

# COUNTY ASSEMBLY OF GARISSA



**THIRD ASSEMBLY – (THIRD SESSION)**

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**REPORT OF THE SECTORAL COMMITTEE  
ON WATER AND IRRIGATION**

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**ON THE FACT-FINDING MISSION ON MASALANI AND MODOGASHE  
WATER PROJECTS.**

**NOVEMBER 2024**

**DIRECTORATE OF COMMITTEE SERVICES**

**THE CLERK'S OFFICE**

**GARISSA COUNTY ASSEMBLY**

**P.O. BOX 57-70100**

**GARISSA**

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## 1.0 PREFACE

**Hon. Speaker,**

It is my Honor and pleasure to present to this Honorable House the report of the Water and Irrigation Committee on the sites visits of Masalani and Modogashe water projects respectively. The site visits were necessitated by the public outcry of lack of water and the committee engagements with the CECM for water and irrigation that highlighted the progress of those projects.

The committee had been following on the water projects and the members resolved to visit the sites to ascertain the level of completion and to get first-hand information.

## 2.0 ESTABLISHMENT AND MANDATE OF THE COMMITTEE

**Hon. Speaker,**

The Committee on Water and Irrigation is one of the Sectoral committees of the Assembly established under standing order no 222, Section 6 (a, b, c, d, e and g)

- a) investigate, inquire into and report on all matters relating to the mandate, management, activities, administration, operations and estimates of the assigned departments;
- b) study the programme and policy objectives of departments and the effectiveness of implementation;
- c) study and review all County legislation referred to it;
- d) study, assess and analyze the relative success of the departments as measured by the results obtained as compared with their stated objectives.
- e) investigate and inquire into all matters relating to the assigned department as they may deem necessary, and as may be referred to them by the County Assembly.
- f) vet and report on all appointments where the Constitution or any law requires the County Assembly to approve except under Standing Order 215 (Committee on Appointments);
- g) **make reports and recommendations to the County Assembly as often as possible including recommendation of proposed legislation.**

## **2.1 COMMITTEE MEMBERSHIP.**

The committee on Water and Irrigation was established pursuant to standing order of the County Assembly.

The committee comprises of the following Members.

- 1) Hon Marian Mohamed Hassan..... Chair
- 2) Hon. Yunis Abdi Ibrahim..... V/Chair
- 3) Hon. Mohamed Abdi Farah..... Member
- 4) Hon. Issa Aden Abdi.....Member
- 5) Hon. Omar Abdi Hassan.....Member
- 6) Hon. Mohamed Sheikh AbdiSalat .....Member
- 7) Hon Halima Hussein Gure .....Member
- 8) Hon. Mustaf Abdirashid Ahmed.....Member
- 9) Hon Dekow Mohamed Duale .....Member
- 10) Hon Katra Iman Sigat.....Member
- 11) Hon. Abdiweli Aden .....Member
- 12) Hon. Ahmed Noor Aden ..... Member
- 13) Hon Mahat Abdikadir .....Member

## **2.2 Committee Secretariat**

1. Abdi Mohamed Hassan - Committee clerk
2. Saadia A. Salah - Researcher
3. Ahmed Adan Digale - Sergeant At Arms

### **3.0 ACKNOWLEDGEMENT**

#### **Hon. Speaker**

The committee is grateful to the office of the Speaker for the support granted in executing its mandate and further grateful to the office of the Clerk for facilitating and providing technical support to the committee during this exercise.

Gratitude and much thanks go to the Members of the Committee and Secretariat attached to the Committee for their commitment, time and selfless service that led to the successful visit and timely completion of this report.

**Hon. Speaker Sir**, on behalf of the committee and pursuant to Standing Order no. 222(6) (a), it is now my pleasant and honourable undertaking to present and lay on the table of the house the report of the Committee on water and irrigation regarding the sites visit of water projects in Masalani and Modogashe ward respectively.

**SIGNED:**.....

**HON. MARIAM MOHAMED HASSAN, NOMINATED M.C.A.**

**CHAIRPERSON, COMMITTEE ON WATER AND IRRIGATION.**

**DATE:**

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#### **4.0 ADOPTION OF THE REPORT**

We, Members of the Committee on water and irrigation have adopted this Report on the fact-finding mission on the water projects in Masalani and Modogashe wards and hereby affix our signatures to it to affirm our approval and confirm its accuracy, validity and authenticity: -

<b>Name</b>	<b>Designation</b>	<b>Signature</b>
1) Hon Maryan Mohamed Hassan	Chair	.....
2) Hon. Yunis Abdi Ibrahim	V/Chair	.....
3) Hon. Mohamed Abdi Farah	Member	.....
4) Hon. Issa Aden Abdi	Member	.....
5) Hon. Omar Abdi Hassan	Member	.....
6) Hon. Mohamed Sheikh AbdiSalat	Member	.....
7) Hon Halima Hussein Gure	Member	.....
8) Hon. Mustaf Abdirashid Ahmed	Member	.....
9) Hon Dekow Mohamed Duale	Member	.....
10) Hon Katra Iman Sigat	Member	.....
11) Hon. Abdiweli Aden	Member	.....
12) Hon. Ahmed Noor Aden	Member	.....
13) Hon Mahat Abdikadir	Member	.....

