



# Adaptive and Inclusive Watershed Management:

Assessing policy and  
institutional support  
in Kenya



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### **Adaptive and Inclusive Watershed Management: Assessing policy and institutional support in Kenya**

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## Executive Summary

Climate change is affecting water quantity and quality in Kenya and represents an emerging threat to health and well-being in the country. The increased severity of droughts and floods impacts crops and livestock, with serious implications for food and nutrition security. In addition, a rapid rate of population growth is anticipated to sharply increase demands for water and create challenges for the country in achieving its development goals.

Compounding these challenges related to water and land, only 18 per cent of Kenya's land is arable while 82 per cent is classified as arid and semi-arid lands (ASALs) receiving less than 700 mm of rain per year (Government of Kenya, 2018). Temperatures are likely to rise more quickly in arid regions due to climate change (IPCC, 2014), and the extent of ASALs is likely to increase.

At the same time, women, who are the main users of water, have limited access to resources—such as land, credit, education and control over household income—needed to effectively adapt to the impacts of climate change. Women often walk long distances to collect water for the household and produce the majority of food through subsistence agriculture. Despite these important roles directly involving water resources, women are largely excluded from the decision making in the water sector at all levels. In turn, climate change, which alters availability and quality of water resources, is going to increase the burden on women and reproduce unequal access to assets and control over water and water-related resources, making women more vulnerable. This will make it more difficult to recover from climate disasters that affect infrastructure, jobs and housing.

In the face of these challenges, an adaptive and inclusive approach to water management is urgently needed. This process is already underway in Kenya. A number of policy, program, administrative and financial activities take into account gender equality and climate change concerns at various levels.

This research is the result of a desk review of policies and institutions and interviews with stakeholders and experts in Kenya working on issues of water resources management, gender and climate change. These include the Ministry of Water, the National Gender and Equality Commission and the University of Nairobi. This research is intended to understand existing institutional linkages between gender, water and climate change and how they enable inclusive and adaptive watershed management in the country.

Engagement of women in water resources management in Kenya aligns with the Constitution of Kenya (Republic of Kenya, 2010), which advances gender equality. The most significant mechanisms in mainstreaming gender concerns into the water sector have been in regulations around women's representation in water institutions, monitoring of gender-responsive programming and gender budgeting. The National Gender and Equality Commission (NGEC) is advancing gender mainstreaming through various performance tools and requests of mandatory submissions from sectors, collecting key gender data from ministries, departments and agencies and engaging with county governments on these aspects. Important developments in gender mainstreaming in Kenya are the sectors' quarterly reporting to NGEC (gender auditing) and gender-responsive budgeting guidelines, which affect the water sector. Moreover, the Water Act, 2016 (Republic of Kenya, 2016c) sets a two-thirds gender rule for membership of various boards and committees in the water sector. The two-thirds gender rule implies that "not more than two-thirds of the members of elective or appointive bodies shall be of the same gender," according to Article 27(8) of the Constitution.

In addition, various climate change policy documents and plans mention overall gender mainstreaming into climate change, address female representation on climate change committees, and emphasize the importance of education on climate change and gender. The updated National Climate Change Action Plan (NCCAP) 2018–2022 addresses gender in a comprehensive manner, having been subject to a gender review during its development. It notes the vulnerability of women, identifies women as critical stakeholders in the implementation and monitoring of the NCCAP, and identifies key considerations for women in implementing priority climate actions. Regarding data



collection and monitoring, NCCAP 2018–2022 incorporates actions to include gender-disaggregated indicators into the monitoring and evaluation (M&E) component of the Monitoring, Reporting and Verification Plus (MRV+) system. In addition, steps were taken to ensure that women are at least fairly represented in climate change committees. For example, the establishment of the National Climate Change Council requires the consideration of the two-thirds gender rule, and the Task Force formed to develop the NCCAP 2018–2022 was evenly divided by gender.

Even though these top-down policies do not directly impact traditional discriminatory views that are deeply entrenched in society, they can to some extent challenge socially constructed gender stereotypes. The aforementioned rules and regulations result in better women's representation in decision-making processes, easier access to funds and supports, thus ultimately empowering women.

Significant improvements have been made in Kenya's legislative framework regarding mainstreaming of gender and climate change across government institutions. However, existing mainstreaming strategies are not fully enforced at all levels and in all sectors. Moreover, there is always a risk that bureaucratic procedural processes become the sole outcome of gender mainstreaming policy rather than achieving substantive changes like equitable access to better-quality water. In order to ensure systemic change, more work is needed in a number of areas, such as:

- Improving understanding of the concept of gender and gender mainstreaming
- Greater transparency on the gender-disaggregated indicators and evaluation of water sector strategies
- Increased financial resources for water projects involving women, including targeted funding for women in climate change adaptation, and for general capacity building
- Gender equity in accessing climate change information and education
- Government staff training on gender and climate change.

Even though challenges remain—especially at the implementation level—Kenya's water sector is extensively engaged in reducing gender inequality and incorporating climate adaptation through policies and planning. It is actively promoting the representation and empowerment of women in water governance through the mechanisms outlined in this research.



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## List of Abbreviations

<b>ASALs</b>	Arid and semi-arid lands
<b>CCA</b>	Climate Change Act
<b>MDAs</b>	Ministries, departments and agencies
<b>MTP</b>	Medium-term plan
<b>MWI</b>	Ministry of Water and Irrigation
<b>NCCAP</b>	National Climate Change Action Plan
<b>NCCC</b>	National Climate Change Council
<b>NDC</b>	Nationally Determined Contribution
<b>NGEC</b>	National Gender and Equality Commission
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>WRA</b>	Water Resources Authority
<b>WASREB</b>	Water Services Regulatory Board
<b>WRMA</b>	Water Resources Management Authority
<b>WSSP</b>	Water Sector Strategic Plan
<b>WSTF</b>	Water Services Trust Fund
<b>WRUA</b>	Water Resource Users Association



## 1.0 Kenya: An introduction to the research issues

Kenya is a country in sub-Saharan Africa with a total land area of 580,728 km<sup>2</sup>, of which approximately 2 per cent is water. It borders Ethiopia, Somalia, South Sudan, Tanzania and Uganda (See Figure 1) and is divided into 47 counties, which are the units of the devolved government. A number of unique lakes are situated within Kenya's borders such as Lake Nakuru (protected under the Ramsar Convention on wetlands) and Lake Bogoria (saline lakes famous for their flamingo populations), and Lake Turkana, the most saline of Africa's large lakes. Only 18 per cent of Kenya's land is arable, while 82 per cent is classified as arid and semi-arid lands (ASALs), receiving less than 700 mm of rain per year (Government of Kenya, 2018). ASALs support over 25 per cent of Kenya's population (Kathuli & Itabari, 2015).

Kenya's total population was estimated at 48.5 million people in 2016 (World Bank, 2018). The country is experiencing rapid population growth—its population is expected to almost double to 85 million by 2050 (Fengler, 2010). This dramatic population growth, driven by a young population (78 per cent of the population was under 35 in 2013 [SIDS & KNBS, 2013]) will increase population density and put pressure on available natural resources.

Kenya's economy relies heavily on agriculture, which contributed 31.5 per cent of GDP in 2017 (Kenya National Bureau of Statistics, 2018), provided about 76 per cent of total employment in Kenya and supported over 80 per cent of the rural population (Ministry of Agriculture, Livestock and Fisheries, 2017). Kenya's agriculture is mainly rain-fed, and potential for rain-fed agriculture to meet the country's food security goals is low. Water deficits, rapid population growth, and climate impacts such as droughts and floods that destroy crops and livestock affect the achievement of the food and nutrition security pillar of the Government's Big Four agenda for 2018–2022 (see below). Water deficits also have the potential to prevent the achievement of the other three Big Four pillars: manufacturing, health and housing.

### Food and Nutrition Security Pillar of the Government of Kenya's Big Four Agenda, 2018–2022

Never again should we allow the vagaries of weather to hold us hostage. Over the next five years we shall invest heavily in securing our water towers and river ecosystems to harvest and sustainability exploit the potential of water resources. We shall provide, together with other actors, key enablers within the farming process that will address distribution, wastage, storage and value-addition of agricultural commodities.

*The Official Website of the President sets out the Big 4 Action Plan. See: <http://www.president.go.ke>*



Figure 1. Political Map of Kenya



Map No. 4187 Rev. 3 UNITED NATIONS  
December 2011

Department of Field Support  
Cartographic Section

Source: United Nations, Map No. 4187 Rev.3, December 2011.





## 1.1 Water

Kenya's water resources are unevenly distributed both across and within Kenya's five major catchment areas (2030 Water Resources Group, 2015; Government of Kenya, 2010a). The five main water towers—Cherangani Hills, Mount Kenya, Mount Elgon, the Mau Forest Complex and the Aberdares Ranges—are the principal suppliers of water, and are currently under threat because of human activities and destruction (Mogaka et al., 2006; Ministry of Environment and Natural Resources, 2015).

Kenya is a water-scarce country, with a per capita water availability of 647 cubic metres (m<sup>3</sup>), well below the global benchmark of 1,000 m<sup>3</sup> per capita, indicating chronic water scarcity (Government of Kenya, 2018). Moreover, Kenya has one of the lowest natural water replenishment rates in world (Mogaka et al., 2006). Despite this, the country has currently developed only a portion of its available safe water resources: annual freshwater withdrawals are measured at 15.5 per cent (Rotich, 2017). The county's water coverage is 58 per cent, meaning that 42 per cent of Kenyans lack access to clean and safe drinking water (Rotich, 2017). Access to safe water is especially limited in rural areas: according to the Kenya national census of 2009, only 14 per cent of households in rural areas reported having access to tap water, while the majority of the rural population fetched water from springs, wells, boreholes and streams (Beyene, 2015).

As noted previously, ASALs account for over 82 per cent of Kenya's total area. This large area of the country experiences low and highly variable rainfall, creating challenges for rain-fed agriculture and livestock production.

In addition to unreliable and changing rainfall patterns across the country, which impact both the ASALs and highly productive areas, Kenya has one of the lowest water storage rates in the world (Government of Kenya, 2010b). Kenya's per capita surface water storage is estimated to be 103.1 m<sup>3</sup>; with only 3.1 m<sup>3</sup> per capita per year available for domestic, livestock, industrial and irrigation use, with the balance being for hydroelectric power generation (World Bank, 2012).

Water is an essential input to Kenya's many economic activities—agriculture, industry, hydropower generation and wildlife tourism (2030 Water Resources Group, 2015).

Agriculture is the most intensive user of freshwater resources through irrigation and accounts for half of Kenya's water demand (Beyene, 2015; 2030 Water Resources Group, 2015). Developing irrigation potential is vital for Kenya's development since irrigation currently covers only 2–3 per cent of Kenya's total cultivated area (2030 Water Resources Group, 2015). Livestock production is also an intensive user of water; however, the situation around water resources availability for livestock production is precarious. Over 70 per cent of the country's livestock and 75 per cent of the wildlife are located in the ASALs (Omolo, 2010), where 60–70 per cent of the rainwater is lost as runoff and only 25–30 per cent is available for crop and fodder production (Kathuli & Itabari, 2015). Livestock is the major source of livelihood and food security for approximately 4 million pastoralists who constitute more than 10 per cent of Kenya's population and live in the ASALs. Access to sufficient water is a serious issue for the pastoralist community and underlies conflicts and insecurity in those areas in times of low rainfall and drought (Government of Kenya, 2018).

The country relied on hydropower for about 33 per cent of its electricity generation in 2016/2017, with geothermal at 44 per cent, thermal at 21 per cent and imports at 2 per cent (KPLC, 2017). Low reservoir levels caused by drought encouraged the increase in geothermal electricity generation, which is considered an adaptation (as well as mitigation action) in Kenya. Low water levels in the country's hydroelectric dams because of the drought in early 2017 led to the increased use of diesel-powered generators, an increase in the price of electricity and increased greenhouse gas emissions.



## 1.2 Climate Change

Climate change will alter spatial and temporal availability of water resources in Kenya, affecting mostly precipitation and runoff. Projections indicate that rainfall will increase during the long rainy season and decrease in the short rainy season at most locations. It was noted previously that Kenya's agriculture is mainly rain-fed, therefore these changes will have significant implications for farming (NCCAP, 2013).

Low agricultural productivity leads to food and nutrition insecurity. The National Climate Change Action Plan 2018–2022 notes that climate change is expected to negatively impact crop yields in Kenya, with up to 45 per cent yield reductions expected for maize, rice and soybean crops by 2100, and up to 40 per cent yield losses for tea and coffee because of the reduction of suitable areas for cultivation caused by temperature increase. Livestock numbers are expected to decline as water resources become increasingly scarce (Government of Kenya, 2018).

Other negative impacts of climate change that are already felt in Kenya are longer walking distances for women and girls to fetch water, infrastructure destruction due to flash flooding and over-dependence on humanitarian aid (Karani & Kariuki, 2017).

