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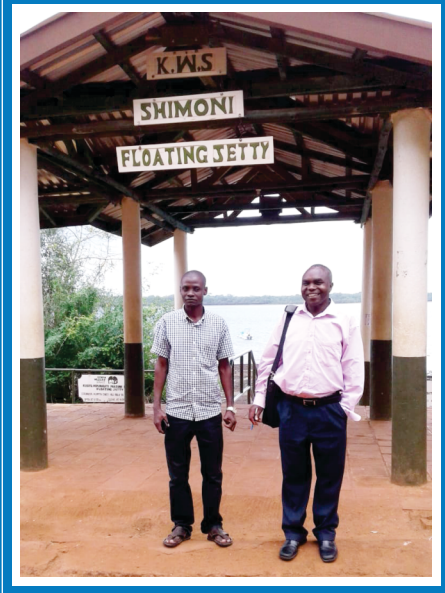

An Assessment of Disaster Risk Reduction Framework in Kenya's Coastal Marine Protected Areas (MPAs)

Optimizing Corporate Social Responsibility for Conflict Prevention: An Analysis of Soda Ash Mining by Tata Chemicals Magadi Limited in Kajiado County, Kenya

"Towards more Inclusive Peace and Security Approaches"

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IPSTC Researcher with Respondent during field work, Kwale County. Photo taken by the IPSTC Researcher – June 28, 2018, at Shimoni Jetty, Kwale County.

Soda Ash harvesting by Tata Chemicals Magadi Ltd. in progress at Lake Magadi. Kajiado County – February 10, 2019.
https://www.nation.co.ke/

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Foreword

The International Peace Support Training Centre (IPSTC) is a research and training institution focusing on Peace Support Operations (PSO) capacity building at the strategic, operational and tactical levels within the framework of the African Peace and Security Architecture (APSA).

IPSTC addresses the complexities of contemporary United Nations (UN), African Union (AU) integrated Peace Support Operations (PSO) by analysing the actors and multi-dimensional nature of these operations. The research conducted covers a broad spectrum of themes ranging from conflict prevention through management to post-conflict reconstruction. The Centre has made considerable contribution in training and research on peace support issues in the Great Lakes region and the Horn of Africa through design of training curriculum, field research and publication of Occasional Papers and Issue Briefs.

The field research based Occasional Papers are published annually, while the secondary literature based Issues Briefs are produced quarterly. The issue briefs provide a snapshot of current conflict concerns and are an important contribution to the vision and mission of IPSTC. The First Quarter Issue Brief No. 2 (2020) has two articles; '*An Assessment of Disaster Risk Reduction Framework in Kenya's Coastal Marine Protected Areas (MPAs)' and 'Optimizing Corporate Social Responsibility for Conflict Prevention: An analysis of Soda Ash mining by Tata Chemicals Magadi Limited in Kajiado County, Kenya.'*

The first article has investigated how current global disaster risk reduction and climate change adaptation strategies and practises are being implemented in marine protected areas of coastal Kenya. The study also highlights the role of national, county government and communities' collaboration and communication for effective biodiversity protection. Given the national governments revitalized focus on the blue economy and maritime security, this study offers an opportunity for scholars and practitioners to reflect on harmonized frameworks of sustainable development. The second article examines the relationship between international salt mining companies and their relationships with the host communities. Using Tata Magadi Soda Company Limited and the Maasai community of Magadi in Kajiado County, the author illustrates the limitations of the Corporate Social

Responsibility model in mitigating negative effects of extractive industries on local communities.

The papers provide valuable knowledge to policy makers that can inform the current peacebuilding discourse and praxis. The publication of this Issue Brief has been made possible through the support of The Government of Japan through the United Nations Development Programme (UNDP).

Brigadier C. L. Mwazighe
Director, IPSTC

List of Acronyms

ACC	African Conservation Centre
AIDS	Acquired Immunodeficiency Syndrome
AMREF	African Medical and Research Foundation
BMU	Beach Management Units
CBD	Convention on Biological Diversity
CBO	Community Based Organizations
CCA	Climate Change Adaptation
CDA	Coast Development Authority
CFA	Community Forest Associations
CITES	Convention on International Trade in Endangered Species of World Flora and Fauna
COYA	Company of the Year Awards (COYA)
CSR	Corporate Social Responsibility
DRR	Disaster Risk Reduction
EAC	East African Community
EBA	Ecosystems Based Adaptation
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMCA	Environment Management and Coordination Act
EMP	Environmental Management Plans
EWS	Early Warning System
GDP	Global Domestic Product
GK	Government of Kenya
HIV	Human Immunodeficiency Virus
ICZM	Integrated Coastal Zone Management
ITDG	Intermediate Technology Development Group (now Practical Action)
IUCN	International Union of the Conservation of Nature
KMA	Kenya Maritime Authority
KMFRI	Kenya Marine and Fisheries Research Institute
KMPU	Kenya Maritime Police Unit
KPA	Kenya Ports Authority
KWS	Kenya Wildlife Services
MADDEP	Magadi Division Development Programme
MNC	Multi-National Corporations

MPA	Marine Protected Areas
NAMAS	National Appropriate Mitigation Actions
NAPAS	National Adaptation Programs of Action
NDMA	National Drought Management Authority
NEMA	National Environment Management Authority
NGO	Non-Governmental Organizations
NLC	National Land Commission
RMCC	Regional Maritime Coordination Center
SADC	Southern African Development Community
SES	Socio-ecological Systems
SFA	Sendai Framework of Action
TCML	Tata Chemicals Magadi Limited
UK	United Kingdom
UNFCCC	United Nations Framework Convention on Climate Change
USA	United States of America
WIOMSA	Western Indian Ocean Marine Science Association
WRA	Water Resources Authority
WRUA	Water Resource Users Associations

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Introduction to the Issue Briefs

The first article titled '*An Assessment of Disaster Risk Reduction Framework in Kenya's Coastal Marine Protected Areas (MPAs)',* examines utilization of disaster risks reduction and climate change adaptation strategies and practices for the protection of biodiversity in the Kenyan coast. The study establishes that local and international partners have made significant contributions but ecosystem and community vulnerability against disaster risks and climate change still pose a challenge. The study also highlights the role of national, county government and communities' collaboration and communication for effective biodiversity protection. Marine protected areas where there is better collaboration among partners were found to be better managed effective. This study adds valuable insights into contemporary discourse on disaster risk reduction, management of climate change, the blue economy, maritime security and safety and the role of key actors.

The second article is titled '*Optimizing Corporate Social Responsibility for Conflict Prevention: An analysis of Soda Ash mining by Tata Chemicals Magadi Limited in Kajiado County, Kenya'*. The Corporate Social Responsibility debate has for a long time elicited mixed reactions, as various actors informed by the various schools of thought seek to contribute to the discussion. With grand narratives torn between exploitation of mineral reserves being a resource blessing or a curse, the underlying issues tabled have at the fore the effects of the extractive industries on the livelihoods of the indigenous communities as well as their impact on the environment. Tata Chemicals Magadi Limited (TCML) has put Kenya on the map as the world's third largest producer of soda ash. Its operations in Magadi, Kajiado County for over a century meant a trade-off in the form of expansive tracts of land previously used by the local Maasai community being allocated to the company. Media outlets have over time reported divergent views on the nature of co-existence between TCML and the Maasai community, with each party accusing the other of various breaches of contract and misconduct especially over the land issue. The paper seeks to present an in depth and impartial interrogation of TCML's foot print in regard to the perspectives of incomes and socio-economic status, land alienation and co-existence with the locals and, not least, the CSR effect on the wellbeing of the Maasai community in general.

An Assessment of Disaster Risk Reduction Framework in Kenya's Coastal Marine Protected Areas (MPAs)

Joseph Kioi Mbugua

Abstract

This study sought to investigate whether and how current global disaster risk reduction and climate change adaptation strategies and practises are being implemented in marine protected areas of coastal Kenya. Using a qualitative inquiry method with reliance on secondary literature the study reviewed relevant United Nations (UN) treaties and institutions, Regional agreements and institutions and the government of Kenya laws, policies, institutions and action plans.

The study established that the Kenyan coast still experiences significant manmade and natural disaster risks and climate change vulnerabilities. Great strides have been made by the UN and other international organizations to document best practices and institutionalize their application. There are also contributions from members of the western Indian Ocean countries through collaboration and capacity building.

The government of Kenya has put in place laws, policies and action plans to address disaster risks and climate change. There are also policies and institutions promoting environmental conservation, protection of biodiversity and community participation in the coastal region. County governments also play a big role in actualizing national plans, collaborating with the national government and communities to address disasters and climate change effects. Using Kwale County to illustrate this role, the study identifies gaps and provides suggestions for further improvements of disaster risks reduction and climate change adaptation in marine protected areas.

Key Words: ***Disaster risk reduction, climate change adaptation, marine protected areas, coastal ecosystem***

Introduction

The global area covered by Marine Protected Areas (MPAs) in the world by 2014 was about 10% of the coastal and marine areas within national jurisdiction and about 4% of the global oceans (UNEP & IUCN, 2016). This falls short of the Convention on Biological Diversity (CBD) agreement to increase protected areas in the ocean to 10% by 2010.

Increased exposure to extreme weather events, natural disasters and their impact on ecosystems are cited as among the five tipping points through which climate change impacts human development (UNDP, 2019). Fluctuating weather patterns are inducing changes in the distributions and ranges of species and are disrupting the natural balance of many ecosystems.

