

Draft Policy Brief

Sustainable Consumption and Production in Kenyan Coastal Counties: Case for the Sustainable Management and Exploitation of the Environment and Natural Resources through Effective Policy, Governance, and Institutional Frameworks Coupled with Appropriate “Bankable” Investments

WIOMSA Grant Supported Project, Grant No: CITIES/COASTS/OP/2020/02

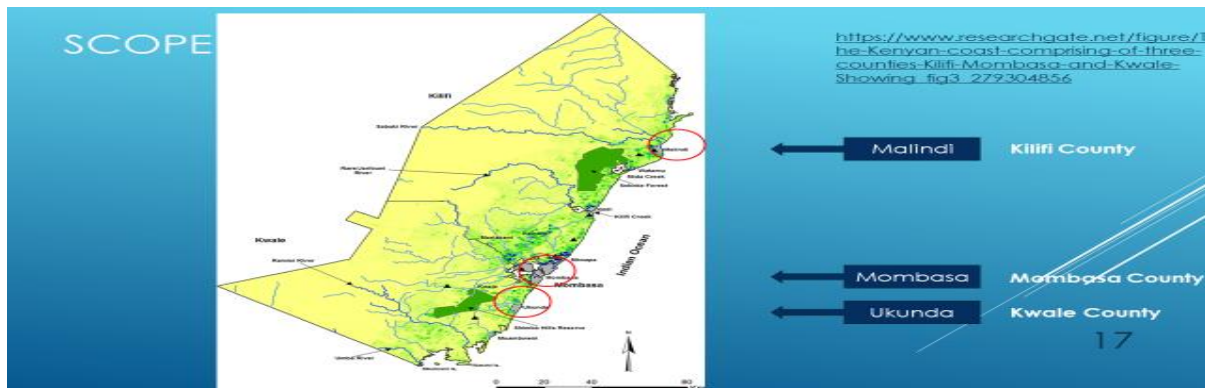
Summary

This policy brief presents research findings of an assessment of the Environment and Natural Resources sector in Kenyan Coastal Counties. The brief gives the current status of the Environment and Natural Resources in Kenyan Coastal Counties, outlines the national and county level policy, legal and institutional frameworks governing the management and exploitation of sector resources while giving their interconnectedness with regional and international frameworks, presents roles of the national and county governments, private sector, and the potential for private-public partnerships. It also highlights key findings, gaps and challenges in the local legislations while highlighting best practices from the region and from the international scene. Additionally, it presents a compelling business case for the preparation of a portfolio of “bankable” investments in these sectors and highlights the economic instruments that can be employed for sustainable resource management and exploitation. The brief ends with some recommendations and a conclusion.

*The brief hinges on a bigger research project whose **main aim** was to investigate how to integrate sustainable consumption and production (SCP) in Kenya’s coastal cities and urban areas, mainly through the coastal counties’ development plans, urban planning, legislation, regulatory frameworks, investments and policy decisions. The overall research focused on four (4) sectors in three project sites in Mombasa, Kwale and Kilifi counties which fall within the **Jumuiya ya Kaunti za Pwani (JKP)**. The studied sectors included agriculture and food processing, tourism and hospitality, construction and infrastructure, environment and natural resources. The project focused on **three key locations: Mombasa City in Mombasa County, Ukunda/Diani municipality in Kwale County, and Malindi municipality in Kilifi County**. **Figure 1**, below, presents the project sites. The research analyzed existing SCP frameworks at the national, sub-national, regional, and global levels with a view to addressing policy, legal and institutional gaps and suggesting possible interventions. It also sought to present good practices on how SCP policy and governance can support the development and implementation of the Blue Urban Agenda for Kenya’s coastal region, and use this as a basis for replication elsewhere in the Western Indian Ocean (WIO) region. In terms of application, the results and outcomes of the project are expected to provide innovative policy and governance pathways for SCP that will aid Kenya’s coastal cities and urban areas develop and implement a sustainable Blue Urban Agenda for the country, with possible replication elsewhere in the WIO region.*

The project embraced the concept of circular economy, which aims to reach the maximum efficiency in the use of finite resources, the gradual transition to renewable resources, and recovery of the materials and products at the end of their useful life. Moreover, it targets the rebuilding of all available types of capital, including financial, human, social, and natural. Essentially, a circular economy describes a regenerative economic system, that also promotes “zero waste” approaches.

Figure 1: Project Sites



The sector report focused on the Environment and Natural Resources sector, across the four project sites. The continuous rise in population in Kenyan Coastal cities and urban areas and rural-urban migration have put pressure on this sector resulting in environmental degradation and natural resource depletion at alarming rates. If these impacts are not well planned for in coastal cities, the adverse effects will be devastatingly severe, especially on the marine and coastal ecosystems, which are vital for food security, alleviating poverty and advancing the interaction between “green” and “blue” growth. Therefore, unsustainable consumption and production patterns in coastal cities, for example, through destruction of mangrove areas for development, increased uptake and consumption of fresh water resources, unsustainable use of other natural resources, increased generation of domestic and industrial wastes such as plastics, litter, sewage and effluents, and contamination of ground and surface water translates into socio-economic vulnerability which, if not addressed, will lead to further environmental pollution and degradation, biodiversity losses, increasing resource scarcity, as well as inequality and persistent poverty. It is, therefore, critical that coastal cities in Kenya reduce natural resource consumption and waste production footprints, and improve resource-use efficiencies so that negative environmental impacts are minimized. Hence, an urban agenda tailored for Kenya’s coastal cities and urban areas is necessary.

The sector report, therefore, focused on looking for ways and means for the better planning, management and sustainable use of eco-systems and natural resources by preventing, arresting and reversing the effects of environmental degradation as well as management and the sustainable utilisation of natural resources. The project sites are endowed with many resources that are the drivers of local livelihoods, as well as national and regional economic development. The resources are generally categorized as aquatic which includes fresh water, marine and coastal water ecosystems and; terrestrial ecosystems which include forests and wildlife, wetlands, rangelands, arable land and mountainous national and shared ecosystems. Other natural resources include minerals and energy resources. These ecosystems are primary assets and a store of wealth, which if effectively harnessed, could significantly contribute to Sustainable Development Goals (SDGs), especially SDG12.

The findings, from both desktop review, interviews and focus group discussions, indicate that these shared ecosystems face major threats, which include depletion of natural resources due to: the rising population pressure, expansion in human activities; over-exploitation, unsustainable agricultural practices, over-fishing, pollution including both point and non-point sources, and rampant conversion and destruction of the coastal ecosystems. These threats, if not mitigated in a timely manner, may have significant negative ecological, environmental, and social impacts. Development activities in various productive and social sectors including those in agriculture and livestock production, energy

generation, industrial, infrastructure development and health pose negative impacts to the environment and may lead to the degradation of the environment and depletion of its rich natural resource capital.

The research findings also indicate that with the objective of ensuring sustainable natural resource use, management and conservation, environmental sustainability, and climate change management, the key priorities of the environmental and natural resources sector include: sustainable consumption and production patterns that will reduce the economic development pressure and reliance on natural resources, natural resource management and biodiversity conservation; strengthening the resilience and sustainable management of all ecosystems; supporting adaptive capacities and resilience to the negative impacts of production and consumption; developing and harmonising standards, frameworks and regulations on consumption, production and waste management.

