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The views in this report represent those of the authors.

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Kenya has set itself out as a climate policy leader by developing national carbon market regulations that will guide the development of carbon markets under both the Paris Agreement's Article 6 trading and Voluntary Carbon Markets. This report highlights four levers for good governance: recognising resource inequalities, crowding in capital, addressing the underlaying drivers of poverty and vulnerability, and building capacity of carbon market stakeholders. Implementing these four levers of good governance will ensure that carbon markets generate justice and equity outcomes particularly for local communities whose contribution to the carbon markets is the greatest.

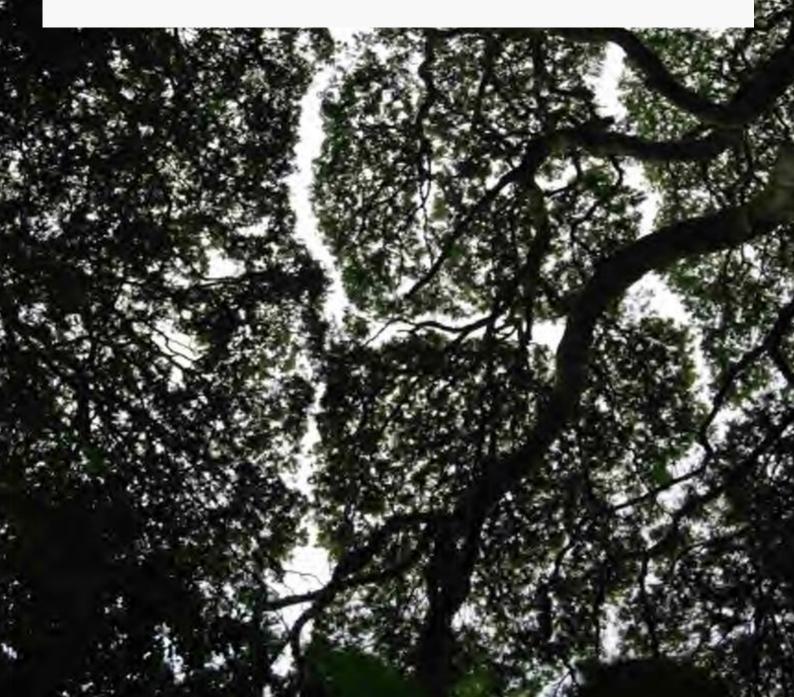


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Executive Summary

Climate ambition in Africa is rapidly expanding. To achieve its Nationally Determined Contribution (NDC) goals, Kenya has set itself up as a carbon markets hub for trading of credits under Article 6 of the Paris Agreement and the Voluntary Carbon Markets (VCM). For example, Kenya adopted its new carbon markets regulations in 2024, which when implemented are expected to ensure that all carbon trading contributes towards NDC goals and sustainable development.

Whether (or not) carbon markets in Kenya deliver on the goals of the NDC and sustainable development depend on how the market is governed. Governance determines the extent to which markets align with global and local principles of justice and equity. For example, governance systems assign responsibility for emission reductions and determine who benefits from implementation of climate action.

This research identified 4 levers for achieving good governance in the Kenyan carbon markets. Although the new carbon market regulations provide foundation structures for good governance of carbon markets, the research notes that carbon market stakeholders will need to deploy extra measures to ensure that carbon markets protect local communities and households.

Lever 1: Recognising resource inequalities

Resource inequalities underly all resources that carbon markets are built on, and good governance ensures that these are integrated into the operations of carbon markets. Resource inequalities are driven by different patterns of use and ownership of resources i.e. those who use resources (e.g. women are likely to use land for subsistence farming) are different from those who own these resources (e.g. men are more likely to own land). This means that the design of carbon markets solely based on resource ownership disadvantages those who use these resources as if fails to account for the livelihood and income disruptions that are experienced by resource users.

Resource inequalities also relate to the intergenerational implications of carbon market development, as it is current generations who own resources that are likely to benefit from the sale of credits while future generations are left with the burden of maintaining carbon sinks.

Carbon project developers should implement safeguards to ensure that carbon projects account for the externalities of these projects on resource users and

owners. Developers should also repeatedly seek *free prior and informed consent* from both users and owners of resources upon which carbon projects are built. This is so that any future generations that come to own and use these resources provide their consent for continued project implementation.

Lever 2: Crowding in of capital

Project development and implementation involves high upfront and running costs which limit entry of small and domestic developers into the carbon market. Project finance for most of the projects in the current markets is sourced from pre-sale of credits, which distorts the market as credits are sold at lower than market price and increase the cost of capital. Good governance requires mechanisms for crowding in capital for market development.

The carbon market regulations recognise the importance of capital for market development and rely on the national government to provide fiscal and non-fiscal incentives to investors. These can include tax breaks, capital allowances and investment deductions.

