	6
	Forest Investment Program (FIP)	13	13
	UN-REDD Programme	10	10
European Commission	Amazon Fund	22	0
	Forest Carbon Partnership Facility - Carbon Fund (FCPF-CF)	7	7
	Forest Carbon Partnership Facility - Readiness Fund (FCPF-RF)	5	5
Finland	Forest Carbon Partnership Facility - Readiness Fund (FCPF-RF)	23	23
France	Central African Forest Initiative (CAFI)	20	20
	Forest Carbon Partnership Facility - Carbon Fund (FCPF-CF)	5	5
	Forest Carbon Partnership Facility - Readiness Fund (FCPF-RF)	10	10
Germany	Amazon Fund	106	89
	BioCarbon Fund Initiative for Sustainable Forest Landscapes (BioCarbon Fund ISFL)	41	41
	Central African Forest Initiative (CAFI)	277	266
	Forest Carbon Partnership Facility - Carbon Fund (FCPF-CF)	321	321
	Forest Carbon Partnership Facility - Readiness Fund (FCPF-RF)	106	106
Italy	Forest Carbon Partnership Facility - Readiness Fund (FCPF-RF)	5	5
Japan	Forest Carbon Partnership Facility - Readiness Fund (FCPF-RF)	14	14
	Forest Investment Program (FIP)	51	51
	UN-REDD Programme	3	3
Luxembourg	UN-REDD Programme	3	3

Netherlands	Central African Forest Initiative (CAFI)	34	34
	Forest Carbon Partnership Facility - Readiness Fund (FCPF-RF)	20	20
	Forest Investment Program (FIP)	2	2
Norway	Amazon Fund	1.262	1.212
	BioCarbon Fund Initiative for Sustainable Forest Landscapes (BioCarbon Fund ISFL)	115	115
	Central African Forest Initiative (CAFI)	445	336
	Congo Basin Forest Fund (CBFF)	83	83
	Forest Carbon Partnership Facility - Carbon Fund (FCPF-CF)	297	297
	Forest Carbon Partnership Facility - Readiness Fund (FCPF-RF)	114	114
	Forest Investment Program (FIP)	142	142
	UN-REDD Programme	335	314
Petrobras - Brasil	Amazon Fund	8	8
Spain	Forest Carbon Partnership Facility - Readiness Fund (FCPF-RF)	7	7
	Forest Investment Program (FIP)	13	13
	UN-REDD Programme	5	5
Sweden	Central African Forest Initiative (CAFI)	4	4
	Forest Investment Program (FIP)	15	15
Switzerland	Amazon Fund	6	0
	BioCarbon Fund Initiative for Sustainable Forest Landscapes (BioCarbon Fund ISFL)	10	10
	Forest Carbon Partnership Facility - Carbon Fund (FCPF-CF)	11	11
	Forest Carbon Partnership Facility - Readiness Fund (FCPF-RF)	8	8
	Forest Investment Program (FIP)	1	1
	UN-REDD Programme	6	4
TNC	Forest Carbon Partnership Facility - Carbon Fund (FCPF-CF)	5	5
United States	Amazon Fund	500	0
	BioCarbon Fund Initiative for Sustainable Forest Landscapes (BioCarbon Fund ISFL)	43	43
	Forest Carbon Partnership Facility - Carbon Fund (FCPF-CF)	19	19
	Forest Carbon Partnership Facility - Readiness Fund (FCPF-RF)	9	9
	Forest Investment Program (FIP)	168	168

About No REDD in Africa Network

No REDD in Africa Network (NRAN) is a network of African Civil Society Organizations, movements, activists and individuals that oppose all kinds of false solutions especially REDD (Reducing Emissions from Deforestation and forest Degradation) with all its suggested variants.

Visit our website : **www.no-redd.africa to learn more.**
Twitter / X: **@NoREDDinAfricaN**
Email: **info@no-redd.africa**.


REDD+
NO REDD+
IN AFRICA
NETWORK