The sector report points out that the sector operates within a comprehensive policy, legal, and institutional framework that emphasizes sustainable environmental and natural resource management. The national government sets the overarching policies and legal frameworks, while county governments play a crucial role in local implementation and compliance. However, some of these policy, legal and institutional frameworks were found to be inadequate, some are either overlapping or need to be aligned with other national/sub-national, regional and international best practices. Kenya also engages in regional and international frameworks to address regional challenges and global commitments related to the environment and natural resources in the Coastal Counties. Effective collaboration between national and county governments, the private sector and the local communities as well as adherence to international agreements, is essential to ensure the sustainable development of this ecologically and economically significant region.

The business case deduced from the sector report indicates that investments in environment and natural resources in Kenyan Coastal Counties are multifaceted. These investments not only provide economic benefits such as increased revenue, job creation, and export opportunities but also contribute to sustainable development, environmental conservation, and climate change mitigation. Furthermore, they align with global trends towards responsible and green business practices, making them not only financially viable but also socially and environmentally responsible choices. Moreover, they can help secure long-term prosperity and resilience of the coastal region in the face of environmental and climatic challenges.

The options and recommendations in the sector report include: a) Secure land tenure, b) encourage community initiatives geared towards reducing, re-using and recycling. This has a threefold effect of keeping communities healthy, earning a living and protecting natural resources, c) develop and regularly assess national and county strategies to reduce the severity of environmental degradation through efforts and intervention in restoring the environment, d) deliberately harness a collaborative approach on the needs for county government and the residents to play a vital role and work harmoniously and strategically in addressing the unpredictable adverse effects on the environment and natural resources, e) Enhance collaboration among national agencies and city leaders during policy design, f) Multi sectoral, multi- agency, cross-cities collaboration on connected and related issues. This engagement should also include working closely with practitioners, such as architects, to determine how they can help make cities more sustainable, g) adopt action plan which provides a pathway towards more sustainable and resilient institutions and communities in the face of climate change as

well as reduce carbon emissions through adoption of appropriate technologies founded on sound research, h) mainstreaming of climate change initiatives into county development plans and programmes, i) develop strategic long-term and smart transformation counties and national plans towards low carbon, climate resilient urban coastal cities, j) regular careful reviews of the features of the urban coastal cities and deliberate, targeted preparation for future pandemics and shocks, k) the national urban policy should deliberately examine the multifaceted SCP challenges facing urban cities in Kenya, l) embark on pragmatic and innovative programmes for the project sites including developing blue and green spaces, electric transportation, and building climate resilient infrastructure, m) restoration of activities and infrastructure destroyed under various circumstances such as post-election violence and the COVID-19 pandemic, n) enhanced efforts in climate change mitigation, social protection, digital economy and other arenas, o) robust analysis and development of strategic development cooperation frameworks multi-sectoral, more inclusive and more focused on urban issues.

The report concludes that Kenyan Coastal Counties are at a critical juncture where sustainable environmental and natural resource management is paramount. This requires a concerted effort from the national government, county governments, private sector, and public-private partnerships. Investments in eco-tourism, sustainable agriculture, and renewable energy present lucrative opportunities for economic growth, while carbon pricing, Payment for Ecosystem Services, and Environmental Impact Assessments serve as vital economic instruments for sustainable resource management. To secure the future of these counties, collaboration and action are imperative.

1. Status of Environment and Natural Resources in the Project Counties

Kwale County: The County is rich in mineral resources. Some of the already discovered minerals in the County include Titanium (rutile, ilmenite, zircon) at Nguluku and Shimba Hills; Gemstones at Kuranze; niobium, phosphates at Mrima Hills and Samburu; Silica Sands at Waa, Tiwi and Ramisi; Zinc, Lead and copper at Mkang'ombe, Mwache, Dumbule and Dzitenge; Baryte at Lunga-Lunga; Coal at Maji ya Chumvi; Sandstones at Mariakani; Limestone at Shimoni and Waa; and coral rocks at the coastline. As per the CIDP, there are no artificial forest plantations in the County. It however has one rainforest, Shimba Hills Forest. Kwale County is also home to indigenous forests known as the *Kaya* forests, which are maintained by the *Miji Kenda* council of elders.

Many of the County's indigenous forests are used as a source of construction wood and timber, as well as charcoal on which over 90 percent of rural households depend. Further, mangrove forests support bee keeping, provide shelter for various fish species, and their poles are also used in construction and to make fishing traps. The County is promoting agroforestry so as to reduce consumption pressure on the indigenous forests and the mangroves. Environmental degradation in the County is attributed to solid waste such as plastics, food waste, logging and charcoal burning, poor mining and sand harvesting practices. The CIDP acknowledges the need for the County to come up with waste management and quarry rehabilitation measures to promote biodiversity conservation. The County's fragile ecosystem such as the Shimba Hills ecosystem consisting of Shimba Hills national Park and the Mkurumudzi is Kenya's richest herpetofauna area. However, between 2010 and 2016, the CIDP indicates that the County had lost approximately 490 ha of its forests.

The Kwale County Government has a specific department called, ‘Environment and Natural Resources’.¹ The Kwale County department’s vision is for a well-managed environment where land, mining and natural resources are utilized sustainably to create wealth for the citizens of the county.² Its mission is to create an enabling environment for accelerated investments on land, mining and natural resources to achieve rapid industrialization of the county.³ The strategic goals for the Department are: (a) to attain sustainable land management and development; (b) to increase forest cover for a sustainable development in a clean and secure environment; and (c) to manage mineral resources for the County Development and community empowerment. The Department derives its mandate from the major sub-sectors, i.e., lands, mining, environment and natural resources.⁴

On the land sector sub sector, the department’s mandate includes lands policy management, physical planning, land transactions, survey and mapping, settlement matters, rural settlement planning i.e., eco-village, land reclamation, county spatial data and land information system, administration of public land in the county.

On the mining sub sector, the department’s mandate includes mineral exploration, inventory and mapping of mineral resources in the County, and County level mining policy and management mining, policies on the management of quarrying and mining areas, management of health and safety standards in mines.

On the Environment and natural resources sub sector, the department’s mandate includes Environmental management, forest development and management (including re-afforestation and agro-forestry), conservation and protection of wildlife and marine ecosystems, water catchment area conservation and coordination of climate change affairs.

Mombasa County: According to the County’s CIDP, the County has vast access (65 km²) to open water and 40km² of the Exclusive Ecological Zone (EEZ), a high potential fishing ground. However, communities adjacent to the ocean are unable to leverage on this due to lack of appropriate fishing gear and vessels, and occasional pirates’ attacks. Some of the 14 fish landing sites in the County risk encroachment as is common along and near the beaches making them inaccessible.

Mangrove forests form a large portion of the county’s forest cover, which is an approximate total area on 300ha. Additionally, agroforestry covers approximately 138ha of the county. Woodlots are common in areas like Likoni and Changanwe sub-counties, despite tree framing not being common in the county.