However, the carbon market can benefit from investments, particularly from domestic actors such as domestic financial institutions. This means that the national government should work with the Designated National Authority (DNA) and other development institutions to engage with potential domestic investors so they can understand the nature and operations of the carbon markets. The government should also use de-risking instruments such as guarantees to manage risks for domestic investors looking to invest in the Kenyan carbon markets.

Lever 3: Addressing the underlying drivers of poverty and vulnerability

Carbon markets, just like other climate action instruments, are expected to contribute towards climate resilience and sustainable development by delivering enhanced co-benefits which address the underlying drivers of poverty and vulnerability to climate risks.

The Kenya carbon market regulations require developers to identify the environmental and social impacts of projects and the social contributions that these projects have on local communities. Developers are also required to align projects with local visions and priorities for development.

Enhanced co-benefits require projects to adopt beyond-livelihood multistakeholder and collaborative approaches to project development and implementation. These approaches should aim to understand and address the patterns and causes of vulnerability to climate change risks and poverty among relevant local groups. Delivering enhanced co-benefits also requires that the sources of carbon credits be diversified to sectors and population groups that have in the past been left out of the carbon markets but that have a large potential for contributing towards resilience and poverty reduction for local communities. These include sectors such as health, transport and education and population groups of beneficiaries such as women and young people.

Lever 4: Knowledge and capacity development

All stakeholders, particularly those at the local level, need knowledge and capacity on how the market operates so they can effectively contribute to and benefit from the market. For example, market stakeholders should also have sufficient skills to perform the roles that are assigned to them by the carbon market regulations. Sufficient capacity and knowledge amongst carbon market stakeholder increases market effectiveness and efficiency.

The new carbon market regulations require project developers to have sufficient knowledge about the sectors that they wish to operate in. However, additional measures by the DNA and other market stakeholders are needed to develop adequate knowledge and capacity across the market.

For example, the DNA could leverage its role as market facilitator and work in partnership with national and international development partners to ensure that all stakeholders engaged in the market have the needed knowledge and capacity to perform their roles within the carbon markets.

The national government can also mainstream programs that develop skills on key areas such as in Monitoring, Reporting and Verification (MRV) to enable the proliferation of these skills into the market.

Policy recommendations

One cross-cutting feature of these levers is they are all targeted at ensuring that local communities and households can effectively participate in the market and accrue benefits from these markets. This is the goal of climate justice and equity.

The immediate and full implementation of the carbon market regulations is therefore important for ensure that any inefficiencies are identified and addressed as soon as possible. This means that the DNA needs to be capacitated (financial, human and technical resources) to perform its role as it is set out in the carbon market regulations. Existing will then change their practices in the carbon market, while the system will expand market participants and active stakeholders.

Carbon market stakeholders including developers and other national and international actors should also commit to voluntarily embedding aspects of good

governance into their operations to ensure that carbon credit projects protect the rights of local communities and households, enable free flow of information about the functioning of the markets and projects, and contribute towards poverty reduction and resilience to climate change risks.



1 Introduction

Climate ambition in Africa is growing rapidly, with countries making Nationally Determined Contributions (NDC) commitments towards low-carbon, climate-resilient development. Kenya is among the climate leaders on the continent whose climate ambition has increased over the past 5 years. For example, the Kenyan government committed to achieving a net zero emission target by 2050 [1]. Kenya's revised NDC commits to reducing emissions by 32% by 2030 relative to a BAU scenario [2], with plans for peaking of emissions from energy systems by 2035 [3]. Achieving these targets will require both domestic and international partnerships and action.

Further, Kenya has presented itself as a hub for carbon markets under Article 6 of the Paris Agreement as well as the Voluntary Carbon Market (VCM) to achieve NDC goals [4]. In 2022, Kenya volunteered to pilot the Africa Carbon Markets Initiative's (ACMI's) deepening the carbon markets agenda in Africa. Kenya's work would build on its success¹ from the Kyoto Protocol's Compliance Carbon Markets through the Joint Implementation and the Clean Development Mechanism. As of 2023, Kenya had issued about 52.4 million carbon credits through its CDM and VCM, making it the largest portfolio in Eastern Africa [5].

To advance its commitment to develop the national carbon markets Kenya adopted its carbon market regulations in 2024. The impact of these regulations on sustainable development, adaptation and resilience objectives will depend on which governance systems are used. As carbon markets are being pursued alongside other climate action instruments (e.g. mobilising domestic resources to finance climate action), it is important to consider how Kenya can use governance levers to best instrumentalize these carbon markets towards collective climate justice and equity goals.