The role of healthy ecosystems in providing cheap reliable protection against natural hazards has been increasingly recognized. Forests and other vegetation assist in stabilizing slopes, prevent floods and slow soil erosion. Coastal ecosystems such as mangrove, corals, prevent people and bio organism from storms and tidal waves. Many natural ecosystems are being degraded and destroyed across the world, meaning that Disaster Risk Reduction (DRR) is not being well implemented (ME Japan & IUCN, 2015).

Kenya is one of the most disaster-prone countries in the horn of Africa (NDMA, 2016). Disasters undermine the country's efforts to fight poverty, inequality and meet sustainable development goals. Climate change contributes to this disaster vulnerability. The most recurrent disasters are drought and floods (NDMA, 2016). The country has therefore invested in laws, policies and institutions to address this challenge.

Kenya has a rich diversity of marine and coastal ecosystems such as mangroves, forests, wetlands, estuaries, sandy beaches and sand dunes, coral reef and seagrass beds. These ecological zones host many marine and coastal species. These zones support community livelihoods along the coast and conserve marine and coastal landscapes (Tuda & Omar, 2012). Coastal Kenya makes significant contribution to the national economy and attracts more than 60% of Kenya's tourists. However increased population and demand for resources pose threats to sustainability of the coastal

resources. Natural and man-made disaster risks such as global warming, sea level rise and climate change are also challenging the well-being of these resources (GK, 2015).

Marine Protected Areas are maritime zones recognized by law as possessing vital sea-based flora and fauna worth state protection. MPAs are composed of coral reef, sea grass, mangrove, fish, sand beaches, turtles, marine organisms, shells, crustaceans – crabs, lobsters and prawns and octopus, among others. Kenya has designated four fully protected MPAs (National Parks) and six partially protected Marine Reserves (GK, 2013).

Marine Protected Areas (MPAs) are part and parcel of the global community's effort to preserve world ecosystem biodiversity amidst climate change, disasters and vulnerability of communities and societies living in coastal areas. Recognizing the challenges posed to coastal biodiversity, Kenya established MPAs as a strategy of conserving the ecosystems while ensuring economic sustainability of their resources. Kenya's MPAs were meant to – protect and conserve marine and coastal biodiversity, to enhance regeneration and ecological balance of coral reefs, seagrass beds and dunes, beaches and mangroves and to facilitate marine research, education, recreation and sustainable development (Tudor & Omar, 2012).

MPAs in the country are divided into national parks and national reserves. The difference in terms of management is that in the national parks no use of resources is allowed apart from research and tourism while in the national reserves traditional harvesting of resources is allowed as well as research and tourism.

This study examines how this framework promote disaster risk reduction and climate change adaptation (CCA) in the coastal zone and specifically the MPAs. The study covers Kenya's coastal marine zone which consist of the water and terrestrial areas and which has a rich biodiversity with ecological and economic value. The domain extend for about 600 Km from Ishakani at the Somalia border to Vanga on the Tanzanian border. The zone is home to threatened species – 38% of the 159 classified trees, 27% of 71 birds' species and 5 of 9 mammals such as whales, turtles and colobus monkey (Odote, 2015). The study reviews legislations, policies, institutions and strategies relating to DRR and climate change adaptation in MPAs. The findings will inform improvement of the current general disaster risks reduction framework, development of MPAs DRR policy in order to incorporate specific

MPA elements and shed light on inter agency collaboration and institutional capacity. Since MPAs disaster risk reduction and climate change adaptation research in the country and region is scarce, the study findings will contribute to advancement of academic discourse on the subject.

The Nature and Extent of the Problem

Kenya's specific management structures for MPA disaster risk reduction against man-made and natural disasters are unclear (Parry et al., 2012). Contemporary global DRR and Climate Change Adaptation management strategies geared towards protection of MPAs are not well defined, institutionalized or harmonized in the country. Kenya's Indian Ocean marine domain holds potential for increasing biodiversity and ecological conservation. Though Kenya has a national policy on disaster management and protection of marines, focus on protection against marine disaster risks is inadequate (GK, 2015; IPSTC, 2017). This gap could render MPAs vulnerable to various hazards and thus fail to achieve their stated objectives.

MPAs are vulnerable to pollution, land degradation, unregulated development, marine debris, waste water, ballast water, acts of terrorism, erosion and loss of habitat, climate change leading to increased temperatures, ocean acidification, sea level rise, irregular precipitation, among other hazards (Odote, 2015; IPSTC, 2017). These threats have led to loss of species/biodiversity, coral bleaching and infestation of reef by invasive species (Tuda & Omar, 2012). During the 1997 El Nino in the Western Indian Ocean, Kenya's coral reef were drastically reduced (McClanahan et al., 2001). In addition, there is over exploitation of sea species and commercial trawling done in deep waters especially in unprotected areas (Tuda & Omar, 2012; IPSTC, 2017). When DRR and CCA are not well mainstreamed in MPAs management, vulnerability is increased. Coastal environmental degradation renders communities more vulnerable to disasters. Loss of forests, mangroves, flood plains, coastal wetlands, and coral reefs remove the buffering system that help to mitigate disasters (ME Japan & IUCN, 2015).

Main Research Question

What is the status of Kenya's institutional framework for responding to marine protected areas disaster risks and climate change along coastal Kenya?

Specific Research Objectives

a) To examine the nature of marine protected areas disasters risks reduction and climate change adaptation mechanisms in coastal Kenya
b) To assess effectiveness of mechanisms for marine protected areas disaster risks reduction and climate change adaptation
c) To analyse best practices for marine protected areas disaster risks reduction and climate change adaptation

Methodology

The research design is desk-top based qualitative secondary literature-based inquiry. The study has gathered evidence through data collection from already existing literature, government documents, UN and other international organizations sources. Relevant data to MPAs management and the ecosystem globally, regionally and nationally in coastal areas of Kenya was reviewed. The study also included academic journal articles from JSTOR (digital Journal Storage) and other online portals. The researcher was able to extract emerging themes, academic debates, positions, practical experiences, lessons learned and best practices for effective DRR and CCA in coastal Kenya.

Through content analysis, the researcher was able to deduce the current trends, level of application, successes, challenges and potential areas of effective integration of DRR, CCA in MPAs of coastal Kenya. The emergence of the global Corona pandemic necessitated adoption of alternative strategies of continuing to conduct research without undertaking any field visits. Given significant reliability of secondary literature-based data and evidence in the social sciences, the analysis in this study is no less valid and reliable.

Evidence from Literature and Definition of Terms

MPAs have been the subject of considerable reviews from different academic and practitioner perspectives. There is a vast body of literature examining the viability of MPAs. Most express doubts as to whether MPAs can resist negative effects of climate change or are a distraction from human adaptation strategies towards climate change (Robert et al., 2017). They point out weaknesses faced by many MPAs such as lack of adequate staff, equipment and funding; inadequate consultation and support from local communities; managing displaced fishing and limited management scope (Robert et al., 2017).

However, literature also notes that the challenges mentioned above are solvable as there exists ways and means of overcoming such limitations. Other literature observe that MPAs are just a small cog in the wheel of ocean management and that effective management of fisheries, maritime security and safety, transport and maritime economy will have a bearing on the MPAs ability to prevent, respond or mitigate disasters and other climate change impacts (Simard et al., 2016).

There is limited literature examining how ecosystem-based analysis is used to gauge collective application of DRR and CCA strategies in Kenya's MPAs. This study attempts to fill that gap.

According to Kenya's Integrated Coastal Zone Management (ICZM) policy, coastal zone refers to a closely related area between the land (terrestrial) and ocean environment (maritime area). In Kenya this contains the brown waters (12 nautical miles); beaches, deltas, estuaries, sea shore and coastal forests. In sum, the geographic extent of the coastal zone roughly follows the counties bordering Indian Ocean and the Exclusive Economic Zone (EEZ) but consideration is made to ecosystems beyond this zone such as river catchment areas beyond the coast that affects coastal ecosystems.

Ecosystem

This is a dynamic complex composition of plants, animals and micro-organism communities and their non-living environment interacting as a functional organ. The ecosystem approach refers to the strategy for integrated management of land,

water and living resources that promote conservation and sustainable use of resources.

Disaster Risk Reduction (DRR)

The universally accepted concept and best practices of reducing disaster risks through systematic analysis and response to causes of disasters including prevention, mitigation, sustainable management of resources and environment and improved preparedness for hazardous events.

Climate Change Adaptation (CCA)

Refers to the adjustment in natural or communal systems in response to actual or potential climate variations or their effects which moderates harm or exploit beneficial opportunities.

Protected Area (PA)

This is referred to as *'a clearly defined geographical space, recognized, dedicated and managed through legal or other effective means to achieve the long-term conservation of nature with associated ecosystems services and cultural values'* (UNESCO, 2012). Globally, protected areas cover less than 12% of land and over 1% of oceans, however they protect more than 80% of world's threatened species and store more than 15% of global terrestrial carbon stock (Simard et al. (ed.), 2016). Protected area management contributes towards climate change mitigation through carbon sequestration, support local livelihoods such as fisheries, protect natural systems and reduce population pressure on land (UNESCO, 2012). Therefore, protected areas advance both DRR and CCA goals.

Marine Protected Areas (MPAs)

MPAs refer to '*Areas set aside by law to protect and conserve the marine and coastal biodiversity and the related ecotones for posterity by enhancing the regeneration and ecological integrity of the mangroves, coral reefs, sea grass beds, sand beaches and their associated resources which are vital for sustainable development through scientific research, education, recreation and other compatible resource utilisation'* (GK, 2014). MPAs are one of the most cost-effective strategies of conserving ocean's habitat and biodiversity (GK, 2013). However, their effectiveness depends on the capacity to prevent and mitigate disaster risk. One of the major threats of their effectiveness is climate change which has led to acidification, depletion of species and rise in sea level.