65% of the county’s water is supplied by MOWASCO from Mzima Springs in Taita Taveta County, Marere, and Sabaki/Baricho in Kilifi County and Tiwi Boreholes in Kwale County. More residents rely on borehole water which has a high percentage of fecal contamination. Approximately, only 74% of the county’s population has access to safe water for consumption.

¹ Kwale County Government, ‘Environment & Natural Resources’

<https://kwalecountygov.com/kwale/index.php?option=com_content&view=featured&Itemid=935> accessed 18 January 2023.

² *ibid.*

³ *ibid.*

⁴ *ibid.*

Limestone mining by Bamburi Cement in Kisauni sub-county is the only notable mining activity in the County. There is also coral blocks extraction in some parts of the county, although minimal and almost negligible.

The CIDP identifies poor solid waste management and disposal as one of the major contributors to environmental degradation. Only 17 per cent of the county is connected to the sanitation and sewerage system of the City Council of Mombasa at Kipevu Sewerage Plant. Large amount of untreated sewerage is therefore discharged to the Indian Ocean, while solid waste is dumped at the Mwakirunge Dumpsite.

Environmental degradation has highly undermined the capacity of the county's vast natural resources to support its increasing population, leading to diminishing land productivity, reducing fish quality and quantity, and poor air quality. Other challenges facing the County include: vulnerability to climate change- extreme weather, including more intense rainfall affecting the land, coastline, the sea and tourism patterns, rising sea-levels threatening habitable land and particularly coastal infrastructure and causing increased chance and scale of coastal flooding and the mangrove forest has been affected by changes in inundation duration frequency as well as salinity levels caused by sea level rise thus reducing its productivity. Increased flooding has also caused change in species composition and intensity resulting loss of fish and coastal erosion. As far as inshore waters are concerned, high temperatures have made the habitats unsuitable for fish and species which have migrated to other areas. The shift has also caused a decline in fishing activities for the fishermen and limited resources. Acidification of the ocean as a resulting of absorption of CO₂ from the atmosphere has affected productivity. Whereas coral reefs are valuable in protecting the coastline, they are increasingly being threatened by extreme temperatures that causes bleaching and acidification, thereby disrupting the health and functioning of coral reefs. Increased atmospheric carbon concentrations have caused an increase in acidity in surface waters which lowers calcium carbonate deposition rates and fertilizes algae creating competition with coral reefs and causing nutrient pollution.

Mombasa County also has a specific department of, 'Environment, Waste Management and Energy', which is one of the ten departments in the county.⁵ Another relevant department is the department of, 'Water, Sanitation & Natural Resources'.⁶ Each of the departments are headed by a County Executive Committee Member (CECM).⁷ Each department also has one County Chief Officer who is the accounting officer of the department.⁸

Mombasa County has listed the following directorates within the Environment, Waste Management and Energy department: Human Resource & Administration; Environmental Compliance; Solid Waste Management; Energy; and Climate Change.

⁵ 'Environment, Waste Management and Energy – Mombasa County' <<https://web.mombasa.go.ke/environment-waste-management-and-energy/>> accessed 19 January 2023.

⁶ 'Water, Sanitation & Natural Resources – Mombasa County' <<https://web.mombasa.go.ke/water-sanitation-natural-resources/>> accessed 19 January 2023.

⁷ 'Environment, Waste Management and Energy – Mombasa County' (n 57).

⁸ *ibid*.

Coastal tourism is a major foreign currency earner for Mombasa County has its backbone on the diverse wildlife and biodiversity resources, rich cultural heritage and the scenic coastal landscape.⁹

Kilifi County: According to the CIDP, the County has made considerably good progress in acquiring good solid waste collection infrastructure like trucks, compactors, and bins, and the securing to dumping sites. Solid waste management challenges identified in the CIDP are mainly on solid waste collection and handling, including challenges in managing personnel, lack of adequate PPEs, lack of modern technology in waste management, and an underpowered community on waste management. The CIDP's five-year priority for solid waste management therefore was to achieve the agenda of waste as a resource, community capacity building and sensitization on solid waste management, investing in PPPs for the conversion of waste to energy, improving waste handling PPEs, investing in modern waste management technology, and engaging qualified waste management personnel.

The county is rich in both surface and underground water resources, including Rivers Sabaki, Kombeni, Mwandeje, and Nzovuni which drain into the Indian Ocean. The CIDP indicates that there is therefore a big potential for construction of multi-purpose dams to meet the county's water consumption demand. Despite this, the county remains a water stressed county, with an estimated general daily water gap of 80,884 cubic meters per day in 2018. Malindi Sub-County has the highest daily water demand at 30,637 m³/d. As per the CIDP, initial funding support in the sector focused on the development of water infrastructure such as pipelines, under the previous CIDP, leading to a 63.3% improvement in water provision to the county's residents. The CIDP acknowledges that subsequently, more effort is required towards water conservation in terms of consumption, and reducing water wastage by promoting water recycling and reuse.

2. Policy, Legal and Relevant Institutional Frameworks

2.1 National Level

The Environment and Natural Resources sector is regulated under specific legislative and regulatory frameworks through Government ministries, departments and agencies.

The Constitution of Kenya 2010: The Constitution's embodiment of the principle of intergenerational equity necessitates the need for sustainable utilization of natural resources. Article 10 provides for sustainable development as one of the key principles for good governance while Article 42 guarantees every person the right to a clean and healthy environment, which in itself demands sustainable consumption and production patterns such as sustainable waste management. Further, Article 69 creates obligations on the State with respect to the environment, including an obligation on sustainable utilisation of natural resources. Article 60 requires that sustainable use shall be a key principle in land use governance and management.

The County Governments Act, 2012: The Act makes provisions on the powers and functions of county governments¹⁰ including those assigned to them under Article 186 and the Forth Schedule of the Constitution of Kenya, which include agriculture, planning, natural resource management, and

⁹ County Government of Mombasa Department of Environment, Waste Management & Energy (n 2).

¹⁰ Section 5

environmental conservation. It provides for county planning, under which County Integrated Development Plans (CIDPs), county sectoral plans, county spatial plans, and county municipal plans should be developed.

Environmental Management and Coordination Act (EMCA), 1999 (Revised Edition 2019): EMCA is the principal law on environmental protection in Kenya. It embodies intergenerational equity and sustainable development as some of the key guiding principles for environmental conservation in the country. The Act further provides on various areas which would have an impact on sustainable consumption and production such as waste management and pollution. It further outlines projects for which Environmental Impact Assessment studies must be conducted before they are licensed for construction.¹¹ This is supposed to project and mitigate any potential negative environmental impact of a project.

The Physical Planning Act, 2019: Among the Act's objectives is providing a framework for equitable and sustainable use, planning and management of land. it embodies the constitutional requirement of sustainability in land governance and management. It requires sustainable use to be employed as a key principle in land planning.