## 1.3 Gender

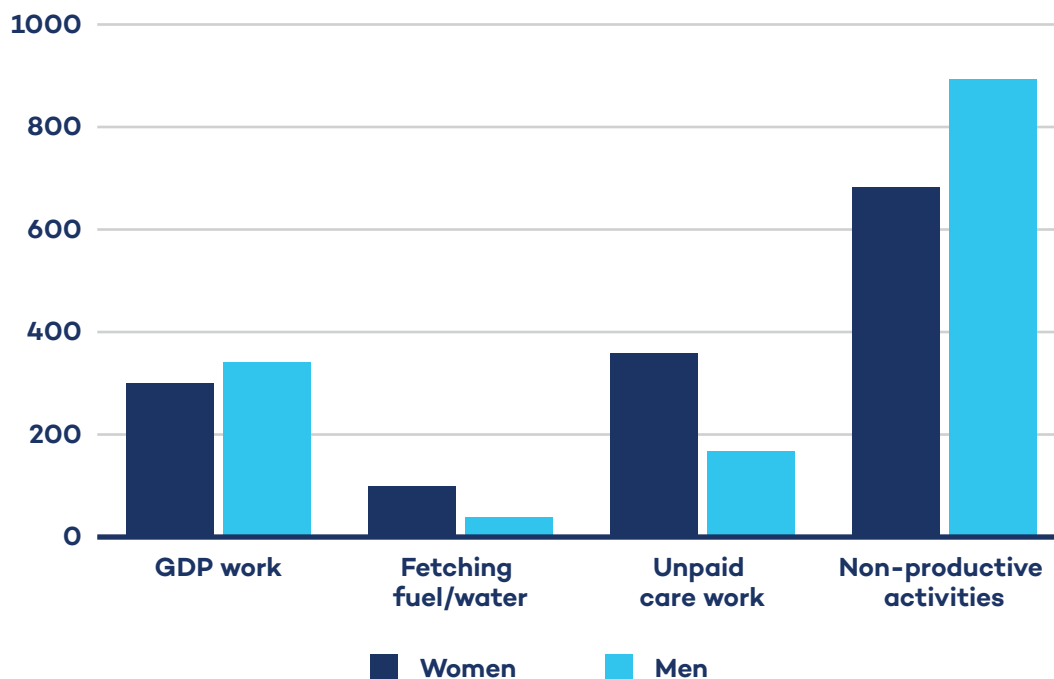
Women in Kenya are typically responsible for household management. On average they spend twice as much time in a day doing unpaid care work (i.e., housework, care of children and adults) than men (see Figure 2), hence they receive fewer benefits since most of their work goes unpaid. Although many women engage in some GDP work,<sup>1</sup> this is generally seen as secondary. Women also are responsible for fetching fuel and water for household needs and spend more time than men on this activity: on average an hour and a half daily as demonstrated in Figure 2. Time spent on fetching water can be extremely long. Drought compromises hygiene for girls and women, as the little water available is used for drinking and cooking, and has a negative effect on women's time management in the household. Moreover, women tend to have less time than men for learning, social and cultural activities (like socializing with friends and praying), and sleeping, which are non-productive activities.

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<sup>1</sup> GDP work includes paid work (e.g., salary/wage work) and non-paid work (e.g., subsistence agriculture).



**Figure 2. Time use of women and men in Kenya**



Source: Budlender & Moussié, 2013; UNDP, 2015.

Also, women are a major force in the agricultural sector in Kenya and produce the majority of food (Republic of Kenya, n.d.), contributing up to 80 per cent of all labour in food production and 50 per cent in cash crop production (Ministry of Environment and Natural Resources, 2015), yet they earn only a fraction of the income generated in the sector. They also receive only 7 per cent of agricultural extension services/information. To make matters worse, women typically receive only 10 per cent of the credit awarded to small holder farmers and only 1 per cent of the total amount of credit directed to agriculture (Ministry of Environment and Natural Resources, 2015), not to mention the fact that women face discrimination in their rights to own land.

The Kenya Land Title Issuance Disaggregated Data Analysis reveals a huge gap in land ownership between men and women in Kenya (Kenya Land Alliance, 2018). The analysis looked at 1,000,099 of about 3,200,000 titles issued in Kenya and found that women got only 10.3 per cent, while men got 86.5 per cent of land titles.<sup>2</sup> The size of the gap is incredible considering the total area of land owned by women: out 10,129,704 hectares of land titled between 2013 and 2017 women got only 1.62 per cent, while men got 97.76 per cent of land (Kenya Land Alliance, 2018).

Historically, women in Kenya have had limited access to resources and little formal say or contribution in decision making in water resource management. This situation is changing, albeit too slowly in many circumstances, meaning that continued work is needed to improve women's access to water resources and inputs into the decision-making processes regarding water resource management. Gender disparities need to be addressed through building sustainable water resource management frameworks and implementing gender mainstreaming activities across departments involved in water sector policy-making and service provision and climate change adaptation.

<sup>2</sup> The remaining 3.2 per cent is joint ownership and issuance to other entities.



Engagement of women in water resources management is in line with the Constitution of Kenya (Republic of Kenya, 2010), which advances gender equality. Chapter 4, the Bill of Rights, states that “[w]omen . . . have the right to equal treatment, including the right to equal opportunities in political, economic, cultural and social spheres,” and in order to achieve that equality, it requires that government put in place and implement affirmative actions that deliver equity for women.

The need for inclusive and adaptive watershed management has long been recognized by the global community. For example, the Rio Declaration on Environment and Development (United Nations Department of Economic and Social Affairs [UNDESA], 1992) states: “environmental issues are best handled with the participation of all concerned citizens, at the relevant level . . .” (Principle 10). Similar ideas were put forward at the Dublin Water Conference in 1992 (World Meteorological Organization [WMO], 1992): “Water development and management should be based upon a participatory approach...” (Principle 2). The Dublin Statement on Water and Sustainable Development further recognizes that “Women play a central part in the provision, management and safeguarding of water” (Principle 3).



## 2.0 Institutional, Legal and Policy Framework

This section reviews the existing institutions involved in policy formulation, planning, management and monitoring around water, gender and climate change in Kenya. It also highlights the main policy documents and plans that guide national development in these areas.

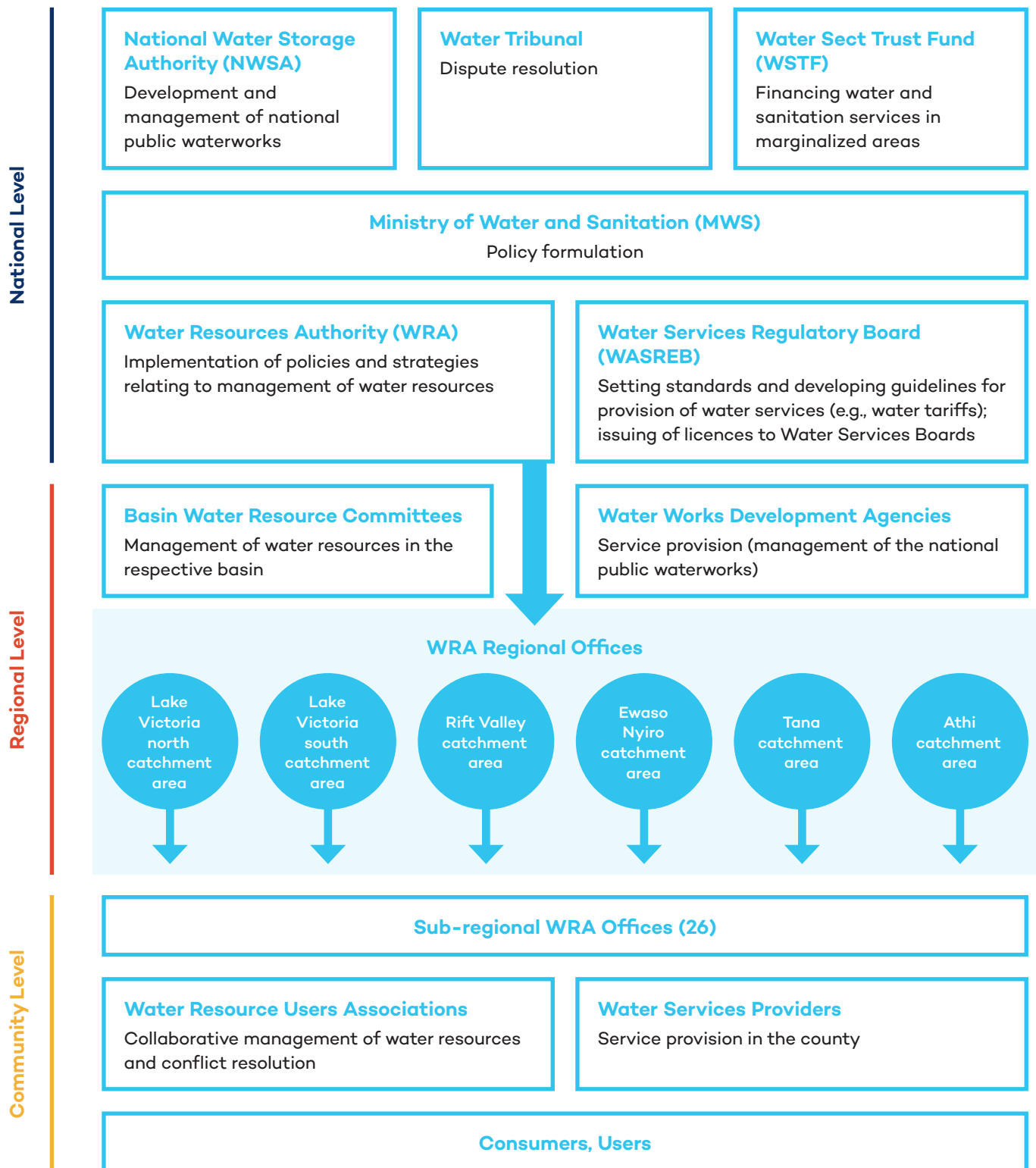
The connections between these institutions and the provisions of various acts will be analyzed in the subsequent sections as they relate to water and gender, water and climate change, and climate change and gender to understand how they enable the inclusive and adaptive watershed management in the country.

Water resource management in Kenya has a catchment area approach through the Water Resources Authority (WRA), Kenya's lead agency for water resource management. This approach is operationalized through the Water Act, 2016 and is aligned with the Constitution's requirement of devolution, where the county governments have responsibility for water management and implementation of national government policies on water conservation. The institutional structure of the water sector is presented in Figure 3 and followed by descriptions of the key institutions in Table 1. The governance structures are evolving as the second generation of county governments (elected in 2017) take on more responsibilities in the water sector.

Tables 2 and 3 include information about the key institutions overseeing gender and climate change.



**Figure 3. Representation of institutional framework for the Water Sector under the Water Act, 2016**



**Table 1. Overview of Key Institutions in the Water Sector**

<b>Water</b>	
<b>National Level</b>	
<b>Ministry of Water and Sanitation</b>	<p>The Ministry of Water and Sanitation* is the key institution responsible for the water sector in Kenya including <b>development of legislation</b>, sector coordination and guidance, monitoring and evaluation, sector investments, planning and resource mobilization. The ministry's mission is to contribute to national development by <b>promoting and supporting integrated water resource management</b> to enhance water availability and accessibility. The ministry includes:</p> <ul style="list-style-type: none"> <li>• Water Services (water supply):               <ul style="list-style-type: none"> <li>• <i>Department of Water Infrastructure Development</i></li> <li>• <i>Department of Water, Sewerage and Sanitation Development</i></li> <li>• <i>Department of Transboundary Water</i></li> <li>• <i>Department of National Water Resources</i></li> </ul> </li> <li>• Water Resources Management</li> <li>• Land Reclamation               <ul style="list-style-type: none"> <li>• <i>Department of Land Reclamation</i></li> </ul> </li> </ul>
<b>Ministry of Agriculture and Irrigation</b>	<p>In respect to irrigation, the Ministry of Agriculture and Irrigation is responsible for irrigation, drainage and water storage, with the following departments:</p> <ul style="list-style-type: none"> <li>• <i>Department of Irrigation and Drainage</i></li> <li>• <i>Department of Irrigation Water Use Services</i></li> <li>• <i>Department of Water Storage and Flood Control</i></li> </ul>
<b>Water Resources Authority (WRA)</b>	<p>WRA is a state corporation under the Ministry of Water and Sanitation established under Section 11 of the Water Act, 2016 (Water Resources Authority, n.d.a). Initially it was established under the Water Act, 2002 as a Water Resources Management Authority (WRMA). It is the major government organization responsible for the implementation of policies and strategies relating to <b>management of water resources</b>, e.g., collecting all information on water resources, protection of catchment areas, controlling water quality, regulation of the development and use of all water storage infrastructure, and climate change adaptation. It is also in charge of appointing catchment area advisory committees (called Basin Water Resource Committees in the Water Act, 2016) and their facilitation (Republic of Kenya, 2009). WRMA has adopted a decentralized and participatory structure. It operates six Regional Offices across the country (see Figure 3) which cover the five major water towers (Mt. Kenya, Aberdares ranges, Mau forest, Cherangani Hills and Mt. Elgon) and are in charge of managing the 26 subregions in the country (Regional Offices, n.d.) (See Figure 3).</p> <p>The WRA has undertaken flood sector mapping and identified 15 flood-prone areas. They have a National Water Master Plan and have completed 11 integrated flood management plans that take a multisectoral approach, and include actions and budgets. Most of the actions in the plans are not funded, but a few specific projects have been implemented in Isiolo.</p> <p>The WRA has developed a draft climate change plan that sets out priority adaptation and mitigation actions and budgets.</p>

\* Previously the Ministry of Water and Irrigation (MWI). The transition from MWI to MWS took place in January 2018, when President Kenyatta named his cabinet secretaries and ministries following the November 2017 Presidential vote.