Locally Managed Marine Areas (LMMAs)

LMMAs are defined as *'an area of near shore waters and coastal resources that is largely or wholly managed at a local level by coastal communities, land owning groups, partner organizations and/or collaborative government representatives who reside or are based in the immediate area'* (GK, 2014).

Since MPAs were established by governments with protection of biodiversity in mind, they did not involve communities in their establishment and management. Lacking this crucial input MPAs were found to be unsustainable. LMMAs was one of the outcomes where communities took initiatives and established their own marine protected zones. In coastal Kenya they were established in Kuruwitu, Shimoni, Tiwi, Msambweni, Mkwiro, Majoreni, Vanga, Jimbo, Wasini and Kibuyuni (Odote, 2015). LMMAs are responsive to social, cultural and economic needs of communities. They do not seek to exclude communities from interfering in marine areas but seek to create a mutually beneficial co-existence between communities and marines. They have made fishing and tourism beneficial to communities as well as being sustainable.

The UN Conference on environment and development, emerged with the Rio Declaration that called for community participation in management of natural resources. Therefore, with the assistance of the East African Wildlife Society (EAWS) and International Union for the Conservation of Nature (IUCN), community conservation areas were established along the Kenya coast beginning in 2006 (Odote, 2015).

Functions of Marine Protected Areas

Conservation of Reef Systems and Fisheries

MPAs act as refuge and breeding grounds for fish and other sea organisms. Mombasa Marine National Park recorded increased fish biomass and coral reef over 10 years period due to protection (McClanahan et al., 2001). MPAs have improved coral reef habitat over the years with active management (Tuda & Omar, 2012). Salt marshes and mangroves act as first line of shoreline defence through prevention of storm charges, waves and erosion. 15

Tourism and Livelihoods

All MPAs in Kenya are popular sites for tourists and divers. They provide a source of livelihood to boat operators who transport tourists besides coastal protection and carbon sequestration. MPAs also help *the oceans to mitigate and adapt to climate* through protecting complex ecosystems with diverse and abundant species. Other functions include promoting genetic diversity, protecting coastal habitats to maintain carbon sequestration and storage; providing escape zones for marine species under stress caused by human activities or climate change; protection of coral reef, sea grass and fish species. The effectiveness of MPAs depends on the management of the entire coastal ecosystems given its positive or adverse effect on them (Robert et al., 2017).

Empirical Review: Lessons from Madagascar

A study reviewing MPAs in Madagascar found that there was climate change related knowledge among staff and consideration of climate change in MPA management. However, there was absence of long-term local climate data, high reliance on small-scale fishery and agriculture, high vulnerability, low resilience of populations and lack of appropriate strategy to address human pressures and climate change impacts (Rakotrandazafy et al., 2014). In Kenya, vulnerability assessment has been done especially for mangroves and coral reef as part of the traditional management of an MPA.

Some of the solutions proposed in Madagascar are – conducting vulnerability assessment using appropriate methodology and incorporation of traditional knowledge, implementing adaptation options, sound monitoring system (bioecological, socio-economic and climate protocols) and flexible management tools. Additional solutions include use of ecosystem-based adaptation (EBA) approaches and other sustainable resource use measures, employment of meteorological data and their impact on MPAs and development of an MPA DRR contingency plan with reliable early warning component, (Rakotrandazafy et al., 2014).

Analytical Framework

Resilience of Socio-ecological Systems Theory

Resilience in Socio-ecological Systems (SES) is seen as adaptive capacity for broader scale perspective in space and time across sectors and social groups (Wenger, 2017). It moves beyond status quo or bouncing back and seeks to bounce forward to create transformational change. Ecosystems contribute to reduction of disaster risks in several ways: wetlands, forests and coastal systems serve as protective barriers thereby mitigating hazard impacts. Ecosystems can also reduce social-economic vulnerability (Murti et al., 2016). Addressing underlying risks through conserving ecosystems also strengthens human security and resilience against disasters.

Ecosystem Approach to Disaster Risk Reduction

Environmental management is still under explored in disaster risk reduction strategies. An ecosystem refers to *'dynamic complex of plans, animals and micro-organism communities and their non-living environment interacting as a functional unit'* (UN, 2002). The ecosystem approach is defined as *'strategy for the integrated management of land, water and living resources that promote conservation and sustainable use in an equitable way'* (UN, 2002). These principles were endorsed by the Convention on Biological Diversity held in Nairobi in year 2000. The UN Sendai Framework for DRR, 2015 adopted the ecosystem approach. The RAMSAR Convention also recognizes the role of wetlands in DRR. In 2015, the UN General Assembly adopted the UN Sustainable Development Goals (SDGs). In 2015, the Paris Agreement on Climate Change Action was adopted by 195 countries. These global commitments underscore the need for systemic approach to the management of global environmental challenges.

Ecosystems Based Climate Change Adaptation (EBA) *'integrates the use of biodiversity and ecosystem services into an overall adaptation strategy, can be cost effective and generate social, economic and cultural benefits and contribute to the conservation of biodiversity'* (CBD, 2012). Ecosystem based adaptation involves a wide range of ecosystem management activities to increase resilience and reduce the vulnerability of people and the environment to climate change. For DRR in marine areas, EBAs engage in restoration of coastal habitats such as mangroves to prevent storm surges, saline

intrusion and coastal erosion and management of protected areas to increase resilience to climate change (Murti et al., 2016).

Conceptual Framework

Figure 1: Ecosystem based Analysis of Disaster Risk Reduction and Climate Change Adaptation

Source: *Author's Adaptation of Meffel, et al., 1997 quoted in UNESCO (2012)*

Marine Ecosystem Approach focuses on the collective management of all resources within the MPA, instead of managing different marine resources and multiple threats to MPA resources independently and through this approach, ecological integrity is maintained and sustainable utilization of resources achieved. This perspective integrates DRR and CCA management approaches thereby providing multiple economic, social, economic, environmental and cultural benefits (CBD, 2012).

Institutions are defined as *'any structure or mechanism of social order and cooperation governing the behavior of a set of individuals within a given human community. Institutions are comprised of laws and implementation/enforcement organizations'* (UNISDR, 2015). Such organizations deliver certain services or perform regulatory roles in the coastal zone.

Governance encompass institutions and the process of administration. It involves implementation of laws, policies, strategies, actors – public or private sector, through various mechanism that include institutions, partnerships, networks and value systems, (UNISDR, 2015).

International Treaties and Organizations Promoting DRR and CCA

Kenya is a signatory to a number of international treaties that seek to conserve these ecosystems including: Convention on Biodiversity, (2000); United Nations Convention on the Law of the Sea (UNCLOS), (1982); and UN Sustainable Development Goals (SDGs), 2015; UN Framework Convention on Climate Change (UNFCCC), (1992); Convention on Migratory Species (CMS); Convention on International Trade in Endangered Species (CITES) (1973) and the Nairobi Convention for the Protection, Management, Development of the Marine and Coastal Environment of the East African Region, (1985). CBD identifies promotion of the establishment of MPAs as one of its goals. Kenya has committed to establishment of MPAs which by 1994 numbered 10 and were placed under the management of the Kenya Wildlife Services (KWS) (Ruwa, 2011; Odote, 2015).

MPAs are captured under the UN global Sustainable Development Goals (SDG, 14). Under the Convention on Biological Diversity and Sustainable Development member states promised to protect 10% of their oceans by 2020 (Robert et al., 2017). MPAs from a global perspective are legally based on the CBD, which aims to conserve biological diversity as well as sustainable use of its components.

Disaster Risk Reduction (DRR)

The disaster management spiral is widely used to plan risk reduction, relief and reconstruction efforts (Murti et al., 2015; UNISDR, 2015). It is based on the premise that if countries are doing effective DRR, the loss and damage from each disaster reduces every time, which enables them to break out of the events cycle and progress upwards towards disaster prevention (Murti et al., 2015).

Disasters are defined as *'a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts which exceeds*

the ability of the affected community or society to cope with its own resources' (UNISDR, 2015). DRR refers to '*reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters, including through reducing exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment and increased preparedness for adverse events'* (UNISDR, 2015). The concept of DRR embodies prevention, preparedness, mitigation, response, relief and recovery and rehabilitation (UNESCO, 2012).

Sendai Framework of Action (SFA)

SFA incorporates lessons learned from the previous Hyogo Framework of Action (HFA – 2005-2015). It provides a Global Platform for Disaster Risk Reduction. DRR has been established as a cost-effective strategy for preventing future losses. The main actors in DRR are states, national and local authorities, private sector, communities. Successful DRR implementation is dependent on domestic resources and capabilities, capacity building – equipment, technical assistance, technology transfer. Lessons learned from HFA point to the need for fostering resilience at all levels, addressing underlying disaster risk factors and ensuring adequate means of implementation. Further, there should be an overall framework for DRR management that includes laws, policies, institutions, goals, indicators, monitoring and evaluation system (UNISDR, 2015).

Principles

The purpose of DRR is to protect persons/lives, properties, health, livelihoods and productive, cultural and environmental assets and human rights. It requires all of society approach, participatory, affirmative, gender, age, disability and cultural perspective and women, youth and voluntary contribution. The State has the primary responsibility but the involvement of other national, local and community stakeholders adds value. DDR requires multi-level coordination through policies and measures bringing government, private sector, academia and communities together to ensure complementarity and accountability. It is also supported by comprehensive multi-hazard Early Warning System (EWS) that includes modern technology and traditional resources based clear data system and dissemination.

Integration of DRR framework within the general sustainable goals such as food security, health and safety, environmental management and climate change adaptation under local context of disasters should inform DRR plans. Prevention of

DRR factors, increasing awareness of DRR and building international partnership and commitments especially to needy developing countries are also factored in the DDR plans.

