# **COUNTY GOVERNMENT OF MOMBASA**

# DEPARTMENT OF ENVIRONMENT, WASTE MANAGEMENT & ENERGY

# MOMBASA COUNTY CLIMATE CHANGE ACTION PLAN 2020-2024

#### FOREWORD



Kenya is endowed with enormous natural resources which have ecological, and social value for supporting the country's economy. the tourism, for instance, which is one of the major foreign currency earner has its backbone on the diverse wildlife and biodiversity resources, rich cultural heritage and the scenic coastal landscape.

In pursuit of development the environment has become more vulnerable to both natural and human induced changes. Water systems are under threat from pollution and human related activities, forests face serious degradation as a result of expansion of settlements and agriculture. It is important to constantly keep watch of such changes, set in motion interventions and address such impacts on the environment. Environmental Action planning is intended to provide guidance on solutions to some of these impacts through a systematic planning process.

The County government acknowledges that the city of Mombasa through its rapid urbanisation is contributing to environmental changes. The county government has an obligation to address the impact of climate change. Delayed action on climate change mitigation and adaptation strategies will increase costs and potential liabilities to County government in a range of areas, in particular planning and infrastructure management and risk management.

My government commits to supports all local and global actions and targets intended to contribute to conserve our environment and reduced human induced activities that increase the threat to environmental degradation. We will actively promote and support efforts to develop county strategies to reduce the severity of environmental degradation through efforts and intervention in restoring our environment.

My government acknowledges that our commitment requires strong political leadership and partnership between all levels of government; allocation of appropriate human, technical and financial resources; establishment of long-term objective going beyond political mandate and Inclusive engagement of relevant stakeholders; and empowerment of communities.

This document is in line with process of climate change mainstreaming at all the county planning process within Mombasa County, therefore is a great milestone for strengthening climate change mitigation and building county resilience toward climate change impact.

HE. Hassan Ali Joho The Governor County Government of Mombasa

#### PREFACE



Globally climate change has been experienced, through The recent natural disasters experienced around the world as a result of the climate change impact. This emphasized on the collaborative approach on the needs for county government and the residents to play a vital and working harmoniously and strategically in addressing the unpredictable effects of climate change.

Historically the county has experience Elnino that resulted impact on the natural resources, build environment and economically. The county has experienced its share of the effects ranging from droughts, floods, storm surges, and increased incidences of communicable diseases. Consequently, there have been related socialimplications such as displacement, loss of life and livelihoods as well as economic implication such as damage to infrastructure and productive assets.

The county government realises the urgency with which it needs to respond to the challenges brought about by climate change. This Action plan provides a pathway towards more sustainable and resilient institutions and communities in the face of climate changeas well as reduce carbon emissions through adoption of appropriate technologies founded on sound research.

The intervention on mitigating and building county resilience toward impact of climate change cut across all the departmental sectors. The Action plan outlines responses the county government will put in place in the next five years to address the identified challenges across the nine sectors. Implementation framework as well as monitoring and valuation plan has been provided for.

The Department of Environment, Waste Management and Energy coordinates themainstreaming of climate change into county development plans and programmes. It is therefore with great satisfaction that I introduce this policy that will guide our pursuit for a safe and resilient environment in the face of a changing climate.

Hon. Dr. Godffrey Nyongesa Nato County Executive Committee Member Department of Environment, Waste Management and Energy

#### ACKNOWLEDGEMENT



It is clear that climate change is real and affects everyone, more so forrapidly expanding coastal cities like Mombasa which are likely to barethe greatest cost. This calls for a strategic long-term view that transforms Mombasa County to low carbon, climate resilient future through implementation of climate smart solutions.

The Department of Environment, Waste Management and Energy is very grateful for the technical staff that participated in the development process of County climate Change Action plan

Spearheaded by the department of environment waste management and energy. Technical expertise was provided by Dr. Godffrey Nato, Mr. Abdulsalam Omar, Mrs Arafa Amur.

The process of formulating this Climate change Action plan was inclusive and consultative as it involved the participation of different stakeholders, national government institutions, sister departments in the County. A wide range of individuals and institutions participated in its formulation. We take this early opportunity to recognize their efforts. We also acknowledge the support of county assembly in providing leadership and the county executive committee for approval.