<b>Water Tribunal</b>	<p>The Water Act, 2016 established the Water Tribunal under Section 111 for the purposes of <b>dispute resolution</b> concerning water resources or water services where there is a business contract, unless the parties have otherwise agreed to an alternative dispute resolution mechanism.</p>
<b>National Water Storage Authority (NWSA)</b>	<p>The National Water Harvesting and Storage Authority established in Section 30 of the Water Act, 2016 is responsible for <b>development and management of national public waterworks</b> (e.g., dams, boreholes) for water resource management and flood control, development and enforcement of a water harvesting policy and undertaking strategic water emergency interventions during droughts on behalf of the national government. NWSA is the former National Water Conservation and Pipeline Corporation.</p>
<b>The Water Sector Trust Fund (WSTF)</b>	<p>WSTF is a state corporation under the MWI, established under Section 113 of the Water Act, 2016, with a mandate to provide conditional and unconditional grants to counties and to assist in <b>financing</b> the development and management of water and sanitation services in <b>marginalized areas</b> or any area that is considered by the Board of Trustees to be under-served.</p>
<b>The Water Services Regulatory Board (WASREB)</b>	<p>WASREB is a regulatory state corporation established by the Water Act, 2016 that has a mandate to regulate the water services sector. The regulator sets, monitors and reviews rules and regulations to ensure water services provision is affordable, efficient, effective and equitable. The powers and functions of WASREB under the Act are to:</p> <ol style="list-style-type: none"> <li>(a) Determine and prescribe national standards for the provision of water services and asset development for water services providers</li> <li>(b) Evaluate and recommend water and sewerage tariffs to the county water services providers and approve the imposition of such tariffs in line with consumer protection standards</li> <li>(c) Set licence conditions and accredit water services providers</li> <li>(d) Monitor and regulate licensees and enforce license conditions</li> <li>(e) Develop a model memorandum and articles of association to be used by all water companies applying to be licensed by the regulatory board to operate as water services providers</li> <li>(f) Monitor compliance with standards including the design, construction, operation and maintenance of facilities for the provision of water services by the waterworks development</li> <li>(g) Advise the Cabinet Secretary on the nature, extent and conditions of financial support to be accorded to water services providers for providing water services</li> <li>(h) Monitor progress in the implementation of the water strategy and make appropriate recommendations</li> <li>(i) Maintain a national database and information system on water services</li> <li>(j) Establish a mechanism for handling complaints from consumers regarding the quality or nature of water services</li> <li>(k) Develop guidelines on the establishment of consumer groups and facilitate their establishment</li> <li>(l) Inspect waterworks and water services to ensure that such works and services meet the prescribed standards</li> <li>(m) Report annually to the public on issues of water supply and sewerage services and the performance of relevant sectors and publish the reports in the gazette</li> </ol>





- (n) Make regulations on water services and asset development which shall include business, investment and financing plans in order to ensure efficient and effective water services and progressive realization of the right to water services
- (o) Advise the Cabinet Secretary on any matter in connection with water services
- (p) Make recommendations on how to provide basic water services to marginalized areas (WASREB, 2018)

**Regional and Basin Levels**

<p><b>Basin Water Resource Committee (BWRC)</b></p>	<p>Basin Water Resources Committees are established under Section 25 of the Water Act, 2016 for each respective basin area. BWRCs are replacing Catchment Areas Advisory Committees, which previously played a regulatory function at the regional level. Its members are drawn from stakeholders within the basin. They are responsible for the management of water resources in the respective basin. Under the Water Act the basin committees <b>advise the Water Resources Authority (WRA), and county governments</b> concerning protection and conservation of water resources, management of permits (e.g., granting and cancellation); they perform annual reporting on water issues and their performance, and collect and analyze information on water resources. Moreover, they are in charge of developing a basin area water resources management strategy in consultation with the WRA and the county governments. In addition, they <b>facilitate the establishment and operations of Water Resource User Associations</b> (see below under “Community level”).</p>
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<p><b>Waterworks Development Agencies (WWDAs)</b></p>	<p>Powers and functions of the waterworks development agencies according to the Water Act, 2016 are:</p> <ul style="list-style-type: none"> <li>• To undertake the <b>development, maintenance and management of the national public waterworks</b> within its area of jurisdiction (national public waterworks are waterworks whose water resource is: cross-county in nature, financed out of the national government share of national revenue and intended to serve a function of the national government [2030 Water Resources Group, n.d.]).</li> <li>• To operate the waterworks and provide water services as a water service provider, until such a time as responsibility for the operation and management of the waterworks are handed over to a county government, joint committee, authority of county governments or water services provider within whose area of jurisdiction the waterworks is located.</li> <li>• To provide technical services and capacity building to county governments and water service providers within its region.</li> </ul>
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County Level	
<b>County Governments</b>	<p>The Fourth Schedule of Kenya’s Constitution (2010) stipulates that the functions and powers of the county governments include water and sanitation services, storm water management in built-up areas, and solid waste management. The national government is responsible for developing policies and regulations for water resource management, while counties are responsible for implementing these policies. This includes monitoring and enforcing applicable regulations under the Water Act, 2016, establishing water service providers (WSPs) in compliance with standards set by WASREB and putting in place measures for the provision of water services to rural areas that are not considered to be commercially viable for the provision of water services. County plans are to include sector plans for the provision of water services.</p> <p>Counties are encouraged to develop institutional arrangements with other counties on inter-jurisdictional areas of common concern, including flow of water.</p> <p>The Cabinet Secretary, Ministry of Water and Irrigation formed a committee to develop a National Water Policy and national water sector transition plan that will set out the terms of transfer of functions and responsibilities to county governments, including plans to transfer staff, assets, liabilities and contracts.</p>
<b>Council of Governors</b>	<p>The Council of Governors provides a mechanism for consultation among county governments. It has a Water Forestry and Mining Committee that was constituted to consider matters relating to, inter alia, sustainable water management and climate change. The committee reviews legislation and provides information on best practices, and encourages inter-county agreements relating to cross-county issues. In July 2018, the committee was involved in the review of the National Water Policy and Water Transition Plans (Council of Governors, 2018).</p>
Community and Sub-Basin Levels	
<b>Water Resource Users Associations (WRUA)</b>	<p>WRUAs are established under Section 29 of the Water Act at the sub-basin level. They are associations of water users, riparian land owners and other stakeholders and are responsible for “<b>collaborative management of water resources and resolution of conflicts</b> concerning the use of water resources.” According to the Water Act, 2016: “The basin water resources committees may contract water resource users associations as agents to perform certain duties in water resource management.” WRUAs are <b>funded by the Water Services Trust Fund (WSTF)</b> through the WRUA Development Cycle (WDC) Framework (WRUA Brochure, n.d.). WRUAs can mobilize internal funds through registration fees, annual subscriptions, membership and other income-generating activities. The Republic of Kenya (2009) notes that willingness to pay and active participation in maintenance are required for successful management of water resources at the rural level. These values not yet fully embraced by communities.</p> <p>WRUAs are typically community-based organizations. There are more than 600 of these local groups that play an important role in ensuring community participation in water resource management and moving data generated at the national level to counties and communities (which is particularly important in flood early warning systems). WRUAs use a rights-based approach that ensures that both women and men are members. WRUAs have been encouraged to participate in the processes to develop County Integrated Development Plans and County budgets to encourage funding allocations, which would increase the viability of the associations.</p> <p>The optimum number of WRUAs is 1,237, whereas there are currently only 670 WRUAs across the six catchment areas (Water Resources Authority, n.d.b.).</p>



<b>Water Services Providers (WSPs)</b>	<p>Water Services Providers are publicly-owned, licensed by the WASREB (Regulatory Board) to provide water services and responsible for the development of county assets under Section 78 (1).</p> <p>The 2030 Water Resources Group (2015) notes that traditionally WSPs have not been considered creditworthy and have had difficulties in obtaining commercial finance to invest in their water infrastructure. In turn, development organizations like the World Bank and USAID are “helping to develop risk sharing mechanisms which, combined with technical support, will enhance the borrowing capacity of WSPs, enabling them to invest both in supply-side expansion infrastructure and demand-side non-revenue water reduction measures” (2030 Water Resources Group, 2015, p. 8).</p>
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**Table 2. Overview of key institutions working with issues of gender inequality**

Gender	
<b>Ministry of Public Service, Youth and Gender Affairs</b>	<p>Through the <b>State Department of Gender Affairs</b>, the Ministry of Public Service, Youth and Gender Affairs is the technical lead on <b>gender mainstreaming within the government</b>. It formulates, reviews and manages gender-related policies, and coordinates and maintains sex-disaggregated data. In addition, according to Ministry of Public Service Youth and Gender Affairs (n.d.), “the department has the responsibility of expanding credit financing to women for enterprise development and ensuring equality in gender representation in all public appointments.” In terms of financing related to women and youth empowerment it implements the Women Enterprise Fund and Uwezo Fund.*</p> <p>In summary, the department is in charge of spearheading youth and women empowerment in all aspects of national development and it also monitors compliance with international conventions that Kenya is signatory to (Ministry of Public Service, Youth and Gender Affairs, n.d.).</p>
<b>National Gender and Equality Commission (NGEC)</b>	<p>The commission was established by the NGEC Act of 2011. Its goal is to promote gender equality and freedom from discrimination in accordance with Article 27 of the Constitution. The NGEC monitors, facilitates and advises on the integration of the principles of equality in all national and county policies, laws and regulations in all public and private institutions, including advising the State Department of Gender Affairs.</p> <p>The NGEC can investigate cases of gender discrimination and, where necessary refer such cases to the relevant authorities for prosecution (Speranza &amp; Bikketi, 2018).</p> <p>The NGEC required Ministries, Departments and Agencies (MDAs) to submit reports on their progress in gender mainstreaming. To facilitate this, it provides a quarterly reporting template for public actors and guides MDAs on their reporting. After the review of all MDAs, NGEC releases a comprehensive report on the status of gender mainstreaming. Monitoring, auditing and investigation on the status of the promotion of gender equality constitutes nearly 60 per cent of the core function of the commission’s mandate (NGEC, n.d.b).</p>

\* Provides youth and women access to grants and interest-free loans, as well as mentorship opportunities to enable them take advantage of the 30 per cent government procurement preference for youth, women and persons with disabilities through its Capacity Building Programme. Source: <https://softkenya.com/kenya/uwezo-fund-2/>

**Table 3. Overview of key institutions working on climate change adaptation**

Climate Change	
<b>National Climate Change Council</b>	The National Climate Change Council (NCCC) is an overarching national climate change institution established to coordinate and guide the implementation of climate change obligations under the Climate Change Act, 2016. It consists of not more than nine members, who are appointed by the president. It ensures the mainstreaming of climate change actions by the national and county governments, and approves and oversees the implementation of the NCCAP. As part of its many functions the council also administers the Climate Change Fund.
<b>Ministry of Environment and Forestry / Climate Change Directorate</b>	<p>The Climate Change Directorate (CCD), housed in the Ministry of Environment and Forestry, leads on climate change issues, including implementation of the Climate Change Act, 2016. The CCD is responsible for:</p> <ul style="list-style-type: none"> <li>• Advising the Cabinet Secretary on matters relating to legislation, policy, regulation and monitoring of climate change</li> <li>• Developing and coordinating implementation of five-year National Climate Change Action Plans</li> <li>• Reporting on the mainstreaming of climate change across sectors at the national and county levels</li> <li>• Providing technical advice to stakeholders including sector ministries and counties</li> <li>• Serving as the secretariat to the council.</li> </ul> <p>The ministry is the national focal point for the United Nations Framework Convention on Climate Change (UNFCCC).</p>
Other Relevant Institutions	
<b>Ministry of Agriculture and Irrigation</b>	Due to agriculture's sensitivity to climate change impacts, the Ministry of Agriculture and Irrigation has established a climate change unit that coordinates climate-related issues across the agriculture sector. The ministry is also implementing various climate change programs and projects, such as the Climate-Smart Agriculture Framework (2017).
<b>National Drought Management Authority (NDMA)</b>	NDMA is a public body established under the National Drought Management Authority (NDMA) Act, 2016 to supervise and coordinate all matters relating to drought management in Kenya to ensure that drought does not result in emergencies and that the impacts of climate change are sufficiently mitigated. It is the principal instrument of government in ensuring the delivery of all the policies and strategies that relate to drought management and climate change adaptation. The authority has established offices in 23 ASAL counties considered vulnerable to drought.
<b>The National Treasury and Ministry of Planning</b>	<p>The National Treasury performs budgetary control and coordination with respect to revenues, expenditures and borrowing by the government. It leads on climate finance and is the National Designated Authority to the Green Climate Fund.</p> <p>The State Department of Planning is the primary institution assisting government in the formulation, coordination and implementation of economic policies and interventions to effectively accomplish the country's major development goals. It is leading the process to mainstream climate change into the national plans, including the five-year Medium-Term Plans under Vision 2030.</p>

