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Institute of  
Social Studies**

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**GOVERNANCE FOR INCLUSIVE DEVELOPMENT; CASE OF SAND  
HARVESTING IN MAKUENI COUNTY-KENYA.**

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**Dedication.**

This Research is dedicated to my Son Taji, my Mum Annah Ndunge, Sister Julianah and Christine and my brother Lewis. Thank you for your love and support in my graduate studies.

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Many thanks to ISS for offering me an admission to pursue my graduate studies in a field I am passionate about. Thanks to NUFFIC for awarding me a full scholarship for this study. To my mentor and supervisor, Dr. Marijn Falling, this research would not have taken this shape without your guidance. Thank you for your unwavering support and for assisting me in bringing out the best in this paper. Thanks to my second examiner Dr. Tsegaye Moreda for your inputs throughout the seminars. I appreciate my friends and family for your unwavering support.

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## **List of acronyms**

<b>EIA</b>	Environmental Impact Assessment
<b>UNEP</b>	United Nations Environment Programme
<b>EMCA</b>	Environmental Management and Co-Ordination Act
<b>RRMA</b>	Riparian Resource Management Association
<b>WRUA</b>	Water Resource Users Association
<b>CBO</b>	Community Based Organisation
<b>NGO</b>	Non-Governmental Organizations
<b>PPP</b>	Public Private Partnerships
<b>SDG</b>	Sustainable Development Goals
<b>PWD</b>	Persons with Disability
<b>ASAL</b>	Arid and Semi-Arid Lands
<b>CRA</b>	Commission for Revenue Allocation
<b>UNDP</b>	United Nation Development Programme
<b>UN</b>	United Nations
<b>Kshs</b>	Kenya Shillings
<b>MCA</b>	Member of County Assembly

## **Abstract**

This study focuses on governance for inclusive development with makueni county as the case study in sand harvesting. This research is important because it examines a case of a decentralised unit of administration that is operating independently by implementing a policy formulated specific to the dynamics of the region. This study will examine if the policy guiding on sand harvesting fosters inclusive development on paper and in practice through implementation.

The main questions are establishing how sand harvesting is governed in makueni county, how the policy fosters inclusive development on paper and in practice and challenges in fostering inclusive development in practice. The questions are addressed through document review by analyzing the makueni county sand conservation and utilization act of 2015

The main findings of the study are that the policy on paper is formulated to achieve inclusive development through participation, a strategy to guide on redistribution of benefits and costs, promoting environmental sustainability. However, the challenges of elite capture, corruption, conflicts, lack of a committee to handle conflicts, lack of a strategy to guide of Public-Private partnerships hinders the achievement of inclusive development in Makueni's sand harvesting governance.

This study highlights prospects for advancing inclusive development in practice among them strong stakeholder engagement, strategies to reduce on corruption, strategies to empower the marginalized. This research contributes to decentralized governance of sand offering insights for policy reforms to achieve inclusive development in Makueni county.

### **Relevance to development studies**

This topic is relevant to development studies in that its directly aligned to the sustainable development goals- SGG 12(Responsible consumption), SDG 15(Life on Land) and SDG 10 (Reducing inequalities. The research aims at analysing governance of sand harvesting and how it fosters inclusive development. By proposing prospects for advancing inclusive development the study aims at reducing inequalities, reducing poverty and advocating for better environmental management strategies. By advocating for participation of the marginalized, the study contributes to the agenda on inclusive development through its emphasis on transparent accountable governance (SDG 16 peace, justice and strong institutions).

### **Keywords**

*Inclusive development, sand harvesting, governance, policy, inclusion, participation, sand*

## CHAPTER ONE

### 1.0 Introduction.

Sand is the second most-consumed resource in the world with an approximate consumption of about 50 billion tonnes per year, surpassing fossil fuels (Beiser, 2019). A previous study has shown that sand is the least regulated resource globally, despite being the most extracted solid material by weight and volume (Gallagher and Peduzzi, 2019). The lack of regulations and enforcement has enabled illegal sand harvesting activities to rise, infiltrating legal trade (Torres et al., 2017). Unregulated sand harvesting has negatively affected ecological integrity and local livelihoods (Mensah, 1997). The over-exploitation of sand is from the lack of an international convention to regulate its extraction, consumption or its trade (Torres et al., 2017)

The promulgation of the constitution of Kenya in 2010 gave the gate pass to decentralization. “decentralization is the transfer or delegation of legal and political authority to plan, make decisions, and manage public functions from the central government and its agencies to field organizations of those agencies, subordinate units of government, semi-autonomous public corporations, areawide or regional development authorities; functional authorities, autonomous local governments or non-governmental organizations” (Rondinelli, 1981). In other words, decentralization is any act in which a central government formally cedes powers to actors and institutions at lower levels in a political-administrative and territorial hierarchy (Ribot, 2003).

Devolution is the type of decentralization practiced in Kenya with the central government transferring power and resources to the forty-seven county governments to independently run and manage its affairs and resources for the benefit of its residents. According to the Kenyan constitution (2010) chapter eleven, devolution is aimed at upholding national unity by embracing diversity, promoting the participation of Kenyans in matters of governance and being in the capacity to make decisions and protect the rights of marginalized communities, facilitate equitable share of national resources, ensure decentralization of services to the citizens of Kenya and to provide services and promote development to the grassroots levels (Kenya, 2013).

The county governments established are supposed to generate revenue to enable them to run effectively and deliver services seamlessly to their residents. Additionally, the counties are to manage their resources and make regulations to govern their usage. With devolution in place, some departments were moved from the national government to the county governments including the Department of health, education (Early Childhood Education), Water, infrastructure, Environment and Natural Resources. The emergence of local governments has the potential to strengthen the decentralized management of natural resources (Delville, 1999). This is because the local governments can formulate policies specific to their region to manage their resources accordingly.

This research will study the governance of sand harvesting in Makueni county in relation to inclusive development. Governance of sand harvesting has been a global challenge. Governance refers to actors and their interactions, and the ideas and instruments through which policy processes are coordinated (Capano et al., 2015). This study seeks to establish whether governance of sand in Makueni county fosters Inclusive development. In this case, inclusive development is development that includes marginalized people in social, political, and economic processes for increased human well-being, social and environmental sustainability, and empowerment (Gupta et al., 2015). Inclusiveness is among the core values of Makueni County's Vision 2025 strategy launched by the Governor (2013-2022) H.E Kivutha Kibwana as he envisioned county of equal opportunities and where every resident is included in governance through participation (public participation).

## **1.2 Research problem**

Sand harvesting is increasing worldwide causing social and environmental detrimental effects significantly risking to hamper inclusive development. A report by UNEP (2019) has proved that sand harvesting has resulted in erosion, health issues and negatively affected residents' livelihoods. This was supported by findings that sand harvesting also leads to health issues and noise pollution (Popescu, 2018) as it leaves behind pits that collect water and become breeding places for mosquitos causing malaria. These pits pose danger to the residents as they may cause death from drowning especially if they are filled with rainwater to the brim.

Governance of sand harvesting is challenging as common pool resources require diverse institutional needs as their management involves various institutional arrangements including private, community engagement and governmental (Ostrom, 2008). On the other hand the impacts arising from common pool resources are global in nature arising from climate change, rise in ocean levels and pollution. It has proved difficult to establish a global governance framework for common pool resources to implement strategies that could work in different regions (Ostrom, 2008).

However, Makueni County has given it a trial; devolution resulted in the transfer of some departments from the national government to the county. In 2015 the Makueni County assembly passed the Makueni County sand and conservation act into law making Makueni County the first and only county in Kenya to regulate sand, setting a high standard for responsible sand governance. This raises the question of how and why the regulation was formulated. This research will study this first attempt to govern sand harvesting through explicit policy addressing it

### **1.3 Research question**

How is sand harvesting in Makueni County governed under the Makueni County sand conservation and utilization act?

#### **1.3.1 Sub-questions**

- i. What is in the Makueni County sand conservation and utilization act?
- ii. To what extent does the Makueni County sand conservation and utilization act foster inclusive development on paper?
- iii. What challenges are encountered in fostering inclusive development and why does it remain a challenge in practice?
- iv. What are the prospects for advancing inclusive development in practice?

### **1.4 Main research objectives**

The primary objective of this study is to learn from Makueni County and get closer grips on the intricacies of the governance of sand harvesting.

#### **1.4.1 Other objectives of study**

- i. Comprehensively understand the Makueni County sand conservation and utilization act

- ii. Explore how well-integrated inclusive development is in the Makueni County sand conservation and utilization act
- iii. Understand the challenges in the implementation of the Makueni County sand conservation and utilization act
- iv. Propose strategies for advancing inclusive development in Makueni County
- v. Provide recommendations to improve on governance and promote inclusive development in Makueni County.

### **1.5 Justification and relevance of this research**

This research explores sand harvesting in Makueni County, a devolved unit of administration in the eastern part of Kenya. This study seeks to understand governance in detail from the policies in place to guide sand harvesting, the actions and (in) actions during the implementation of the policies, and the interactions among the stakeholders and the institutions in place to oversee the implementation process.

Makueni County vision 2025 is a strategic plan specific to Makueni County drafted in line with Kenya's vision 2030, the African union's agenda 2063 and the sustainable development goals from the united nations to provide strategies aimed at wealth creation and transforming the social and economy of Makueni County. Among the county's core values are inclusiveness, accountability, equity and fairness. With Makueni County's aim at driving towards inclusive wealth creation, and an inclusive social economy to achieve its vision of 2025, this study will dive into analysing the Makueni County sand conservation and utilization act (a regulation governing sand utilization and conservation) to establish how well integrated inclusive development is on the act.

This study will also propose ways of advancing inclusive development in practice highlighting the challenges encountered in fostering inclusive development in practice, aligning fully with the academic discourse on governance and inclusive development regarding sand harvesting. Analysing the Makueni County sand utilization and conservation act against the criteria developed to determine whether it fosters inclusive development on paper and comparing it with its implementation/practice gives a platform for future research on how devolved governments can design policies and regulations to promote inclusiveness. The proposed recommendations

can be used to streamline sand harvesting governance in Makueni County to ensure it fully results in inclusive development for its residents.

From this study, we can identify governance-related challenges that hinder the attainment of inclusive development which result in the negative impacts of sand harvesting on the residents of Makueni County. The research offers practical recommendations aimed at effective sand harvesting governance that is inclusive to all the residents. From a global level, there is limited research on sand harvesting governance especially from a devolved perspective. This research will fill the gap in research on sand harvesting governance that uses an inclusive development and governance theoretical framework. Most of the research in Makueni County has focused on the impacts of sand harvesting on livelihoods and the environment. There is no documented research in Makueni County addressing sand harvesting governance and how it fosters inclusive development which is among the aims of Makueni County vision 2025 strategy.