Ms Ilhan Abass County Chief Officer Department of Environment, Waste Management and Energy

#### Introduction

The Mombasa County Climate Change Action Plan has been developed to guide the county in mitigation and adaptation of climate change impact. The development of the action plan is in line with the Climate Change Act 2016 which requires the government to develop action plans to guide the incorporation of climate change in the sectoral projects. The action plan covers a period of three years as from the financial year 2020/2024. The development of the action plan has been participatorily by actively engaging with relevant stakeholders in prioritizing the activities.

Observations show that global average temperatures have now increased by more than 1°C since preindustrial times. The atmosphere and oceans have warmed, the amount of snow and ice has reduced, and sea levels have risen as the concentrations of greenhouse gases have increased. The projections of future global and regional climate change indicate that continued emissions of greenhouse gases will cause further warming and changes to our climate.

Kenya has experienced the impacts from climate change from rising temperature, extreme storms and rainfall, decline in the amount of rainfall, prolonged dry periods, pest and disease outbreaks and strong winds. The extreme weather conditions have resulted to food and nutrition insecurity, damage on infrastructure and homesteads, loss of lives, loss of livelihoods. This has consequently affected the country's development and economy as funds that will otherwise be used in development is used in disaster management due to climate change. Subsequently this has affected the achievement of the country's goals as envisioned in Kenya Vision 2030, the Big Four Agenda and Sustainable Development Goals.

Mombasa County being an island is one of the most impacted ecosystems by climate change thus the need to have an action plan to guide the mitigation and adaptation to the impacts. These changes in climate have caused and will cause extensive direct and indirect harm to the county's ecosystem and its people which include:

- Rising sea-levels threatening habitable land and particularly coastal infrastructure
- Extreme weather, including more intense rainfall affecting the land, coastline and sea
- Further pressure on the scarce water resources and food production systems with associated impacts on coastal ecosystems
- Increased chance and scale of coastal flooding
- Heightened risk of the arrival of new pests and diseases

#### • Poorer water quality

The development of Mombasa County Climate Change Action Plan is anchored on article 10 of The Constitution which outlines national values and principles of governance, such as sustainable development, devolution of government, and public participation, that are mandatory when making or implementing any law or public policy decisions, including climate change. Article 42 that provides for the right to a clean and healthy environment for every Kenyan, which includes the right to have the environment protected for the benefit of present and future generations. It is also anchored on Climate Change Act (2016) which is the main legislation guiding Kenya's climate change response through mainstreaming climate change into sector functions, and it is the legal foundation of the action plan. The plan is also in line with National Climate Change Action Plan 2018-2022), Kenya Climate Smart Agriculture Strategy (2017-2026), Climate Risk Management Framework (2017), National Climate Change Policy (2018), and National Climate Finance Policy (2018), among other sector plans and policies that address aspects of climate change.

#### **Vulnerability of Mombasa County to Climate Change**

Mombasa County lies within the coastal strip in the hot tropical region where the climate is influenced by monsoon winds. The climate is characterized of high temperatures and high humidity at 80%. Mombasa's annual average temperature is 30°C while the average low is 21.3°C. The highest recorded temperature annually is 37.6°C. January is the warmest month in the year with a temperature of 32°C and the lowest month is July. Mombasa experiences seasonal variation in rainfall. The rainfall patterns are characterized of long and short seasons with annual average precipitation of 1260mm. The long rains occur in April to June at an average of 1,040 mm and correspond to South Eastern monsoon winds. While theshort rains begin at the end of October until December at an average of 240mm. The short rains correspond comparatively to dry North Eastern Monsoon winds. The annual rainfall for the county is at an average of 640mm. Temperatures have risen throughout the country with Mombasa County being no exception. It has been observed that since the early 1960s, both minimum (night time) and maximum (daytime) temperatures have been on an increasing (warming) trend. The minimum temperature has risen generally by  $0.7 - 2.0^{\circ}$ C and the maximum by  $0.2 - 1.3^{\circ}$ C, depending on the season and the region of the country. It is projected that the mean surface temperature across the country will increase by 1-1.5°C by 2030,1.5-2.0°C by 2060s, 1.5-5.0°C by 2090s. Thus, rising temperatures trend is expected to continue in Kenya in all seasons. Rainfall has become irregular and unpredictable, and when it rains, downpour is more intense. The frequency and magnitude of extreme weather events is projected to increase with far reaching impacts across the country, including Mombasa County.