**Table 4. Overview of key policies**

Overarching Policies and Plans	
<b>Constitution, 2010</b>	<p><b>On Water:</b> Under Article 43 Economic and Social Rights, the Constitution of Kenya (Republic of Kenya, 2010) guarantees every person's right to clean and safe water in adequate quantities. Moreover, in relation to the water sector, the Constitution mandates water service provision to the county government. The Constitution also mandates that the state encourage public participation in the management, protection and conservation of the environment under Article 69(1)(e).</p> <p><b>On Gender:</b> The Constitution provides a framework for addressing gender equality. At various points, it guarantees equality and inclusion, and mandates Parliament to legislate for the operationalization of such guarantees. In Article 27(1) it states, "Every person is equal before the law and has the right to equal protection and equal benefit of the law." It specifies in Article 27 (3) that "[w]omen and men have the right to equal treatment, including the right to equal opportunities in political, economic, cultural and social spheres." Article 27(8) mandates that the state takes "legislative and other measures to implement the principle that not more than two-thirds of the members of elective or appointive bodies shall be of the same gender." Article 197 applies the above requirement on gender balance and diversity at the county government level.</p>
<b>Vision 2030</b>	Kenya's Vision 2030 is the national long-term development plan covering the period 2008 to 2030 that aims to transform the country into a rapidly industrializing middle-income nation by the year 2030. Vision 2030 is based on three pillars: economic, social and political. The Vision is being implemented through successive five-year Medium-Term Plans (MTP).
<b>Medium-Term Plan (MTP)</b>	Currently the government is finalizing its third MTP, which will identify key policy actions, reforms, programs and projects that the government will implement in the 2018–2022 period in line with its priorities, the Kenya 2010 Constitution and the long-term objective of Vision 2030. MTP 2018–2022 recognized climate change as a cross-cutting issue and mainstreamed climate change actions in sector plans.
<b>Big Four Agenda, 2018–2022</b>	The Government of Kenya's Big Four Agenda established priorities areas for 2018–2022 of ensuring food security, affordable housing, increased manufacturing and affordable healthcare (Wamalwa, 2018). Sector plans and budgets are aligned with Big Four priorities (Wamalwa, 2018).
<b>Water</b>	
<b>Kenya National Water Master Plan 2030</b>	The National Water Master Plan 2030 was launched on March 26, 2014. It analyzed water demand, water balance and other parameters highlighting the effects of climate change on the country's water resources. It pointed out areas with water deficit and water demand increases, which would require effective water demand management such as water savings, recycling of water, etc. Overall, the document formulates the strategy and prepares an action plan for sustainable water resources development and management for six catchment areas toward 2030.
<b>Water Act, 2016</b>	Water Act, 2016 provides the governance structure for the whole water sector and aligns the water sector with the Constitution's primary objective of devolution. Water Act, 2016 is a revised version of the Water Act 2002 that redefines roles and responsibilities of the main institutions.



<b>The National Water Services Strategy (NWSS) (2007–2015)</b>	<p>The strategy’s vision is an “assured water supply, sewerage services and basic sanitation for all Kenyans for improved health and wealth creation on an individual level and for the nation.” The strategy deals with water supply, sewage and basic sanitation in both urban and rural settings. It addresses challenges in the sector and sets out goals and principles for water resources management and development: it also identifies medium-term indicators for achievement.</p>
<b>Kenya’s Water Sector Strategic Plan 2009–2014</b>	<p>The plan aims to:</p> <ul style="list-style-type: none"> <li>• Increase the knowledge among stakeholders of the current challenges and changes in the sector</li> <li>• Provide policy and regulatory guidance to stakeholders as to how the challenges should be met</li> <li>• Provide a conducive environment for improved collaboration and coordination by stakeholders</li> <li>• Provide a structure for follow-up and evaluation that covers all aspects of water development (Republic of Kenya, 2009).</li> </ul>
<b>Gender</b>	
<b>Gender Policy (2011)</b>	<p>The Gender Policy, 2011 aims to mainstream gender concerns in all policies, planning and programming across Kenya’s government sectors. It clearly states that it is the right of women, men, girls and boys to participate in and benefit equally from development. Gender mainstreaming is now part of public service performance contracting (Ministry of Environment and Natural Resources, 2015). Moreover, the Ministry of Devolution and Planning posted gender officers to all 18 government ministries to ensure that gender mainstreaming and women’s empowerment are implemented as required by the Constitution and as articulated in Vision 2030 (Ministry of Environment and Natural Resources, 2015).</p>
<b>Gender Mainstreaming Strategy for Environment and Natural Resources 2015–2018</b>	<p>The strategy’s mission is “to provide effective leadership and coordination of gender mainstreaming and women’s empowerment with regard to the environment and natural resources through policy formulation and revision, research, capacity-building, partnerships and tracking of results.” The strategy is informed by Kenya’s Constitution and is fully aligned with the goals articulated in Vision 2030.</p>
<b>Climate Change</b>	
<b>National Climate Change Response Strategy (NCCRS) 2010</b>	<p>The government launched the NCCRS In 2010. The strategy investigated the country’s vulnerability to climate change impacts and provided a basis for strengthening and focusing nationwide action toward climate change adaptation and mitigation (National Action Plan, 2013). The NCCRS states that climate change in Kenya is “already unmistakable and intensifying at an alarming rate.” The response strategy is operationalized through the comprehensive National Climate Change Action Plan (see below).</p>



<p><b>National Climate Change Action Plan (NCCAP)</b></p>	<p>The first action plan was developed with the aim of implementing Kenya’s NCCRS. Various global and regional commitments inform the plan, and it provides mechanisms for the mainstreaming of the NCCAP into all government sectors. The plan not only formulates prioritized actions for adaptation and mitigation, but also “provides a road map for the necessary enabling conditions in the form of policy, legislation and institutional frameworks” (p. 145). NCCAP 2013–2017 also gives an estimate of required investments to adapt to climate change impacts.</p> <p>The draft NCCAP 2018–2022 was delivered to the Cabinet Secretary of Environment and Forestry on July 2, 2018. The plan will be finalized after high-level policy validation and approval by the National Climate Change Council. NCCAP 2018–2022 identifies seven priority action areas: disaster risk reduction; food and nutrition security; water and the blue economy; forestry, wildlife and tourism; health, sanitation and human settlements; manufacturing; and energy and transport (Government of Kenya, 2018).</p>
<p><b>Climate Change Act No. 11 of 2016</b></p>	<p>The Climate Change Act (Republic of Kenya, (2016a) provides a regulatory framework for an enhanced response to climate change and proposes measures to achieve low-carbon climate development. The act requires that both national and county governments mainstream climate change responses into development planning, decision making and implementation in all sectors of the economy. The act foresees the necessity of protecting all persons affected, particularly those who are more vulnerable. One of the guiding principles is to “ensure equity and social inclusion in allocation of effort, costs and benefits to cater for special needs, vulnerabilities, capabilities, disparities and responsibilities” —Article 4(2) (e). It also puts in place the climate change governance structure in Kenya, with the coordinating body being the Climate Change Directorate and establishes a National Climate Change Council responsible for overseeing climate change actions. The act also calls for the development of the NCCAPs every five years.</p>
<p><b>National Adaptation Plan 2015–2030 (NAP)</b></p>	<p>Consistent with the United Nations Framework Convention on Climate Change (UNFCCC) requirement that developing countries need to prepare and implement National Adaptation Plans (NAPs), Kenya has developed its NAP and submitted it to the UNFCCC in 2017. The NAP provides a climate hazard and vulnerability assessment and sets out priority adaptation actions in the 21 planning sectors of the MTP II.</p>
<p><b>Kenya Climate-Smart Agriculture Strategy (CSA), 2017</b></p>	<p>Climate-Smart Agriculture Strategy (2017–2026) is “an approach that helps to guide actions needed to transform and reorient agricultural systems to effectively support development and ensure food security in a changing climate.” The strategy has three main objectives:</p> <ul style="list-style-type: none"> <li>• Sustainably increase agricultural productivity and incomes</li> <li>• Adapt and build farmers’ resilience to climate change</li> <li>• Reduce and/or remove greenhouse gas emissions, where possible.</li> </ul>
<p><b>National Climate Change Framework Policy</b></p>	<p>The National Climate Change Framework Policy (Ministry of Environment and Natural Resources, 2016), approved by Cabinet in 2018, aims to ensure the integration of climate change considerations into planning, budgeting, implementation and decision making at the national and county levels and across all sectors.</p>



<b>National Climate Finance Policy</b>	<p>The National Climate Finance Policy, approved by Cabinet in 2018, promotes the establishment of legal, institutional and reporting frameworks to access and manage climate finance. The goal of the policy is to further Kenya's national development goals through enhanced mobilization of climate finance that contributes to low-carbon climate-resilient development goals.</p>
<b>County Level</b>	
<b>County Integrated Development Plans (CIDPs), 2013</b>	<p>County governments are required to mainstream climate change in their CIDPs. All 47 CIDPs developed in 2013 mentioned the impacts of climate change and many identified actions to address these impacts. Adaptation actions were a priority for most county governments.</p>
<b>Makueni Climate Change Fund Regulations (2015)</b>	<p>The regulations establish the Makueni County Climate Change Fund. The aim is to provide funding for climate change actions identified in the Makueni CIDP. The regulations mandate the county government to set aside 1 per cent of its annual development budget for climate change.</p>
<b>Wajir County Climate Change Fund Act (No. 3 of 2016)</b>	<p>The Wajir Climate Change Fund Act (No. 3 of 2016) (Republic of Kenya, 2016b) established a Climate Change Fund to facilitate and coordinate finance for community-initiated adaptation and mitigation projects and for related purposes. The act mandates the county government to set aside 2 per cent of its annual development budget for climate change.</p>
<b>Garissa Climate Change Fund Act (2018)</b>	<p>The Garissa Climate Change Fund Act requires the county government to set aside 2 per cent of its annual development budget for a special fund for climate change. The fund will undertake programs to assist local people to adapt to climate change.</p>





## 3.0 Gender and Water

This section discusses gender mainstreaming across government departments in Kenya and in the water sector in particular. Backed by commitments to international agreements to promote gender equality, gender mainstreaming in Kenya is focused on gender representation, gender budgeting, gender-sensitive reporting and monitoring. Specifically, this section expands on the role of the National Gender Equality Commission and the purpose of the Women Enterprise Fund, and specifies the way Kenya tracks and monitors progress on gender equality. The section concludes with a discussion of government's achievements and challenges in connecting gender and water sectors at the institutional level.

### 3.1 Global Commitments That Mandate Integration of Gender Into Policies and Plans

The first major global commitment to gender mainstreaming in all policies and programs is the 1995 Beijing Platform for Action, the main worldwide strategy for promoting gender equality. Kenya is also a state party to the Convention on Elimination of all Forms of Discrimination (CEDAW), 1979 and the Maputo Protocol. Both multilateral agreements set up an agenda for national action to promote gender equality (Clara Busolo, personal communication, April 4, 2018). Other relevant international conventions and agreements to which Kenya has committed itself are the World Conference on Human Rights (1993), the Beijing +5 (2000), the Millennium Development Goals, 2000 and the Sustainable Development Goals, 2014 (Speranza & Bikketi, 2018).

Therefore, there is sufficient support from international arrangements to mainstream gender and ensure that gender considerations are not addressed in isolation.

### 3.2 Gender Mainstreaming Across Government Departments

The Constitution of Kenya 2010 (Republic of Kenya, 2010) is the overarching document that provides for principles on which gender mainstreaming in policy, planning, programming and budgeting can be anchored. The Constitution of Kenya obligates the government to take legislative and other measures including affirmative action programs and policies designed to redress any disadvantage suffered by individuals because of past discrimination (Clara Busolo, personal communication, April 4, 2018). Consistent with the Constitution, the Government of Kenya has established various legal frameworks to ensure that gender is mainstreamed into all government activities.

Gender has been integrated to some extent into several Kenya's national sectoral policies, including those related to water, agriculture and disaster risk reduction. The main coordinator of gender equality at the national level is the Ministry of Public Service, Youth and Gender Affairs, through the State Department of Gender Affairs.