## **1.6 organization of the study**

Chapter two reviews the literature on the governance of sand harvesting, and discusses sand harvesting from a global perspective from sub-Saharan Africa to the Kenyan. knowledge from two theoretical frameworks of Governance and inclusive development, I developed a criterion that envisions what governance should be like to foster inclusive development. Chapter three discusses the methodology used to gather data for this thesis, the positionality of the author, ethics adhered to during data collection and the limitations encountered in data collection as well as information on the area of study in detail like the location, climatic conditions and demographic information specific to the study area. Chapter five discusses the findings relating them to the study objectives and the research questions while chapter six gives a conclusion from the findings and draws relevant recommendations.

## **CHAPTER TWO**

### **Literature Review**

This chapter locates sand within the extractive literature, reviews previous studies on sand extraction worldwide, from sub-Saharan Africa and to the Kenyan context. Finally, the chapter majors on sand harvesting in makueni county citing the impacts and reasons for increased sand harvesting overtime.

#### **2.1 Locating sand within resource extractivism**

Sand harvesting is classified as extraction and can be located in the resource extractive literature. “extractivism is the process of human appropriation of natural resources at scales and rates high beyond the regenerative capacities of the natural system”(Bisht, 2021). As mentioned by Bisht(2021,p.6),extractivism is the accumulation of wealth by agents through “accumulation by dispossession” (Harvey, 2007)which leads to changing the cost of externalities to the residents(Temper et al., 2015).

Despite sand harvesting being classified in the extractivism literature, it differs from extraction of other minerals in that sand is widespread and available almost everywhere unlike minerals, it doesn't require complicated technology for extraction, there are no international actors involved and its transportation is for local consumption. Additionally, sand harvesting compared to other mineral extraction is barely expensive(Bisht, 2021). However, the following features characterize sand harvesting as extractive; social and environmental injustices arising from continuous exploitation which directly affects the residents, the presence of powerful actors, exploitation of workers as the sand is transported away from the sites, and value addition performed which doesn't benefit the harvesters. Deterritorialization and violence in sand harvesting is a feature common to extractivism where powerful actors are in charge of sand operations like in the case of sand gangs locally known as “sand mafias”.

## 2.2 Review of literature on sand extraction and its governance

The rapid economic growth experienced in India in mid-2000s saw an increased demand for housing therefore increasing the demand for supply for sand for construction purposes. This economic pressure for development has led to organized gangs in the procurement and supply of sand known as sand mafias. Sand mafias have risen in number in the rural areas as a way of survival since the agricultural opportunities have declined (Mahadevan, 2019). Globally sand mafias have grown to be a great challenge to sand harvesting in Kenya, Morocco and India. To regulate sand harvesting and its externalities on the residents in India, some states have banned sand harvesting for posing harm to laborers. Unfortunately, they harvest the sand at night using buckets as the large extraction machines cannot be used because of the ban. This has put the lives of the laborers at risk as some suffer injuries, sickness and others even drown to death (Rajesh and Naik, 2016).

Bagchi (2010) reported on how the communities view sand mining and gravel extraction expressing dissatisfaction with the uncontrolled illegal mining. The miners created one hundred feet long by fifty feet deep tunnels across their farmland as well as creating deep pits through crop fields. Within these nations, the main deficiency in governance is in the implementation of current laws and the capacity to control illicit sand traffic. Scholars have proposed global efforts to develop international standards or certification systems for sand extraction, such as those employed in forestry or fisheries (Marschke and Rousseau, 2022).

In sub-Saharan Africa (SSA), the demand for sand is projected to follow the global trend considering that it is among the world's fastest-urbanizing regions (Saghir and Santoro, 2018). A study to examine effects of sand mining activities on rural people living on agricultural land in Ogun State, Nigeria observed that many of the residents supported the good uses of sand but the negative impacts on their land were more than the benefits (Aromolaran, 2012). This shows that inadequate governance systems, especially in rural and peri-urban regions, have resulted in extensive environmental degradation, endangering ecosystems and means of subsistence.

Within these nations, the main deficiency in governance is in the implementation of current laws and the capacity to control illicit sand traffic. Scholars have proposed global efforts to develop international standards or certification systems for sand extraction, such as those employed in forestry or fisheries (Marschke and Rousseau, 2022).

In conclusion, globally the externalities of sand harvesting are felt by everyone despite whether they participate in the business or not. Issues of pollution and climate change are some of the side effects of externalities of sand harvesting. Despite a global problem like this, still there isn't a global solution to address it. This calls for global effort to address sand harvesting just like climate change is partially addressed by solutions from the COP conferences.

### **2.3 Sand harvesting in Makueni County.**

County governments have been mandated by the constitution of Kenya to formulate and implement regulations regarding the environment and natural resources within their territory. Makueni County was the first county in Kenya to come up with a regulation regarding sand harvesting (Aduda and Bolf, 2024); the Makueni sand utilization and conservation act and an implementing agency; the Makueni County sand conservation and utilization authority.

Sand like any other common pool resource is shared amongst people and characterized by conflicts as a result of interactions during resource exploitation. Makueni County isn't unexempt from the conflicts from sand harvesting. The uncontrolled harvesting of sand resulted in conflicts between the sand harvesters and the residents living along the harvesting sites, the sand harvesters and the government of Makueni County, the police (law enforcers), and the executive (governor) against the legislators (MCAs). These conflicts led to the loss of lives, displacement of families, sexual assaults, destruction and loss of property (Muthomi et al., 2015). Most of the affected by the violence were sand harvesters over entitlement and ownership of sand harvesting sites, and civilians who were against illegal sand harvesting conducted by the harvesters. To ease the conflicts and tension, the governor of Makueni County H.E Kivutha Kibwana came up with a task force whose role was to come up with a strategy to manage sand harvesting in the county. Unfortunately, sand-harvesting politics almost got the governor impeached by the members of the county assembly in his first term of service (Muthomi et al., 2015).

Overharvesting is rampant in common pool resources as they are open to everyone and people often exploit them without concern for the long-term effects of their exploitation which could lead to depletion or destruction of the resource. Ostrom (2008) observed that overharvesting and destruction are rampant in

common pool resources as they are accessible to everyone. To second on Ostrom's findings, Hardin noted that valuable open-access common-pool resources are also subject to overharvesting(Hardin, 1998). The lack of control over common-use resources has led to the over-use of resources and increased competition as it is difficult to establish recognized users and exclude others in resource use. This was echoed by findings that common pool resources are sufficiently large that it is difficult to define recognized users and exclude other users altogether(Ostrom, 2008) and backed up by (Hess and Ostrom, 2005).

The Lamu Port South – Sudan Ethiopia Transport (LAPSSET) Corridor Project, part of the Kenya Vision 2030 project aims at creating a unified market for the African continent by advocating for regional integration and facilitating ease of doing business across counties. To achieve this, the government of Kenya constructed the Port of Lamu, The standard gauge railway, Oil pipelines, The Konza Techno-City, The Expressway, and several airstrips. Some of these flagship projects had an impact on sand harvesting in Makueni County as they were constructed with sand harvested from Makueni due to the county's proximity to the Project Sites like The Oil pipeline constructed by Zakhem Corporation, The Konza Techno -City, The Standard Gauge Railway line and The Nairobi Expressway.

Furthermore, the rapidly growing populations in urban areas have witnessed an increased demand for sand to meet the ever-rising needs of the building and construction industry resulting in sand harvesters invading seasonal rivers in Kenya's arid and semi-arid areas, particularly those neighbouring the big cities (Mutisya, 2006).Makueni County's proximity to the city center where construction of new buildings is always ongoing has increased demand for sand resulting in illegal harvesting where some drivers due to high demand opt to transport sand either in timelines that aren't authorized or end up harvesting without proper documentation. This eventually leads to overharvesting that negatively affects the environment by deterioration of riverbeds, erosion of soil, and depletion of biodiversity (Mbaka and Rono, 2022).

Sand harvesting has also led to fish stock decline and saltwater intrusion of agricultural soils causing food insecurity for the local communities (Marschke and Wilkings, 2014).It also leaves behind a trail of environmental destruction and destroys fish spawning and nursery areas, all of which negatively impacts the aquatic life(Kariuki, 2002). Additionally, it has also led to water, air and noise pollution. The trucks transporting sand spill oil on the rivers, exhaust carbon dioxide to the atmosphere and noise from the heavy machinery used in commercial sand harvesting is a nuisance to the environment and residents.

According to the UNEP report of 2016, sand harvesting in Makueni County in Kenya has led to high dropout rates in schools, increased drug and substance abuse among the youths and increased levels of conflicts over sand harvesting sites and activities (Nguru, 2008). This is seconded by a UNEP (2019) report, which found out increase in school dropout rates among youth, a decline in security, and drug and substance abuse due to young people's increased disposable income.

Sand harvesting unfortunately exposes the underage to child labour. For example, along the Sirare-Isebania border of Tanzania and Kenya, children are hired to harvest sand, while in Zanzibar, children are involved in trading sand (Daghar, 2022). According to Daghar (2022), economic hardships and unstable family income levels have fueled the involvement of children in sand harvesting. The abrupt closure of schools for long holidays due to covid-19 break out resulted in high involvement of children in sand harvesting. “underage girls are also pressured by their families to earn an income from the sand trade, by doing menial tasks such as selling food to the laborers; in the event they are lured into commercial sex work leading to early pregnancies, an increase in sexually transmitted diseases and sexual violence” Daghar (2022). Makuli in a study by Daghar (2022), mentioned that “Kaonyweni Secondary School in Kenya’s Machakos County, student numbers dropped from 115 to nine between 2019 and 2021. Kaonyweni Secondary School in Kenya’s Machakos County, student numbers dropped from 115 to nine between 2019 and 2021, as they were engaged in sand harvesting”.

In Makueni County, the degradation of river banks is a result of trucks directly accessing the sand from the river banks. This has disrupted the waterways creating a shortage in the supply of water for domestic and agricultural use. Similarly, the continuous harvesting of sand has also resulted in the siltation of rivers posing a health hazard as the water isn’t fit for consumption. Siltation prevents sunlight from penetrating water therefore hindering the growth of plankton which the fish feed on eventually leading to their death over time (Daghar, 2022).