#### **Impacts of climate change**

#### Sea level rise

Mombasa County's highly vulnerable to sea level rise as it lies between sealevel and about 45 metres above sea level (asl). The low lying areas of the County are already experiencing serious coastal/beach erosion as a result of the rise in sea level. This is having a negative impact on the County's and the livelihoods of the residents. It is estimated that sea level has been rising at a rate of about two millimetres per year. At this rate, it is projected that about 17% of Mombasa, or 4,600 hectares of land area, will be submerged with a sea-level rise of only 0.3 metres. At the same time, there will be large areas that may be rendered uninhabitable as a result of flooding or water logging, or will be agriculturally unsuitable due to salt stress. Sandy beaches and other features, including historical and cultural monuments such as Fort Jesus, several beach hotels, industries, the ship-docking and human settlements could be negatively affected by sea-level rise. Other impacts that are already being experienced, include: increased coastal storm damage; sea-shore erosion; salt water intrusion into estuaries and freshwater aquifers and springs; changes in sedimentation patterns;decreased light penetration to benthic organisms leading to loss of food for variousmarine fauna; and loss of coral reefs

#### **Natural Resource base**

Mombasa county has rich ecosystems that extend from the coastal, inshoreand deep sea. The varied ecosystems provide important goods and services suchas; tourism, water resources, provision of food, provision of wood and non-wood forest resources, and as habitats for fish, coral reefs and other aquatic and terrestrial organisms. Some of the ecosystems are important for protection of the coastline from erosion. All these ecosystems are being impacted by climatechange.

*Water resources:* Mombasa highly dependent on trans-basin transfer of water i.e.,Mzima springs, Baricho water works and Marere boreholes and the ground wateraquifers and boreholes spread across the entire County. At least three permanentsprings, four water pans and a number of borewells are operated by private investors, NGOs and CBOs accounting for about 10,360m<sup>3</sup> per day. The projectedpiped water supplies for the County by the year 2035 is in the range of between 150,000 to 200,000m<sup>3</sup>. The County frequently faces prolonged dry spells and droughts as well as flooding exacerbating the already worse water problem, whichwill have a wide range of implications for household food security, hygiene and well-being. The increasing temperature and changing rainfall in terms of reducingamounts and its unpredictability has negative impacts on provision of clean water. The adverse impacts of climate change on water resources are already being experienced, and are expected to result in severe flooding and intrusion of salt water in aquifers and ground waters. The impacts of climate change on water resources, in turn, affect all major sectors of the economy.

*Mangroves and coastal forests*. Mangroves and coastal forests provide essential functions and services. The total area of mangroves in Kenya is estimated at 61,271 ha with Mombasa County

accounting for about 6% (3,771 ha)of the total cover. The mangrove forests occur within a number of distinct coastlinegeophysical categories of drowned river valleys at Mombasa and Mtwapa protective outcrops of coral limestone. Mangroves are important as nursery groundfor many commercial fisheries. It is also a habitat for invertebrates and migratory birds. Mangroves are important for the protection of the shoreline from storms andwaves, and also act as carbon sinks. Mangroves also offer protection to sea grassbeds and coral reefs by filtering sediments. Tudor Creek mangrove forest in Mombasa has been affected by changes in inundation duration frequency as wellas salinity levels caused by sea level rise thus reducing its productivity. Increased flooding has caused change in species composition and intensity resulting loss offish and coastal erosion.

*Inshore waters:* Mombasa inshore waters are important for life processes of marine organism, the hatcheries, nurseries, spawning and reproduction areas for fish. The county depends on small scale and artisanal and the fishermen largelydepend on inshore waters as a provider of resources and employment. 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  $CO_2$  from the atmosphere affects productivity.