In this report, we use qualitative data from interviews with stakeholders across the national carbon credit value chain to identify the governance levers that the voluntary component of the Kenyan

carbon markets can leverage to deliver just and equitable outcomes alongside its NDC goals (see Annex 1 for a detailed outline of the methodology). We focus on the VCM as it is more developed than trading under Article 6 which is still in its infancy

¹ In comparison to other African countries even though Africa benefited little from the Kyoto Protocol's CDM as compared to other global regions.

in Kenya. The analysis conveys three crucial areas of action. The first area is to make delivering development, adaptation and resilient co-benefits a continuous obligation throughout the life of carbon credit projects. A second area of action is addressing the deep inequality embedded in ownership and in the use of resources on which carbon credit projects are designed. Finally, a third area of action is to expand the sectoral coverage of credit programs through immediate implementation of market regulation, and the diversification of the carbon market.

2 The value of well governed carbon markets

Despite the rapid expansion of the Kenyan VCM due to increasing demand for credits, the market has also experienced pitfalls that have brought it close external scrutiny. Different types of research have found that: (a) benefit sharing schemes used in the Kenyan market have been exploitative towards local communities [6]; (b) the market exhibits unequal allocation of resource rights that favours developers and other foreign institutions [7]; and (c) some credits generated in Kenya lack additionality, meaning that they do not demonstrate that the carbon captured would not have occurred without the project intervention [8]. Some carbon credit projects have also been found to have poor measurement and verification of emission reductions than claimed, insufficient transparency on methodologies used or revenue generated, and the proliferation of cheap credits that distort the market [9]. Despite these shortfalls, the carbon markets in Kenya are still expanding, which indicates a commitment by relevant stakeholders to continue developing the markets.²

Carbon markets, just like any other climate instrument, require appropriate governance mechanisms that maximises their contribution to global and local visions of equity and justice as outlined in the Paris Agreement (see figure 1). This is particularly true for VCMs, which tend to respond the interests of the private sector while generating private and public benefits. Countries will need to determine how to develop their carbon markets to fit international standards on governance of climate change (i.e. relating to international climate target setting and implementation), but also adjust these markets to fit within domestic institutions and needs (e.g. sustainable development, adaptation and resilience). At the core of this governance approach is the recognition that carbon markets are not just tools for emission reductions, but also avenues through which private and public sector finance can be mobilised towards the adaptation and resilience priorities outlined in Kenya's revised NDC [10-12]. Governance systems therefore ensure that carbon

² The validity of these pitfalls can also be challenged. For example, given that the carbon credit projects are conducted by private sector entities, critiques on lack of transparency are countered by

arguments that private sector entities do not need to be fully transparent especially when transparency exposes trade secrets and compromised intellectual property.

credit projects intentionally address the needs of vulnerable groups alongside meeting mitigation targets.

Figure 1: Global and local principles of climate justice and equity

Global principles of climate justice and equity

- Ensuring that those who are least responsible for climate change are not disproportionately burdened with the responsibility for rectifying climate change.
- Embedding a development first approach to climate action, particularly fo countries and regions that are poor. Hence climate action should also contribute to sustainable development.
- Ensuring that those who are least able to respond to climate change are not adversely affected by climate change risks.
- Reflecting the needs of those who are disproportionately affected by climate change risks are reflected in climate change decision making and action.

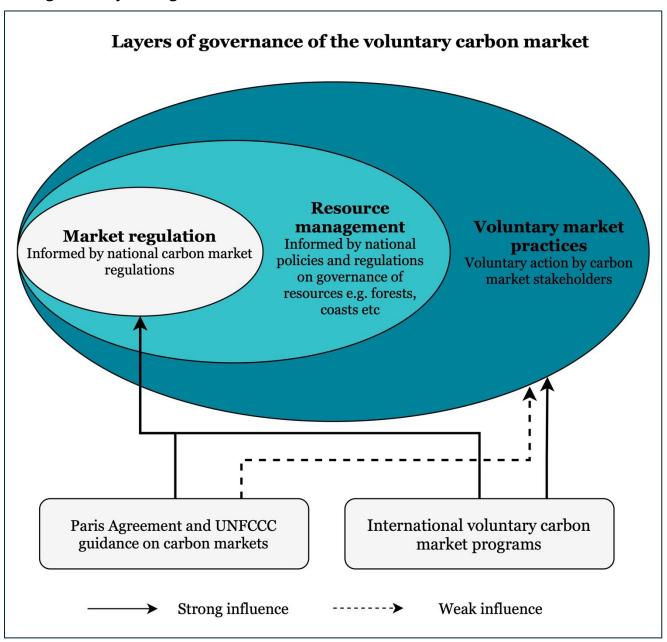
Contextual features of climate justice

- Develop participatory decision-making structures that involve all groups of the community, including those who are marginalised.
- Work with marginalised groups such as women and young people to design and implement climate solutions.