As one of the gender mainstreaming actions, the then-Ministry of Devolution and Planning (now part of the National Treasury and Planning) posted gender officers to all 18 government ministries (Ministry of Environment and Natural Resources, 2015) to mainstream gender issues across sector functions. Speranza & Bikketi (2018) mention that the appointment of gender officers resulted in gender mainstreaming becoming an indicator in the performance contracts for the public sector.

#### 3.2.1 National Gender and Equality Commission

The commission, a key institution that monitors, facilitates and advises on the integration of the principles of equality in all national and county policies, has prepared tools that track progress on gender mainstreaming



actions in the Government of Kenya. For example, the Public Sector Bi-annual Gender Mainstreaming Reporting Tool FY 2017/2018 requires ministries, departments and county governments to report on indicators of gender mainstreaming actions and answer questions such as:

- Were gender mainstreaming actions included in the 2017/2018 Quarters 1 and 2 work plan?
- What percentage of the MDA 2017/2018 budget was set aside for gender mainstreaming in the reporting period?
- Progress made in compliance with the “not more than two third gender representation” on appointments, employment and promotion in the MDA. Moreover, number of staff, number of employees in job group M and above or its equivalent, number of board members data is reported in a format disaggregated by gender, disability and age (>35; <35).
- Some of the emerging issues or challenges faced in the process of mainstreaming and integrating principles of gender equality in the respective institution.
- The form also asks for a subjective assessment of the impact of implementation of gender mainstreaming actions in the MDA on women, men, girls, boys and persons with disabilities (no, low, medium, high) (NGEC, n.d.c).

The reports need to be submitted to NGEC by the 15th day of the new half year. In addition, a copy of the report is to be submitted to the Directorate of Gender at the Ministry of Public Service, Youth and Gender Affairs.

There are also quarterly reporting tools that request similar information (see NGEC, n.d.d.).

The water sector is subject to the same regulations and format requirements, as noted in the Annual Water Sector Review 2014/2015 –2015/16: during the period under review the ministry sent quarterly reports to the NGEC and Gender Directorate (Ministry of Water and Irrigation, 2016).

The reports that NGEC receives form the basis for the development of a broader **status report** that outlines the gains and gaps identified in gender mainstreaming in the public sector. NGEC released such a report for the 2013-2015 period. The report was prepared from the quarterly and annual reports from 10 MDAs (NGEC, 2016a).

The report notes that even though considerable efforts have been made to mainstream gender in Kenya, MDAs need to target women for inclusion in the institutional senior management structures where most decisions are made. In addition, there needs to be continuous sensitization of staff on principles of equality and inclusion—an essential focus for policy-makers. Generally, the MDAs scored an average 70 per cent in the development of gender-related policies. However, there is a need for close and continuous monitoring of implementation of these policies (NGEC Annual Report, 2016a).

As reported in NGEC Annual Report, 2015–2016, **only 7 per cent** of State Corporations (11 out of 153) met the 33 per cent requirement threshold for women representation in the boards of directors set by the Constitution 2010.

However, as far as the overall distribution of employment by gender is concerned, the Status of Equality and Inclusion in Kenya (2016) report by NGEC finds that about 70 per cent of MDAs meet the two-thirds gender rule. However, the threshold is rarely met within the upper job groups R to T and lower job groups A to D cadres of the public service.

Three females were elected as county governors and three women elected as senators in the 2017 election (no women were elected in these positions in 2013). The number of women elected in 2017 to various positions at the national and county levels increased from 2013. The number of elected female members of Parliament increased from 16 to 23, and the number of females elected to county assemblies increased to about 100 in 2017 from 84 in 2013. While Kenya is yet to achieve the two-thirds gender rule set out in the Constitution, deliberate efforts by political parties and civil society are slowly making a difference. For example, many of the women elected in 2017 had served in the 2013–2017 Parliament via nominated seats set aside for women (Ngele, 2017).



### 3.3 Gender Mainstreaming in the Water Sector

As the main document governing the water sector, the Water Act, 2016 recognizes the different needs and experiences of women and men related to water and recommends increased women’s participation in water governance. It is generally based on principles and values stipulated in the Kenyan Constitution. Speranza and Bikketi’s (2018) analysis of water policy documents shows that the Water Act, 2016 scores higher in its engagement with gender compared to the Water Act 2002 and the Water Bill 2014 (medium vs. low).

The importance of inclusive water resource management is stipulated in a number of documents, including:

<b>Annual Water Sector Review 2014/2015–015/16</b>	<p>In its “Cross-Cutting Issues” section the review observes that “[i]n order to ensure efficiency in the water sector both men and women need to be included in the management and implementation of water-related issues” (p. 110).</p>
<b>Kenya’s Water Sector Strategic Plan 2009–2014</b>	<p>Under Objective 5 the plan aims “[t]o mainstream gender and integrate youth in management of water resources services” by applying the following two strategies:</p> <ul style="list-style-type: none"> <li>• Strategy 1. Integrate gender and programs that recognize the youth at sector levels</li> <li>• Strategy 2. Incorporate women and youth in water resources and water and sanitation services management by enhancing use of women and youth-friendly technologies.</li> </ul> <p>Moreover, the Kenya’s Water Sector Strategic Plan 2009–2014 aims to</p> <ul style="list-style-type: none"> <li>• Sensitize its employees on gender</li> <li>• Ensure compliance of one-third-gender representation in water governance</li> <li>• Collect sex-disaggregated data.</li> </ul>
<b>Agricultural Sector Development Strategy 2010–2020</b>	<p>The interaction between women and water in the agricultural sector (for example, through irrigation development) is important to take into consideration. Women are extensively involved in agriculture and interact with water on a daily basis. Water resources management, agriculture and land management are all linked and should consider gender disparities in access to resources and ability to participate in planning. The Agricultural Sector Development Strategy 2010–2020 considers gender mainstreaming and advocates for an “effective gender approach to designing and implementing interventions in agriculture” (Government of Kenya, 2010b, p. 81).</p>

Speranza and Bikketi (2018) examined the extent to which water-related policies and plans of the Government of Kenya engage a gender lens and whether the activities of community water groups reduce gender inequality in access to water and decision making about water use. The approach assessed the effectiveness of top-down structural measures (government plans, policies and practices) and bottom-up measures (self-organization of community water groups) in reducing gender inequality in water access and use. The study applied an assessment methodology that found that out of the 19 policies and plans, six policies scored “high” in their engagement with gender, eight scored “moderate” while five scored “low.”<sup>3</sup> The Constitution of Kenya, Water Policy 1999, IWRM and WE plan 2009, Kenya Land Policy 2007, Kenya Forest Policy 2014 and Fisheries Management and Development Act 2016 scored “high” in the assessment, with the IWRM and WE plan 2009 scoring the highest (9 points) in engagement with gender based on three broad categories: Gender Mainstreaming, Experiences of Gender and Degree of Action.

<sup>3</sup> The level of engagement with gender equality is analyzed based on eight sub-dimensions in water and related policies and plans (concrete actions, groundwork, statements of recognition, strategic needs, practical needs, gender-transformativeness, gender-responsiveness, and gender-sensitivity).



### 3.4 Women’s Participation in Water Sector Decision Making

As discussed earlier, the Constitution of Kenya institutes a “two-thirds gender rule” that has become a benchmark in Kenyan politics and public service. Similarly, the Kenya Water Act, 2016 specifies that “in making an appointment to a board, the Tribunal or a committee, the person making the appointment shall have regard to gender, regional and ethnic diversity” (Article 2[1](d)). The Water Act, 2016 sets the two-thirds rule for membership of boards and committees such as the board of the waterworks development agencies, the board of Water Sector Trust Fund, the board of the National Water Harvesting and Storage Authority and others.

Similarly, at the catchment level a heavy emphasis has been placed on women’s representation on water management structures. For example, the Tana Catchment Area Catchment Management Strategy (CMS), structured gender targets around women’s representation and maintaining a 30 per cent gender balance in Water Resource Users’ Associations (WRUAs) and Catchment Area Advisory Committees (CAACs). The CMS states that “[w]omen play a central role in the provision; management and safeguarding of water—This has been mainstreamed constitutionally through the 30% gender representation and has been well rooted in the water sector down to the grassroots levels.” (Water Resources Management Authority, 2015, p. 23).

Community-level participation in the development of (and access to) water infrastructure requires that men and women form community water groups (CWG) that then become members of Water Resources User Associations (WRUA). The WRUAs are registered with the WRA, and all the costs associated with registration and developing water infrastructure are paid by members of the CWG. This mechanism binds CWGs into the water governance framework of WRA, which is responsible for water management at a sub-catchment level, including the stipulation of 30 per cent gender representation (Speranza & Bikketi, 2018).

Speranza and Bikketi (2018) found (based on data collected from respondents in 30 water development interventions in the Upper Ewaso-Ngiro North basin of Kenya in 2011–2012) that the 30 per cent gender representation regulation “has trickled down to about 90% of the CWGs that have women represented in their management committees” (Speranza & Bikketi, 2018).

### 3.5 Financing Gender

The Government of Kenya has a number of mechanisms to finance women’s empowerment. This review covers the following: Gender-Responsive Budgeting, Trust Funds and Public Procurement (i.e., Access of Government Procurement Opportunities Program).

#### 3.5.1 Gender-Responsive Budgeting

The NGEC has developed national and county-level Gender-Responsive Budget guidelines to ensure that gender considerations are included in the budget making process (NGEC, n.d.a). The guidelines outline the roles of key departments within the National Treasury and Planning based on key stages and documents in the budget formulation process. As part of its 2015–2016 activities, the commission sensitized its staff on these guidelines and disseminated them to county executives in charge of gender and finance from 13 counties (NGEC, 2016a). NGEC also engaged with several counties to analyze their budgets from a gender perspective and make recommendations (NGEC, 2016a).

The Gender-Responsive Budget guidelines specify that, as an oversight body on integration for principles of equality and inclusion in Kenya, the NGEC “will undertake scheduled ‘gender-responsive budget audits’ at county and national level and issue advisories to MDAs and county governments” (NGEC, 2014a, p. 12).



As for gender-responsive budgeting in the Guidelines for the Preparation of the Annual Budget for the Financial Year 2018/2019 and Medium-Term Projections for Financial Years 2019/2020 And 2020/2021 for State Corporations issued by the National Treasury, even though the importance of programs and projects that generate “inclusive economic growth” is emphasized, there is no specific mention of gender (National Treasury, 2017).

### 3.5.2 Public Procurement and Performance-Based Contracting

The Access of Government Procurement Opportunities (AGPO) Program launched in 2013 and led by the Public Procurement Directorate under the National Treasury and Planning, facilitates implementation of the regulation that sets aside 30 per cent of government tenders (procurement for goods, services and works) for enterprises owned by women, youth and persons with disabilities. Vyas-Doorgapersad and Kinoti (2015) report that by mid-May 2015 over 6,500 businesses owned by women and other disadvantaged groups had benefited from government businesses worth KES 9.3 billion (around USD 92.5 million).

Moreover, the practice of performance-based contracting introduced in 2009 by the then-Ministry of Water and Irrigation has significantly helped in mainstreaming of gender issues, as mentioned in Kerry et al. (2010). Performance-based contracting involves remunerating the contractor based on specified outputs/outcomes, rather than inputs or physical works. Improved gender indicators as part of the contract can be an effective way to mainstream gender concern into financing of public services. Kerry et al. (2010) further state that such contracts provide incentives and penalties for the MWI staff related to their performance on addressing gender inequality in their work.

In 2014, to push the efforts forward, NGEK developed the Performance Contracting Reporting Tool Kit, which addresses reporting related to staff capacity development and sensitization on gender mainstreaming issues, compliance with the two-thirds gender representation principle, compliance with public procurement policies and practices, and how the benefits of public spending are distributed across groups in the population (NGEK, 2014b).

### 3.5.3 Trust Funds

The Government of Kenya has set up three separate trusts, including Uwezo Fund and Women Enterprise Fund, to assist the women and other special groups in participating in public procurement and general economic and social development (Obiri, 2016).

#### 3.5.3.1 Uwezo Fund

This fund’s objective is to provide youth and women access to grants and zero-interest loans, as well as mentorship opportunities to enable them to take advantage of the 30 per cent of government procurement spending put aside for women, youth and persons with disabilities through its capacity-building program, which is monitored by the Ministry of Public Service, Youth and Gender Affairs (Obiri, 2016).

However, access to the fund is hindered by the stringent eligibility procedures for obtaining loans to participate in public tendering. Obiri (2016, p. 43) notes that “once a group obtains the loan, it disbands because it needed funds to meet its special needs and not for public tendering which requires large funds to be able to participate successfully.” Therefore, although this initiative is a positive step toward women and youth empowerment, evidence from the study suggests that the fund was unable to meet the needs of the special groups as previously intended and more work is needed. Ongera, Nyakundi and Nyangau (2016) examined the factors influencing access to the Uwezo Fund by the residents of Nyamira County and noted that training on the fund had a positive impact on access to the funds; however, the requirements for accessing Uwezo funds were difficult to meet for most applicants.