The table below illustrates global agreements and organizations related to MPAs.

Table I. International Treaties and Organizations Promoting DRR and CCA

Conventions related to DRR	**Conventions related to CCA**	**Organizations**	**Conventions related to Environmental Conservation**
UNISDRR Strategy/Sendai Framework	UNFCCC	Intergovernmental Oceanographic Commission (IOC)	Convention on Biological Diversity (CBD) *Calls for conservation, sustainable use of marine resources and equal benefits sharing*
The East African Community (EAC) *Has established DRR working groups under environment and natural resources sector (UNISDR, 2015)*	East African Climate Change Policy (ECCP) East African Climate Change Strategy	UNDP FAO IUCN	UNCLOS The Convention for the Protection, Management, and Development of the Marine and Coastal Environment of the Eastern African Region (Nairobi Convention) *(Provide for collaborative management, protection and development of marine and coastal environments)*
Africa Regional Strategy and the	*Calls for increased integration of DRR in*		

Expanded Program of Action for the Implementation of the Africa Regional Strategy Disaster Risk Reduction	*priority sectors including environment*		
African Charter on Human and Peoples Rights	African Union (AU)	United Nations Environment Programme (UNEP)	United Nations Convention on Wetlands of International Importance (RAMSAR Convention)
United Nations Declaration on the Rights of Indigenous Peoples			Convention on Migratory Species
Post- 2015 Sustainable Development Goals		WWF	Convention on International Trade in Endangered Species of World Fauna and Flora (CITES)

While all these treaties have relationships with DRR and CCA in coastal Kenya, only a few that have direct bearing on them have been examined. UN Sustainable Development Goals (SDG) No. 14, states that by 2020, states will conserve at least 10% of coastal and marine areas, consistent with national and international law and based on the best available scientific information. SDG, No.13 and 14 speaks to the protection of oceans: strengthen resilience and adaptive capacity to climate related hazards and disasters (SDG 13); by 2020 manage and protect sustainable marine and coastal ecosystems namely by strengthening their resilience (SDG, 14). The Paris agreement under UNFCCC COP 21 recognized the role of oceans in climate change adaptation. There is also emphasis on combining fisheries management measures with MPAs.

Regional and International Treaties

Kenya has ratified and acceded to several regional and international treaties related to DDR including: Treaty for Establishment of the East African Community (EAC) Act, (1999); EAC Protocol on Environment and Natural Resources Management, 2006; EAC Protocol for the Development of Lake Victoria Region, East Africa Climate Change Policy, 2011a and East Africa Climate Change Strategy, 2011b; Nairobi Convention, (1985) ; UN Convention on the Law of the Sea (UNCLOS, 1982) which governs management of oceans and utilization of its resources. Under UNCLOS the government of Kenya has delineated its outer continental shelf and the Exclusive Economic Zone) (GK, 2013). In addition, all EAC countries have ratified and acceded to the UN Framework on Climate Change Control (UNFCCC), (2015), its' Kyoto Protocol, (1998) and have established focal points for its' implementation.

These instruments provide a platform for regional cooperation in DRR. Consequently, some countries have developed National Adaptation Programs of Action (NAPAs) and National Appropriate Mitigation Actions (NAMAs). Kenya has a National Climate Change Response Strategy and a National Climate Change Response Action Plan (GK, 2013b).

Coastal Ecosystems in Eastern Africa

The Coastal zone provide a support system for wildlife population especially rare or endangered species. The zones are key habitat for migratory birds, fish, reptiles, amphibians and plants (Murti & Byck (eds.), 2016; Monty et al., 2016; GK, 2013b).
The countries of eastern and southern Africa are a host to a variety of abundant biodiversity and natural resources concentrations including seven of the world's biodiversity hotspots that are not found anywhere else in the world (Monty et al., 2016). The region also host rich cultural diversity combining local cultures with current societal practices (Monty et al., 2016).

The Kenyan coastal zone suffered from the Tsunami incident of 2004 that led to loss of lives and property. Climate change related hazards such as droughts, floods and storm charges have also become more common. Climate change is expected to increase degradation of habitats, loss of biodiversity, increased shoreline erosion,

sea level rise and flooding. These will impact on livelihoods through loss of harvestable resources, revenue from tourism, reduced water resources; destruction of infrastructure and increased incidents of disease outbreaks (GK, 2013).

Kenya's Marine Protected Areas

MPAs were established in Kenya through the Fisheries Industry Act (1968) and Wildlife Management and Conservation Act (1976) (Weru, 2002). Kenya was the first country in Africa to establish a Marine Protected Area (MPA) in Malindi – Watamu Marine National Park and Reserve in 1968. The country also developed a Wildlife Conservation Strategy in 1980 (Pertet, 1984). To date five more MPAs have been established covering an area of 1, 139 Square Kms. These are; Kisite, Mpunguti, Diani-Chale, Kiunga and Mombasa Marine National Park, the latter is the most recent MPA, which has been protected since 1991. The Diani-Chale Marine National Reserve was gazette in 1994 but there has been no active official management due to resistance from the local communities (GK, 2015). To recap, MPAs national parks are protected from exploitation of resources for consumption but allow utilization for research and tourism at a fee while MPA national reserves allow controlled utilization for consumption, research and tourism.

Coastal Kenya

The Kenya Coast has a diverse marine environment ranging from estuaries, marine sea grass beds (12 species), mangroves (9 species) and tidal reef platforms and coral reef (209 species) which are vital for conservation of biodiversity and reproduction of marine organisms (GK, 2013b). These ecosystems are valuable to the national economy in terms of tourism, forestry and fisheries, among others. They contribute to climate change mitigation through maintaining the carbon cycle, the nitrogen cycle and hydrological cycle with significant local and regional impacts. The systems also act as defence from tsunamis and surges and mitigate shoreline erosion and sedimentation. Further ecosystems contribute towards poverty alleviation, disaster risk reduction and climate change adaptation (Ngaruiya et al., 2018).

Disaster Risks

The MPAs face significant disaster threats from human encroachment due to over population, urban, marine transport and industrial pollution, oil spillage, over fishing, mangrove logging among other unsustainable resource exploitation (Ngaruiya et al., 2018).

Table II: Disaster Risks

Risks	Sources
Over exploitation of natural resources	• Over harvesting of fish stocks • Destructive fishing practices • Mangrove destruction/conversion • Poaching of turtles and their eggs • Inadequate capacity for resources surveillance and monitoring
Habitat Degradation	• Clearance of mangrove and coastal forests • Urbanization and industrialization • Infrastructure development • Coral mining for building materials
Land based sources of Pollution	• Tourism • Coastal urbanization and industrialization • Agricultural pollution • Soil erosion • Land based extraction of minerals, oil and gas
Marine Pollution	• Oil and gas development • Oil spills and illegal discharges • Dumping of hazardous waste • Noise pollution
Natural Disasters	• El Nino • Climate change

Source: *Devolving Climate Change Governance in Kwale County, Kenya (Ngaruiya et al., 2018).*

Governance and Implementation of DRR and CCA in Kenya

Kenya is a constitutional multi-party democracy as enshrined in the 2010 constitution. The constitution also created devolved governments and a bi-cameral parliament. The country follows global frameworks such as the Sendai Framework on DRR among other treaties. Apart from the constitution and other treaties and protocols discussed in the preceding sections, there is, in addition, a national disaster management policy draft (2010). Established structures include: Kenya National Platform for DRR, Community-based Disaster Management Committees, National Disaster Coordinating Committee, National Disaster Executive Committee, National Disasters Operations Center (NDOC) and National Disaster Response Plan, 2009. Additionally, there are county mechanisms such as County Disaster Management Committees. Though the national disaster management policy was launched before the new constitution, 2010, it embraces its value especially human rights, devolution and community participation (Ngaruiya et al., 2018).

Legal and Policy Instruments Governing Kenya's Coastal Zone

The Constitution of Kenya 2010 guarantees the right to a clean and healthy environment and obliges government to ensure sustainable management and use of natural resources. The principle of sustainable development is captured in article 102 (d) as one of the national values and principles of governance. In article 69, the constitution obliges government and the public to ensure laws and policies are put in place for proper management of resources. The ICZM is one such policy (GK, 2013b). The climate change act, 2016 is the principal law on climate governance.

The management of coastal and marine ecosystem is institutionalized under section 55, of the EMCA Act which clearly advocates for community participation. Section 4.3 in the national disaster policy recognizes that action plans may be developed to respond to marine life and resource, environmental protection and hazardous materials containment. The table below list laws and policies with a bearing on the management of the coastal zone.