A study on nature of sand harvesting conflicts in Makueni County shows that there are both violent and non-violent conflicts indicating that this conflict among other things led to displacement of persons, loss of life, destruction of property, failure to attend school for children, closure of businesses, insecurity, illegal sand

harvesting and failure to comply to payment of tax and landowners (Muthomi et al., 2015)

## **2.4 Theoretical framework.**

### **2.4.1 Governance.**

Governance is a term that has not yet had an agreed definition as different institutions have different definitions for it. Governance is actors and their interactions, and the ideas and instruments through which policy processes are coordinated (Capano et al., 2015). The UNDP defines governance as “the exercise of economic, political and administrative authority to manage a country’s affairs at all levels, which ‘comprises mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences’”(UNDP., 1997)

For this study, the term governing means government action which in this case is the allocation of budget, the interactions between all actors, the rules guiding implementation and interactions and the institutions making the rules. “governing thus involves the establishment of a basic set of relationships between governments and their citizens which can vary from highly structured and controlled by governments (“hierarchical modes”) to arrangements that are monitored only loosely and informally, if at all (“network” or “market” modes)”(Capano et al., 2015) that are established by institutions

Governance structure refers to participating actors in the governance of a resource; these actors are categorized into economic actors, political actors and civil society (Vatn, 2015a). This study will establish the different actors involved in Makueni County’s sand harvesting and their different roles, the institutions that formulate the laws on sand harvesting and explore the interactions between the different stakeholders and their impacts on sand harvesting. For this study, the actors are all the stakeholders involved in sand harvesting, the institutions are the ones who formulate laws on sand harvesting and guide its implementation and the actions of the different stakeholders result in interactions among them. These interactions call for rules which are formulated by the institutions.

### **2.4.2 Inclusive development**

Inclusive development is "development that includes marginalized people, sectors, and countries in social, political, and economic processes for increased human well-being, social and environmental sustainability, and empowerment" (Gupta et al., 2015). This literature will help us to establish whether the governance frameworks and policies implemented

concerning sand harvesting foster inclusion in the social, economic and environmental pillars. Inclusive development involves: social inclusiveness which enhances the lives of the most marginalized people, groups, and states; ecological inclusiveness which takes into account that the most marginalized are heavily dependent on and vulnerable to changes in, their environment and ecosystem services (Bos and Gupta, 2016) and relational inclusiveness which requires addressing the structural causes, including power, politics of poverty and environmental externalization (Brown and Corbera, 2003)

Social inclusiveness aims at empowering the poorest and marginalized by enhancing opportunities for their participation (Gupta and Vegelin, 2016). To achieve social inclusiveness, benefits and opportunities should be shared equally, ideas from the marginalized should be incorporated into development agendas, and the marginalized should be protected and allowed to participate in development governance. To achieve relational inclusiveness, costs and benefits should be shared equally, the rule of law should be promoted and taxes should be paid to generate revenue to steer development. Ecological inclusiveness calls for “equitably allocating rights, responsibilities and risks associated with such eco-centric limits for all peoples and countries” (Gupta and Lebel, 2010)

For this study, we will take insights from the literature on governance and inclusive development to come up with criteria that will be used to examine the extent to which Makueni County sand harvesting policies and framework foster inclusive development. Literature on governance will enable the study to establish the existing governance structures in Makueni County through institutional analysis and examining the governance challenges that arise in the implementation of sand harvesting policies and regulations. Informed by the governance and inclusive development literature, here are the criteria to be used to assess the governance of sand harvesting in Makueni County and if it fosters inclusive development on paper;

#### **2.4.2.1 Inclusion of marginalized groups**

Social inclusiveness aims at empowering the poorest and marginalized by enhancing opportunities for their participation (Gupta and Vegelin, 2016). Inclusion in this case refers to the active engagement of stakeholders in the decision-making process and implementation. Informed by inclusive development on the involvement of

marginalized groups in development, this criterion will examine how the marginalized groups in Makeni especially indigenous residents, women, persons with disabilities (PWDs) and the youth are involved in the governance of sand harvesting. For effective participation of stakeholders, they ought to be knowledgeable so as to contribute in the decision-making table. This criterion will look into how stakeholders are involved in sharing their ideas and if they are informed about their roles.

#### **2.4.2.2 Collaboration between stakeholders**

For development to be inclusive, it should be participatory; every actor/stakeholder should be involved in implementation and decision making and effectively play their role. This criterion will highlight how all the stakeholders are involved in sand harvesting governance including government departments, residents, non-governmental organizations and the private sector.

#### **2.4.2.3 Redistribution of costs and benefits**

How are the costs and benefits accrued from sand harvesting shared? Through this, we will establish whether they are shared equally among the stakeholders and if the development and projects within the county relating to sand harvesting are implemented in equal measure among the residents of the different wards

#### **2.4.2.4 Conflict resolution and social cohesion**

Conflicts are expected where there are common pool resources. In this context, conflicts are expected to arise as sand harvesting occurs across the county. The conflict can either be between the government and the residents, the residents amongst themselves, the loaders against the residents, or among themselves. The county should have a strategy in place to handle conflicts and promote social cohesion among the residents of Makeni. This research will look into the strategies in place that promote social cohesion and resolve conflicts arising from sand harvesting.

#### **2.4.2.5 Environmental sustainability and social fairness**

The environmental pillar of inclusive development advocates for environmental sustainability. This will guide the research to establishing how the regulation on sand harvesting is tailor made to foster environmental sustainability and fairness.

#### **2.4.2.6 Economic opportunities for local people**

This criterion will look into the economic opportunities that sand harvesting has offered to the residents and those who engage in the business

## **CHAPTER THREE**

### **METHODOLOGY.**

#### **3.1 Study area description.**

Makueni County is among Kenya's forty-seven devolved administration units, numerically referred to as county number seventeen (017). Makueni was previously part of the larger eastern province before decentralization. The eastern province is located in the eastern part of Kenya, bordering the former coast province to the south, the north-eastern province to the west, and the rift valley province to the east. With counties in place, makueni borders taita taveta county, kitui county, and Machakos county. Makueni is further divided into six (6) sub-counties namely kibwezi west, kibwezi east, kilome, kaiti, mbooni, and makueni.

Owing to the dry environment and scarcity of water resources in the area, unregulated sand extraction has had significant consequences on the local ecosystems, such as the deterioration of riverbeds, diminished water quality, and erosion. The environmental concerns are further complicated by socio-economic factors, including unequal access to the advantages of sand harvesting and disputes over resource management. Makueni County, being the pioneer in Kenya to enact dedicated legislation on sand harvesting, provides a pertinent example for analyzing the management of natural resources in a decentralized system.

[illegible]

<https://makueni.go.ke/sandbox/site/files/2023/10/makueni-county-integrated-development-plan-2023-2027.pdf>

## **3.2 Situational analysis**

### **3.2.1 Physical features**

Makueni is classified as an arid and semi-arid land. Despite the harsh climatic conditions, the county boasts the tsavo national park to the southern part of the county bordering taita-taveta county. The chyullu volcanic hills are a tourist site in the south western part on the other hand mbooni hills and kilungu hills are on the upper regions of the county. River athi is the main river flowing through Makueni County and draining into the indian ocean. It is fed by tributaries across the county ranging from seasonal to semi-seasonal rivers including the kiboko river, Thwake River, kambu river, Muooni River and river kaiti. Farming is very prominent along river athi which helps in promoting food security within the county. However, the main source of water is from the seasonal rivers which are dry most of the year.

### **3.2.2 Ecological condition**

The upper region of Makueni County consisting of the Mbooni sub-county, kilome sub-county, kaiti sub-county and some parts of the makueni sub-county experience a cold and wet climate with enough rainfall throughout the year. The residents in these sub-counties are mostly into agriculture as rains are to grow all types of food. However, the lower parts of Makueni County; Kibwezi West, kibwezi east, and part of Makueni County experience hot and dry weather with very little seasonal rains. This justifies why the majority of sand harvesting occurs within these sub-counties with Makindu, kikumbulyu, kathonzweni, mukaa, mbitini being very prominent towns in sand harvesting.

### **3.2.3 Climatic conditions**

Most of the ASAL counties are marginalized and often not well developed compared to the rest of the counties. Despite the short rains experienced seasonally in most parts of the county, the main economic activity in Makueni County is agriculture where most residents practice subsistence farming and plant drought-resistant crops to enable them to get harvest even under very minimal rainfall, especially in makueni and kibwezi west & east sub-counties.

Mbooni, kaiti and kilome receive sufficient rainfall and during the dry season between may and october, these regions experience a warm weather while the southern sub counties of Makueni and kibwezi west & east have very high temperatures.

#### **3.2.4 Administrative units**

Makueni County is divided into seven sub-counties which are headed by sub-county administrators, the sub-counties are further divided into smaller units of administration known as wards which are headed by the ward administrators. The wards are sub-divided into sub wards which are sixty in number with the sub-ward administrator as the head.

### **3.3 Research methodology**

To attain the objective of this research, two key concepts were established; governance and inclusive development. to measure governance this study looks at the interaction with stakeholders, in(actions), regulations and institutions as the indicators. On the aspect of inclusive development, this study measured it by the level of representation(inclusion), environmental conservation and economic costs /benefits and its sharing strategies.

The case of Makueni county is extreme selected as a pioneer of the sand governance policies. This study will inform the study on the structure of sand governance, the different actors involved, the institutions in place to guide on implementation and its capability of fostering inclusive development in the county. The findings of this study can influence other devolved units of administration to formulate inclusive policies and address the foreseen challenges to facilitate achievement of inclusive development in practice.

#### **3.3.1 Data collection method**

Document review was the best method of data collection to answer this study. “document review is a systematic collection, documentation, analysis and interpretation, and organization of data as a data collection method in research”(Bretschneider, 2017).

Consequently, my choice of document review was that it encourages exploration/discovery, helps in understanding the history of the document and its importance to the implementing organization and data can be collected inexpensively

as needed for its development. The selection of the policy documents was determined by their relevance to sand harvesting and the document had to be specific to the study area (Makueni County). I adopted the following criteria to select the documents; reports, acts, policies, and strategic plans that provide a legal basis for natural resource governance, current laws on environment and natural resource management specific to Makueni County or policy documents, acts and legal frameworks specific to Makueni County government.