Good governance of carbon markets therefore performs these dual roles: (a) ensuring that carbon markets actors are adequately contributing and are involved in the development of carbon credit value chain; and (b) ensuring that institutions have clear structures and roles in the operation of the markets, including setting of rules and provision of oversight [11, 12]. These roles are conducted across three layers of governance—the inner, middle and outer layers each of which has different objectives (see figure 2). The inner layer (market regulation) is made up of the formal carbon market regulations. The Kenya carbon market regulations provide the foundation for good governance of carbon markets by setting out the minimum requirements for carbon project development and operation. These build on international voluntary standards and guidance, as well UNFCCC requirements for the operation of the international carbon markets. For example, the Kenya

carbon market regulations appoint the National Environmental Management Agency as the Designated National Authority (DNA) as mandated by the United Nations Framework Convention on Climate Change (UNFCCC) guidance on governance of Article 6 trading and by international voluntary programs. The middle layer (resource management) includes the formal national and sub-national resource management regulations or policies, e.g. policies on who should exploit marine resources in specific regions. The outer and third layer of governance (voluntary market practices) is informal, made up of voluntary initiatives by carbon market stakeholders e.g. a project developer deciding to allocate 5% more benefits to local communities that what is prescribed by government regulations.

Figure 2: Layers of governance of carbon markets



The government's formal systems for governance play the dual role of governing resources that carbon markets rely on and supporting the DNA to perform its role. For example, the Ministry of Agriculture is part of the multisectoral technical committee established in the carbon market regulations to support the DNA in reviewing and approving proposals for the development of carbon markets (Inner layer). The Ministry is also responsible for development and implementation of agricultural policies in Kenya (Middle layer). Outside of these formal mechanisms are informal practices that different stakeholders voluntarily use to strengthen the governance of carbon markets (Outer layer). These include practices by different stakeholders such as partnership development and resource allocation to achieve specific outcomes that benefit the whole or part of the carbon markets. These practices build on the frameworks developed by the carbon market regulations e.g. by conducting more nuanced assessments of the effects of project activities.

In the following section, we present the four key levers for governing the Kenyan carbon markets. We discuss how provisions within the carbon market regulations and national policies on resource management (inner and middle layers respectively) can be useful in activating these levers. We also highlight which voluntary practices by carbon market stakeholders can further improve the functioning of the market to ensure alignment with global and local principles of equity and justice.

3 Levers for good governance of carbon markets in Kenya

3.1 Recognising resource inequalities

Resource ownership and use is at the heart of carbon markets, reflected through patterns of resource ownership and use. Therefore, good governance of carbon markets in Kenya demands a recognition of the socio-politics of resource ownership and use, and how these determine who stands to benefit from carbon markets. Central to these socio-politics are resource rights which determine who own resources and who uses specific resources, and consequently who benefits from the subsistence and commercial use of these resources. Concerns relating to treatment of resource rights in carbon projects (e.g. land rights) have already been identified in previous research. For example, research has highlighted the dispossession of land by private developers and the reduced access to and use of these resources that follows the implementation of carbon credit projects on private or community land [13].

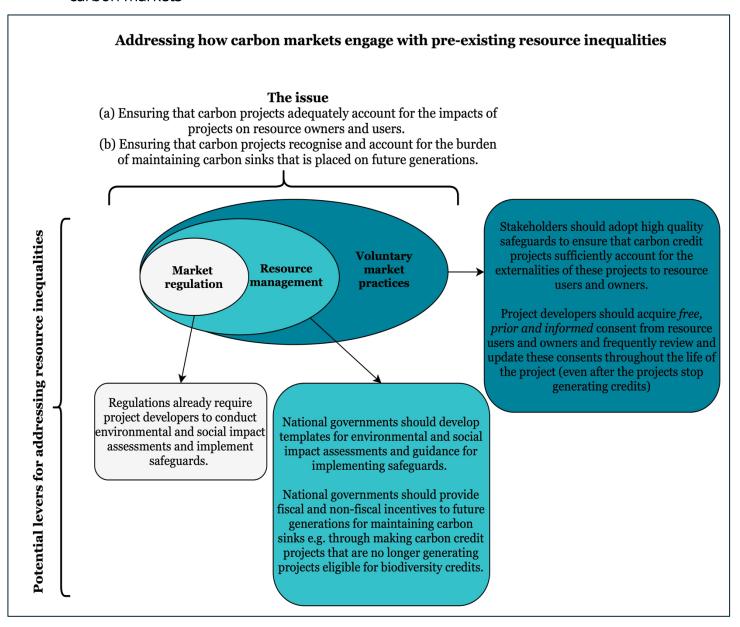
The Kenyan carbon market regulations acknowledge that resource rights are critical to the development of the market. The regulations distinguish responsibilities for project developers towards communities based on how projects engage with land as a resource i.e. land and non- land-based projects [14]. Community members,

through local community committees, are required to give consent for projects being developed on community land and be signatories to plans for how carbon project benefits are allocated at the community level. Additionally, local community decision making bodies are required to ensure that no more than two thirds of these bodies shall be of the same gender [14].