The *coral reef* is found from shallow inshore waters of < 1.5 m to about 25-45m depth. Coral reefs are a harbour to rich biodiversity of birds, fish, crustaceans, molluscs, echinoderms. The rich biodiversity provides a range of goods and ecological services such as raw materials, nutrient cycling, bioremediation, it supports people's livelihood through fishery, tourism and cultural heritage. Whereas coral reefs are valuable in protecting the coastline they are increasingly being threatened 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 whichlowers calcium carbonate deposition rates and fertilizes algae creating competitionwith coral reefs and causing nutrient pollution. Increases in rainfall have caused contamination on the coastal reefs making them more vulnerable to climatechange.

*Seagrass beds* occur in sheltered tidal flats, lagoons and creeks and provide ecological services such as nutrient cycling, organic carbon production and export, they serve as coastal canaries, sediment stabilization and enhance biodiversity. Seagrass beds provide important habitats for a diverse array of associated fauna and flora. They serve as nursery grounds and as foraging areas for turtles and fish. Numerous fish and invertebrates seek refuge from predators in seagrasses. As a result of climate change, increasing global warming has altered the growth rate of seagrass. Further, sea level rise has increased water depth and reduced light reaching the seagrass thus reducing productivity. Sediments and nutrients run offresulting from floods have led to loss of seagrass and a redistribution of existing habitats.

## **Objectives**

## General Objective of County Climate change Action Plan

To enhance the county governments and local communities' capacity to mitigate and adapt to the impact of climate change by creating a resilient and thriving environment and economy using a participatory approach.

### **Specific Objectives of County Climate Change Action Plan**

- 1. To enhance the institutional capacity of the county in climate change adaptation and mitigation
- 2. To reduce climate change risk to the local community and infrastructure
- 3. To enhance the capacity of the local community in food and nutrition security
- 4. To increase the county's forest cover
- 5. To promote the adoption of green energy at the county
- 6. To reduce the level of pollution at the county

To mainstream climate change in sectoral development.

CLIMATE CHANGE ACTION PLAN IMPLEMENTATION MATRIX

Objective	Project	Activity	Sub-activity	Outcome	Key	Time frame	Key actors
					performance		
					indicator		
To enhance the	Enhancement of	Development of climate	Develop climate	Well regulated	No. of policies	July 2020-	Dept of
institutional capacity	institutional capacity	change legislations	change policy	and authorized	developed	February 2021	Environment,
of the county in	of the county in			climate change			Waste
climate change	climate change			activities			Management
adaptation and	adaptation and						and Energy
mitigation	mitigation						All County
0	C						Departments
							Ministry of
							Environment&
							Forestry
							Community
							NGO
							IFAs
			Develop climate	Authorized	No. of policies	July 2020-	Dept of
			change finance	provision of	developed	February 2021	Environment,
			policy	climate change			Waste
				funds			Management
							and Energy
							All County
							Departments
							Ministry of
							Environment&
							Forestry
							Community
							NGO
							IFAs
			Develop climate	Well regulated	No. of bills	July 2020-	Dept of
			change associated	and authorized	developed	February 2021	Environment,
			bills	climate change			Waste
				activities			Management
							and Energy
							All County
							Departments
							Ministry of
							Environment&
							Forestry
							Community

						NGO
						IFAs
	Enhancing the climate	Recruiting staff	Proper	Number of staff	July 2020-June	Dept of
	change directorate in		implementation	requited	2021	Environment,
	implementing climate		of climate	-		Waste
	change functions		change			Management
			functions			and Energy
						Dept of
						Finance and
						Economic
						planning
						County Public
						Service Board
		Training staff in	Enhanced	Number of staff	July 2020-June	Dept of
		climate change	technical	trained	2024	Environment,
			capacity in the	Number of		Waste
			implementation	trainings attended		Management
			of climate			and Energy
			change			Dept of
						Finance and
						Economic
						planning
						IFAs
						NGOs
		Establish an office	Conducive work	Number of	July 2020-June	Dept of
		and refurbish it for	environment for	offices	2022	Environment,
		climate change staff	the staff	established and		Waste
				refurbished		Management
						and Energy
						Dept of
						Finance and
						Economic
						planning
						IFAs
	Enhance the county's	Train staff in	Enhanced	Number of staff	July 2020-June	Dept of
	capacity in monitoring	monitoring the	technical	trained	2024	Environment,
	the impact of climate	impact of climate	capacity in	Number of		Waste
	change	change	monitoring of	trainings attended		Management
			climate change			and Energy
			impacts			Dept of
						Finance and
						Economic
						planning