The Energy Act, 2019: The Act provides for the efficient, economic and cost-effective production and use of energy, and the promotion of energy efficiency and conservation at both the production and demand sides of the energy value chain. On buildings and construction, the Act requires the development and adoption of energy conservation building codes.¹² This will promote sustainable energy consumption in the construction sector. The Act mandates the Energy and Petroleum Regulatory Authority (EPRA) to coordinate the development and implementation of a national energy efficiency and conservation action plan, in consultation with relevant statutory authorities and other stakeholders, and to create awareness and disseminate information on the efficient use of energy and its conservation.¹³

¹¹ Second Schedule

¹² Section 190 (n)

¹³ Section 56

The Authority is also mandated to coordinate the development and implementation of a national energy efficiency and conservation programme, including the designation of buildings, factories, and energy appliances by types and quantities of energy use, and methods of energy utilization, in order to promote efficient energy use and its conservation. The Authority is further mandated to conduct energy audits and inspections on buildings and factories to promote energy conservation, and makes provisions on energy managers and auditors, including their qualifications. It also requires that designated buildings and factories make submit annual energy utilization reports. To promote energy conservation, the Act empowers EPRA to issue energy saving certificates to consumers whose consumption is below the prescribed norms and standards. The Act also requires the Cabinet Secretary to make energy efficiency and conservation regulations. County governments may amend energy conservation building codes to fit local climatic conditions. They are also required to create awareness on energy efficiency and consumption, direct compliance on energy conservation and efficiency, and establish an energy conservation and efficiency Fund.¹⁴

County Government Act, 2012: The Act, requires that a county government shall plan for the county and no public funds shall be appropriated without a planning framework. It also states that the county planning framework shall integrate economic, physical, social, environmental and spatial planning. In addition to an integrated county development plan, each county is expected to have the following:

- i) County Sectoral Plan (for the county departments and other county entities);
- ii) County Spatial Plan; and
- iii) City and Urban Areas Plans.

Climate Change Act, 2016: The Act reaffirms the government commitment to promote low carbon technologies and reduce carbon emissions through uptake of technologies that support low carbon and climate resilient development.¹⁵

2.2 Relevant Sub National Policy and Legal Frameworks

2.2.1 Kwale County

Kwale County Integrated Development plan (CIDP) development priority areas on environment and natural resources: The CIDP outlined the following as development priorities under the environment and natural resources sectors:

- a) Implementing the county forest management plan
- b) Developing and maintaining forest infrastructure
- c) Developing community forests
- d) Undertaking afforestation and restoration of fragile and degraded ecosystems
- e) Pollution control
- f) Establish a mineral community trust fund as a benefit-sharing mechanism for the management of the resource on behalf of the community
- g) Adoption of best practices in waste water management and wetland conservation to protect the Indian Ocean's marine ecosystem.
- h) Encouraging the use of standard fishing gear to protect fish breeding grounds.

¹⁴ Section 194

¹⁵ Section 3, Climate Change Act, 2016

- i) On rocks and limestone, the County's priority was to regulate quarrying activities to promote environmental conservation.
- j) Regulating the use of forest resources.

Kwale Quarrying Act, 2016: The Act makes provisions on common mineral harvesting in the County. It establishes a Technical Mineral Harvesting Committee, and Common Mineral Resource Management Associations, whose core mandates include ensuring that common mineral harvesting in the county is done in a sustainable manner. The Associations are mandated to designate common mineral harvesting sites in the county. The Act prohibits common mineral harvesting on river banks and requires harvesting from riverbed to be undertaken in a way that ensures the common mineral is retained to ensure water retention.

Kwale County Forest Conservation and Management Act, 2017: The Act makes provision for sustainable utilization and management of the county's forests, and operationalizes the national forest management and conservation Act. It also mandates the County Forest Division to require residential and commercial estate development within the County to include in their plans, the provision of tree planting and other green zones to cover at least ten percent of the land area to be developed. The Act provides for incentives for forest conservation in form of: A County Community Forestry Programme; a County Reforestation Programme; a County Programme for craft apprenticeships and vocation training for school-leavers in forest resource-based enterprises; a permanent forest sink initiative and, alternative energy initiatives including energy efficient fuel wood cooking devices. These initiatives and programmes shall be funded by a county fund established by the respective CEC. For example, under the county community forestry programme, grants shall be given to community-based organizations, private sector, and forest adjacent communities to support their forest management initiatives. Under the Permanent Forest Sink Initiative, landowners will be able to benefit from carbon sequestration functions on their land and forests through carbon trading initiatives. The Act further provides for the establishment of a county forest management and conservation Fund.

The following major land and land use challenges facing this sector in Kwale County include: absentee landlords, lack of title deeds which limits farmers' ability to develop the land and high incidences of landlessness.

2.2.2 Mombasa County

Mombasa County Environmental Sanitation and Health Act, 2017: Among other things, the Act addresses waste management and food hygiene. It requires the County to develop a waste management policy, and an integrated waste management plan for effective implementation of the Policy. The integrated plan shall contain individual plans on household, industrial, electronic, commercial, medical and hazardous waste. For sustainability and effective implementation of the integrated plan, the Act requires the county government to integrate the waste management plan and strategy in its CIDPs. So far, the County has a Solid Waste Management Policy adopted in 2019, which makes extensive policy proposals on solid waste management. There is also a solid waste management Bill of 2021, which is yet to be passed into law.

Mombasa Mangrove Forest Participatory Management Plan, 2015 – 2019: This Plan was developed to encourage participatory and community management of forest resources, in a bid to reduce the consumption pressure on mangroves by surrounding communities for wood fuel, building timber, and even charcoal burning for commercial purposes. It anchored on the national Forest

Management and Conservation Act. Subsequently, the national government developed the National Mangrove Ecosystem Management Plan, 2017-2027. The County's mangrove management plan proposed various programmes for the five-year period, including a forest extension program, with the objective of reducing household pressure on mangrove forest resources by promoting artificial forests and agroforestry.

Mombasa County Solid Waste Management Policy¹⁶: The policy identifies solid waste to include food, agricultural, and construction waste. E-waste, construction and junk waste constitute 14% of the waste stream, while organic waste - which includes food waste - constitutes an estimated 68% of waste streams. Organic waste, especially from food markets such as Kongowea and Marikiti, is the most common form of solid waste generated in the county. To promote sustainable solid waste management, the Policy proposes segregation and separation of waste at source as a policy measure. However, it lacks clear incentives towards repurposing food waste, for instance, by placing economic value on organic waste. Further, although the policy also proposes the adoption of incentives to encourage recycling and reuse, it does not make clear provisions on how this should be actualized. The policy requires construction and demolition waste to be transported to designated areas approved by the county department for solid waste management. However, beyond this, the policy lacks provisions on reduction and repurposing of construction and demolition waste.

Mombasa Solid Waste Management Bill, 2021¹⁷: The Bill seeks to address the collection, treatment, transportation, and disposal of solid waste in the County, and contribute to sustainable utilization of natural resources through waste prevention, material recovery and recycling. It establishes sub-county solid waste management committees which shall be in charge of, among others, providing a platform for consultative and participatory waste management, and coordinating public and private sector solid waste production services at the sub-county. The Bill provides for the separation of dry waste from wet waste at source by requiring waste provision service providers to avail receptacles for waste separation and prohibiting transfer of unseparated waste. Failure to separate waste will attract either a maximum of 2 months' imprisonment or a fine of ten thousand Kenya shillings. The Bill also requires dry waste to be treated and recovered, while wet waste shall be disposed in a composite site or a landfill.