Table III. Legislative, Policy and Framework for DRR and CCA Touching on MPAs in Kenya

Ecosystem management related laws	**Policies and Strategies related to Environmental Conservation**	**UNDRR Strategy/Sendai Framework**	**Compliance with UNFCCC/National Adaptation Programmes of Action (NAPA)**
Constitution of Kenya 2010 *(Provides for protection of the environment and community participation)*	**Vision 2030** *Provides general strategic direction for the country to become a middle-income country with provisions for environmental conservation, DRR and sustainable development*	*Government provides regular report on climate risk management*	*Kenya ratified UNFCCC in 1994* *Nationally Determined Contributions (NDC), to UNFCCC Submitted in 2015*
National Water Act (2016)	National Water Policy *Draft Environment Policy, 2009; Draft integrated Ocean Policy, 2009;*	National Water Master Plan 2030, (2014)	Water Resources Users Association
Forest Management and Conservation Act (2016) National Museums and Heritage Act	No corresponding policy *Vital for community participation in management of mangroves Integrated forest management*	Draft Environment Policy Draft Forest Policy **Action Plans**	Forest Users Associations

National Climate Change Act 2016 Climate Change Units Act, 2016	National Climate Change Response Strategy (NCCRS) Disaster Risk Reduction Strategy	National Climate Change Action Plan (NCCAP), 2018- 2022 Establishment of Climate Change Units National Disaster Management Executive Committee National Platform on Disaster Risk Reduction	National Adaptation Action Plan (2015-2030) Kenya Climate Smart Agricultural Programme (2015-2030) Building Climate Change Resilience and Food Security Programme Adaptation to Climate Change in Arid Lands Afforestation and restoration of degraded lands project
Environment Management and Coordination Act, 2012 *Provides coordinate structure for environmental management*	*Integrated Coastal Zone Management Policy, 2014 National Wetlands Policy, 2013*	*Shoreline Management Strategy*	Integrated Coastal Zone Management Action Plan (2011-2016-2020) *Protection of biological diversity in marine areas*
Fisheries Management and Development Act	*Calls for protection and sustainable utilization of fisheries and community participation*	National Oceans and Fisheries Policy, 2008	Beach Management Units (BMU)
Wildlife and Tourism Act, 2013	*Establishment and management of MPAs*	*Draft Wildlife Policy Draft Tourism Policy*	

Agriculture, Fisheries and Food Authority Act	Kenya Food Security Steering Group	Agriculture Sector Development Strategy (2010-2020)	
The Land Act, 2012 National Land Commission Act	*Land includes marine waters in the territorial sea and the exclusive economic zone Protection of ecologically sensitive areas, sustainable utilization of land*	*National Land Policy*	
The Devolved Government Act *Enables development of county laws and policies*	*Promote community participation in governance, conservation of the environment, equal distribution of resources*	*County disaster management policy County climate change action plans*	*local community associations*
Maritime Zones Act, 2012	*Integrated National Maritime Security Strategy, 2016 ICZM Policy*	*Climate Change Action Plan Draft integrated Ocean Policy, 2009*	UNCLOS

Integrated Coastal Zone Management Policy

This policy is meant to harmonize management of coastal resources, avoid conflict among stakeholders and improve conservation of ecosystems. It is meant to balance resource development activities with conservation. It provides a platform for collective response against adverse effects of global warming and climate change and other disasters in the coastal zone. The policy also contributes to the fulfilment of constitutional goals and government's vision 2030 of making Kenya a middle-income country.

The EMCA Act, empowers the National Environment Management Authority (NEMA), in collaboration with other agencies to prepare an integrated coastal zone management plan. The production of the state of the coast report in 2007, marked a significant step towards that direction.

Most of the current legislations and policies capture sector specific management framework. This 'silo' approach in the development of management frameworks, has led to conflicting legislations, duplication of tasks and weaknesses in policy implementation and enforcement. The EMCA, 1999 was an attempt to address these challenges.

DRR Strategies for the Integrated Coastal Zone Management

The ICZM approach has enabled achievements of the following (GK, 2013b):

- Development of ICZM Policy
- Strengthening MPAs legislation and regulations
- Effective fisheries management laws and policies
- Strengthen implementation of Environmental Impact Assessment (EIA) and Environmental Management Plans (EMP)
- Enhanced undersea and sea bed mining and extraction laws, policies and practices
- Capacity building – human resource, material and knowledge and skills
- Enhanced research capacity and knowledge management for better control structures, regulations and guidelines
- Implementation of national and county disaster management and oil spill contingency plans
- Monitoring pollution and enforcement mechanism
- Better management of coral reef ecosystem

- Sustainable use of resources guided by scientific and traditional knowledge.

DRR Implementation

DRR from a coastal zone management perspective, is a systematic disaster management approach aimed at minimising vulnerabilities and disaster risks to avoid or limit the adverse effects of hazards within the broader context of sustainable development (GK, 2013b). For effectiveness of DRR there is need for a strategy implementation/administrative plan, disaster risk monitoring, assessment and analysis, vulnerability and hazard mapping, sectoral DRR contingency plans, climate change adaptation and mitigation mechanisms, DRR education and training, capacity building, DRR best practices (knowledge management and research) and resource mobilization (GK, 2013b).

Knowledge Management

Effective DRR implementation depends on several communication aspects; disaster and communication strategy, disaster information management systems/ technology, ICT Command Center, documentation and promotion of indigenous knowledge, people centered Early Warning System, media and public relations, accountability and reporting, monitoring and evaluation framework - Performance metrics and management (GK, 2013b).

Institutional Arrangements for DRR, CCA and Coastal Management in Kenya

The environmental and resource issues affecting MPAs cut across many sectors. Despite existence of sectoral laws and institutions, efforts have been made towards integrated management. Kenya Coast Guard Services (KCGS), Kenya Wildlife Services (KWS), Kenya Maritime Police Unit (KMPU), Kenya Ports Authority (KPA), Department of Fisheries and the Kenya Defence Forces (KDF)-Navy have been given respective legal jurisdiction for protection of marine resources from the 12 miles brown water level to the Exclusive Economic Zone (EEZ) and continental shelf (Tuda & Omar, 2012). The table below highlights sectors that have a significant bearing on management of MPAs.

Table IV. Institutional Arrangements for DRR, CCA and Coastal Management in Kenya

Ecosystem	Institution	Community participation/Networks
Corals and sea grasses	Kenya Wildlife Service	Community conservation areas
Mangrove	Kenya Forest Service	Community Forest Users Associations
Fisheries	State Department of Fisheries and Blue Economy	Beach Management Units (BMUs)
Regional development	Coast Development Authority	
Estuaries and deltas	Water Resources Authority	Water Resources Users Associations
Beaches and sand dunes	County governments	BMUs Regulations 2007 BMUs
Arid and Semi-Arid lands	National Drought Management Authority (NDMA) National Land Commission (NLC)	Group Ranches Associations Kenya Land Alliance
Wildlife Management	Kenya Wildlife Service (KWS)	Community Wildlife Associations Community Wildlife Managers
Security Management	Kenya Coast Guard Services (KCGS) (KDF) – Navy, KWS, Kenya Maritime Police Unit (KMPU), Kenya Revenue Authority (KRA)	Community Based Policing Wildlife Clubs BMUs
Inland Waters	Water Resources Authority (WRA)	Water Resources Users Associations
Environment	National Environment Management Authority (NEMA)	

Brown Waters, EEZ and Continental Shelf	Kenya Maritime Authority (KMA)	Regional Maritime Information Coordination Center (RMCC) *Regional information coordination (early warning)*
Devolved Governments	County Governments	Council of Governors Marine County Community Associations (CCAs).
Research Institutes and Universities	Research and Training	BMUs, CFA, CWA

Source: *Adapted from Devolving Climate Change Governance in Kwale County, Kenya (Ngaruiya et al., 2018).*

DRR Management Structures and Strategies for the MPAs

There are a number of measures required when DRR is specifically applied in MPAs to improve management and adaptiveness, (Tuda & Omar, 2012):
Through training MPA managers KWS increases capacity of staff through various regional trainings such as the Western Indian Ocean Marine Science Association (WIOMSA) and Coastal Resources Center (CRC) at the University of Rhode Island, USA. These trainings provide professional certification and benchmarks for capability in MPA management (Ngaruiya et al., 2018).

KWS sets clear and measurable objectives; biological indicators and human use patterns are monitored and changes made with respect to new findings. Regular review of operational plans and implementation to identify gaps that inform new priorities and budget requests from the treasury. The KWS and department of fisheries established a team to advise on conservation of threatened species such as sea turtles and coral reef. Monitoring is conducted in all MPAs using satellite data.

Surveys of corals through rapid assessments is done to physically gauge the extent of damage.

Disaster Risk Reduction and Climate Change Adaptation Strategies

MPAs DRR frameworks in coastal areas require integration with climate change adaptation plans. Use of ecosystem-based approaches that recognizes inter relationships and linkages between components in ecosystems is critical to MPAs protection. Participatory and inclusive approaches that entail involvement of stakeholders and consensus building in decision making has also been recommended as well as playing a precautionary approach where strategies are changed according to new knowledge (GK, 2013b).

Promoting stewardship in resource management from individual to collective responsibility alongside integrated ecosystem management approaches are said to be effective. This is further complemented by arrangements such as the regional and international cooperation for better management of transboundary resources such as the one implemented along Kenya/Tanzania border under the Western Indian Ocean Marine Science Association (WIOMSA) framework (Ngaruiya et al., 2018). There is also need for coordination and communication mechanism within and between the government, communities and other stakeholders.

Other strategies are: conservation of the coastal and marine environment – mangrove, coral reef, sea grass beds, pollution control and waste management practices. Measures should also be put in place for environmental risk management such as development and implementation of a shoreline strategy. Continuous capacity building through provision of education and awareness and incorporating local knowledge and community participation are equally vital elements.

Countries should also engage in research and monitoring activities in the coastal zones to understand the physical, socio-cultural, economic and institutional factors affecting ICZM and MPAs and to disseminate findings to decision makers. There is also a need to ensure that ecosystems such as mangrove, sea grass beds and corals are properly managed and monitored to reduce their vulnerability to natural disasters. All these measures are implemented through sound scientific management

principles and sustainable utilisation of resources (Parry et al., 2012).

Monitoring and Evaluation of MPAs, DRR and EBAs Effectiveness

There is need to develop an evaluative framework with indicators that are *'transparent, robust and representative'* alongside a corresponding benchmarks to measure the distance between *'the current conditions and an objective threshold'* (Murti, & Byck (eds.) 2016).