		-	•				
							IFAs
							Research
							Institute
			Development of	Accurate	Number of tools	July 2020-June	Dept of
			assessment tools	monitoring of	developed	2024	Environment,
				climate change			Waste
				impacts			Management
							and Energy
							Dept of
							Finance and
							Economic
							planning
							IFAs
							Research
							institute
			Undertake climate	Well monitored	Number of	July 2020-June	Dept of
			change surveys	climate change	surveys	2023	Environment,
				impacts	undertaken		Waste
							Management
							and Energy
							Dept of
							Finance and
							Economic
							planning
							IFAs
							Research
							institute
			Establish a	Availability of	Number of	July 2020-June	Dept of
			repository for	reliable climate	repository	2024	Environment,
			climate change data	change data and	established		Waste
			and information	information in			Management
				one point			and Energy
							Dept of
							Finance and
							Economic
							planning
							IFAs
							Research
							institute
To reduce climate	Disaster risk	Improve the local	To create awareness	Well sensitized	Number of	July 2020-June	Dept of
change risk to the local	management	community's resilience	of the local	community on	community	2024	Environment,
community and		to climate change	community on the	the impact of	members		Waste
infrastructure		_	impact of climate	climate change,	sensitized		

	change, mitigation and adaptation measures	mitigation and adaptation measures	Number of sensitization undertaken		Management and Energy Dept of Finance and Economic planning Department of devolution and public administration Community IFAs
	Improve the ability of the local community to cope with drought	Enhanced community ability to cope with drought	Number of capacity enhancement undertaken	July 2020-June 2024	Dept of Environment, Waste Management and Energy Dept of Finance and Economic planning Department of devolution and public administration Community IFAs
	Improve the ability of the local community to cope with floods	Enhanced community ability to cope with flood	Number of capacity enhancement undertaken	July 2020-June 2024	Dept of Environment, Waste Management and Energy Dept of Finance and Economic planning Department of devolution and public administration Community IFAs

		Improve the delivery of disaster risk management services	To increase the number of community receiving climate change adaptation services	Well adapted community to the impacts of climate change	Number of community members receiving climate change adaptation services	July 2020-June 2023	DeptofEnvironment,WasteManagementand EnergyDeptofFinanceandEconomicplanningDepartmentofdevolutionandpublicadministrationCommunityIFAs
		Increase the resilience of county infrastructure to climate change	To increase the resilience of infrastructure to floods	Reduced destruction of infrastructure as a results of floods	Number of resilient infrastructure established	July 2020-June 2024	Dept of Environment, Waste Management and Energy Dept of Finance and Economic planning Department of devolution and public administration IFAs
To enhance the capacity of the local community in food and nutrition security	Food and nutrition security enhancement	Improve food and nutrition security	Adoption of climate smart agriculture	Increased food and nutrition security	Number of community members that have adopted climate smart agriculture	July 2020-June 2024	Dept of Environment, Waste Management and Energy Dept of Agriculture, Livestock and Fisheries Dept of Finance and Economic planning Community

						IFAs
		Advocating for diversity in crop production	Increased food and nutrition security	Number of community members that have diversified crop production	July 2020-June 2024	Dept of Environment, Waste Management and Energy Dept of Agriculture, Livestock and Fisheries Dept of Finance and Economic planning Community IFAs
		Increase productivity in livestock and fisheries by adoption of climate smart action	Increased food and nutrition security	Number of community members that have adopted climate smart actions	July 2020-June 2024	Dept of Environment, Waste Management and Energy Dept of Agriculture, Livestock and Fisheries Dept of Finance and Economic planning Community IFAs
Enhance the buying capacity of the local community to purchase food	Adoption of alternative livelihood sources	Enhance the capacity of the local community in the adoption of alternative livelihoods	Increased and reliable income sources	Number of community members that have alternative livelihood sources	July 2020-June 2024	Dept of Environment, Waste Management and Energy Dept of Agriculture, Livestock and Fisheries