Mombasa County Climate Change Action Plan 2020-2024: The plan is intended to provide guidance on solutions to some of these impacts through a systematic planning process. This plan sets out various key components of sustainable consumption and production in relation to the environment and natural resources, which include specific county objectives, specific interventions to be undertaken, expected outcomes, key performance indicators, time frames and key actors. This approach is effective as it is both measurable and specific. It also demonstrates the multi stakeholder approach which is critical for attainment of the deliberate interventions proposed. The specific interventions proposed include: development of climate change legislations; enhancing the climate change directorate in implementing climate change functions; Enhance the county's capacity in monitoring the impact of climate change and Mainstreaming climate change. More specific interventions proposed in this plan include: develop climate change finance policy; develop climate

¹⁶ Mombasa County Sessional Paper No. 1 of 2019 on Solid Waste Management

¹⁷ Available at <https://www.mombasaassembly.go.ke/wp-content/uploads/2021/04/The-Mombasa-County-Solid-Waste-Management-Bill-2021.pdf>

change associated bills; recruiting staff; training staff in climate change; establish dedicated offices and personnel for climate change; train staff in monitoring the impact of climate change; development of impact assessment tools; undertake surveys on consumption, production and utilisation of natural resources as well as climate impact; establish a repository for relevant data and information; to create awareness of the local community; mitigation and adaptation measures; equip the local community with necessary tools for coping with global disruptions; rehabilitation of mangrove ecosystems; rehabilitation of coral reefs; rehabilitation of abandoned quarries; rehabilitation of degraded community forests; rehabilitation of rivers and wetlands; establishment of eco-park in the terrestrial ecosystem and in marine ecosystem; tree planting along roads; greening of roundabouts; adoption of agroforestry on farms, inter alia.

2.2.3 Kilifi County

Kilifi County Environmental (Regulation and Control Act) 2016: The Act makes provisions on regulating air pollution, noise pollution, and public nuisances. It establishes sub-county environmental committees, whose mandate includes insuring proper environmental management at the sub-county level.¹⁸ The Act mainly focuses on noise pollution, air pollution and public nuisances, and is silent on solid waste management in the County.

Kilifi County Solid Waste Management Act, 2019: The Act introduces the concept of shared responsivity in waste management between the county government, waste generators, waste service providers and premise owners and occupier. It also introduces a solid waste management charge¹⁹ and an environmental levy.²⁰ The charge is to be paid by waste generators to fund waste management in the County, while the levy will be imposed on ratable property, to be applied to waste management in the County. The Act mandates the CEC to develop guidelines for waste material recovery through reduction, re-use, recycling and composting of waste by various stakeholders in waste management. If well implemented, this will be a great opportunity to address waste generation in the County. The categorizes waste into municipal, market, construction and demolition, industrial solid waste, agricultural, clinical, plastic, hazardous, junk and electronic waste. It further provides for colour coding of waste collection containers to facilitate waste segregation, and requires the CEC to make waste segregation regulations.

Kilifi Forest Conservation and Management Act, 2019: This is an Act to ensure sustainable development and management of forest resources in Kilifi County. It makes provisions on classification of forests into county, community, and private forests, formulation of forest management guidelines which shall set standards for forest management within the county, establishment of urban green spaces, formulation of wood fuel regulations by the CEC within six months of the enactment of the Act to ensure sustainable production of wood fuel and fair trade, community participation in forest management, incentives for forest management among others. Forestry Directorate established under the Act is responsible for its implementation. The Act requires that the ecosystem approach shall be used in forest management in the county. The Act allows for the granting of user and commercial rights

¹⁸ Section 6

¹⁹ Section 7

²⁰ Section 8

in the utilization of county forests (Dakatcha Woodland, Mwangea Hills, Kizungo Hills, Nzovuni Forest, Kachororoni Gorge, and Kaya Forest). It prohibits any person from undertaking commercial use of forests and forest resources without a license. It introduces a licensing regime from commercial consumptive and non-consumptive use of forest resources, and prohibits the commercial use of county forests and their resources without a license. For instance, commercial timber harvesting in county forests shall be subject to a timber contract between the user and the county government. The Act introduces the concept of chain-of-custody in the trading of forest resources which will identify the origin of and ensure that all commercial forest products have been obtained through licensed activities.

2.3 Regional Frameworks

The African 10-Year Framework Programme on Sustainable Consumption and Development (2002-2012): The Programme's key priority areas were energy, habitat and urban development, water and sanitation, and renewable resource-based industries. Under these key priority areas, the following specific needs were identified: Technology transfer and assistance for efficient use of water; promoting integrated solid waste management (ISWM); promoting energy efficiency and renewable energy technologies for industry, agriculture and households; sustainable urban mobility; sustainable urban development, including the promotion of sustainable building design and construction; expansion of value chains for agricultural products and by-products which would go a long way in reducing food loss and food waste; and promoting sustainable public procurement. Some of the projects and activities implemented under the Africa 10 YFP on SCP, and related to Kenya include:²¹

- a) Sustainable buildings policies for developing countries
- b) Africa Eco-labeling mechanism
- c) Shift towards sustainable tourism
- d) The comprehensive Plastic Waste Management Strategy for the City of Nairobi, 2006

Other regional frameworks include:

- a) East African Community (EAC): Kenya, as a member of the EAC, adheres to regional agreements on environmental conservation and sustainable resource management. These agreements promote regional cooperation in addressing transboundary environmental issues.
- b) COMESA: Kenya is part of the Common Market for Eastern and Southern Africa (COMESA), which has regional agreements and initiatives related to environmental sustainability and natural resource management.

2.4 International Legal frameworks

The International frameworks are many and include: The United Nations Conference on the Human Environment (Stockholm Conference), 1972, Our Common Future, 1987 which is a report by the World Commission on Environment and Development and defines sustainable development as development which meets the needs of the current generation without compromising the ability of future generations to meet their own needs. This then made it necessary that resource use must be

²¹ UNEP, Sustainable Consumption and Production in Africa 2002-2012, pp 14-34, available at https://wedocs.unep.org/bitstream/handle/20.500.11822/8779/SCP_AFRICA_Final_with_cover.pdf?sequence=3&isAlloved=y

sustainable, biodiversity protected, and the environment conserved in the processes of economic development, The United Nations Conference on Environment and Development (Earth Summit), 1992 which saw the adoption of perhaps the most important initial international instruments towards decoupling economic development from environmental degradation, and natural resource depletion, and The Rio Declaration on Environment and Development which contains key principles that have since been adopted in subsequent international, regional and national efforts towards sustainable development. Principle 4 states that in order to achieve sustainable development, environmental protection has to constitute an integral part of the development process and cannot be considered in isolation from it. Further, Principle 8 states that the elimination by States of unsustainable patterns of consumption and production is key to achieving sustainable development and a higher quality for all people.