Protected Area Management Effectiveness (PAME) is an implementation and monitoring tool and although it was not designed for DRR/CCA, it can be adapted to document and manage attributes of the framework. It retains essential attributes such as vulnerability assessment, ecosystem resilience and development of governance and institutional response systems which are relevant to the framework (Murti, & Byck (eds) 2016).

Role of County Governments (Kwale County)

The constitution of Kenya, 2010 created 47 counties of which Kwale is one of them. Counties are obliged to promote sustainable development and to integrate climate change in county planning and budget and integrate the climate change Act in County Integrated Development Plans (CIDP). Kwale experiences drought, flooding, disease outbreaks, land and forest degradation, destruction of biodiversity and especially coral reef. Despite inclusion of climate change in the CIDP, implementation of projects is poor (Ngaruiya et al., 2018). Kwale has a variety of wildlife species including endangered species of birds and animals (KCG, 2018). Shimba Hills National Reserve and Mwaluganje Sanctuary are two terrestrial protected areas. There are government administered MPAs such as Kisite, Mpunguti, Diani and LMMAs. Shimba-Hills forest stand out as a good example of jointly well managed conservation area. There is a system of local practices of conserving forests locally known as KAYAs but they are being diluted due to population pressure, mining, charcoal burning and climate change (KCG, 2013).

CCA in Kwale like in the coastal region and the country in general is hampered by slow economic development – efficient production and dissemination of disaster risks and community's ability to respond to the risks through diversification of livestock species and farming practices. CCA is also affected by low community capacity to adapt to change and low environmental/ecosystem knowledge for

ecological adaptation (Ngaruiya et al., 2018).

Though CCA is factored in County Integrated Developed Plans, for effective protection of biodiversity, such measures need to be reflected in counties' sector plans, spatial plans, cities and urban area plans. Kwale unlike some counties such as Makueni has not developed integrated CCA plans that set aside a specific percentage of county budget or attracted external donors. NDMA and Kwale County have implemented a number of measures to mitigate drought impact on communities.

More measures need to be put in place such as county climate change legislation, climate fund bill, adaptation fund, monitoring & evaluation system, DRR information service, DRR committees and local community associations. Kwale County enacted disaster management fund Act, 2016, (KCG, 2016). Such an Act enables a county to implement DRR and CCA activities and to coordinate with the national government. Counties have developed guides to interpret national laws. Kwale has a climate change plan to guide allocation of resources, training, creating awareness and define county responsibilities (Ngaruiya et al., 2018).

DRR and CCA Challenges in Coastal Kenya

There are frameworks for adapting climate change to DRR at the national level but such systems are weak at the county level. There is a low capacity for implementation of action plans. Integration of climate change adaptation and DRR is not well articulated at the national and county level to enable effective coordination. Adequate climate mitigation strategies and action plans in the context of DRR in coastal areas has not been undertaken. This means that MPAs also do not receive specific tailored DDR and CCA support. The presence of MPAs in urban areas such as Mombasa calls for specific measures to address urban related risks (Parry et al., 2012).

Poor waste management policies especially in urban centers, are a potential source of environmental pollution and pose a public health risk. Destruction and loss of coastal and marine habitats are also as a result of unsustainable exploitation, poor land use practices, changes in shoreline such as beach erosion and accretion, encroachment, unplanned and unregulated human settlement and urban development. To note, there are no adequate mechanisms to address climate change, droughts, floods, sea level rise, landslides, earthquakes, volcanoes, Tsunamis and storm surges among other disasters (Monty et al. 2016).

While there are many national and regional DRR policies that emphasize the need for coordination and integration, effective collaboration is still a challenge (Monty et al., 2016). There are a number of factors that contribute to this situation: insufficient clarity about roles and responsibilities, dissonance between those with responsibility for conserving environment or an ecosystem and those responsible for DRR such as the national government and county government institutions. Financing is also often sector based and does not factor inter institutional activities.

There is also inadequate knowledge on DRR, CCA, vulnerability assessment and adaptation priorities (Monty et al., 2016). Furthermore, the existing knowledge is not accessible to the organizations in user-friendly formats. The capacity of DRR implementing organizations is also low coupled with limited understanding of biodiversity and ecosystem-based approaches. The role of communities with high poverty rate in the coast and their dependence on fishing hinders sustainability of MPAs. There is need for clarity and harmonization of the institutional framework guiding climate change and DRR in coastal areas and as well to restate that capacity of existing institutions is grossly inadequate.

Toward Enhanced DRR and CCA in Kenya's Coastal MPAs

This study has provided a concise desk-based review of the mechanism in place to address DRR, CCA in the coastal areas and MPAs and has established that there are no integrated systems in place to address them. The study has highlighted the vulnerability of MPAs and the measures that the government has taken to address climate and disaster risks. It has analysed the capacity (institutional and policy) for addressing disaster risks. The study has established gaps and proposed possible solutions for more effective DRR and CCA integrated application in coastal areas in general and MPAs in particular.

The government of Kenya has initiated some significant measures to improve protection and management of coastal marine resources. The establishment of Kenya Coast Guard Services (KCGS) in 2018 was envisioned to enhance protection of MPAs from illegal exploitation of endangered species and fisheries. Also, in 2018, the government initiated the blue economy strategy where different departments collaborate in sustainable exploitation of coastal resources.

The statement of intent on blue economy that came out of the joint Kenya, Canada and Japan organized global conference on the blue economy in 2018, states among others commitment to: managing and sustaining marine life, conservation and sustainable activities, ending hunger, securing food supplies and promoting good health and sustainable fisheries. These commitments have a bearing on DRR and CCA strategy applications in MPAs. As the country mainstream DRR and CCA approaches in the protection and management of MPAs, using the already existing institutional structures, legislations, policies and action plans, effective coordination of responsible organizations could be the determinant of effective protection.

Conclusion

Integrated and holistic approach to DRR and Ecosystem based CCA of the Coastal Zone and MPAs in Kenya should recognize that spatial, temporal, sectoral, political and institutional integration are all essential elements for effective conservation. Many organizations and their staff in coastal areas and MPAs operate without this broad vision.

Going forward an evaluative framework with indicators that are 'transparent, robust and representative' alongside corresponding benchmarks to measure desired standard expectations against current conditions need to be put in place. Beyond protection of biodiversity, MPAs need to adopt a more integrated strategy that incorporates climate change adaptation and resilience and disaster risk reduction from the national to the county levels.

Recommendations

- There is need for further harmonization of coastal marine environmental management laws, policies and institutions
- Ecosystem based disaster risk reduction and climate change adaptation strategies including maritime security and blue economy should be well implemented and harmonized
- Fast track strengthening of technology-based capacity for effective monitoring and surveillance of marine disaster risks and communication with responsive institutional structures
- Integrate ecosystem-based disaster risks reduction into protected area management, contingency plans and evaluation frameworks

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Optimizing Corporate Social Responsibility for Conflict Prevention: An analysis of Soda Ash mining by Tata Chemicals Magadi Limited in Kajiado County, Kenya

By Amb. Lemarron Kaanto

Abstract

For many indigenous communities around the world the consequences of industrialisation, and in particular, the destruction of agrarian lands in the commercial pursuit of the mineral resources which lie beneath, have had diverse social, environmental and economic impacts (2015). The Maasai community of Kajiado County, heavily if not solely are reliant on the expansive tracts of land for pastoralism as a means of livelihood, find themselves in a difficult situation in light of the fact that their native land is endowed with a wide variety of mineral resources. The presence of these resources has attracted investors in the extractive industry whom, as they engage in their operations, were expected to engage in corporate social responsibility (CSR), in a bid to mitigate the effects of their operations on the local population. This paper aims at discussing the key areas that CSR addresses, focusing on the strengths and weaknesses of its implementation by the Tata Chemicals Magadi Limited. The paper further gives recommendations that, if applied, would serve to avert potential conflict between the Maasai host community and the company –Tata Chemicals Magadi Limited.

Introduction

Kenya is rated the third largest world producer of soda ash and the seventh largest producer of fluorspar, all of which are non-metallic minerals (Witness, 2011). Commercially, Kenya has mined soda ash since 1911 in Magadi Division in Kajiado County (Matthews, 2014). This has been carried out through collaboration with the Tata Chemicals Magadi Limited formerly Magadi Soda Company Limited. There has also been mining of salt in the same area. Tata Chemicals Magadi Limited operations in Lake Magadi are Africa's largest in soda ash production (Omolo, 2013). According to Hughes (2016), the Magadi leases by the mining company were effected after wide consultations and official agreements made between the company and the Maasai community living in Magadi Division. The consultations/agreements included the Maasai Agreement and other certain passages contained in a 1911 Agreement, which indicated that the British administrators were waiting to secure Maasai representatives' acquiescence to land alienation before granting mineral extraction rights in the area (Rutten & Mwangi, 2013). The agreement was not, however, of the alienated land, but of territory supposedly reserved for the community that had been dispossessed its source of livelihood.

The second Agreement was brokered by Girouard in 1911, which allowed for a second major eviction of the Maasai community from their reserves in Laikipia to an extended Southern Reserve on the border with German East Africa. Girouard wrote towards the end of the document that the reserve was set aside for the exclusive use of the Maasai tribe. In this context, his administration was 'not to lease or grant any land within the said areas'. The direction was to be executed on lands for mining purposes or for any public purpose. The agreement also forbade the sanctioning of the Paramount Chief and the representatives of the Maasai tribe (Kibet et al., 2016). This second Agreement was signed by eighteen Maasai leaders and their interpreter Ole Tinka and other principal leaders. However, the leading age-set representative and other people from the Maasai community led an opposition to the 1911-13 forced eviction, which initiated a legal action in 1912 for the return of Laikipia. This resulted in the unsuccessful Maasai Case of 1913 in the High Court of British East Africa. Subsequently, the second agreement was signed on four separate days. The first one was signed by thirteen Maasai led by Olonana's young son, Seggi on 4 April 1911 in Nairobi. The third signing was done by Masikonde and Ole Batiet on 13 April at Rumuruti witnessed by Arthur Collyer, District Commissioner Laikipia, Assistant

District Commissioner E. D. Browne and three other Maasai on 19 April 1911. Lastly, Girouard wrote a long penultimate paragraph and signed off on 26 April 1911, in the presence of A. C. Hollis, Secretary of Native Affairs. Even though several issues arose from the agreement and the series of negotiations, the Maasai land in the current Magadi areas was taken and allocated to the Soda ash mining company (Hughes, 2016).