Several documents were reviewed including the Makueni County sand conservation and utilization act of 2015, the Makueni County environment and climate change policy, the Makueni County vision 2025 strategic plan, the Makueni County annual development plan, Makueni County integrated development plan, the Makueni County annual development plan, Makueni County integrated development plan (CIDP), the constitution of Kenya and the Kenya vision 2030 strategic plan. The document that provided specific data to this research is the Makueni County sand conservation and utilization act of 2015.

Analysis for this study based on data from political documents, international reports on sand harvesting and inclusive development, previous academic papers, regulations on sand harvestings, newspapers, journals and media reports. The study coded relevant documents to this study and systematically analysed them. The coding was done inductively and deductively using open coding techniques to identify themes. Predefined codes based on the conceptual framework of the study. Inductive coding allowed me to identify and imagine themes from the data while deductive coding applied the predefined codes from the conceptual framework of the marginalized, collaboration of stakeholders, economic empowerment. Lastly, exploratory method was used to explain the findings from this study as it preferred in explaining the causal links in real-life interventions that are too complex for the survey or experimental strategies (Yin, 1994).

### **3.4 Ethical Considerations**

The ethical considerations for this study were maintained as the author verified and cited all the documents in finding data and analysis not limited to policy documents, reports, media reports and previous related studies. I avoided personal influence or biased interpretation of data and maintained a transparent and honest review of the policy document and analysis of my findings. Since the policy document is implemented in a political environment, I maintained confidentiality but not mentioning names of individuals or previous institutions mentioned with corruption to avoid damaging of their reputation further.

### **3.5 Positionality.**

Being a resident of Makueni county, this research offers me an insider perspective which can be very beneficial for this study. Additionally, I am very fluent in the local language (Kikamba). Having witnessed three subsequent terms of elections after devolution, I am quite familiar with the governance structures, policies and regulations set in place by the Makueni county government to govern sand harvesting. This familiarity improves my capacity to analyse policies and regulations related to sand harvesting and assess whether their current state aims at achieving inclusive development and suggest prospects for advancing inclusive development in practice. Fluency in Kikamba allows me to understand local conversations on Media or Radio that touch on sand harvesting within the county.

While my advocacy for inclusive policies and inclusive development may affect my study objectives and research questions, I ensured that my personal aspiration didn't come in the way of academic ethics. The finding of my study is evident based as per the policies and the analysis is backed up by previous findings from credible sources that have adhered to study ethics. Despite being a change agent, I have ensured I reported and analysed the findings as they are. As a researcher, I am in the know that my responsibility is to objectively review and analyse findings but not to advocate. To ensure legitimacy and objectivity of this study's findings, I maintained a clear distinction between my academic work and my advocacy efforts.

### **3.5 Limitations.**

Despite getting the data I needed for this study, I encountered several challenges that should be highlighted. Some of the journals, reports and academic literature needed a subscription to be able to access them which was costly, especially without the guarantee that the data I will find from those sources is accurate or specific to answer the research questions. Secondary data, unlike interviews, does not give room to provoke more information, rather you stick by the information on the document. To address this, I ensured I compared documents to see if I would find any similarity in data. Additionally, on Google Scholar, I provoked the document to show related documents for comparison. Lastly, some of the reports had incomplete information that left me hanging and in dire need to look for more which was not available as some documents that I perceived were sufficient lacked the key concepts

applicable to the study having me go back to the drawing board to look for alternatives which ended being very time consuming.

## **CHAPTER FOUR**

### **Findings and analysis**

#### **4.0 Chapter overview**

This chapter explores the laws and regulations guiding sand harvesting from policies, practices, institutions and interactions in Makueni County's sand harvesting. The governance aspect of the study will be responded to by the policies, interactions, actors and institutions guiding on sand harvesting. On the other hand, inclusive development will be addressed by analyzing the regulation or policy against the themes developed in the conceptual framework.

#### **4.1 Policies and regulations governing sand harvesting**

Sand harvesting in Kenya is guided by national guidelines and also county-level guidelines, policies and regulations. The county-level regulations are drawn from the national regulations and customized to fit the dynamics of the county the regulations are made to be implemented. Kenya has formulated different laws and regulations to guide on extraction and use of natural resources including sand. The regulations discussed are those relevant and specific to sand harvesting;

##### **4.1.1 National sand harvesting guidelines (2007)**

It aims at sustainable sand utilization and sustainable environmental use, this guideline establishes the technical sand harvesting committee (TSHC) tasked with ensuring sustainable sand harvesting, monitoring the construction of sand dams and gabions within the county, designation of sand harvesting sites, defining access roads to the sites, establish the prices of sand and oversee rehabilitation of harvesting sites (Katisya-Njoroge, 2021). Additionally, this guideline hinders children from labor, advocates for fair pay for the sand loaders, bans sand harvesting on river beds also bars transportation of sand at night. It also gives conditions for harvesting on farms highlighting that sand should be harvested using open cast method, not more than 6ft deep, the harvesting sites should be 50 meters away from riverbanks and rehabilitation is done as sand harvesting is ongoing.

#### **4.1.2 The national minerals and harvesting policy 2010**

This policy aims at good mineral resource utilization and environmental management for sustainable development. It advocates for fiscal incentives, mitigation mechanisms, equitable benefit sharing, and intergenerational equity. The policy also proposes a clear legislative framework for effective regulation of harvesting activities. It also addresses the risk and capital intensity of investment in the sector.

#### **4.1.3 The Constitution of Kenya 2010**

Article 69 of the Kenyan constitution gives provisions for environmental conservation and utilization. The constitution authorizes the state to ensure sustainable exploitation and utilization of the environment and natural resources and oversee the equitable distribution of benefits accrued. The constitution encourages public participation and requires the state to establish systems for environmental impact assessments (EIAs)

#### **4.1.4 Lands Act 2012**

The Land Act of 2012 requires the National Land Commission to formulate regulations for the sustainable conservation of natural resources. It aims at safeguarding ecosystems and natural habitats, involving stakeholders in resource management, ensuring equitable benefit sharing for the communities affected, and lobbying for investment in conservation initiatives.

#### **4.1.5 National Environment Policy (2014)**

Sessional paper no 10 of 2014 on minerals and natural resources highlights that the state is to provide strategies for sustainable sand harvesting, ensure and facilitate rehabilitation of harvesting sites and quarries, ensure equity in the exploitation of natural resources as well as facilitate participation from the citizens in sustainable natural resource exploitation.

#### **4.1.6 The Mining Act (2016)**

The Mining Act establishes a county artisanal harvesting committee that is tasked with managing artisanal harvesting activities within the county in conjunction with NEMA.

#### **4.1.7 The Environmental Management and coordination (Sand Harvesting Control and management) regulations, 2022**

This draft regulation if passed into law aims to sustainably manage the environment through sustainable use of sand and good environmental practices in conjunction with partners and devolved administration units (counties). To achieve this, the National Environmental and management authority (NEMA) is tasked with bringing counties together towards sustainable sand use, rehabilitation of sites and access roads, and establishment of sand management committees at the county levels to monitor and keep a record of the registered sand harvesters, innovating conservation strategies and providing EIA permits to those applying for commercial trading of sand.

#### **4.1.8 Makueni County sand harvesting policy**

The Makueni County sand and conservation act of 2015 gives authority for the establishment of the Makueni County sand conservation and utilization authority to “guide on sand conservation and utilization and be the principal instrument of implementation of policies regarding sand” (p5). According to the Makueni County sand conservation and utilization act (2015, pp 5-7) the authority is tasked with; formulation of regulations on sand harvesting, guiding on the implementation of the Makueni County sand conservation and utilization act, coordinating sand conservation and utilization within the county, coordinating various activities by agencies and in collaboration formulate and review sand utilization and conservation guidelines, issuance of licenses to registered sand dealers, facilitation of rehabilitation of sand harvesting sites guiding on and environmental conservation, proposing sand harvesting sites for consideration to the county minister for environment, ensure all agencies are compliant with the rules regarding sand harvesting and overseeing the sub-county sand committee and the sand resource users association and technical assistance

##### **4.1.8.1 Administrative structure**

The Makueni County sand and conservation authority is managed by a board for a three-year renewable term upon expiration. The board comprises a chairperson, the county chief officer of the environment, 4 members who aren't public servants, one member from the county committee, one from the water resource user's

association (WRUA), one member from the trade department and one youth member, the county commissioner makueni and the managing director of the authority. The vice chair of the authority is elected among the board members competitively.

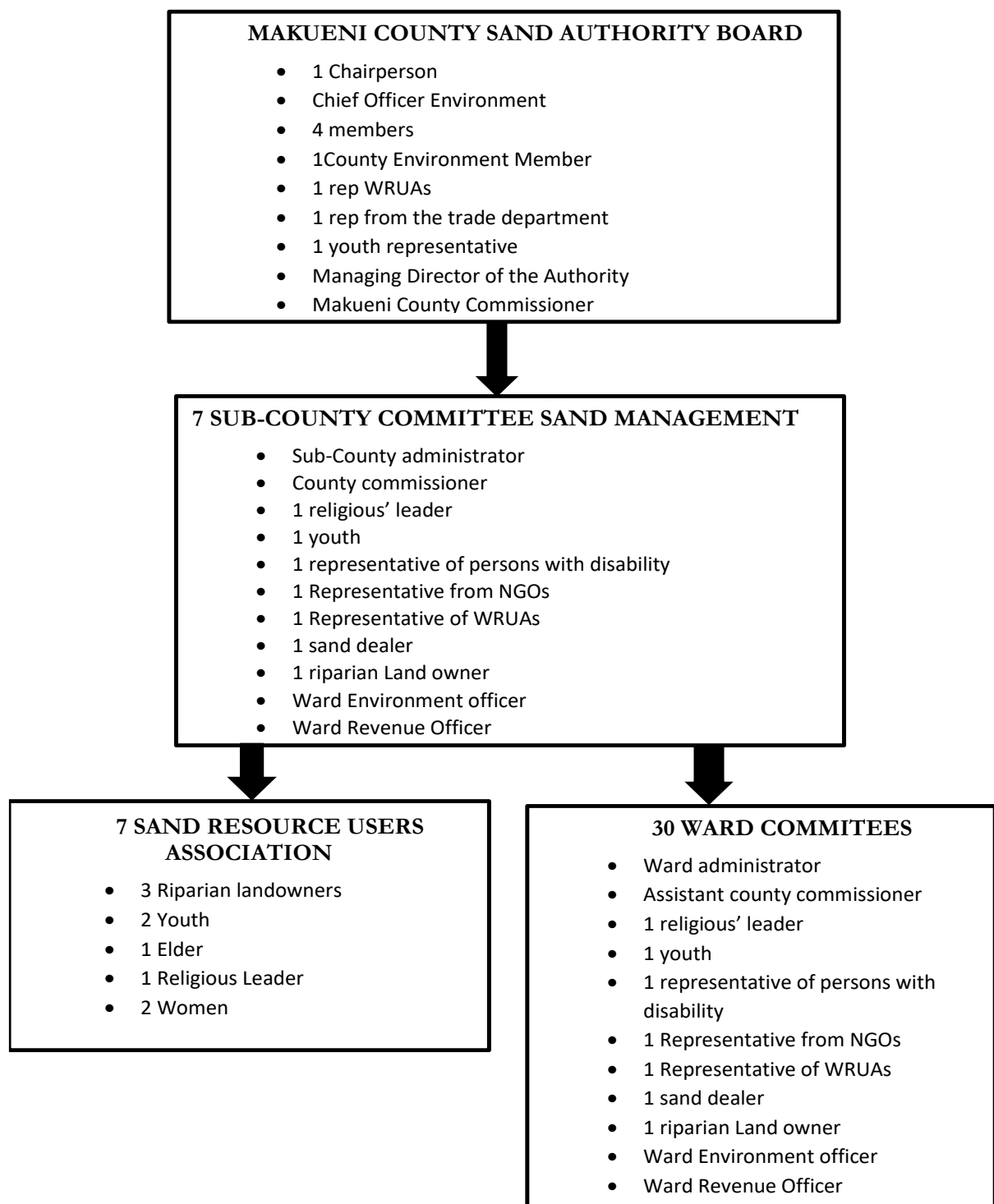
According to section 12(1) of the Makueni County Sand Conservation and utilization act of 2015, the Makueni County Sand and utilization authority is given the power to establish sand management committees in each sub-county within Makueni to serve a renewable term of three years. According to the Makueni County sand conservation and utilization (composition of sub-county sand management committees, license application fees and forms, guidelines and rehabilitation) regulations 2015, this committee comprises of sub-county administrator, county commissioner, 1 religious leader, 1 youth, 1 representative of persons with disability, 1 representative from NGOs, 1 representative of WRUAs, 1 registered sand dealer, 1 riparian land owner, ward environment officer and ward revenue officer.