Others included in the sector report are: Agenda 21, The Convention on Biological Diversity (CBD), 1992, The 1994 Oslo Symposium which defined Sustainable Consumption and Production as the use of services and related products, that respond to basic needs and bring better quality of life while minimizing the use of natural resources and toxic material as well as the emissions of waste and pollutants over the lifecycle of the service or product so as not to jeopardize the needs of future generations, Johannesburg Declaration on Sustainable Development, and the Plan of Implementation, 2002, The United Nations Conference on Sustainable Development, 2012 and the Global 10-Year Framework of Programmes on Sustainable Consumption and Production (2012-2022), Transforming Our World: The 2030 Agenda for Sustainable Development, 2015 and UNEP International Declaration on Cleaner Production.

3. Key Findings from Analysis of Desktop Reviews and Field-Based Responses

Generally, the reports in the three counties observe that, firstly, Kenyan Coastal Counties have rich biodiversity of marine and terrestrial ecosystems. These areas are home to diverse species, including unique coral reefs, mangrove forests, and marine life. Secondly, the economic importance of coastal resources cannot be gainsaid with tourism, fisheries, agriculture, and trade being key economic drivers, contributing immensely to the local and national economies. Tourism and the hospitality industry in general have been main contributors to both local and national GDP growth. Thirdly, the research findings emphasize the need of involving local communities in the environment and natural resource management and exploitation. For a long time, research has shown that sustainable management practices are more successful when communities have a stake in decision-making and resource planning, management, and conservation. In addition to the role of the national and county governments, the findings underscore the potential of public-private partnerships in promoting sustainable practices, especially in eco-tourism, environmental and resource conservation and preservation and fisheries management. Fourth, the research findings highlight the utilization of innovative solutions, such as community-based conservation initiatives, sustainable aquaculture practices, and the use of technology for better resource monitoring and management. The use of ecosystem services provided by coastal ecosystems, such as mangroves for coastal protection and coral reefs for fisheries is underscored. Fifth, research findings emphasize the need for improved policy coherence and governance mechanisms at both national and county levels. Effective regulation and enforcement of environmental laws are seen as critical components of the overall environmental and natural resource planning and management. Sixth, the study results underscore the immense environmental challenges facing the Kenya Coastal Region. In particular, coastal erosion, habitat degradation, overfishing, and pollution from urbanization and agriculture are pressing concerns that

threaten ecosystems and livelihoods including marine life. Seventh, it is not lost that the coastal counties are highly vulnerable to the impacts of climate change, including sea-level rise, extreme weather events, and coastal flooding. The results highlight the urgent need for climate mitigation and adaptation strategies. Last but not least, capacity building and education programs have been identified as essential components for achieving environmental and natural resource sustainability and climate resilient future.

In conclusion, it is paramount to underscore that the research findings on environment and natural resource management in Kenyan Coastal Counties accentuate the delicate balance between economic development and environmental conservation. They call for concerted efforts by governments, communities, and the private sector to safeguard these valuable ecosystems while ensuring the well-being of local populations

4. Gaps in the Legislation

Similar to other sector results under this project, the results for environment and natural resources sector at the national level indicate that there are several gaps in terms of the available legislations and policies that need to be addressed in order to effectively embrace the SCP paradigm. The findings suggest that while existing policies and legislations do not ‘speak to each other’, other pieces of legislation lack appropriate policies required for their implementation. In addition, there is lack of awareness of the legislations and policies that are already in force. Other gaps identified include weak legal and regulatory framework, lack of sub-department policies and regulations, lack of policy documents to guide most of the county functions and weak link with the County Integrated Development Plans and other related documentation.

At the County level, the Kwale CIDP lacks provisions specially addressing the mining of coral stones for construction. The **Kwale County Forest Conservation and Management Act, 2017** The Act does not make specific reference to mangrove forests. It is not elaborate on how to reduce pressure and overreliance on forest resources by development activities and there is no waste management law, policy or regulation. There are indications, however, that a Kwale solid waste management policy and plan are in the offing.

For Kilifi County, the **Solid Waste Management Act, 2019** lacks regulations for its implementation. Further, the waste management levy and charge introduced by the Act could also be an effective tool for realizing the ‘polluter pays’ principle in waste management at the county level if properly implemented. The **Kilifi Forest Conservation and Management Act, 2019** has no specific reference to mangrove forests as a fragile ecosystem within the County, under the classification of forests. On the other hand, the provisions on chain-of-custody, if well implemented can help curb illegal harvest of forest resources, contributing to sustainable use of forest resources.

For Mombasa County, the **Mombasa County Environmental Sanitation and Health Act, 2017** is silent on sustainable management of food waste. The Act does not provide for the establishment of a county environmental committee as required under EMCA. This committee should be an umbrella environmental body at the county level, under which other sub-committees can be established. The **Mombasa Mangrove Forest Participatory Management Plan, 2015–2019** lacks clear monitoring,

evaluation, and accountability mechanisms to evaluate the progress and afterlife impact of such periodic plans, for sustainability of the impacts. This will make it easy for continuity of objectives into subsequent plans, and effective application of lessons learnt. Further, the **Mombasa County Solid Waste Management Policy**²² lacks clear incentives towards repurposing food waste, for instance, by placing economic value on organic waste. It also lacks clear provisions on how to actualize proposed recycling and reuse incentives and provisions on reduction and repurposing of construction and demolition waste. The **Mombasa Solid Waste Management Bill, 2021**²³ has no provisions for re-use of wet waste, which included agricultural waste) and no provisions on further separation of dry waste, i.e., plastic waste from construction waste, from e-waste, etc. It is also silent on measures to encourage reduction of waste generation and lacks measures for encouraging reuse of wet waste by placing an economic value on the waste, besides composting.

5. Best Practices and Lessons from Other Jurisdictions

Based on the Study results, it is noted that to effectively address the urgent issues related to the environment and natural resources and efficiently embrace SCP, it is essential that Kenya Coastal Counties and the Country at large draws inspiration from successful best practices and initiatives implemented elsewhere in the world. Here are some best practices from Africa and around the world, with specific examples:

- i. Integrated Coastal Zone Management (ICZM): Implementing ICZM frameworks that take a holistic approach to managing the coastal zone, considering ecological, social, and economic aspects. For example, the Integrated Coastal Zone Management Plan in Durban, South Africa, addresses coastal erosion, biodiversity conservation, sustainable tourism, and community engagement. It combines multiple stakeholders' efforts to ensure the long-term health of the coastal area,
- ii. Mangrove Conservation and Restoration: Protecting and restoring mangrove ecosystems, which play a crucial role in coastal protection, carbon sequestration, and providing habitats for marine life. Best practice example is from Kenya. The Mikoko Pamoja Project in Gazi Bay, Kenya, combines community-based mangrove conservation with carbon credit sales, providing income to local communities while preserving mangroves,
- iii. Sustainable Urban Planning: Incorporating sustainability principles into urban planning and design, focusing on green spaces, efficient transportation, and waste management. The best practice is from Brazil. Curitiba, Brazil, is renowned for its Bus Rapid Transit system and extensive green spaces. The city's sustainable urban planning has reduced pollution and enhanced quality of life,
- iv. Blue-Green Infrastructure: Developing blue-green infrastructure, such as constructed wetlands, rain gardens, and green roofs, to manage stormwater, improve water quality, and enhance urban biodiversity. The "Sponge City" initiative in China, including the city of Shanghai, uses nature-based solutions like permeable pavements and wetlands to absorb and purify rainwater, reducing flood risk and pollution,
- v. Climate Adaptation and Resilience: Incorporating climate adaptation and resilience strategies into urban planning, infrastructure, and policy to mitigate the impacts of sea-level rise, extreme weather events, and coastal erosion. New York City's "OneNYC" plan focuses on climate