To date, there has been concerns that soda ash mining activities in Kenya deprives the local communities' rights to engage in income generating activities because the mining has dispossessed and displaced them of their lands (Witness, 2011 & Matthews, 2014). It has also been reported that the current water shortage, diminished pastures, limited lands for grazing, land ownership tussles and perceived unfair compensation for lands taken from the indigenous communities around Magadi Ward in Kajiado County emanate from the fact that mining has taken large chunks of land and left the local communities with nothing to feed from or do their agricultural and commercial activities (Omolo, 2013). In the same breath, it is also perceived that the dispossession of land has eroded the Magadi residents' indigenous culture in areas where mining is conducted. These are concerns that need to be substantiated and addressed before major mining explorations in Kenya such as the oil in Turkana, coal in Kitui County and Titanium in Kwale County are undertaken (Matthews, 2014).

From an ecological context, a productive human environment and sustainable biodiversity is an important consideration before engaging in any economic activity. In this context, many mining companies engage in activities that are detrimental to the biodiversity which, in turn has negative environmental, economic and political impacts on the community.

The following Table V shows the description of Soda Ash mineral in Kenya based on the deposit, source, quality, extraction and global competition.

Table V: Description of Soda Ash Deposits

Deposit	Approximately 40m thick Trona deposit believed to have been formed during the last 10,000 years
Source	Lake Magadi which has no surface run off but is fed by over 200 hot and warm springs and rainfall
Quality	Relatively high purity solid surface Trona
Quantity and regeneration rate	Total Lake reserve of 595 million tonnes Regeneration rate estimated at 680,000 tonnes per year.
Ease of extraction	Easily worked relative to underground mining Relatively low-cost operations
Global competitors	Historically, the US is the most competitive soda ash producer in the world. In recent years, China has increasingly challenged this position. To date, the US remains as the world's largest soda ash exporter; marketed through American Natural Soda Ash Corporation (ANSAC)

Source: Nairowua (2016)

The mining industry contributes 45% of the world's gross domestic product (GDP) (Boehm, 2012). In Kenya, mining contributes 1% of the Kenyan GDP (Global Times, 2015). Mining is also a source of direct and indirect employment. Additionally, the mined deposits are used to make products such as ornaments, currencies, utensils, trophies, among other items. Mining therefore plays a significant role in the economy and in the society. Over time, there has been an outcry, as highlighted by the media, on the deteriorating relationship between the local Maasai community and Tata Chemical Magadi Limited regarding the latter's mining activities. For this reason, there need to interrogate the effects of the mining on the socio-economic attributes of local community. This is important in order to avert and/or mitigate potential conflict that might disrupt peace in the area.

Effect of Mining on Incomes and Socio-economic Status of Indigenous Communities

Margolis and Walsh (2013) undertook a study on "Misery loves companies: rethinking social initiatives by business in Russia". The study established that mining of iron ore was estimated to be US$794 billion and had immensely contributed to the indigenous people economic situation and empowerment. However, the study established that mining activities had negatively impacted the social fabric and core existence of the community as mining fraternity and indigenous people took on each other with accusations mining being a source of individual gratification and accumulation of wealth by a few people. A study on mining activities in the developing countries such as Nigeria, Congo, Ghana and Singapore, Bangladesh and Saudi Arabia concluded that while the indigenous communities has in the past welcomed mining as an avenue for gaining economic self-sufficiency, too often it has posed a threat and disrupted the people's way of life and their livelihoods (Reed, 2012).

According to a 2017 report by Tata Chemicals Magadi Limited, there has been a deliberate effort to enhance the economic conditions of the indigenous Maasai community through the creation of business opportunities. This has been made possible through an employment and livelihood Employment policy at Tata Chemicals Magadi Limited (TCML) which for example, has a preference for locals in the recruitment for casual jobs. The policy states that 75% of casual workers at the soda ash plant and 100% at the salt plant have to be locals. The Management of the company has also outsourced cleaning services for its offices as well as for Magadi Township to the local community. The company together with the local community is also exploring business opportunities in tourism and diversification of livelihoods such as bee keeping and flour milling by women groups. In a bid to promote entrepreneurship amongst the local community, the company policy requires that market stalls allocation in the township be 40 % to the local community, 20% for employees and 40% for other investors (Nairowua, 2016). Kaanto, Ndolo and Ndonga (2017) reported that TCML had had a positive impact on the local community as a result of the employment opportunities and key infrastructural investments particularly in road, rail and water supply development. Conversely, there has been negative impacts mainly as a result of Tata Chemicals Magadi Limited

holding large tracts of land that was previously was available to the locals but they cannot now use. The land was mainly used for grazing livestock and carrying out other alternative income generating activities by the community.

Alienation and Coexistence of Indigenous Communities

Schmiermund (2014) investigated the social cost benefits of mining in South Asia. The study established that in the political sphere, mining often elicits divergent views on how it should be carried out and how the resources should be shared. This often leads to heated debate regarding mining projects that at the end do not benefit the indigenous communities concerned. However, the study established that this viewpoint does not extend to incidences where the local aboriginal communities political class of leaders establish good working relationships with the mining companies and collaborate with the local people to develop beneficial and sustainable mining activities. In Africa, while many of the misgivings about secrecy and human rights violations by mining companies have declined over the years, there are still examples of notably disturbing ventures – though multinational mining companies are not always involved in these cases (Kanfer, 2013). The has been lamentations that the civil war in Sierra Leone between 1991 and 2002, for example, was largely a resource war between the rebels (who controlled much of the diamond mining in the east of the country) and the then democratic government. The same is largely true of the strife in the Democratic Republic of Congo, with its diamond and cobalt mines, and the continuing civil strife in Angola which is one of the most resource-rich countries in the world.

Mackay (2014) has noted the need for the indigenous peoples' right to free, prior and informed consent and the World Bank's extractive industries review prior to any mining activity. The report observes that similar cases of mining politics were evident in Eastern Africa where politics played a very significant role in the allocation of natural resources and was therefore a major cause of natural resource conflicts. The report indicated that distribution of power between the central governments and the local level traditional institutions underlined the political dimensions of natural resource conflicts in Eastern Africa. Political power is concentrated at the centre, denying entitlement of grassroots level in decision-making; even where there have been attempts at decentralization, there is limited expansion of social liberties.

In Kenya, for example, there is simmering political heat regarding envisaged coal mining in Kitui and oil extracts in Turkana Counties. While genuine concerns from the local people could not be overlooked, Matthews (2014) reports that some of the issues of contestation have taken political dimensions posing a threat to peaceful coexistence among the local community mainly as a result of the sustainable sharing of proceeds from the intended projects. As further reported by Mwangi (2015), some of the places where mineral deposits such as gold, coal, salt are located, also experience politically motivated inter-community conflicts. By demanding to be fully involved in the Tata Chemicals Magadi Limited lease renewal and the soda ash extraction, the Magadi Maasai Community is seeking to be recognized as key stakeholders (Matthews, 2014). Instead of negative politics that result in undesirable outcomes for the local communities, politics should be exercised with the profound leadership aimed at addressing the rights of people and create optimism not only to the country's economic growth, but also to the livelihood of people.

According to the Business Daily (2016), the question of wrongful alienation of land has continued to be a thorn in the flesh for Tata Chemicals Magadi with the Maasai unrelenting in the pursuit of their rights. Several court battles have been fought but none have been conclusive. Successive political regimes, chiefs, local governments and unscrupulous leaders of group ranches have not helped the cause of the Maasai who have taken advantage of the vulnerability of a largely illiterate populace. According to Nairowua (2012), the 99-year lease by the Kenya Government that was to expire on 30 October 2023 was extended by another 30 years to 2053. Table 1 below spells the details of how the concession lease was done and how it is applied. This is in terms of the duration, the area in terms of acreage covered as well as the rights as spelt out by the Government of Kenya. It also spells out the covenants, the royalties as well as the obligations of the parties.

Table VI: Concession Lake Lease

Duration	99-year lease from Kenya Government, which was to expire on 30.10.2023 but extended by another 30 years to 2053
Area	Approximately 227,000 acres (Includes 11,000 acres adjacent to Lake Natron in Tanzania)
Rights	To work the Magadi deposits (subject to Government's right to extract minerals not affecting Magadi)
Covenants	Not to assign or sublet without Government consent. Notification to Government of discovery of other minerals
Royalty	Half yearly payments to Kenya Government for each tonne of Soda and salt sold in the market
Obligations	Housing and medical treatment for employees

Source: Nairowua (2016)

Table VI below gives the details of the railway lease between Tata Chemicals Magadi Limited and the government of Kenya. The table spells out the duration, the area and the covenants of the lease.

Table VII: Railway Lease

Duration	99-year lease from Kenya Government which was to expire on 30.10.2023 now extended by another 30 years to 2053
Area	100 ft on either side of rail line from Magadi to the Kenya Railways mainline at Konza, a distance of 146 km
Covenants	No assignments without Government approval

Source: Nairowua (2016)

Table VIII gives details of the acreage of the Magadi group ranches. The ranches are Olkeri, Oldonyonyokie, Olkiramatian and Shompole.