However, patterns of ownership and use of resources, and the effects of these patterns on who benefits and loses from carbon projects still needs consideration to enable good governance. For example, religious and customary law in some Kenyan communities dictate that only men can own land while women can only use that land for domestic production such as growing of vegetables or grazing goats and sheep [15, 16]. Although the Kenyan constitution dictates that women and men have equal rights to owning land, a 2022 assessment found that 75% and 93% of women in Kenya did not own agricultural and non-agricultural land respectively [17]. Further, the assessment found that among the women who owned land in 2022, 62% and 44% did not have a title deed on agricultural and non-agricultural land, respectively [17]. Yet, Kenyan women are considered important for agricultural production and food security as they produce agricultural crops and tend to animals. This means that any carbon credit activities on land are likely to affect both resource users and legally recognized owners.

Another aspect of resource rights relates to the intergenerational implications of carbon credit development which will be useful for avoiding carbon leakage. Landbased carbon credit projects are implemented over a 40-year period within which carbon credits are generated. However, for these removals to be permanent, these projects are expected to store carbon over a 100-year period. Protection of these sinks over the 100-year period involves intergenerational responsibility. Hence, the development of carbon sinks should not assume an automatic commitment by future generations to conserve these carbon sinks as this adds undue burdens on these generations.

Figure 3: Interventions for ensuring that resource inequalities are accounted for in carbon markets



The carbon market regulations note that all projects conduct environmental and social impact assessments of their action and implement social, cultural and economic safeguards. Hence, carbon market stakeholders should use these impact assessments and safeguards to ensure that carbon credit projects acknowledge and account for the externalities of project development to resource users and owners and to future generations (see figure 3). For example, this can either be through implementation of safeguards to reduce the effect of carbon projects on resource use or designing projects that sufficiently compensate resource users for the livelihood or income disruptions caused by projects. Project developers should ensure equitable intergenerational burden sharing by acquiring *free*, *prior and*

informed consent as mandated in the carbon market regulations (see textbox 1) from resource users and owners and frequently reviewing and updating these consents throughout the life of the project to ensure that changes in resource ownership and use is accounted for in project implementation. Additionally, the national government can develop templates for environmental and social impact assessments and guidance for implementing safeguards for these issues. Lastly, the national government should provide incentives to encourage younger generations to maintain the sinks that have stopped generating credits, e.g. through introduction of biodiversity credits to land-based projects that are older than 40 years.

Text box 1: Enhanced free prior and informed consent for carbon projects

According to the Kenya carbon market regulations, both land and non-land-based projects should obtain free prior and informed consent from resource owners before project implementation begins. However, good governance of carbon projects in Kenya will require developers to go beyond this and ensure that they have acquired consent from both current and future owners and users of resources on which carbon projects are developed. This consent is predicated upon the resource users and owners understanding the nature and outcomes of the project, including what they are sacrificing and what they are gaining in return. This will therefore require developers to disclose:

- (a) What the project is about, i.e., generating carbon knowledge so that communities and individuals have a very good understanding of what the project aims to achieve and how the local resources in question will be used to do this.
- (b) What the individuals or communities need to do for the resource to generate credits.
- (c) Quantification of the foregone income or benefits from the resource if these were not being used for carbon credits.
- (d) What the developers intend to do with the credits generated from the use of the resource in question, how the proceeds and revenue will be allocated and used and the proportion of the returns that the communities or individuals will get.

Basically, this encourages project developers to recognise that both resource users and owners incur foregone income and in different proportions and accounts for this in project development and implementation. The outcome is a carbon market landscape that proportionately rewards communities and individuals for their efforts in carbon sinks and their foregone income from these resources.

The agreements between developers and communities or individuals should be revised frequently by the stakeholders involved.

³ See [18] for a discussion of how emission reductions and emissions sinks that become effective after 2030 are considered to place an unfair burden on future generations.

3.2 Crowding in capital

Availability of finance is one of the key determinants of the size and quality of a carbon project. The high upfront and running costs tied to carbon project implementation is one of the factors that prevent the entry of domestic developers into the carbon market. These costs can range from \$300,000-800,000 for nature-based projects and \$200,000-400,000 for tech-based projects [19]. This finance is used to pay for government fees and permits, and for project operational costs e.g. labour costs, acquisition of monitoring, reporting and verification (MRV) technologies etc.⁴ Most carbon credit projects in Kenya have used carbon finance, i.e., financing from the (pre-)sale of credits, even though this funding is insufficient for financing full projects [19]. Although presales guarantee project developers relatively patient finance (2-3 years of financing before carbon projects start generating credits), they distort the market as credits pre-sales are at lower than market prices. Consequently, the cost of this capital i.e. the difference between the credit pre-sale price and the market price of credits) is too high. This in turn lowers the rates of return to project developers and the benefits allocated to communities.