²² Mombasa County Sessional Paper No. 1 of 2019 on Solid Waste Management

²³ Available at <https://www.mombasaassembly.go.ke/wp-content/uploads/2021/04/The-Mombasa-County-Solid-Waste-Management-Bill-2021.pdf>

- resilience, with initiatives like coastal protection measures, flood-risk reduction, and green infrastructure investments following Hurricane Sandy's devastation,
- vi. **Community Engagement and Empowerment:** Involving local communities in decision-making and management of natural resources, ensuring their ownership and benefits. The "Parks for People" program in Cape Town, South Africa, empowers local communities to become stewards of urban parks, improving park management and social cohesion,
 - vii. **Public-Private Partnerships (PPPs):** Leveraging PPPs to fund and implement sustainable infrastructure and conservation projects in urban coastal areas. The "Adopt a River" program in Manila Bay, Philippines, is a partnership between government, NGOs, and private companies that works to rehabilitate rivers and reduce marine pollution,
 - viii. **Sustainable Tourism Development:** Promoting sustainable tourism practices that minimize environmental impact and benefit local communities. Zanzibar, Tanzania, is working on sustainable tourism initiatives, such as responsible snorkelling and diving tours that support coral reef conservation and local livelihoods.

In conclusion, it is important to note that these best practices highlight the importance of taking a comprehensive approach to environmental and natural resource management in coastal cities and urban areas. By integrating various strategies, engaging communities, and adopting nature-based solutions, cities can enhance their resilience, protect their natural resources, and improve the quality of life for their residents while contributing to global sustainability goals.

6. Business Case Scenario for Possible Investments in the Environment and Natural Resources Sector and Economic Instruments

6.1 Possible Social-Economic Benefits of Investments in Environment and Natural Resources

Investments in the sector can yield substantial economic, environmental, and social benefits. A business case scenario is deduced from the research findings to demonstrate the advantages of such investments. These include:

- i. **Eco-Tourism Opportunities:** The coastal counties of Kenya boast stunning natural beauty, including pristine beaches, coral reefs, and unique wildlife. Investing in eco-tourism can capitalize on these assets and create a thriving industry. Here's why there are fascinating business opportunities:
 - *Tourism Revenue:* Eco-tourism can attract a niche market of environmentally-conscious tourists willing to pay a premium for sustainable and authentic experiences. This can significantly boost local economies through increased revenue from accommodation, food services, and tour operators,
 - *Job Creation:* The tourism sector is a major employer, and investment in eco-tourism will generate a range of jobs, from tour guides to hotel staff, benefiting local communities and other sub-sector players,
 - *Conservation Funding:* Part of the proceeds from eco-tourism can be reinvested in conservation efforts, ensuring the long-term protection and sustainability of the region's biodiversity,
 - *Sustainable Practices:* Eco-tourism encourages the adoption of sustainable practices, such as responsible waste management, reduced energy consumption, and protection of fragile ecosystems.
- ii. **Sustainable Agriculture:**

- *Increased Yields:* Investment in sustainable agriculture practices, such as agroforestry and organic farming, can lead to increased crop yields, improved soil health, and reduced dependency on chemical inputs,
- *Export Opportunities:* High-quality, sustainably grown produce can access international markets, providing a potential source of revenue for farmers, agribusinesses in coastal counties and the national economy in general,
- *Diversification:* Sustainable agriculture practices can encourage diversification of crops and income sources, reducing vulnerability to climate change and market fluctuations,
- *Ecosystem Services:* Sustainable agriculture practices contribute to ecosystem services such as improved water quality and reduced soil erosion, benefiting the wider environment.

iii. **Renewable Energy Development:**

- *Clean Energy:* The coastal region has abundant potential for renewable energy sources, particularly wind and solar. Investments in these sectors can lead to a reduction in greenhouse gas emissions and provide a reliable source of clean energy for the region and beyond,
- *Energy Access:* Coastal counties can benefit from improved access to electricity, which can catalyze economic development and provide opportunities for local businesses to invest in energy-dependent activities,
- *Green Jobs:* The renewable energy sector can generate employment opportunities in installation, maintenance, and operations, offering a pathway to a sustainable and green economy,
- *Carbon Credits:* By reducing carbon emissions through renewable energy projects, businesses can potentially earn carbon credits, adding an additional revenue stream.

In summary, the business case for investments in environment and natural resources in Kenyan coastal counties is multifaceted. It not only provides economic benefits such as increased revenue, job creation, and export opportunities but also contributes to sustainable development, environmental conservation, and climate change mitigation and adaptation. These investments align with global trends towards responsible and green business practices, making them not only financially viable but also socially and environmentally responsible choices. Moreover, they can help secure the long-term prosperity and resilience of the coastal region in the face of environmental challenges.

6.2 Economic Instruments for a Sustainable Environment and Natural Resources Sector

Economic instruments and incentives play a vital role in promoting sustainable environmental and natural resource management in coastal cities and urban areas, both in Africa and around the world. Such instruments include:

- Taxes and Levies:* Implementing taxes and levies on activities that harm the environment, such as carbon taxes or plastic bag levies, can discourage harmful practices and generate much needed revenue for environmental initiatives. Kenya introduced a plastic bag ban and levied a fee on plastic bags, significantly reducing plastic pollution in urban areas. Sweden has a successful carbon tax that incentivizes reduced carbon emissions and encourages industries to adopt cleaner technologies,
- Subsidies and Rebates:* Providing subsidies or rebates for environmentally friendly practices and technologies can stimulate adoption by reducing the financial burden on