Table VIII: Magadi Group Ranches Land Size

Group Ranch	Land Size (Hectares)
Olkeri	28,000
Oldonyonyokie	58,055
Olkiramatian	24,000
Shompole	67,700
NB:	The Tata Chemicals Magadi Concession area is approximately 227,000 acres (Includes 11,000 acres adjacent to Lake Natron in Tanzania) is hived from the four group ranches in Magadi Ward, Kajiado County.

Source: Ministry of Lands, Kajiado County (2017)

Kaanto et al., (2017) looked at the effect of land alienation on the indigenous Maasai community and notes that the community enjoyed a harmonious relationship before the establishment of Tata Chemicals Magadi Limited. This was mainly because the community had enough land and pasture to graze their animals as well as to cultivate. Upon the establishment of the company which claimed huge tracks of community land, friction set in due to the indigenous Maasai community demands for return of their land. In addition, environmental pollution has adversely affected the vegetation and thus reduced the pasture. In the past, there was also tension as a result allocation of employment opportunities which favoured outsiders as opposed to locals. Further, setting up of the Company also opened up the area to other investors who have settled and own land and farms, presumably, at the expense of the host community.

Effect of Corporate Social Responsibility on the Social Welfare of Indigenous Communities

In mining operations, the environment and the health and safety of the indigenous communities are closely related. Mining has negatively affected the ecosystem through oils and chemical spillage into the water bodies, air pollution emanating from the mineral extraction and disposal of harmful mineral residue contents as landfill. Consequently, these factors have affected the health and safety of the indigenous people (Gelb, 2012). Brereton and Forbes (2014) focused on monitoring the impact of mining on the local communities. Their study found out that in Australia for instance, mining operations have assigned a lower priority to the management of community impacts than to workplace health and safety performance. Issues relating to community impacts were mainly addressed at the project approval stage, when environmental impact assessments were being carried out. With the exception of environmental amenity issues such as noise, dust, air quality, among others, the study further found out that the mining companies had devoted limited resources to continuously monitor and manage the impacts of their operations on the surrounding communities. The study observed that further research was necessary its findings had been based on a relatively small sample that may not have been adequately representative have influenced nature of results that were obtained.

A study on oil exploitation established that the Republic of Congo, against the long held view in Africa that women's 'rightful' place is in the kitchen, women had taken the jobs of mining gold and diamond as they adjust to their role as breadwinners in their families – a hitherto role of men. In addition, due to the lucrative kickbacks associated with the mining activities, children have left their traditional role of being keepers and have resorted to mining gold and other minerals at paltry payments that go towards their upkeep and pocket money (Gelb, 2012). While assessing the influence of mining on education of indigenous children, Omolo (2013) observed that in areas where mining activities were undertaken, children engaged in work in order to generate income to supplement their family's meagre resources. Consequently, the study established that the rate of absenteeism in class increased significantly as a result of the availability of quick money from the mining activities.

Tata Chemicals Magadi Limited is involved in several areas of community welfare and development. Under the provision of health services, the company has constructed the Magadi Hospital as well as purposed to support other medical centres, laid infrastructure for water provision and invested significantly in education through infrastructure development and bursary schemes. The company has also set up community information centres and training in Information Technology. Further, TCML has supported creation of business and employment opportunities through support for micro-businesses, women's groups as well as provided skills in business and entrepreneurship (www.tatachemicals.com).

TCML has in addition invested in local infrastructure through the maintenance of roads and railway lines that are vital for the transportation in and out of Magadi. It also supports the provision of security in Magadi area and has sought to invest in the promotion and development of ecotourism (Omollo, 2013). TCML is part of the Maasai Integrated Development Partnership Project (MIDPP), an umbrella body bringing together a number of stakeholders - NGOs, the Kenya government and the local community. The company has worked closely with Intermediate Technology Development Group (ITDG), Dupoto E Maa, AMREF, African Conservation Centre (ACC), World Corps and HEART Africa. In its support to NGOs, the company has provided office space to ITDG and the Magadi Division Development Programme (MADDEP), to help reduce their operating costs (www.tatachemicals.com).

In order to sustain the Corporate Social Responsibility programme, the Company launched the 'Magadi Soda Foundation' as a channel through which it leverages more financial support from other partners. TCML has won several accolades for its CSR work and has been recognized by the Kenya Institute of Management through the Company of the Year Awards (COYA) as the best in "Corporate Citizenship" in Kenya from 2000 to 2007. The International Finance Corporation/World Bank has also recognized the Company's CSR activities. The late Nobel Laureate Prof Wangari Maathai declared Magadi Township the "cleanest town in Kenya". The Company has won the Gold Award in Total Kenya's Echo Challenge several times. The Petroleum Institute of East Africa awarded the company the "Best Practice Award in Environment" as well as "Best Practice Award in Safety Health and Environment". Other awards include the Energy Management Award – won two times and the Kenya Revenue Authority's "Distinguished Tax Payer Award". The

Global Business Coalition against HIV/Aids, TB and Malaria awarded the company a commendation certificate (Community Investment category) during 2011 Business Action on Health Awards held in New York, USA (Tata Chemicals Magadi Report, 2011).

The study by Kaanto et al., (2017) that also looked into the effect of corporate social responsibility on the well-being of the locals, observed that the indigenous Maasai community benefited immensely from the community development initiatives by TCML. As it has already been indicated elsewhere, these were in areas of education through infrastructure development and scholarships, provision of healthcare, opening of opportunities in trade and commerce and tourism as well as support in humanitarian and relief operations.

Recommendations

The government should pursue policies that are geared towards seeing the indigenous Maasai community benefit more from Tata Chemicals Magadi Limited. This is in terms of employment opportunities as well as decent pay even for the lower cadre employees. Tata Chemicals Magadi Limited can explore ways to transfer idle land in its possession to the community. This will help address the tensions related to land issues and thus avert potential conflict. TCML should consider partnering with other institutions in order to expand the CSR benefits to a larger number people in Magadi Ward. It should also explore innovative opportunities to accommodate the growing number of youths who are graduating out of the education system. The community should present and pursue their concerns through existing platforms to the management of TCML in order to ensure that they reap optimum benefits from the company revenues and to jointly develop interventions to mitigate intervention the environmental degradation caused by the mining operations.

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Highlights of Key Messages from the Issue Brief

An Assessment of Disaster Risk Reduction Framework in Kenya's Coastal Marine Protected Areas (MPAs)

- Implementing an ecosystem-based strategy to address disaster risks and climate change in coastal marine areas offers the best hope for effective management of risks in marine protected areas
- Marine protected areas alongside adjacent communities in coastal Kenya remains vulnerable to disaster risks despite significant legal, policy and institutional interventions
- Comprehensive disaster risk reduction and climate change adaptation framework is yet to be put in place or implemented among marine protected areas on the Kenyan coast
- Significant efforts have been made by international, regional, national, county and community actors in addressing disasters and climate change in coastal Kenya
- Integration and harmonization of disaster risk reduction and climate change adaptation is critical in ensuring their proper management.

Optimizing Corporate Social Responsibility for Conflict Prevention: An Analysis of Soda Ash Mining by Tata Chemicals Magadi Limited in Kajiado County, Kenya

- The Maasai community in Magadi have been positively affected by TCML in terms of creation of employment opportunities and setting up vital infrastructural investments – road, rail and water supply.
- In terms of negative effects, TCML affected their incomes by retaining a huge chunk of land which previously was available to the locals for grazing their livestock and to conduct alternative income generating activities.
- In regards to land alienation, the community enjoyed a harmonious relationship among them prior to the establishment of Tata Chemicals Magadi Limited. This was mainly because the community had enough land and pasture to graze their animals and to cultivate.
- TCML lays claim to huge tracks of community land which is a source of

friction and conflict with the indigenous Maasai community who demand its reclamation from the company.

- Environmental pollution resulting from the activities of the company adversely affects the vegetation and degrades the pasture resources.
- Tension regarding the allocation of employment opportunities occurs especially when TCML is suspected of favouring outsiders over the locals. The setting up of the Company also opened up the area to other investors who have settled and acquired land from the locals.
- The effect of Corporate Social Responsibility on the well-being of the locals was manifest in the areas of education through infrastructure development and scholarships, healthcare, trade and commerce, humanitarian and relief operations as well support to tourism activities.

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Mr Joseph Kioi Mbugua is currently an applied researcher at IPSTC. He has published a number of IPSTC Occasional Papers and Issue Briefs. Mr. Mbugua has over twenty-five years' experience in peace and security research, training and facilitation in peace building and as a writer and editor in media and publishing industry. He published his first book (*INKISHU: Myths and Legends of the Maasai*) in 1996 which won an international award; '*Best Book for Teenage from Africa*', offered by the New York Public Library. Mr. Mbugua has done consultancy work on peacebuilding, documents editing and review, field survey and curriculum development for a number of organizations including UNDP, UN Women, National Council for Gender and Development (NCGD), Security Research and Information Centre (SRIC), Ministry of Youth Affairs and Sports, National Steering Committee on Peace building and Conflict Management, GIZ, PACT-Kenya, COPA, Kenya Institute of Governance (KIG), NPI-Africa, and Practical Action, among others. He has facilitated peacebuilding training for District Peace Committee in more than 10 Counties. Mr. Mbugua is a graduate of the University of Nairobi and holds an M.A Degree in peace and justice from the University of San Diego in California, and is also a recipient of the prestigious Fulbright and Rotary Ambassadorial Scholarships from the United States.

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