Good governance of the carbon markets in Kenya will also require financing mechanisms that enable crowding in of patient capital to finance projects to completion without affecting the final sale price of the credits generated. Specifically, domestic and small-scale developers require patient, concessional capital i.e. finance that is provided at below market rate [20]. However, patient and concessional capital can only be mobilised if project risk for investments is reduced or managed. This necessitates the use of risk reduction financial instruments that can attract risk-averse but high value investors. Instruments such as carbon derivative-based products, equity and debt financing can be used to attract investors. Blended capital that leverages public finance, grant and donation financing from other private investors, domestic financial institutions, carbon funds, philanthropies and other civil society organisations (CSOs), DFIs and MDBs can also be used [19]. Patient finance can also be mobilised through domestic capital markets.⁵

The Kenyan carbon market regulations recognise the importance of capital and rely on the national government to provide fiscal and non-fiscal incentives, particularly to domestic investors for financing the development of carbon credit projects.

Domestic investors, including domestic financial institutions offer a good source of

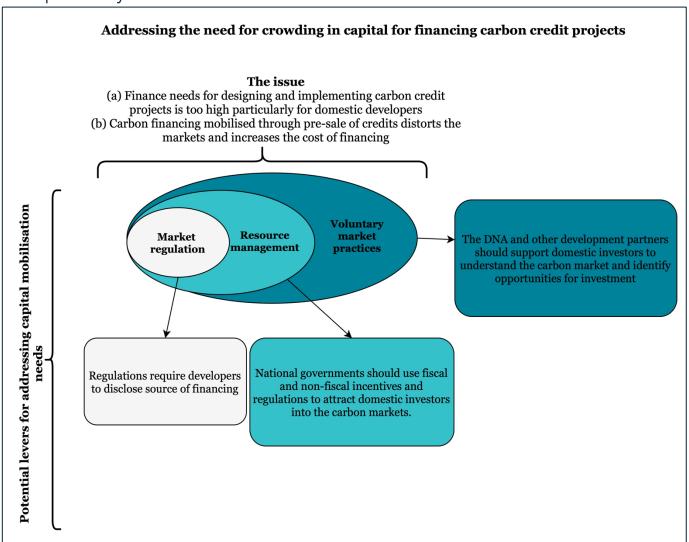
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⁴ For example, the Kenyan carbon market regulations require that developers to pay carbon project application fees, carbon project document design fees, administrative fees and corresponding adjustment fees. Some of these vary depending on whether the project developers are nationals or foreigners and on the size of the project. See [14].

⁵ The Kenya Capital Markets Authority has a strategic goal of mobilising innovative finance, specifically through green capital markets. See the 2023-2028 plan here.

patient capital for the Kenyan carbon markets. To date, the Kenyan carbon markets have had limited investments by domestic investors. The involvement of domestic investors has been low due to their limited understanding of how the carbon markets operate and how these markets present an investment opportunity. This low level of investments demonstrates the need for financial regulations that incentivise domestic financial institutions and other corporates to invest in carbon markets. The adoption and implementation of the Kenya Green Finance Taxonomy [21], which is still in draft form and under consultation [22] could incentivise investments in climate action and particularly carbon projects. Further, accelerating domestic investments into the carbon markets will require: (a) capacity development of domestic investors so that they can understand the core operational principles of the carbon markets and see carbon markets as an investment opportunity (b) trust between these domestic institutions and existing regulatory mechanisms to eliminate uncertainty and unnecessary risk.

Figure 4: Interventions for crowding in capital for carbon market development particularly from domestic investors



The DNA and other development partners e.g. philanthropies and multi-/bilateral development institutions should commit to allocating resources to identifying and addressing capacity and knowledge gaps by domestic investors to help unlock financing from these groups (see figure 4). This would demystify carbon markets and reveal opportunities for investment in the carbon market identified. These institutions can then leverage existing financial regulations to increase their investments in carbon markets. However, unlocking investments from domestic investors also requires risk management, through use of instruments such as use of de-risking instruments such as guarantees. These derisking instruments should be provided by the Government of Kenya in partnership with development partners.