- businesses and individuals. The South African government offers financial incentives and tax deductions to promote the use of solar panels for residential and industrial buildings in urban areas. The Netherlands provides subsidies for electric vehicles (EVs) and charging infrastructure to encourage the transition to cleaner transportation in urban areas,
- iii. *Payments for Ecosystem Services (PES)*: PES programs offer financial incentives to landowners and communities in exchange for preserving or restoring ecosystems that provide valuable services, such as clean water, flood control, and carbon sequestration. Costa Rica's PES program compensates landowners for maintaining forests, which helps protect watersheds and biodiversity. New York City invests in upstream land conservation to protect its water supply. This reduces the need for costly water treatment and infrastructure investments,
 - iv. *Tradable Permits and Cap-and-Trade Systems*: Tradable permits and cap-and-trade systems set limits on emissions or resource use, allowing entities to buy and sell permits, fostering a market for reducing environmental impacts. The European Union Emissions Trading System (EU ETS) places a cap on greenhouse gas emissions from industries in participating countries. Entities can trade emissions allowances, encouraging emission reductions. Water Quality Trading in the Chesapeake Bay, USA allows entities to buy and sell pollution reduction credits to meet water quality targets, promoting cost-effective pollution control,
 - v. *Green Bonds*: Green bonds are financial instruments that raise funds for environmentally friendly projects, including infrastructure upgrades, renewable energy, and sustainable transport in urban areas. Kenya launched a green bond in 2019 to fund environmentally sustainable projects, such as waste management, renewable energy, and urban green spaces. The World Bank has issued green bonds to finance climate-related projects worldwide, including sustainable urban development in various cities,
 - vi. *Corporate Sustainability Initiatives*: Companies and industries can voluntarily adopt sustainability practices, driven by market demand, consumer preferences, and social responsibility. Unilever, a global consumer goods company, has committed to reducing its environmental footprint and improving sustainability in its products and supply chain, including initiatives in urban areas. Apple's Supplier Clean Energy Program: Apple incentivizes its suppliers to transition to clean energy sources, reducing emissions from manufacturing facilities in urban areas.

These economic instruments and incentives demonstrate a range of strategies that can be applied in both developed and developing countries to encourage sustainable environmental and natural resource management in coastal cities and urban areas. They align economic interests with environmental goals, fostering a more sustainable and resilient urban future. In addition, such instruments help generate an income stream that can then be reinvested back into the sector thereby ensuring sustainable, eco-friendly and climates mart future.

7. Role of Different Actors

To optimally achieve “bankability” of environment and natural resource investments, it’s critical that National Government, County Governments, the Private Sector, Private-Public Partnerships and the local communities work together and in a complimentary version. Kenyan coastal counties are at a critical juncture where sustainable environmental and natural resource management is paramount. This requires a concerted effort from the national government, county governments, private sector, and public-private partnerships. Investments in eco-tourism, sustainable agriculture, and renewable energy

present lucrative opportunities for economic growth, while carbon pricing, PES, and EIAs serve as vital economic instruments for sustainable resource management. To secure the future of these counties, collaboration and action are imperative.

Suffice it to say that by leveraging the strengths and resources of government, the private sector, and public-private partnerships and the local communities, the transition towards sustainable and interactive “green” and “blue” growth in Kenyan Coastal Counties can be accelerated, leading to improved environmental outcomes, economic growth, and sustainable climate smart development.

8. Recommendations

-  The following recommendations contained in the sector report and are synthesized as follows:
-  Enhanced Collaboration: Promote collaboration between national and county governments, private sector, and civil society organizations to ensure a coordinated approach to environmental and natural resource management,
-  Capacity Building: Invest in capacity building programs at the county level to empower local authorities in planning, regulation, and enforcement of environmental policies,
-  Strict Enforcement: Strengthen the enforcement of environmental laws and regulations to deter illegal activities, such as logging, pollution, and overfishing, through increased monitoring and punitive measures,
-  Community Engagement: Actively involve local communities in decision-making processes and conservation efforts, ensuring their buy-in and contribution to sustainable resource management,
-  Incentives for Sustainable Practices: Create incentives, such as tax breaks or subsidies, for businesses and farmers adopting sustainable practices, particularly in agriculture and tourism,
-  Promote Research and Innovation: Support research and innovation in sustainable resource management, encouraging the development of new technologies and practices that benefit both the environment and the economy,
-  Eco-Tourism Promotion: Develop and market eco-tourism initiatives, ensuring they adhere to sustainability principles and prioritize local community involvement,
-  Access to Finance: Facilitate access to finance for eco-friendly businesses and renewable energy projects through partnerships with financial institutions and development agencies,
-  Climate Resilience: Invest in climate resilience measures such as coastal protection and disaster preparedness to safeguard both the environment and the economic activities dependent on it.

9. Conclusion:

The Kenyan coastal counties are at a critical juncture, facing significant environmental challenges and opportunities. The preservation and sustainable management of their rich natural resources are essential not only for safeguarding biodiversity but also for fostering economic growth and resilience. This policy brief has outlined the current status of the environment, the roles of various stakeholders, and the business case for investments in environment and natural resources.

Investing in eco-tourism, sustainable agriculture, and renewable energy presents clear economic advantages, including increased revenue, job creation, and the potential for export earnings. These investments also align with global trends towards sustainability and climate change mitigation.

However, success in this endeavor hinges on the active collaboration of national and county governments, the private sector, and the engagement of local communities. Capacity building, strict

enforcement of environmental laws, and incentives for sustainable practices are crucial components of this effort.

By following the recommendations outlined in this policy brief and forging strong public-private partnerships, Kenyan coastal counties can achieve a harmonious balance between economic development and environmental preservation. This approach not only secures the future of these counties but also sets an example for sustainable development that can be replicated in other regions.

References

1. County Government of Mombasa Department of Environment, Waste Management & Energy, 'County-Climate-Change-Action-Plan.Pdf' <<https://www.mombasa.go.ke/wp-content/uploads/2021/10/County-Climate-Change-Action-Plan.pdf>> accessed 23 January 2023
2. 'Environment, Waste Management and Energy – Mombasa County' <<https://web.mombasa.go.ke/environment-waste-management-and-energy/>> accessed 19 January 2023
3. Kwale County Government, 'Environment & Natural Resources' <https://kwalecountygov.com/kwale/index.php?option=com_content&view=featured&Itemid=935> accessed 18 January 2023
4. 'Municipality of Malindi – Kilifi County Government' <<https://kilifi.go.ke/municipality-of-malindi/>> accessed 19 January 2023
5. 'The New Urban Agenda' (*Habitat III*) <<https://habitat3.org/the-new-urban-agenda/>> accessed 17 January 2023
6. 'Water, Sanitation & Natural Resources – Mombasa County' <<https://web.mombasa.go.ke/water-sanitation-natural-resources/>> accessed 19 January 2023
7. UN Habitat's Strategic plan 2020-2023
8. Our Common Future, 1987
9. The Convention on Biological Diversity, 1992
10. Agenda 21
11. The Declaration on Environment and Development, 1992
12. Kilifi County Integrated Development Plan (2018-2022)
13. Kilifi County Environmental (Regulation and Control) Act, 2016
14. Kilifi County Solid Waste Management Act, 2019
15. Kilifi Forest Conservation and Management Act, 2019
16. Mombasa County Integrated Development Plan (2018-2022)
17. Mombasa County Environmental Sanitation and Health Act, 2017
18. Mombasa Mangrove Forest Participatory Management Plan (2015-2019)
19. Mombasa Solid Waste Management Policy
20. Mombasa County Solid Waste Management Bill, 2021
21. Kwale County Integrated Development Plan (2018-2022)
22. Kwale County Quarrying Act, 2016
23. Kwale County Forest Conservation and Management Act, 2017
24. The Constitution of Kenya, 2010
25. The County Governments Act, 2012

26. The Environmental Management and Coordination Act, 1999
27. The Physical Planning Act, 2019
28. The Energy Act, 2019