The sub-county sand management committees are tasked to; ensure sustainable utilization of sand and conservation of the environment around the sand harvesting sites , overseeing construction of sand dams within their sub-county, ensuring compliance of all the sand dealers and drivers to the rules and regulations of sand harvesting for example ensuring sand is harvested in gazetted sites and use of recommended infrastructure to access the harvesting sites, monitoring rehabilitation of sand harvesting sites and guide and provide support to the sand resources utilization associations in their region.

In addition to these tasks, the sub-county sand management committee under section 14(1) of the Makueni County sand conservation and utilization act of 2015 is mandated to establish a sub-county sand resources user's association that is responsible for sustainable utilization and conservation of sand in the specific sub-counties. These sand resource user associations comprise two (2) land owners (riparian), two women, two youth, one elder and one faith-based leader. Apart from the land owners the rest of the members are not supposed to be riparian land owners. The sand user's Association is established to; ensure sustainable sand harvesting in designated harvesting sites and assisting in overseeing the implementation of community projects on the rehabilitation of harvesting sites or conservation-related projects

The Makueni County sand conservation and utilization (establishment and functions of ward sand management committee, revenue, sand rate and administrative procedures) regulations 2015 give the power to the Makueni county sand utilization and conservation authority to establish a ward-based sand management committee within the county. The

ward sand management committee is comprised of the area ward administrator, the assistant county commissioner, one religious leader, one youth representative, one representative of persons with disability, one woman, one representative of a non-governmental organization, one representative from the water resource user's association, one registered sand dealer, the revenue and environment officers in that ward. The ward management committee is to; recommend to the sub-county sand management committee on sand harvesting sites, propose to the sub-county committee on sites that need restoration and suggest sustainable sand conservation and utilization strategies to the sub-county committee



*figure 1. A diagram illustrating the administrative structure of the Makueni County sand conservation and utilization authority and the composition of its board and sand management committees (source: author's (inspired by the Makueni County sand conservation and utilization act 2015))*

#### **4.1.8.2 Registration and licensing**

According to the Makueni County sand conservation and utilization (establishment and functions of ward sand management committee, revenue, sand rates and administrative procedures) regulations, 2015 the Makueni County sand authority is mandated to issue licenses to registered applicants. The issuance of the licenses to engage in the business is conditional in that sand harvesting for domestic consumption doesn't require licensing and that the licenses are issued to persons with good morals (certificate of good conduct), zero criminal records and who have confirmed to adhere to the regulations of the makueni sand conservation and utilization act. Additionally, all licenses are subject to expiry annually, on the last day of December every year. Upon expiry, a renewal application is made and the authority determines whether or not to renew depending on the owner's compliance the previous year.

These licenses are issued either individually or to a registered group upon payment of ksh.3000 for local consumption within the county and ksh. 10,000 for consumption outside Makueni County. According to sand harvesting regulations in Makueni County, one must have a sand harvesting license and sand transporting license to be cleared by the sand authority to engage in sand harvesting.

The sand harvesting loaders must be registered with the Makueni County sand and conservation authority. They are to be eighteen years and above and be registered under the ward stipulated in their identification documents. The licensed sand dealers are supposed to work with the registered sand loaders and are to pay them as the authority rate demands. Additionally, the drivers and conductors harvesting sand are to be registered with the authority. For ease of identification, the authority is to provide identification tags to the loaders, drivers and conductors.

#### **4.1.8.3 Environmental sustainability**

According to the Makueni Sand utilization and Conservation Act (2015), sand harvesting sites are to be designated by the sub-county committee and sand resource user associations in conjunction with the makueni sand conservation and utilization authority. Designation sites for harvesting are identified and gazetted by the Makueni County sand authority in collaboration with the sub-county committee and the sand user's associations. Harvesting sand from a place that is not gazetted as

a site is a crime that is punishable by hefty fines or withdrawal of the license of operation.

Sand harvesting should either be on a farm or the river bed where on-farm harvesting should be conducted on designated sand harvesting sites, not more than six feet deep and should only be extracted using open open-cast method. Sand harvesting on the rivers should be on the river beds and not on the river banks, not near any infrastructure and should only be in designated harvesting sites. Harvesting is only allowed between 6:00 am and 6:00 pm, any activities outside this specific timeline is a punishable offense to imprisonment for 2 years or a fine (Makueni County sand conservation and utilization act (2015, p18)

#### **4.1.8.4 Revenue**

The authority sources its monies from licensing, fines, sale of sand to dealers and grants and donations. The collected revenue is to be redistributed as follows 50% for conservation to the county conservation fund, 25% for ensuring the successful operationalization of the authority, 20% to the county government of Makueni and 5% is to go to the residents of the locations where sand harvesting is conducted.

Additionally, the authority will facilitate registration all sand loaders, truck drivers and conductors for ease of identification. The Authority will also determine the pricing of sand from time to time. As at the time of this research a tuck of sand cost Ksh.200 per trip all these payments will be made in bankers cheque or deposited to the sand authority's account number.

#### **4.1.8.5 Conflict resolution and social cohesion**

The sand authority is tasked with grievances and conflicts that arise from sand harvesting. Additionally, the act has not put down consequences regarding perpetrators who hire or engage underage (under 18 years old) in sand harvesting. With the recognition that common pool resources are prone to conflicts, the act gives the sand authority the task of addressing the grievances established from sand harvesting (p.19)

### **4.2 Institutions governing sand harvesting**

#### **4.2.1 National Environment Management Authority (NEMA)**

According to EMCA, the roles of NEMA include; conducting Environmental impact assessments on sand harvesting sites and providing guidelines for the management of the

environment in collaboration with stakeholders. Each of the 47 units of administration have a NEMA office for ease of access in service delivery to the citizens

#### **4.2.2. District environment committees**

This is the institution responsible for the implementation of the guidelines on sand it is responsible for enforcement of the all sand harvesting guidelines, restoration of sand harvesting sites and is the conflict resolution body in matters access to benefits and ownership in matters relating to sand. The District Environmental Committees are under the National Government and are managed from the District Level under the Assistant County Commissioners

#### **4.2.3 Riparian Resource Management Association (RRMA)**

The sand harvesting guidelines establish the district environmental committees which are further authorized to establish riparian resource management associations in the different districts. The RRMA is mandated to conduct environmental audits and monitor sustainable sand utilization by inspecting EIA permits before sand harvesting and providing access to harvesting sites (Katisya-Njoroge, 2021). Additionally, this association ensures the rehabilitation of sand harvesting sites and the preparation of environmental management plans.

#### **4.2.4 Community-based organizations**

Through the department of social protection in Kenya, people have joined hands to register self-help groups and community-based organisations aimed at environmental conservation. These groups are self-mobilized and others who are near sand harvesting sites do civic education and create awareness among the harvesters on the conditions of harvesting as stipulated in the regulations. Additionally, they come together to plant trees, construct gabions, and help in the restoration of sand harvesting sites. An example of a community-based organisation championing for environmental conservation in Kenya is the Green Belt movement through Wangari Maathai Foundation. In Makueni County, kibwezi well-wishers are known for their contribution to environmental conservation and recently with its project in tree planting in the Kiu water catchment area in the Makindu-kibwezi west constituency.

#### **4.2.5 Makueni County Sand Authority**

Specific to Makueni County, this institution guides the implementation of the Makueni County Sand utilization and conservation act through coordination of sand harvesting activities within the county, overseeing and providing support to the committees and WRUA, monitor to ensure EIAs are adhered to and done before sand harvesting activities, providing license to all compliant and registered sand dealers, facilitate rehabilitation of sand harvesting sites and formulation of by-laws on utilization and conservation of sand within the county. Makueni county sand utilization and conservation authority delegates some its duties to be managed by the Sub county sand management committees and the Ward Sand management committees.

#### **4.3 Stakeholder analysis**

There are several stakeholders within sand harvesting in Makueni County, each with a different role. As Vatn (2015, p.144) categorized them into economic, political, and civil society; here is an analysis of their roles; the economic actors represent the owners and consumers of the resources, the political actors have the authority to formulate rules concerning the resources and interactions while the civil society ensures the legitimacy of political engagements.