3.3 Addressing the underlying drivers of poverty and vulnerability

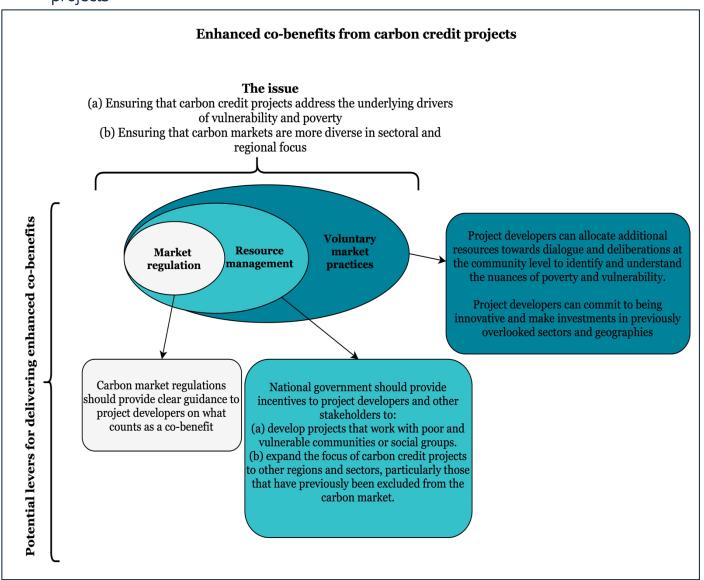
The term 'co-benefits' has been part of conversations on carbon markets for a long time. However, studies still find polarisation amongst stakeholders on whether cobenefits should be sought alongside mitigation outcomes in carbon market projects [23]. The normative expectation from climate change instruments, which carbon markets is a part of, is that they will contribute towards both poverty reduction and low carbon climate resilient development [24]. Hence, carbon markets should deliver on both carbon mitigation outcomes as well as co-benefits which reduce poverty and increase resilience, i.e. enhanced co-benefits. These additional outcomes can include livelihood development or provision of other basic services such as health (see [25]). Already, project developers in Kenya integrate co-benefits into their carbon projects, as projects with quantifiable co-benefits not only attract higher premiums [26, 27], but also gain prominence within the carbon market space as examples of 'good practice'. Achieving these enhanced co-benefits requires that carbon market stakeholders identify and work with those who are poor and disproportionately affected by climate change to identify and address solutions.

The Kenya carbon market regulations provide a formal starting point for addressing the underlying drivers of poverty and vulnerability by requiring project developers to identify the environmental and social impacts and co-benefits (referred to as 'social contributions') generated by their project [14]. Developers are also expected to commit to the social development of the community(ies) that they operate [14] and to implement social, economic, ecological and cultural safeguards. Lastly, project proponents are required to review and align their projects with the development priorities of the national and local governments and further develop plans for achieving the priorities set out by communities and governments.

However, ensuring that carbon credit projects address the poverty and vulnerability to climate change risks requires beyond-livelihood multi-stakeholder and

collaborative approaches that seek to understand and address the systemic patterns and causes of vulnerability and poverty (see figure 5). First, it demands that carbon market regulations provide clear guidance on the minimum requirements for co-benefits. The national government should also provide incentives to carbon market stakeholders to work with vulnerable and poor communities and social groups. Project developers and other stakeholders can also commit to building on the minimum requirements of the carbon market regulations by further allocating additional resources towards dialogue with local stakeholders to identify and understand the nuanced drivers and patterns of poverty and vulnerability and developing partnerships and tools that are effective in addressing these issues.

Figure 5: Interventions for delivering enhanced co-benefits from carbon credit projects



Good governance of carbon markets requires a much wider and diverse stakeholder participation. However, although the Kenyan carbon market landscape has grown significantly over the past decade, the number of institutions involved, and the number of sectors covered remains small. The sectoral distribution of credits is also small. For example, most of the voluntary credits in Kenya have been generated from land use and forestry [19]. The current market is also dominated by a few large developers. A diversification of the carbon market stakeholder landscape and sectoral focus is therefore needed. This is through the diversification of the sources of credits, particularly towards sectors and regions that have a significant effect on growth and income redistribution. Specifically, this involves increasing the agency of the poor and vulnerable, increasing income and livelihood stability, strengthening governance etc. As most of the credits in the current market are generated from nature-based solutions (particularly reforestation) and clean cooking, diversification towards other under-invested sectors such as waste, e-mobility, health, SMEs etc will contribute towards generating enhanced co-benefits that have a broader effect on poverty and vulnerability.

3.4 Knowledge and capacity of carbon market stakeholders

A wider participation of all stakeholders, which is an essential part of good governance, can only be achieved if all actors have sufficient knowledge and capacity to engage in the market. This is 'carbon knowledge', where different sets of stakeholders gain a deeper understanding of the concept of carbon markets and credits, carbon projects and how different resources are used to generate credits [29]. This is particularly important for land-based projects whose lifetime is long i.e. with nearly 100 years of carbon sequestration and storage and therefore likely to encounter reversal due to limited knowledge on how to maintain these resources. For example, it is important that households whose private land is used for land-based carbon projects fully understand their contractual obligations throughout the sequestration and storage period.

Capacity development of stakeholders on navigating the carbon market can enable market effectiveness and efficiency and reduce misinformation. For example, institutions involved in the governance of carbon markets (such as the national and sub-national committees that have been created through the national regulations) will require resources and skillsets to sufficiently preform their tasks while also anticipating new needs that may emerge from the market. Adequate institutional capacities lower the cost of operations for all market stakeholders and make it easier for market entry by different sets of stakeholders e.g. new domestic project developers. Table 1 presents a summary of the capacities and knowledge that are needed to enable good governance of carbon markets.

Table 1: Examples of knowledge and capacities needed by different stakeholders to

enable good governance of carbon markets in Kenya.