### 3.5.3.2 Women Enterprise Fund

The Women Enterprise Fund is another initiative aiming to enhance opportunities for disadvantaged groups. The fund is a semi-autonomous government agency under the Ministry of Gender, Children & Social Development established in August 2007. Its goal is to provide accessible and affordable credit to support women entrepreneurs and/or expand businesses for wealth and employment creation (Women Enterprise Fund, n.d.). Women who previously could not easily access credit due to lack of collateral can now apply for money from the fund to initiate economic activities.

Water-related enterprises also make up a part of the funded projects. Republic of Kenya (2009) reports that in some communities, women obtained funds and invested in retailing of bottled water (water kiosks) or in development or expansion of irrigation.

As of January 2018, the Government of Kenya was in the process of merging six financial agencies including Uwezo Fund, Youth Enterprise Development Fund and Women Enterprise Development Fund into one financial organization to prevent duplication and overlapping roles. The new organization would become the main institution for government loans ranging from industrial development loans to loans for specific groups of people such as women and youth (Presidential Strategic Communications Unit, 2018).

### 3.5.4 Gender Financing Specific to the Water Sector

Water Sector Strategic Plan (WSSP) 2009–2014 costed its proposed strategies, including those related to gender:

- Strategy 1 “Integrate Gender and programs that recognise the potential of the youth at sector levels” is allocated KES 10 million (approx. USD 100,000) evenly over five years. The output of Strategy 1 is gender- and youth-friendly policies.
- Strategy 2 “Incorporating women and youth in water resource and water and sanitation services management by enhancing use of women and youth-friendly technologies” is allocated KES 30 million (approx. USD 300,000) over five years. The output of Strategy 2 is number of programs targeting women and youth.

More attention needs to be given to the financial aspects of women’s ability to participate in water management. For example, at the community level, empowering women financially is very important since wealth determines a household’s (can be female-headed or female-managed) ability to participate in community water groups (CWGs) making decisions on the water supply: acquiring group membership in CWGs is only through cash or in-kind labour contributions at the household level (Speranza & Bikketi, 2018).

## 3.6 Gender Data Collection and Monitoring

The overall gender mainstreaming data collection and monitoring across sectors is performed by the NGEN. NGEN’s Department of Research, Monitoring & Evaluation and Documentation “ensures development of appropriate tools for data collection, analysis and undertakes monitoring, evaluation and documentation of the programmes’ outcomes and related outputs for the six departments<sup>4</sup> at the Commission” (NGEC, n.d.b).

In relation to the gender reporting and the water sector, the Water Sector Strategic Plan (WSSP) 2009–2014 identifies the following performance indicators for the goal of “More efficient, cost effective and demand responsive water and sanitation policies incorporating gender issues developed by the end of the strategic plan period”:

<sup>4</sup> One of the departments is Gender and Women.



- Percentage of women employees at various institutions as per the Water Act 2002
- Percentage of female operators of the public and communal water points
- Proportion of women in the community water management and decision-making entities

Reporting on these indicators has not been found in the available sources.

### 3.7 Discussion and Challenges

The National Gender and Equality Commission is advancing gender mainstreaming through various performance tools and requests of mandatory submissions from sectors, collecting key gender data from the MDAs and engaging with county governments on these aspects. Important developments in gender mainstreaming in Kenya are the sectors' quarterly reporting to NGEC (gender auditing) and gender-responsive budgeting guidelines, which affect the water sector.

Despite significant improvements in the legislative framework, existing gender mainstreaming strategies are not fully enforced at all levels in all sectors. There is always a risk that bureaucratic procedural processes become the outcome of gender mainstreaming policy rather than achieving substantive change, like equitable access to quality water supply. Women in Kenya still have less access than men to productive resources like water, land, livestock and labour, less access to credit, limited control over household income, and less access than men to agriculture inputs, extension services and markets (Speranza & Bikketi, 2018).

More needs to be done in a number of areas to empower women in the water sector.

First, understanding of the concept of gender and gender mainstreaming must be improved. The goals of this process need to be well understood by the government entities that implement those measures. According to Alston (2014) the vision of gender mainstreaming can be **sameness** (encouraging women to enter male domains where male norms prevail), **difference** (working to ensure that the differing contributions of women and men are valued in gendered societies) or **transformation** (where a transformation of inequitable gender relations is undertaken). Once the goals of gender mainstreaming are understood, sensitization of staff across MDAs on the process needs to take place.

Second, there needs to be more gender-disaggregated data made available for policy decision making and planning. As discussed in the section "Gender data collection and monitoring," even though reports such as Water Sector Strategic Plan (WSSP) 2009–2014 outline a number of gender performance indicators, reporting on them is problematic to find, which raises the question of whether these statistics were ever collected and communicated for policy-making. Therefore, greater transparency on the gender-disaggregated indicators and evaluation of strategies is required.

Third, more financial resources need to be made available for water projects involving women and for general capacity building. There is a lack of adequate gender-specific budgetary allocations at sector levels and in the national and county budgets. Moreover, a review of new financial institutions helping women access resources is necessary to ensure that the application procedures and eligibility criteria do not discourage women from making use of these opportunities.

The above considerations are equally important to address at both national and county levels. Additional support may be needed at the county level, which tends to have a shortage of qualified personnel compared to the national level (Ministry of Environment and Natural Resources, 2015).



## 4.0 Water and Climate Change

The challenging situation around water resources in Kenya is likely to worsen taking into consideration climate change projections and the country's rapid population growth, which will increase its water demands. The IPCC Fifth Assessment Report noted that during this century, temperatures in the African continent are likely to rise more quickly than other land areas, particularly in more arid regions. Climate modelling for the East Africa region using a high-emissions scenario suggests that mean annual temperatures will increase by 0.9°C by 2035, 2.2°C by 2065 and 4.0°C by 2100 (IPCC, 2014). Kenya's population is projected to increase by 88 per cent (almost double) by 2050 compared to 2018 according to worldpopulationreview.com. The 2030 Water Resources Group (2015) estimated that a business-as-usual approach to investments in water supply in the context of water demand increases to achieve Vision 2030 development targets, will mean that Kenya is likely to face a 31 per cent gap between water demand and water supply by 2030.

Some of the most vulnerable catchments such as Athi and Tana catchments are already experiencing issues like severe flooding, over-abstraction, water pollution, increased irrigation demand, and groundwater salinity (2030 Water Resources Group, 2015).

Climate change and other human factors are increasing the extent of ASALs, which already account for over 82 per cent of Kenya's total area (Government of Kenya, 2018). ASALs are characterized by low and highly variable rainfall. This unpredictability requires significant adaptation to cope and to operate sustainable rain-fed agriculture and livestock production. The Kenya National Adaptation Plan 2015–2030 reports that droughts have already resulted in losses estimated at USD 12.1 billion (Government of Kenya, 2016).

Pastoralists are impacted because extreme weather events lead to reduced pasture and forage availability, degradation of the environment and increased poverty. Strong winds and dust storms erode topsoil, making grass and rangeland regeneration difficult even when it rains. Recurring droughts have forced an estimated 30 per cent of livestock owners out of pastoralism in the past 20 years (Said et al., 2018). Furthermore, water resources scarcity contributes to conflicts, often armed, among pastoralist communities in the ASALs such as livestock raids, leading to insecurity in those areas (Republic of Kenya, 2009; Omolo, 2010).

In addition, the poorly managed impacts of climate change often result in disastrous events such as the tragedy on Patel Dam in Solai, Subukia Sub-County in May 2018. The Patel Dam was located on the private farmland and used for irrigation and fish farming. Heavy rains caused the dam to burst, and it swept away hundreds of homes downstream, claiming 47 lives and property (BBC, 2018). Flooding in early 2018 claimed over 183 lives and displaced more than 225,000 people (Kenya Meteorological Department, 2018).

These manifestations of climate change constitute a serious threat to Kenya's sustainable development and threaten to undermine the development gains that the country has achieved, creating acute shortage of basic necessities and exacerbating the already precarious food, water and energy situation in the country (Muratha, 2017; Kwena et al., 2014).

The Climate Change Act, 2016 adopts a mainstreaming approach that includes integration of climate change considerations into all sectors and in county integrated development plans. The following section provides a brief overview of key developments in climate change mainstreaming: the mandate to include climate change considerations in national planning, modelling tools, climate change financing and current gaps. Connections to the water sector are made wherever possible (e.g., current priority actions and projects in the water sector).





## 4.1 Mandate to Address Climate Change

Global and regional commitments and obligations (such as the Paris Agreement under the UNFCCC) have informed Kenya’s current climate change strategies and plans such as the Kenya Climate Change Action Plan 2018–2022 (NCCAP). Kenya’s Nationally Determined Contribution (NDC) outlines mitigation actions across the six mitigation sectors (Energy, Transportation, Industrial Processes, Agriculture, Forestry and Other Land Use and Waste) with the goal of reducing greenhouse gas (GHG) emissions by 30 per cent from the business-as-usual scenario of 143 million tonnes of carbon dioxide equivalent (MtCO<sub>2</sub>e) by the year 2030 (Government of Kenya, 2015). Kenya’s NDC includes an adaptation constitution of ensuring “enhanced resilience to climate change toward the attainment of Vision 2030 by mainstreaming climate change into the Medium-Term Plans (MTPs) and implementing adaptation actions.”

Bound by these agreements, the government continues to mainstream climate change measures into all its projects and programs (Rotich, 2017).

## 4.2 Acknowledging the Impact of Climate Change on Water Resources

The key documents that discuss Kenya’s vulnerability to climate change and acknowledge the adverse impact of climate change on water resources in the country are described below.

<b>National Climate Change Action Plan, 2018–2022</b>	NCCAP 2018–2022 includes “Water and the Blue Economy” as a priority action area. Strategic Objective 3 aims to enhance the resilience of the blue economy and water sector by ensuring adequate access to (and efficient use of) water for agriculture, manufacturing, domestic, wildlife and other uses. Strategic Objective 1, “Disaster Risk Management,” aims to reduce risks to communities and infrastructure resulting from climate-related disasters such as droughts and floods.
<b>Kenya National Adaptation Plan (NAP) 2015–2030</b>	The NAP states that “drought is the prime recurrent natural disaster in Kenya” (p. 15). At the same time, “annual rainy seasons in Kenya are becoming progressively wetter, with sudden and/or late onsets bringing with them floods and inundation” (p. 17). The floods cause damage to infrastructure, increase incidence of waterborne or sanitation-related diseases (e.g., typhoid, cholera, malaria and diarrhoeal diseases). In coastal locations, sea level rise leads to freshwater aquifers being contaminated with saline water.
<b>National Water Master Plan 2030</b>	The National Water Master Plan 2030 analyzed the effects of climate change on the country’s water resources and projected future climate change impacts to the country’s water resources up to the year 2050 based on the 17 General Circulation Models (GCM). According to the projection, Kenya’s surface temperature will increase by around 1°C by 2030 and by 2°C by 2050 uniformly (Nyaoro, n.d.).

Kwena et al. (2014) points out the limited use of scientific data as the basis for climate change adaptation planning in key national climate change reports, especially in the National Climate Change Response Strategy (NCCRS) and National Climate Change Action Plan (NCCAP). The authors concluded that while documents made fairly good use of evidence contained in technical reports (e.g., UNFCCC, World Bank and FAO reports), they made very minimal reference to the hard scientific facts offered by journals, books and workshop proceedings. Moreover, after interviewing 90 respondents from government departments, NGOs, public universities, etc. authors found that only about 6 per cent of the respondents used climate change information to develop mitigation and adaptation plans,



training curricula, and R&D programs. The lack of proper communication between policy-makers and researchers in Kenya was held to be the reason for this.

### 4.3 Priority Actions and Projects

The Government's Big Four pillars of food and nutrition security commit securing the water towers and river ecosystems to harvest and sustainably exploit the potential of water resources. The NCCAP 2018–2022 (Government of Kenya 2018) has priority actions under Strategic Objective 3: Water and the Blue Economy to:

- Increase annual per capita water availability through the development of water infrastructure
- Increase climate-proofed water harvesting, flood control and water storage infrastructure
- Increase gender-responsive affordable water harvesting livelihoods resilience programs
- Promote water use efficiency
- Improve access to good water

Adaptation actions are being undertaken in the agricultural sector, which because of irrigation is the most intensive user of freshwater resources (Beyene, 2015), accounting for half of Kenya's water demand (2030 Water Resources Group, 2015). The priority actions in NCCAP 2018–2022 include increasing crop productivity through improved irrigation, increasing crop productivity through priority climate-smart agriculture, including through increased water harvesting and sustainable land management (Government of Kenya, 2018).

The Water Resources Authority contributes to climate change adaptation by performing hydrological monitoring to facilitate early warning systems, such as building the flood early warning systems (FEWS), maintaining reserve flows to protect against drought and developing integrated flood management plans.