##### **4.3.1 Economic actors**

Sand harvesters/loaders are registered 18 years and above adults who extract and load sand onto licensed trucks. They consist of male youths and are operational in their administrative wards of birth or residence. They are casually engaged by the truck drivers on a first come first serve basis. On the other hand, landowners are the residents of Makueni County whose pieces of land /farms are deposits of sand probably from the overflow of rivers. Additionally, they also refer to those people who own land that has an access way to a sand harvesting site. They have to give consent for sand to be harvested on their farms or have trucks pass through their farms on their way to the sand harvesting sites.

Drivers are responsible for transporting sand from the site to the preferred destination either within or outside the county to the contractors are in charge of construction and infrastructure development within the county and in urban areas. As a result of increased urbanization and development, contractor's demand for sand has increased over time. They

are the consumers of the sand harvested in Makueni County, especially for commercial purposes.

Economic actors are challenged by Sand cartels who are organised gangs that are responsible for illegal sand harvesting. They barely abide by the laws on sand harvesting and are prone to conflicts.

Brokers are the middle men between the sand owner and the markets. Usually they are well connected with the contactors who offer them tenders to supply sand. They don't own any machinery however they are said to be the biggest beneficiaries as they sell the sand at very high prices making good profits.

#### **4.3.2 Political actors**

They formulate the rules for interactions between stakeholders; In this case the government of Kenya under NEMA gives guidelines on managing and conserving the environment sustainably as it is the implementing agency of national sand harvesting regulations, coordination of environmental activities and reviewing of environmental guidelines.

At the county level, the Makueni County government formulated a regulation with the powers given by the constitution of Kenya (2010) to guide the conservation and utilization of sand and established an authority to lead that. The Makueni County sand conservation and utilization act is the regulation that guides on extraction, utilization, conservation and restoration of sand in Makueni County. It defines the roles of all the economic actors and guides their interaction in the process of sand harvesting to ensure progress, economic benefits and sustainability is achieved.

#### **4.3.3 Civil society**

Civil society are organizations involved in environmental conservation and advocacy locally, regionally, and nationally. They lead in the creation of awareness on environmental conservation strategies, sustainable sand harvesting, and tree planting activities in site restoration. Among these civil society groups are the Kibwezi well-wishers who are champions in environmental advocacy and conservation in kibwezi west constituency while nationally the green belt movement is an advocate of environmental conservation and restoration.

#### 4.4 Interactions

The interactions between these actors call for institutions to define their interactions. Therefore, resource regimes are tasked to establish rules on access to the resources and rules concerning interaction within and between actors” (Vatn, 2015b). Access rules include property rights, customary law, state law and agreements. On the other hand, interaction rules are rules guiding on coordination of resource exploitation and its side effects. There are different aspects to property rights; “access is the right to enter a property, withdrawal is the right to get products of the resource, management is the right to regulate usage and improve on the resource, exclusion is the right to determine who has access and how to transfer the right and alienation is the right to sell or lease the above rights” (Schlager and Ostrom, 1992). Its through stakeholder interactions that conflicts arise especially between sand miners amongst themselves or between sand miners and land owners. The act has the mandate to solve all conflicts arising from and harvesting.

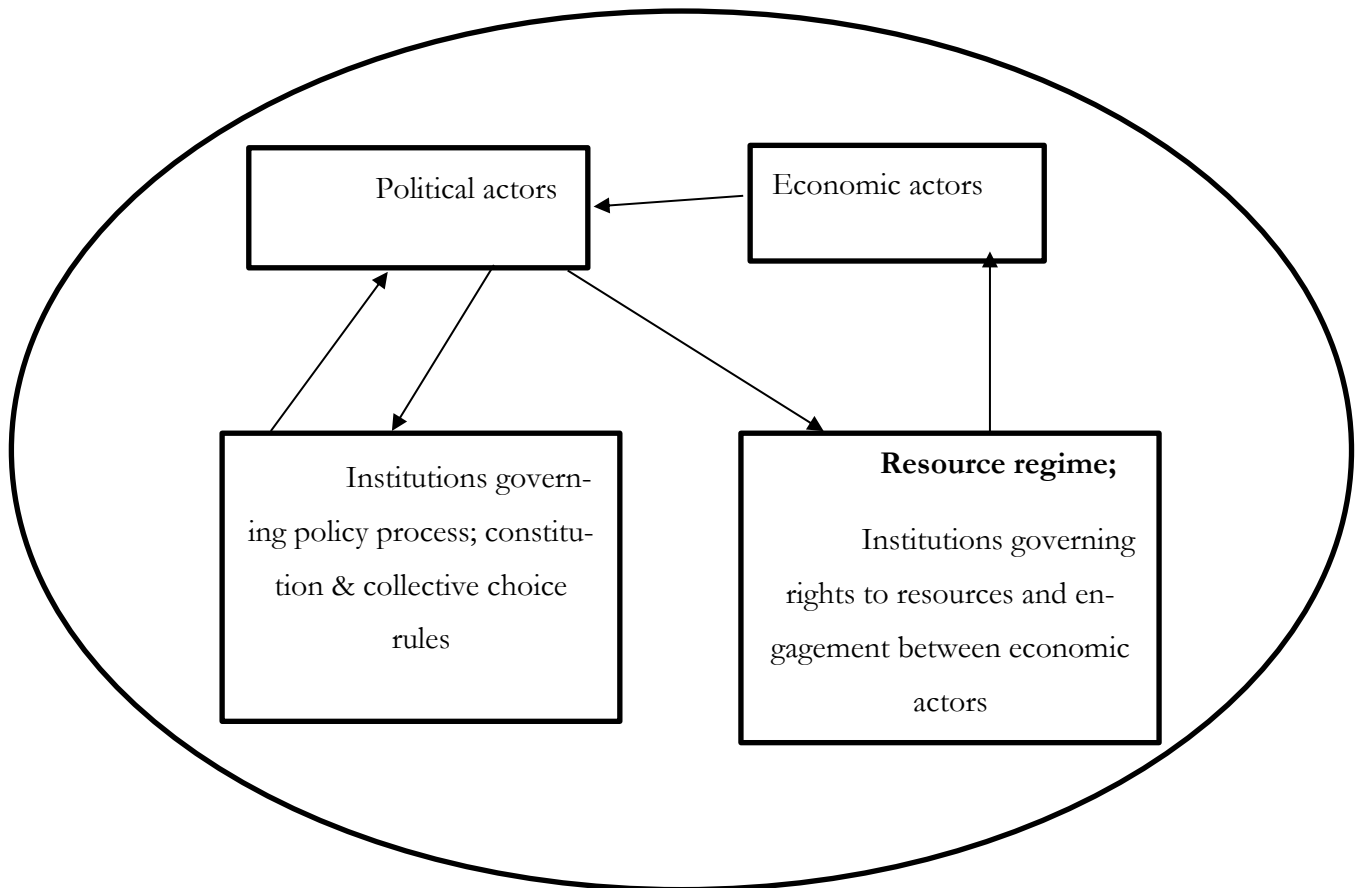


Figure 2: A diagram illustrating the governance structure according to Vatn (2015, p.144)

#### **4.5 Ways in which the act fosters inclusive development on paper**

For inclusive development to be achieved, the governance structure, as well as the process, must be inclusive to act as a means to empower the marginalized and the excluded so that they can overcome their poverty and deprivation (Behera, 2021). The Makueni County sand conservation and utilization act has fostered inclusive development in its formulation based on the criterion developed as it has addressed;

##### **4.5.1 Inclusion of marginalized groups**

The allocation of positions for women, persons with disability and the youth in sand management committees is a great step towards inequality especially among the marginalized. This study establishes that at least in each committee, two slots are to be filled by the marginalized groups. This increases the level of incorporating their ideas into frameworks and guidelines as well as during the implementation. Their voices will be heard in decision-making tables therefore empowering and bridging the inequality gap in representation. This gives a platform for empowerment through participation.

##### **4.5.2 Redistribution of costs and benefits**

A benefit-sharing framework is outlined in the regulation guiding on how benefits accrued from sand harvesting are to be distributed with the government being the biggest beneficiary at 50%, the sand authority at 25%, and the community at 5%. The government has a lot of expenses to ensure smooth running, its large allocation could perhaps be accounted to payment of street-level bureaucrats and training to staff and the community among other expenses.

##### **4.5.3 Environmental sustainability**

Through the establishment of the county sand conservation fund, the sand authority would be able to mitigate negative environmental impacts caused by sand harvesting and minimize the externalities to the residents. The act additionally gives guidelines on how sand harvesting should be conducted on farms and in the riverbed to conserve the environment. No harvesting should go beyond a depth of six feet and for sustainability and continuity, restoration of sand harvesting sites should be

done at the same time sand harvesting is ongoing to avoid depletion of the resource or over-harvesting

The Makueni County sand conservation and utilization act (2015) by its formulation can achieve inclusive development in sand harvesting governance. Inclusive development advocates for participatory mechanisms that are capable of giving voice to those at the bottom and of translating their knowledge and aspirations into policy-making (Goodwin, 2022); therefore, the involvement of the marginalized in sand committees gives them a voice and ensures that implementation and the needs of the people are to be incorporated into the sand harvesting guidelines.

The act shows concern for the environment and its sustainability and therefore has set a fund to help in mitigating externalities from sand harvesting like environmental degradation and as well guides on how harvesting should be conducted to avoid over-exploitation or over harvesting. Even though temporary, sand harvesting creates job opportunities for the residents of Makueni County therefore impacting the economy positively through payment of taxes and cess to the government emphasizing the findings that local authorities are tasked to ensuring that both the processes and outcomes of inclusive development meet the needs and desires of all those within their area (Goodwin, 2022).

#### **4.6 Policy Versus Reality**

The Makueni County sand conservation and utilization act on paper is formulated to foster inclusive development. After analysing it against the developed criteria, it passes all the checks and principles of inclusive development. However, there is a discrepancy between the paper and reality because in reality as per different studies, journalistic reports and reports from the sand authority, Makueni County is still experiencing challenges with the governance of sand harvesting which by default challenges inclusive development.