Knowledge and capacities	Stakeholders
Knowledge of existing carbon markets laws and regulations, including their links with sub-national policies	All stakeholders, particularly local communities and households
Knowledge of requirements from carbon credit projects from national regulations and international voluntary carbon market mechanisms and guidance	Local communities and households whose resources are the basis for the carbon projects
The meaning of free and prior informed consent and how it should be obtained from and granted by local stakeholders	Local stakeholders, project developers and carbon credit buyers
Capacity to audit and conduct MRV of carbon project for different carbon credit programs and their standards	Domestic private sector entities, government entities that are part of the institutions overseeing the operation of the carbon market landscape in Kenya
Capacity to develop and operationalise incubators and aggregators for SMEs	Domestic private sector, government, non-profit organisations
Knowledge of existing sources of capital for projects at different stages of development and implementation; Capacity to target and mobilise capital from different sources	Domestic national and sub- national private and public sector.

The new carbon market regulations have set out the minimum requirements for knowledge and capacity development by requiring project developers to have sufficient knowledge about the sector they wish to operate in and of carbon markets in general to enable them to develop high integrity projects [14]. Project developers are also required to ensure that communities have sufficient knowledge about the projects they intend to implement and honour requests of communities for capacity development that will enable them to participate in the project and to work with communities to sensitize them on the projects being implemented [14]. They are also expected to have clear records of project operations which are then submitted to the DNA. Lastly, local project committees are required to maintain clear and up to date records of project operations, and submit information of activities, including money disbursed to communities.

However, additional measures by the DNA, the national government and other market stakeholders are needed to develop adequate knowledge and capacity across the market (see table 1). The DNA, in its role as market facilitator, can be a capacity developer to ensure that institutions involved in the formal governance of carbon market have an adequate understanding of the structure of the market and their roles in the market. The Kenyan government can also mainstream learning about carbon markets into technical and vocational training into higher education systems e.g. in technical and vocational training institutions. Domestic institutions already involved in the carbon markets can offer specialist training and certification to enable the proliferation of these skillsets into the domestic labour market. This will further contribute to lower project operation costs.

4 Conclusion

Kenya is at an important point for the development of its carbon markets and leveraging the right governance levers could generate long-term equity and justice outcomes required from all climate action. Implementing these governance levers will require interventions at the national, sub-national and the local levels and the engagement of different stakeholders in the public and private sector, including local actors. The analysis in this report, which is informed by discussions with carbon market stakeholders in Kenya, highlights 4 levers in the Kenyan carbon markets that can accelerate progress towards global principles of climate justice and equity. These include the need to: (a) recognise resource inequalities within and across generations, (b) crowd in capital for market development, (c) deliver enhanced co-benefits that involve addressing the underlying drivers of vulnerability and poverty, and (d) ensuring that all market stakeholders have the required knowledge and capacities to fully and effectively operate in the market.

One general feature of these levers is that they all ultimately benefit local actors by ensuring that local communities and households have better control over how the carbon market works and what they gain from it. This is the goal of climate justice and equity which is to ensure that local communities and households, particularly those who are poor and disproportionately affected by climate risks, are prioritised in all climate action and development including that whose primary goal is to reduce emissions. This climate action should therefore aim to identify the causes of marginalisation and vulnerability and work with other stakeholders to address them. Engaging these levers to achieve good governance of carbon markets is a multi-stakeholder responsibility. This means that all stakeholders should commit to ensuring good governance both through the formal spheres of the carbon markets and informally through voluntary action that goes beyond what regulations require.

A starting point for good governance is the full implementation of the new carbon market regulations. In addition, national and sub-national governments can use

other existing policies and regulations to ensure that activities in the carbon markets reflect good governance principles. For example, carbon regulations mandate the government to use fiscal and non-fiscal incentives to accelerate investments in specific sectors that are critical for resilience of local communities [30]. Lastly, carbon market stakeholders should ensure all their actions improve market operations particularly in favour of those who are poor and vulnerable to climate change risks. Ultimately, good governance is targeted at ensuring that local communities and households are protected from climate change risks and engage in activities that improve and protect their incomes.

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Appendix 1: Methodology

Data that fed into the analysis presented in this report was gathered through interviews with national and local stakeholders in the Kenyan carbon markets. The core of the interviews (25 interviews) was conducted in July 2024, although this report also uses data from 10 interviews conducted between October and December 2023.

Discussions in the July 2024 interviews focused on what could be done to make the Kenyan carbon markets operate more efficiently to achieve Kenya's NDC and sustainable development goals. Interviewees were also asked to reflect on the role of existing carbon market regulations in achieving these changes. The October-December 2023 interviews involved general reflections on the development of carbon markets in Africa.

Interviews lasted less than an hour. Interview recordings were transcribed (as notes). The data collection complied with the University of Oxford's research ethics regulation.

Photos

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