The following are ongoing adaptation projects as cited in the Kenya National Adaptation Plan 2015–2030:

- Implementation of the National Water Master Plan (2014)
- Kenya Water Security and Climate Resilience Project
- Adaptation to Climate Change in Arid and Semi-Arid Lands (KACCAL)
- Adaptation Consortium
- Western Kenya Community Driven and Flood Mitigation Project
- Capacity Development for Effective Flood Management Project
- Water Infrastructure Solutions from Ecosystem Services Underpinning Climate-Resilient Policies and Programme

### 4.4 Financing Climate Change Adaptation in the Water Sector

Several mechanisms and institutions support financing of climate change adaptation actions in Kenya. The first is the Water Sector Trust Fund established under Water Act, 2016 (see Table 1). The powers and functions of the fund are exercised and performed under the direction of a board of trustees, which includes the mandate to “develop incentive programmes for water resources management including disaster management, climate change adaptation and mitigation” in collaboration with relevant institutions (Article 116[i]).



Second, the Climate Change Act, 2016 establishes a Climate Change Fund that is overseen by the National Climate Change Council. The National Treasury is establishing regulations to operationalize the fund, has requested KES 500 million from the Exchequer as seed money for the fund.

Third, five county governments—Garissa, Isiolo, Kitui, Makueni and Wajir—have established County Climate Change Funds (CCCFs) that identify, prioritize and finance investments to reduce climate risk and achieve adaptation priorities. Community-level planning committees identify adaptation needs, guided by transparent decision-making criteria. CCCF investments to build climate resilience have largely focused on livestock, water, natural resource governance and climate information services. Climate change fund legislation was enacted in Makueni, Wajir and Garissa Counties in 2015, 2016 and 2018 respectively. Makueni’s regulations mandate that the county government set aside 1 per cent of its annual development budget for climate change; and the legislation in Wajir and Garissa requires an annual allocation of 2 per cent. Several other county governments are in the process of establishing similar funds, and the National Treasury is developing a process to link county funds with the national funds.

Fourth, the Kenya National Adaptation Plan 2015–2030 proposes a budget of USD 5 million for mainstreaming of climate change adaptation in the water sector over the short, medium and long terms (Government of Kenya, 2016).

The Guidelines for the Preparation of the Annual Budget for the Financial Year 2018/2019 and Medium-Term Projections for Financial Years 2019/2020 And 2020/2021 for State Corporations Section 6 specified that in preparation of the FY 2018/19 Annual Budget and the 2019/2020 and 2020/2021 projections “...State Corporations should prioritize policies, programmes and projects which generate broad-based inclusive economic growth and stimulate faster job creation and reduction of poverty and inequality, **taking into account climate change impacts** and the need to meet Sustainable Development Goals (SDGs)” [emphasis added] (The National Treasury, 2017). This points to existing practical steps toward climate change budgeting in State Corporations such as the Water Resources Authority, WASREB and Water Services Trust Fund.<sup>5</sup> More extensive research is needed to determine the extent of climate change budgeting in the water sector.

## 4.5 Gaps

A few gaps in climate change mainstreaming were identified on the level of awareness, capacity building and especially in financing (Government of Kenya, 2016). The then-Ministry of Water and Irrigation (2017) noted that the general under-investment in the water sector impedes the improvement of water service coverage.

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<sup>5</sup> For more states corporations under MWI, see [www.isc.go.ke/water-and-irrigation/](http://www.isc.go.ke/water-and-irrigation/).



## 5.0 Gender and Climate Change

### 5.1 Why Gender Inequality in Climate Adaptation?

Weather variability and disasters induced by climate change tend to exacerbate existing gender disparities in a society, reproduce unequal access to assets and control over (water) resources, and make women more vulnerable (Myrtilinen et al., 2017).

Women in Kenya spend more time than men taking care of family and the sick. They are traditional water collectors and often food producers. Extreme weather events such as floods and droughts affect availability of food, firewood and clean water and thus increase the burden on women in terms of workload—it takes more time to ensure these basic needs are met. As the result, women have less time for income-generating activities, education, training, or participation in community decision-making processes (Republic of Kenya, n.d.). Kerry et al. (2010) report that during the drought women travelled 5 km or more on foot to look for water. In order to help sustain families in times of hardship, women may also turn to unhealthy lifestyles and coping strategies, such as commercial sex work, exposing them to the risk of contracting HIV/AIDS, early, forced or arranged marriage of the girl, obtaining dowry in exchange for the girl to temporarily meet the family's sustenance (Republic of Kenya, n.d.). Women in traditional communities may be subject to cultural beliefs that deny equal opportunities and rights. Women are more likely to experience poverty, less likely to own land and have less socioeconomic power than men. This makes it difficult to recover from climate disasters that affect infrastructure, jobs and housing. NCCAP 2018–2022 recognizes women as a group are particularly vulnerable to climate change.

Men, in contrast, are more mobile: when there are few opportunities in rural areas to find work and earn income, they tend to move to the urban areas in search of new ways to sustain their families, often leaving women behind. These women work harder to feed and care for their families and take up roles that used to be the preserve of men.

In these cases, it becomes important to empower women in agricultural communities (Kerry et al., 2010): secure their land rights, ensure they are able access to capital and productive inputs to take up climate-smart practices (e.g., agroforestry and conservation agriculture) in the face of rapid climate change (Ngigi et al., 2016).

Therefore, in the formulation of successful adaptation strategies/policies, gender inequality need to be recognized, accounted for and—ideally—remediated.

### 5.2 Climate Change and Women in the Agricultural Sector

The first NCCAP, 2013–2017 recognized the rural poor—who rely on ground water for water supply and rainfall for food production—as particularly vulnerable to climate change (NCCAP, 2013). NCCAP 2018–2022 noted that successful climate actions to improve food security need to include focused interventions to address gender because women account for 75 per cent of the labour in the agriculture sector. Many impoverished women are farmers who suffer the impacts of climate change more than men because of lack of input on decision making, insecure land tenure and limited access to land, and limited access to livestock and technology (Government of Kenya, 2018).

As part of the government's gender mainstreaming efforts launched in all ministries, the Ministry of Agriculture has introduced a “gender desk” that recognizes the critical role that women play in agriculture (Ngigi et al., 2015).

The Ministry of Agriculture and Irrigation has a Climate Change Unit responsible for mainstreaming climate change in the agriculture sector. The unit implements the Kenya Climate-Smart Agriculture Strategy and oversees the implementation of the five-year CSA program that is funded through a USD 250 million loan from the World Bank.



It is important to design strategies that account for women’s perspectives and are aimed at women’s needs. How do women prefer to self-organize? How do they like to receive information and through what channels of dissemination? What kinds of information would they make most use of? Ngigi et al. (2015) found that women tend to adopt crop-related strategies, whereas husbands employ livestock- and agroforestry-related strategies. Also, group membership seems to increase both women and men’s likelihood of adopting climate-smart agricultural practices. NCCAP 2018–2022 notes that farmer field schools are an effective and participatory way to transfer knowledge to (and learn from) women farmers. Gender-aware agricultural extension services are essential to ensure that women receive, use and benefit from vital information such as climate information services. The information needs to be available in local languages and on the radio to reach those who are illiterate or do not understand the languages used by most television stations.

### 5.2.1 Women’s Land Ownership

As far as land ownership is concerned in connection to women, climate change and agriculture, existing cultural norms predetermine that land goes to first-born males (Jenny Hill, personal communication, March 26, 2018). Even though the majority of subsistence agricultural management is led by women, they engage in it on the lands of men. Yet the Kenya National Adaptation Plan 2015–2030 does not address women’s land ownership questions (or gender in general) under the “Land Reforms” section in “Proposed Sectoral Adaptation Actions.”

The sectoral plan, Gender Mainstreaming Strategy and Action Plan for the Environment and Natural Resources in Kenya: 2015–2018, although not entirely devoted to the topic of climate change adaptation, talks about mainstreaming gender aspects in land policies as an essential strategy and specifies the importance of equitable access by both men and women to land.

The Kenya Climate-Smart Agriculture Strategy 2017–2026 acknowledges achieving gender equality as one of the goals relevant to agricultural development (Ministry of Agriculture, Livestock and Fisheries, 2017). Furthermore, among its core strategic objectives it highlights “development of inclusive and responsive agricultural value chains” and “establishment of Social Protection and Safety net programmes” to help women, youth and vulnerable groups face the impacts of climate change. However, there is no explicit action to secure women’s land ownership rights.

## 5.3 Institutions and Policies that Connect Gender and Climate Change

### 5.3.1 Institutions

The National Gender Equality Commission (NGEC) is at the centre of the gender mainstreaming efforts, including providing advice and monitoring mainstreaming across various sectors in Kenya. As part of its areas of focus, NGEC works at the intersection of gender and climate change. NGEC hosts the African Working Group on Gender and Climate Change and through this mechanism influences decisions on climate change nationally, regionally and internationally through participation at the United Nations Framework Convention on Climate Change. In May 2016 NGEC prepared African Joint Submissions on gender and climate change as part of the United Nations Climate Change Conference (NGEC, 2016).

Another key institution, the National Climate Change Council, has in its functions outlined in the Climate Change Act 2016 to “approve a national gender and intergenerational responsive public education awareness strategy and implementation programme” (Article 6[d]). The Climate Change Directorate also has in its functions to educate on gender and climate change including at national and country government levels.



### 5.3.2 Policy Documents

Various climate change policy documents and plans mention overall gender mainstreaming into climate change, address female representation on climate change committee and emphasize the importance of education on climate change and gender.

#### **On gender mainstreaming into climate change**

The Climate Change Act, 2016 seeks to mainstream gender equity in all aspects of climate change responses. Article 3(2)(e) states that the Act “shall be applied in all sectors of the economy by the national and county governments to mainstream intergenerational and gender equity in all aspects of climate change responses.”

Gender equality has also been integrated in climate planning documents in regard to water management, such as the National Climate Change Response Strategy (2010) which aims to adopt a “participatory approach that involves different water users including men and women’s groups in water resource management” (p. 53).

The Kenya National Adaptation Plan 2015–2030 states that “Government is committed to achieving gender equity in all aspects of society and enable the vulnerable to have equitable opportunities to participate in socio-economic activities” (Government of Kenya, 2016, p. 35).

The National Climate Change Action Plan, 2018–2022 notes that climate change actions to address the climate priority of water and the blue economy need to involve women. It notes that women help to reduce water wastage at the household level and to some extent also support water agencies in reducing wastage. The climate priority of disaster risk management identifies the need for capacity development of Water Resources Users Associations (WRUAs), noting that these are community-based organizations that are rights-based groups with female and male membership.

Aura, Nyasimi, Cramer, & Thornton (2017) assess Kenya climate change documents on gender responsiveness. Out of the following Climate Change documents: Climate Change Act, No. 11 of 2016; National Climate Change Action Plan (2013); National Adaptation Plan (2016); (Intended) National Determined Contributions (2015); Climate-Smart Agriculture Strategy (2017), only the Climate Change Act, No. 11 of 2016 is the most comprehensive document that address various aspects of gender mainstreaming such as budget allocation for gender-specific action, gender-responsive monitoring and evaluation systems and other aspects.

The updated NCCAP, 2018–2022 addresses gender in a comprehensive manner, having been subject to a gender review during its development. It notes the vulnerability of women, identifies women as critical stakeholders in the implementation and monitoring of the NCCAP, and identifies key considerations for women in implementing the priority climate actions.

#### **Women representation in institutions working on climate change**

The National Climate Change Response Strategy (2010) advocates for “ensuring and encouraging equal representation of men and women in technology development, training and transfer” (p. 86).

In terms of the composition of the Climate Change Council, according to the Climate Change Act No. 11 of 2016: “The President shall in the appointment of members ensure compliance with the two-thirds gender principle.” (Article 7[6]), which guarantees at least 30 per cent women representation.

Aura et al. (2017) point out that the importance of women in leadership is immediately observable at both the policy and implementation levels. The Climate Change Act, 2016 was enacted when Kenya’s cabinet secretary in charge of matters related to climate change was a woman.



## Education

NCCAP 2018–2022 includes an enabling action to build the capacity of stakeholders including vulnerable groups, including women, youth, persons with disabilities and marginalized and minority communities, to participate in, attract funding for and report on climate change actions. An enabling action is to operate a publicly accessible National Climate Change Resource Centre. This would include a robust and up-to-date climate change knowledge management system and an updated climate change information portal that has platforms for children, youth, women, and marginalized and minority communities. NCCAP 2018–2022 calls for knowledge-harvesting techniques to capture and share climate change information, including information on local Traditional Knowledge, especially from women and the elderly. NCCAP enabling actions include the development of a national gender and intergenerational responsive awareness plan and building capacity for effective gender integration in NCCAP and NDC implementation.

The current action plan builds on NCCAP 2013–2017, which emphasized the dissemination and sharing of climate change knowledge and products to potential beneficiaries, especially women and other vulnerable groups, through improved public awareness and communication.

The Climate Change Act, 2016 requires the development of a public awareness and engagement strategy, and NCCAP 2018–2022 notes that this will place emphasis on the engagement of vulnerable groups, including women, older members of society, children, youth, persons with disabilities, and members of minority and marginalized communities.