								Dept of Youth, Gender and Sport Dept of Finance and Economic planning Community IFAs
To increase the county's forest cover	Rehabilitation of degraded ecosystems	Rehabilitation degraded ecosystems	of marine	Rehabilitation of mangrove ecosystems	Restored ecosystem integrity of mangroves	Number of mangrove ecosystems rehabilitated	July 2020-June 2024	Dept of Environment, Waste Management and Energy Ministry of Environment& Forestry Community NGO IFAs
				Rehabilitation of coral reefs	Restored ecosystem integrity of corals	Number of coral ecosystems rehabilitated	July 2020-June 2024	Dept of Environment, Waste Management and Energy Ministry of Environment& Forestry Community NGO IFAs
		Rehabilitation degraded ter ecosystems	of rrestrial	Rehabilitation of abandoned quarries	Restored ecosystem integrity of	Number of abandoned quarries rehabilitated	July 2020-June 2024	Dept of Environment, Waste Management and Energy Ministry of Environment& Forestry Community NGO IFAs

		Rehabilitation of degraded community forests	Restored ecosystem integrity of community forests	Number of degraded community forests rehabilitated	July 2020-June 2024	Dept of Environment, Waste Management and Energy Ministry of Environment& Forestry Community NGO IFAs
		Rehabilitation of rivers and wetlands	Restored ecosystem integrity of rivers and wetlands	Number of rivers and wetlands rehabilitated	July 2020-June 2024	Dept of Environment, Waste Management and Energy Ministry of Environment& Forestry Community NGO IFAs
Establishment of green zones	Urban forestry	Establishment of 1 eco-park in the terrestrial ecosystem	Increased county carbon sequestration capacity	Number of terrestrial eco parks established	July 2020-June 2024	Dept of Environment, Waste Management and Energy Ministry of Environment& Forestry Community Private sector NGO IFAs
		Establishment of 1 eco-park in a marine ecosystem	Increased county carbon sequestration capacity	Number of marine eco parks established	July 2020-June 2024	Dept of Environment, Waste Management and Energy Ministry of Environment& Forestry Community

						Private sector NGO Private sector IFAs
		Tree planting along roads	Increased county carbon sequestration capacity	Number of roads planted with trees	July 2020-June 2024	Dept of Environment, Waste Management and Energy Ministry of Environment& Forestry Community Private sector NGO IFAs
		Greening of round abouts	Increased county carbon sequestration capacity	Number of round abouts greened	July 2020-June 2024	Dept of Environment, Waste Management and Energy Ministry of Environment& Forestry Community Private sector NGO IFAs
	Afforestation	Adoption of agroforestry on farms	Increased county carbon sequestration capacity Increased	Number of trees planted onfarm	July 2020-June 2024 July 2020-June	Dept of Environment, Waste Management and Energy Ministry of Environment& Forestry Community NGO IFAs Dept of
		institutions	county carbon	planted in institutions	2024	Environment, Waste

					sequestration			Management
					capacity			and Energy
								Ministry of
								Environment&
								Forestry
								Dept of
								Education
								Private sector
								NGO
								IFAs
To promote the adoption	To promote	the	Enhance the local	Train staff on clean	Enhanced	Number of staff	July 2020-June	Dept of
of clean energy	adoption of	clean	community's capacity to	energy	technical	trained on clean	2024	Environment,
	energy		adopt clean energy		capacity of staff	energy		Waste
					on clean energy			Management
								and Energy
								Ministry of
								Environment&
								Forestry
								Community
								Private sector
								NGO
								IFAs
				Sensitize the	Well sensitized	Number of	July 2020-June	Dept of
				community on the	community on	community	2024	Environment,
				importance of	clean energy	members		Waste
				climate change		sensitized on		Management
				officer		clean energy		and Energy
						Number of		Ministry of
						sensitization		Environment&
						forums		Forestry
						undertaken		Community
								Private sector
								NGO
								IFAs
				Train community	Reduced carbon	Number of	July 2020-June	Dept of
				groups in the	emission at the	groups trained on	2024	Environment,
				production of clean	county	production of		Waste
				energy		clean energy		Management
								and Energy
								Ministry of
								Environment&
								Forestry
								Community