Women and children are categorized as marginalized hence strategies to include them in decision-making tables are critical, corruption in Makueni's sand harvesting is experienced within the appointments of sand committee members whereby the majority of the members are close allies to the top officials in the government leaving out well-experienced personnel

for nepotism. Additionally, some of the enforcement officers including the police receive bribes to fail to report illegal sand harvesting occurrences within the county making it clear that corruption deals involving harvesters, police and government officials have promoted unlawful trade of sand using forged documents to alter the volume of sand mined at different sites; or bribing police, regulatory officials, and other key stakeholders (Mahadevan, 2019). This is seconded by findings that the police in Mlolongo weigh bridge (Kenya) for a fee ranging between KSh.50,000 to KSh.100,000 can alter a charge sheet to save a driver who is transporting excess sand from the law by reducing the volume of sand in trucks that have been held at police stations awaiting to be arraigned in court as evidence; upon re-weighing, there is discrepancy and the case will be withdrawn (Muthomi et al., 2015). In Uganda, Daghar (2020) noted that while transporting sand to different places, sand transporters avoid paying the customs and law enforcers US\$80,000 (USD22) per lorry as tax, instead they bribe the police between US\$50,000 (USD14) and US\$100,000 (USD27) to allow lorries to pass the customs.

Despite the existence of numerous anti-corruption strategies and laws, corruption strategies appear to be appropriately integrated and contextualized in the Kenyan administration system (Onyango and Hyden, 2021). The lack of verification of environmental impact assessments (EIA) is mentioned by reports of corruption incidents in the licensing award process as the national environmental management authority encounters interference from public servants seeking bribes and threatening to delay and/or block the project (Transparency International Kenya, 2017). These capacity gaps within Kenya's very institutions mandated to govern EIAs, land use and harvesting permit hinders any forms of responsible sand governance (Lynggaard and Gallagher, 2023).

In the context of illegal sand harvesting, both the police and politicians have been accused of being involved in the illegal sand harvesting business (Beiser, 2017). In Makueni County power plays a key role in challenging inclusive development as the political class feel entitled to engage in sand harvesting even without proper licenses. Rent seeking tendencies are misused to give political elites an upper hand therefore creating inequality and unfair grounds to engage in sand harvesting. This was evident when the MCAs almost impeached the governor when he was fighting against illegal sand harvesting amongst other allegations. Daghar (2020)

seconds this with his findings on sand harvesting in Uganda where he observed that the president's brother was hiding behind a Chinese firm that was manufacturing ships at Lake Victoria to illegally harvest sand from the lake. Efforts by national environment authority of Uganda to stop him from illegal harvesting on the lake were futile as he is politically well connected to the government

The act lacks a conflict resolution strategy or a committee. This might be among the reasons that conflict is very prevalent in Makueni County's sand harvesting. The police are the ones to solve conflicts despite their involvement in corruption and other sand harvesting illegalities. Makueni County has previously been featured-on journals, news headlines and on studies on conflicts resulting from sand harvesting. The county was highly affected by sand violence, especially between 2015 and 2017 (Muthomi et al., 2015).this is emphasized by a journalist report from Maundu(2016) who noted that six people died and others injured in the period between 2015 to 2016 after conflicts arose between sand loaders regarding ownership of sand harvesting sites. According to constable (2017), these conflicts were between residents and sand harvesters as they were fighting against illegal sand harvesting and instead the sand harvesters operating illegally responded by killing the people who resisted them from accessing the harvesting sites. Additionally, the various stakeholders in sand harvesting have contributed to conflicts; the national and county government administration have shown weak enforcement ,the national environment and management authority (NEMA) failed in licensing sand harvesters while the police are bribed to oversee continuous illegal sand harvesting(Muthomi et al., 2015).

Below is a breakdown of how various stakeholders in sand harvesting have perpetuated conflicts in Makueni County;

<b>ACTORS</b>	<b>HOW THEY PERPETUATE CONFLICTS</b>
Sand harvesters	Harvesting from private land Harvesting from non-designated areas
Transporters	Stealing sand Failure to pay various community levies Carrying excess load and destroying roads. Passing through private farms
Brokers	Failure to pay harvesters and land owners Selling sand from non-designated areas
NEMA	Not clear on which sites harvesting can be done Allowing sand harvesting without license
Police	Taking bribe from transporters to allow sand harvesting in non-licensed areas
County administration	-Taking bribe to allow sand harvesting Failure to enforce the law
Land owners	Family dispute on ownership of sand

*Table 1 : A table showing how different actors perpetuate conflicts in sand harvesting*

*Source : (Muthomi et al., 2015)*

As captioned in a report by Daghar (2022) the managing director of Makueni County sand authority ms. Yusuf in 2015 highlighted that the regulation discouraged the involvement of minors (under 18 years) in sand harvesting by setting a requirement for loaders to be above eighteen years of age. However, the regulation does not put down the penalties or repercussions of hiring under ages in sand harvesting - therefore limiting accountability. “without transparency and accountability, corruption becomes rife within an industry which is what has happened with sand”(Popescu, 2018).

Sand harvesting is open to anyone willing as long as they abide by the regulations. One would assume that both women and men engage equally with fair distribution of the benefits accrued. However, this is challenged by findings that there was no woman sand broker in Makueni County as at that time and established that brokers were the biggest beneficiaries of sand harvesting as they bought the sand

cheaply and sold it at very high prices as they are well-connected to the buyers than the sand owners (Muthomi et al., 2015). Mwaura's study agrees with this findings that drivers, sand users and contractors are the biggest beneficiaries of sand harvesting blaming the unequal sharing of resources on poor documentation of the economic impacts of sand harvesting (Mwaura, 2013).

The Makueni County sand conservation and utilization act does not formulate the way to go about partnerships in sand harvesting governance despite that over time it has collaborated with non-governmental organizations like the African Sand Dam in environmental conservation efforts and building of sand dams across the county.

#### **4.7 Prospects for advancing inclusive development in practice.**

The implementation of the regulation has been compromised by corruption, inadequate enforcement, and insufficient community participation in decision-making processes (Muthomi et al., 2015). However, inclusive development can advance if the following is put into consideration during implementation;

##### **4.7.1 Inclusion of marginalized groups**

Despite women and youth involvement in sand management committees, the challenge is that they aren't empowered enough, because if they were the policy as it is would automatically have fostered inclusive development. However, the case is different with corruption cases and rampant illegalities without any whistle-blowing from the committee members tasked with oversight among other roles.

The ideologies of women, PWDs and youth should be included in implementation of the regulation despite that inclusion is often taken to refer to access to the benefit flows associated with resource extraction, 'inclusion' can also refer to the incorporation of ideas and valuations in the planning and regulatory processes surrounding extraction or through involvement in decision-making processes (Bebbington, 2013).

The government should come up with empowerment programs for the youths to get decent jobs and avoid engaging in illegal sand harvesting for income. The enforcement of-fices should be strict to the culprits found hiring children into sand harvesting. Similarly, the national governments 100% transition to secondary school initiative should be monitored to ensure that all pupils transition to secondary school. In the light of empowering women and

children and reducing inequality and promoting fairness in participation on sand harvesting business, the governments should look for markets for sand. This way it will open participation of women and youth and block sand brokers who are the biggest beneficiaries in sand harvesting.

Makueni County should strive to offer decent jobs to its residents. A job is termed as decent if it offers stable and fair remuneration and provides decent working conditions (Dekker et al., 2018).the authority should lobby for a fair pay to the loaders and encourage them to form associations that can advocate for their labour issues. Through the associations, the county can give them a loan (tetheka fund) to invest in their business and grow it gradually. Additionally, the authority should do sensitization meetings across the county to create awareness on the different institutions both from the county and the national government that address sand harvesting. This will reduce misinformation that comes from lack of clear information and informs wrong decisions.

#### **4.7.2 Redistribution of costs and benefits**

The benefits accrued from sand harvesting are outweighed by the costs; these costs may be incurred directly or may be externalised onto the surrounding, for example environmental degradation. In most cases to cut on costs, profit can only be generated by employing family members at wages below subsistence levels promoting the exploitation of women and children(Hoadley and Limpitlaw, 2004).transaction costs are incurred in the implementation of inclusive development policies raising the concern on what is the possible solution to reducing hidden costs. The table below shows the different hidden and transactional cost and hidden costs incurred in sand harvesting in Makueni County.

Hidden costs	Transaction costs
<ul style="list-style-type: none"> <li>• Lack of information</li> <li>• Labour costs</li> <li>• Waiting time</li> <li>• Time in public participation</li> <li>• Access to resources</li> <li>• Access to institutions</li> <li>• Risks</li> <li>• Negotiation costs due to misin-formation</li> <li>• Land</li> </ul>	<ul style="list-style-type: none"> <li>• Transportation of sand</li> <li>• Acquiring licenses and permits</li> <li>• Renewal fees</li> <li>• Registration of sand loaders</li> <li>• Payment of cess</li> <li>• Payment of sand per truck</li> <li>• Membership fee</li> </ul>

*Table 2: A table showing the costs and benefits incurred in Sand Harvesting*

*Source: Author's*

To ensure equity in participation the government of Makueni County should reduce the hidden costs incurred during sand harvesting. For example, to avoid costs incurred in negotiation from misinformation, the county can ensure that information about sand harvesting is available and at disposal for all residents of Makueni County. Information like the gazetted sand harvesting sites is not available on the website. This is critical information that can reduce illegal sand harvesting when at disposal of the end users.

Land owners charge sand harvesters a fee to access the resource in their private farms. This fee is different from the fee per truck that the drivers pay to the government as tax (ksh 200-ksh 5000) depending on the capacity of the truck. This creates inequality in engaging in the business as some feel it is very expensive with lots of costs incurred. Makueni County could alternatively lease these private farms and give access to the sand harvesters as they have already paid tax to extract sand and don't have to incur any other costs privately. To reduce the cost on access of resources, the authority should ensure continuous maintenance of access road as to the sand harvesting sites, encouraging ease of doing the business as transportation of sand to the end users is not constrained.

#### 4.7.3 Collaboration between stakeholders

Hybrid environmental governance recognizes that there is no single agent that has the capacity to address the multiple facets, interdependencies and scales of environmental problems that may appear as quite simple (Lemos and Agrawal, 2009). The impacts of sand harvesting are intense and require a critical collaborative approach to address them. The hybrid environmental governance model embraces a collaborative multi-level governance strategy comprising of the state, the community and market actors. It involves three types of relationships between the three actors: the state and the community, the community and markets and markets and the state; identifying three terms that define these relationships: co-management as the form of collaboration between state agencies and communities, public-private partnerships between market actors and state agencies, and social-private partnerships between market actors and communities (Lemos and Agrawal, 2006).

Public-private partnerships provide a platform for different ideologies from the diverse people affected by the environmental (Lemos and Agrawal, 2006). The government of Makueni County can initiate partnerships with different partners including non-governmental organisations to support community development initiatives within the county, push for corporate social responsibility and adoption of sustainable sand harvesting strategies. According to Lemos and Agrawal (2006), the involvement of market actors in environmental collaboration is typically aimed at addressing the inefficiencies of state action, often by injecting competitive pressures in the provision of environmental services.