Moreover, the National Climate Change Response Strategy (2010) advocates for the dissemination of the “climate change information in local language through the use of field-based gender officers, women groups, Participatory Education Theatre (PET) and music groups.”

## 5.4 Monitoring, Verification and Reporting

Verification and monitoring of gender mainstreaming in climate change is crucial. Several documents highlight the importance of gender-disaggregated indicators in tracking progress on climate change issues and databases that provide some of this data.

According to Article 9(8)(c) of the Climate Change Act, 2016, the Climate Change Directorate is to “serve as the national knowledge and information management centre for collating, verifying, refining, and disseminating knowledge and information on climate change.”

Kenya National Adaptation Plan 2015–2030 recommends that “the adaptation actions be implemented with gender considerations such that all data collected for monitoring and evaluation purposes is gender disaggregated and analysed accordingly” (Government of Kenya, 2016, p. 21).

NCCAP 2018–2022 proposes the continuation of the Monitoring, Reporting and Verification Plus (MRV+) system established in the first NCCAP. MRV+ contains both monitoring and evaluation (M&E) of adaptation actions, and monitoring and reporting on GHG emissions in regard to mitigation (with verification taking place through a third party). An enabling action is the establishment of the M&E component of the MRV+ system to report on adaptation actions and benefits, including identification and measurement of adaptation indicators and incorporating collection of baseline information and development of gender-disaggregated data and gender indicators.

The M&E of NCCAP 2018–2022 is to use gender-disaggregated data where possible and prioritize collection of this data if it is not available. National-level indicators have been identified for the seven climate change priorities aligned with SDG indicators and tracked by the State Department of Planning. Many of these can be tracked in



a gender-disaggregated way. For example, disaster risk management national-level indicators of number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population, and number of households receiving food aid and cash transfer could be tracked by gender. It was noted during the development of NCCAP 2018–2022 that very little gender-disaggregated data is available in the seven priority areas, and it should be a priority to collect this data over the next five years.

Effort is required to define clear roles and responsibilities for reporting on climate change actions at the county level, particularly M&E of adaptation actions. The Climate & Development Knowledge Network (2018) noted that even though some of the framework components of the MRV+ system have been implemented, there are challenges to successfully implementing a full MRV+ system, and the system is not yet fully operational.

## 5.5 Funding for Women in Climate Change Adaptation

There are a few mechanisms that can be used to finance climate change adaptation with a focus on women.

The Climate Change Act, 2016 establishes a Climate Change Fund to be administered by the Climate Change Council. According to Article 25(5)(e), in administering the Fund, the Council shall “set out procedures to ensure gender and intergenerational equity in access to monies from the Fund.”

Kenya accessed funding in 2017 from the UNDP NDC Support Programme to ensure its NDC is gender-responsive. This funding will be used to build capacity for effective gender integration in NCCAP and NDC implementation, and the outputs will include gender integration and training toolkits developed. At least 20 institutions were sensitized on integration of gender into NDC planning and implementation.





## 6.0 Conclusion

Ensuring efficiency and increasing sustainability in times of climate change requires the involvement of both men and women as equal partners in the development, implementation and monitoring of projects and programs in the water sector. In Kenya, traditional views and practices hold women back from contributing to important decision-making processes and prevent the country from reaching its critical development goals (USAID Kenya, 2017). It is important to remember, however, that gender roles and responsibilities are socially constructed and can be changed through conscious social action including public policy (Speranza & Bikketi, 2018). This study looked at and analyzed policies and institutions that mainstream gender concerns into planning, implementation and monitoring in regard to water and climate change in Kenya based on publicly available policy documents and interviews with stakeholders. The study also explored climate change adaptation measures in relation to the water sector.

Climate change has the potential to dramatically alter available water resources in Kenya. In early 2018, heavy rains caused destructive floods that devastated communities already struggling to recover from a prolonged drought. Flooding and drought lead to food insecurity, increase the incidence of waterborne or sanitation-related diseases, contribute to conflicts over resources and exacerbate existing inequalities in the society. The serious implications of climate change were made clear in a number of Kenya's climate change policy documents and plans (e.g., NCCAP 2018-2022, Kenya National Adaptation Plan 2015-2030; and National Water Master Plan).

Water resource scarcity has a particularly adverse impact on women, especially those living in the rural areas. Drought compromises hygiene for girls and women, as the little water available is used for drinking and cooking and negatively effects women's time management in the household. When nearby wells and waters sources run dry, women have to travel long distances to search for water. Longer dry seasons mean that women work harder to feed and care for their families. In both urban and rural areas, women have multiple demands in the home, workplace and community that leave less time for political involvement and active participation in decision-making processes. Women are also often engaged in mostly rain-fed subsistence agriculture. The reduced clean water availability for the household means women will be the ones working hard to adapt (sometimes through unhealthy lifestyles) in the situation when they already have less access to education, land, and employment (USAID Kenya, 2017). Women in traditional communities may be subject to cultural beliefs that deny equal opportunities and rights: “[u]nless the gender aspect is addressed directly in climate policy, climate change has the potential to increase the existing gender gap” (Republic of Kenya, n.d.).

The importance of including women in water projects is supported by evidence. Were, Roy, and Swallow (2008) found that at the community level women's participation in water projects, while informal, was an essential factor in projects' successes: “[t]he ability of women to negotiate their participation and recognition of their role by male members speeded up the implementation process and improved efficiency” (p. 78).

Women's empowerment is needed to advance the social transformation articulated in Vision 2030. NGECC (2014) states that the Kenyan government is “strongly committed to protecting and promoting the agenda of gender equity and equality in Kenyan society” (p. 2). Overall, the government is focused on prioritizing women's needs as a vulnerable group and has a sound legislative framework to mainstream gender (and climate change) into the water sector.

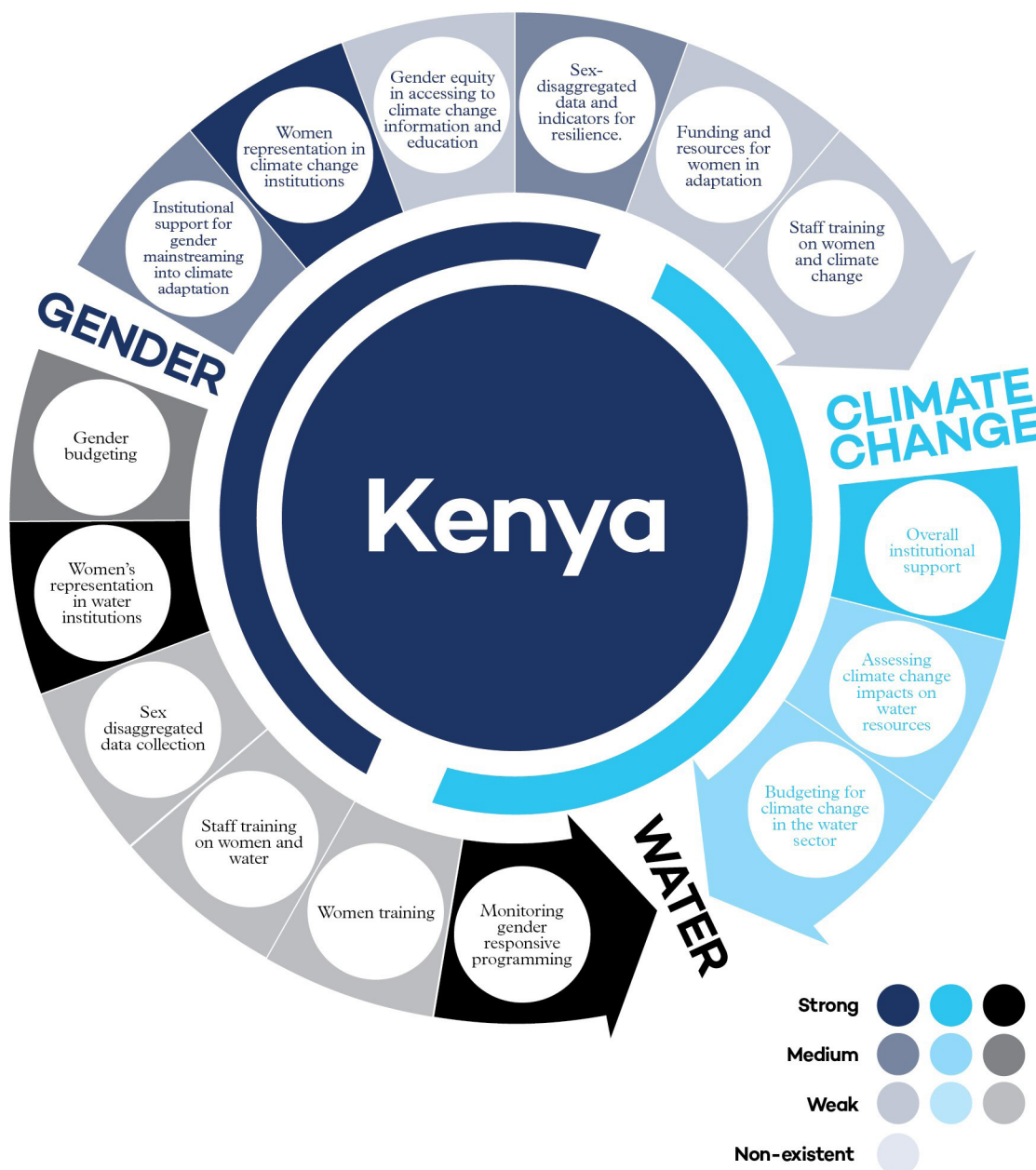
Kenya has made positive steps toward helping women to be well represented in decision-making structures, formulated requirements for government budgets to support women's empowerment and made some progress in establishing gender-sensitive monitoring systems (see Figure 4). As pointed out in Speranza and Bikketi (2018) most government policies and plans in Kenya “engage with gender as a top-down structural measure” (p. 143). In particular, gender equality has a strong policy and regulatory base in the Constitution of Kenya 2010 and Vision 2030. Some of the notable overarching policy and institutional interventions regarding gender are: National



Gender Equality Commission established to monitor, facilitate and advise on the integration of the principles of gender equality in all national and county policies, laws and regulations; the Constitution’s guarantee of equality and inclusion,<sup>6</sup> and its mandate that “not more than two-thirds of the members of elective public bodies shall be of the same gender.” This rule strives for minimum 30 per cent women representation in various institutions and committees at both national and county levels, including in the water sector.

Figure 4 summarizes our assessment of the interaction between water, gender and climate change in Kenya through mainstreaming actions.

**Figure 4. Kenya’s progress toward inclusive and adaptive watershed management**



<sup>6</sup> Article 27 in the Bill of Rights states, “Every person is equal before the law and has the right to equal protection and equal benefit of the law.”



In regard to climate change, there is some institutional and policy support for gender mainstreaming into climate change, especially through NCCAP 2018–2022, which includes actions to include gender-disaggregated indicators into the M&E component of the MRV+ system, and builds capacity for stakeholders (including women), as well as calling for women’s engagement in the implementation and monitoring of actions. Many of the disaster risk management, food security and water actions have identified gender outputs. The establishment of the National Climate Change Council requires the consideration of the two-thirds gender rule, and the Climate Change Act requires the mainstreaming of intergenerational and gender equity in all aspects of climate change responses.

However, more is needed at the planning and implementation levels to increase women’s still limited role in planning, implementing and monitoring of water and sanitation programs and to increase the water sector’s resilience to climate change. More effort is required to ensure that resources such as financial and technical expertise are available (Aura et al., 2017). Speranza and Bikketi (2018) similarly note that more efforts are needed to change underlying socio-cultural beliefs and norms that inhibit an equitable access to water. The degree of policies’ transformative action to reduce gender inequality in Kenya remains generally low to moderate (Speranza and Bikketi, 2018 ), but positive examples are evident, such as the election of three female governors and three female senators in the 2017 election.

With respect to gender and climate change, mainstreaming gender into Kenya’s climate change strategies and plans can be made more visible, especially with regard to targeted funding for women in climate change adaptation, gender equity in accessing climate change information and education, and government staff training on gender and climate change. Nevertheless, steps made to ensure that women are at least fairly represented in climate change committees, such as the Task Force formed to develop the NCCAP 2018–2022 (which was evenly divided by gender), are a start.

It is also important to mention that a special focus needs to be given to county governments where a significant proportion of climate action is expected to take place (NCCAP, 2018). For example, there have been improvements in appointments of women for key positions at the national level; however, the empowerment of women as water managers is not felt at the grassroots level (Clara Busolo, personal communication, April 4, 2018).

As far as the community level is concerned, Speranza and Bikketi (2018) call for exploring in more depth the role of financial capability as well as social networks in determining access to water. Financial capacity is an important factor in taking up membership in the community water groups; therefore, studying those excluded in terms of their gender and financial capacity could help understand “the roles of intersecting social categories in exclusion from water projects” (p. 145).

In summary, this institutional review concludes, in line with the previous findings, that even though challenges remain—especially at the implementation level—the Kenya water sector is extensively engaged in reducing gender inequality and incorporating climate adaptation. In addition, it is actively promoting the representation and empowerment of women in water governance.



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