 	1			,,		
						Private sector
						NGO
						IFAs
		Facilitate the	Reduced carbon	Number of	July 2020-June	Dept of
		community with the	emission at the	community	2024	Environment,
		required equipment	county	groups facilitated		Waste
		and machine to				Management
		produce clean energy				and Energy
						Ministry of
						Environment&
						Forestry
						Community
						Private sector
						NGO
						IFAs
		Installation of solar	Reduced carbon	Number of	July 2020-June	Dept of
		panels in county	emission at the	infrastructure	2024	Environment,
		infrastructure	countv	installed with		Waste
				solar panels		Management
				1		and Energy
						Ministry of
						Environment&
						Forestry
						Community
						Private sector
						NGO
						IFAs
		Incentivize the	Reduced carbon	Number of	July 2020-June	Dent of
		production and sell	emission at the	manufacturers	2020 Julio 2024	Environment
		of solar nanels	county	and traders	2024	Waste
		of solar pariets	county	engaged in solar		Management
				nanels		and Energy
				paneis		Ministry of
						Fnvironment&
						Environmente
						Dont of
						Einanco
						Community
						Community Drivets as stor
						Private sector
						NGO
				1	1	IFAs

			. <u> </u>									
To reduce the level of	Enhance the level	of	Establish	a sustainable	Sensitize	the	Sustainable		Number	of	July 2020-June	Dept of
pollution at the county	waste management	at	waste	management	community	on	waste		sensitization		2024	Environment,
	the county		system		sustainable	waste	management	at	activities			Waste
					management		the county		undertaken			Management
					U U				Number	of		and Energy
									community			Ministry of
									members			Environment&
									sensitized			Forestry
												Dept of
												Finance
												Community
												Private sector
												NGO
												IFAs
					Develop	a	Sustainable		Number	of	July 2020-June	Dept of
					sustainable	waste	waste		sustainable wa	aste	2024	Environment.
					management	system	management	at	management			Waste
					U	5	the county		systems			Management
							2		2			and Energy
												Ministry of
												Environment&
												Forestry
												Dept of
												Finance
												Community
												Private sector
												NGO
												IFAs
					Enhance	the	Sustainable		Number	of	July 2020-June	Dept of
					county's capa	acity to	waste		capacity		2024	Environment.
					implement	the	management	at	enhancement	the	-	Waste
					sustainable		the county		county	has		Management
					management	system			received			and Energy
					8	· J ~ · · · · ·						Ministry of
												Environment&
												Forestry
												Dept of
												Finance
												Community
												Private sector
												NGO
												IFAs
	1		1		1		1				1	11 / 10

	Control of air pollution	Enhance the capacity of the county to control air pollution	Develop an air pollution act	Well regulated and authorized air pollution control	Number of acts developed	July 2020-June 2024	DeptofEnvironment,WasteManagementand EnergyMinistryofEnvironment&ForestryDeptofFinance
							Community Private sector NGO IFAs
			Train staff on monitoring of air pollution	Reduced air pollution	Number of staff trained	July 2020-June 2024	DeptofEnvironment,WasteManagementand EnergyMinistryofEnvironment&Forestry
							Dept of Finance Community NGO IFAs
			Sensitize the community on air pollution	Reduced air pollution	Number of sensitization activities undertaken Number of community members sensitized	July 2020-June 2024	DeptofEnvironment,WasteManagementand EnergyMinistryofEnvironment&ForestryDeptofFinanceCommunityNGOIFAs
To mainstream climate change in sectoral development	Mainstreaming climate change	Mainstreaming climate change	Incorporate climate change activities in	Climate change mainstreamed in	County planning documents	July 2020-June 2024	Dept of Environment, Waste

	all the sectors at the	sectoral		Management
	county	development		and Energy
				Ministry of
				Environment&
				Forestry
				Dept of
				Finance
				Community
				NGO
				IFAs