On the contrary, the biggest challenge with public private partnerships in the global context is the commodification of nature evident with the selling trading of carbon credits at the expense of the environment and the wellbeing of the people. However, the involvement of non-state actors in governance shows that 'governance-beyond-the-state' can ensure greater inclusivity, but that it is also 'janus-faced', as this new governmentality can lead to power imbalances and the domination of private actors in state-civil society relations, producing a democratic deficit (Swyngedouw, 2005, Rose and Miller, 2010). On the other hand, co-management between the community and the state brings in a sense of responsibility and a call for collective action for inclusive development as all the local voices are put into consideration with the aim of solving environmental challenges. Through co-management,

the community is able to collectively bargain for fair wages in the markets, report on illegal sand harvesting and monitor sand harvesting in the sites and bringing in ideas on how to best utilize and conserve sand in the county.

To sum up, “in order for development to be inclusive it must be supported by collaborative governance (including state and non-state actors), with decisions being deliberated and made as close as possible to where they happen and have impact”(Ribot et al., 2010)

#### **4.7.4 Domestic resource mobilization**

Among the challenges noted with devolution in Kenya is the late disbursement of monies to the counties. This affects the implementation of government projects. The counties are mandated by the national government to raise tax, however the tax goes to the national government and is re-allocated back to the counties by the commission on revenue allocation (CRA) This creates complications in the budgetary process if local government authorities (LGAs) or subnational governments receive allocations in the third quarter of the fiscal year instead of the first quarter of a given financial year (Kedir, 2024).

The county government loses a lot of revenue through illegal sand harvesting, corruption deals within the enforcement officers and also from people who don't acquire the licenses or pay tax to operate. Makueni County should strengthen and block these loopholes to increase its revenue collection and impose heavy penalties for any illegalities concerning sand harvesting. As noted in a previous study, a broadened tax base, improved tax collection, more use of resource taxes, and expanded targeted transfer programs have been among the key drivers of declining inequality in Latin America since the mid-1990s (Klasen, 2016).

#### **4.7.5 Institutional barriers**

Makueni County experiences challenges that hinder its attainment of inclusive development. This ranges from elite capture, corruption, and nepotism. The authority should fine the perpetrators to serve as a lesson to the rest. Additionally, the authority should be independent of politics and political affiliations as they advocate for equal service to everyone. A case like observed by Arwa (2013) where the “transporters said they parted with around kshs. 5000 before reaching their destinations which was shared among police, the council, several sand harvesting groups and land owners adjacent to the access roads” should be reported to the ethics and anti-corruption commission for further investigation on corrupt public servants. The drivers involved in corruption should also be withdrawn from sand harvesting

database in Makueni County. This should also happen to a ban in the involved truck.  
It should cease being in operation within Makueni County

## CHAPTER FIVE

### 5.0 Discussion

This main focus of this study was to understand how sand harvesting is governed in Makueni County by finding out and analysing the policies that guide on sand harvesting, the (in) actions, institutions and the stakeholders involved. This study has established that sand harvesting in Makueni County is regulated by the Makueni County sand conservation and utilization act of 2015. This act has provided for establishment of an institution to guide on its implementation-the Makueni County sand utilization and conservation authority.

This policy draws from the national policies guiding on sand harvesting country wide. Other institutions that from the national government involved in management of sand harvesting in Makueni County are the national environment management authority (NEMA), district environment committee (DEC), riparian resource user's association and community-based organisations'(CBO) institutions are responsible for formulate interaction laws that are to be guided by stakeholders in sand harvesting.

Policy implementation has been challenged by several issues having projects being refereed to as "white elephants" as they don't serve the purpose they were meant for. Policy making in Africa shows that the elite are only interested in passing policies that will benefit them privately at the expense of the society.(Nair and Howlett, 2017). Additionally, implementation of policies has had other issues from political dynamics, Accountability and transparency and resource constraints. During Covid 19 pandemic, there was reduced compliance to the sand harvesting regulation sand mafias took advantage of the ban on movement to illegally harvest sand. Policy implementation requires resources that are to be provided by the National government times the national government delays in giving disbursements to the county government hence delay in implementation of a policy

The motivation to privately gain from public policies, therefore, clouds their senses, leading to the development of policy myopia((Nair and Howlett, 2017)p. 104). This study calls on scholars to establish sand harvesting guidelines to govern sand at the global and subsequent levels. Just like climate change address globally, states need to come together and agree that sand harvesting externalities are extreme on people and biodiversity. For sand to be governed inclusively; there is need to develop market for the sand, regulation of the pricing of sand to ensure fair competition, have an external institution that monitor sand harvesting to avoid

over harvesting and involvement of the sand harvesters in decision making by giving them a voice.

Sand harvesting implementation in makueni is largely challenged by corruption, elite capture, illegal harvesting that brings the authority loss of revenue and weak enforcement police. For governance of sand harvesting in makueni to lead to development that is inclusive, the Makueni County sand utilization and conservation act should be reviewed and the following incorporated; the authority should incorporate or formulate penalties that would be applicable just like they have set penalties for illegal sand harvesting, Just like the annual public participation in Makueni County for development projects guided by the department of finance, the act should formulate its guidelines to get views from the public on matters sand harvesting. These views should as well be incorporated in the act to increase participation in decision making.

The authority should establish an external independent monitoring and evaluation entity. This will reduce over reliance on law enforcers who have proved to be corrupt and a subcounty or ward-based conflict resolution committee. The sub-counties and wards have different dynamics despite being in the same county. It would be easier for those familiar with the dynamics to handle the conflicts. This will bring a sense of ownership and the residents will feel obliged to monitor sand harvesting and this will reduce occurrences of conflicts at sand harvesting sites.

The Makueni County sand conservation authority should; come up with strategies on Value addition of sand. Just like sand is packed and sold in 50kilogram bags, sand can be sorted and packaged the same instead of being sold in tonnes this will increase the value of sand and reduce illegalities that occur in transportation as will be distributed from authorized dealers. It will also encourage women participation as it will eliminate brokers who are the biggest beneficiaries of sand harvesting value chain and advocate for an increase in the pay per day for the sand loaders, the economy of Kenya is in a crisis and better pay for even informal workers should be considered, upload on the website all the gazetted sand harvesting sites. This will ensure familiarization and the residents will be sure of the harvesting sites in operation. As at the time of this research, the gazetted sites were not uploaded on the authority's website.

The authority should Formulate guidelines for public-private partnerships. The Act as at this research did not give any guidelines to public-private partnerships. To aim at inclusive development, the act should ensure that they give strategies on how the partnership

should include the residents of Makueni County, how it should conduct environment conservation and boost the economy of the county.

## **CHAPTER SIX**

### **Recommendations and Conclusion**

#### **6.1 Recommendations**

This chapter summarizes the recommendations this study would propose to attain inclusive development in sand harvesting governance in Makueni County;

Establish a conflict resolution committee to address matters conflicts arising from sand harvesting.

Formulate penalties on involvement of children in sand harvesting. This will reduce the number of children involved in sand harvesting during the holidays

Develop a framework to guide on PPP's. A framework that is inclusive will have partners abide by the guidelines among which one will be involving the community in community development initiatives in the communities not only by giving them casual labour but also by offering decent jobs in a decent working environment and a fair remuneration. Private sectors in sand harvesting governance in Makueni should come up with Corporate social responsibility as a way of giving back to the community.

Hefty fines on public officers involved in bribery or corruption cases should be escalated to the Ethics and Anti-Corruption Commission for disciplinary. Deregistration of culprits in illegal sand harvesting from authorized sand dealers.

Promotion of civic education on sand harvesting and on licensing, registration of trucks and sand harvesting sites. This information will clear the air and may help in reduction of illegal harvesting.

Block middle men in the sand harvesting value chain. They are the biggest beneficiaries leaving the drivers and loaders earning little from sand harvesting. Doing away with brokers can stabilize the selling price and open up markets for the benefit of the residents.

## 6.2 Conclusion

Makueni County is a milestone ahead in governance of sand harvesting as it has a regulation that guides on sand utilization and conservation. Makueni County vision 2025 was formulated to guide the county towards wealth creation and socio-economic transformation guided by inclusiveness among its core values. Sand harvesting in makueni has by far helped the county achieve its goal of wealth creation through cess, payment of licenses, payment of fees per sand truck and payments of penalties from illegalities. Before the policy was in place, sand harvesting was barely beneficial to the then county councils and was characterized by constant conflicts. The act advocates for participation of the marginalized by creating slots for women, youth and persons with disabilities in the sand management committees, environmental conservation by setting aside the county conservation fund to mitigate externalities from sand harvesting and has a strategy for benefits redistribution.

Despite this, the discrepancy in the act provisions and implementation practice calls for action. The challenges of elite capture, weak enforcement, corruption and limited participation hinder the effectiveness of regulation in attaining inclusive development. The act promotes participation by involving the marginalized in sand committees however political influence and nepotism are a talk of the day in appointment as the positions are casually referred to as “political awards”. They are awarded as tokens to those who campaigned for or voted and pledged allegiance to the government of the day. The participants are not empowered to their task also hindering their participation making their presence be used for “rubber stamping” when in reality they have zero clue about their responsibilities.

The duplication of duties between NEMA, Makueni county sand utilization and conservation Act, District Environment committee hinders effective service delivery. These institutions all perform a task of guiding on utilization and conservation of sand, the environmental and social challenges in Makueni should have been dealt with if these institutions performed their duties diligently. Unfortunately, they are in faded by corruption to that results in extreme environmental externalities.

However, if the sand authority comes up with strategies to mitigate these challenges and incorporate recommended reforms on the regulation, it can foster development that is inclusive, environmentally friendly and brings economic benefits to the people of Makueni County. To address these challenges

This is only achievable if co-management, public private partnerships, private social partnerships are incorporated in the governance of sand harvesting in Makueni County. Inclusive development is attainable in Makueni county only if the challenges are addressed. Sand harvesting governance for inclusive development envisions empowered communities with marginalized people who have a voice and can be head in decision making, an environment with less externalities like reduced pollution, rehabilitation of all sand harvesting sites, rehabilitation of access roads and sand harvesting within the required depth. It also envisions a society that co-manages its resources with the government and in return the government listens to their grievances through public participation.

This calls for collaborative efforts by all stakeholders and the citizens of Makueni county to be on the frontline towards putting corruption and inequalities to an end. Working towards sand governance that is aimed at inclusive development.

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