## **5.0 INTRODUCTION**

**Mr speaker sir,**

This report is presented by Water and Irrigation Committee in regard to the fact-finding mission on the Water projects in Masalani and Modogashe ward. The public outcry in those wards on water shortages was loud and clear and this has forced the committee to visit the sites in order to get first hand information and to understand and know their level of completion and any challenges encountered.

Pursuant to Second Schedule of the County assembly standing orders, the Water & Irrigation Committee shall consider and report on all matters related to water and sanitation services, water distribution, regulation, marketing and sewerage services presented to the Assembly.

The committee resolved to travel to the project's sites in Masalani and Modogashe on 11th and 12th October, 2024, respectively.

### **5.1 Background information**

The committee visited both sites in Masalani and Modogashe to get first hand information on the on-going projects. The water projects are major water projects undertaken by the county government of Garissa.

### **5.2 Masalani water project**

**Hon Speaker Sir,**

The committee first paid a courtesy call to the District County commissioner (DCC) who welcomed them to the ward and embraced the committee fact finding mission on the water projects. The district county commissioner affirmed that the area experienced water shortage and even said that they only managed twenty seedlings to plant during mazingira day and he attributed this to lack of water.

#### **The old water system**

**Mr speaker sir,**

This system was built in 1978, when the town was small and had small population. It has one tank with a volume of 50,000 litre cubic which is insufficient to supply water to Masalani town. The elevated tank at the Masalani CBD is 150,000 litre cubic and requires pumping three times the old tank and this translates to higher consumption of power and time.

The Old Masalani water supply system involves the extraction of raw water from the source via the intake pump station, directing it to the Masalani water supply (New Plant). At this juncture, water is regulated and diverted through a 4-inch pipe from an interconnection chamber. Within this chamber, the flow of water towards the new plant is obstructed, directing it instead to the old 50 cubic meter CFU tank. This tank accommodates all treatment processes, and once filled, the water is subsequently pumped to the consumers.

## **Masalani water Treatment plant**

**Mr Speaker Sir,**

The Water and Irrigation Committee of the Garissa County Assembly conducted a site visit to the Masalani Water Project, the largest water project undertaken by the Garissa County Government. Launched in 2017, the project aims to provide reliable, clean, and safe drinking water to the residents of Masalani and its surrounding areas. The committee's visit was part of its oversight role to assess the progress of the project, which is currently at 80% completion.

**Mr Speaker Sir,**

The Newly Masalani water supply treatment was built 2017 and initiates its process by drawing raw water from the river via a low-lift intake station, employing a single pump connected by a 75mm PVC suction line. From there, the water flows through a 315mm (12-inch) rising main, extending approximately 6 kilometers to the Masalani water supply station. Along this rising main, there are two washouts and six air valves strategically positioned to facilitate maintenance and ensure efficient operation.

### **Overview of the Masalani Water Treatment plant**

**Mr Speaker sir,**

The Masalani Water Project comprises of a comprehensive water treatment plant designed to process water and ensure safe consumption for local communities. The treatment plant includes the following units:

1. **Mixing Chamber:** This unit is responsible for initial water intake and mixing of water with treatment chemicals.
2. **Dosing Chamber:** Precise chemical dosing occurs here to prepare the water for the coagulation process.
3. **Coagulation Unit:** Chemicals added in the dosing chamber cause particles to clump together for easier removal.
4. **Flocculation Unit:** Water is gently stirred in this unit, causing larger particles (flocs) to form for effective sedimentation.
5. **Sedimentation Unit:** Heavier particles settle at the bottom in this final stage of the treatment process, leaving cleaner water ready for distribution.

During the committee's inspection, it was noted that all these units are in place and fully constructed.

## **PUMP HOUSE**

The treatment plant also has a pump house that hosts five different pumps labelled pump 1-5. Pump three and five are currently not operational. These pumps are multi-tasking and they pump water from clear sum (storage) to Gababa in Ijara once project is completed.

Pump 4, 2 and 1 are used to pump water to the delivery tanks within Masalani town. Pump 4 is not operational at the time of the visit.

### **Elevated tank at the water treatment plant**

This tank is used for backwashing which involves the process of reversing water from the treatment back to the source (river). This is a vital part of water treatment because it cleans and maintains filters, which helps to ensure the safety and quality of drinking water.

The problem of the water shortages was exacerbated by the filled up of the treatment plant with the mud which paralyses the operation of the plant . This has caused water scarcity and the county government intervene and took three months to clear the mud from the plants.

### **Status of elevated water tanks**

**Mr speaker sir,**

There are three elevated tanks that serves Masalani cbd, gumarey and Gababa. These tanks are dilapidated and cannot hold water. The one of the CBD has been renovated. Wasreb has contracted the three water tanks for renovation for 84 million, but the contractor has not commenced the work. The engineer highlighted that gumarey tank is paramount.

### **Masalani water intake**

**Mr speaker sir,**

The project landscaping was done by Israel. The project included fencing which is not yet done. The last genset is not operational. The engineer informed the committee that for proper functioning and usage of the bigger pumps, it requires power upgrade of three face high voltage. The contactor quotation of 1.9 million cannot be processed because of unpaid power bill of 295, 000. The power upgrade of the project is being curtailed by the utility bill owed to the company.

### **Challenges**

- power problem- most of the time, the area experiences power blackout which inconveniences pumping of water hence water shortage.
- Non- completion of the ongoing project which would have bridge the capacity gap of daily consumption of water.
- Over reliance of the old system of 1978 which is serving larger population. This leads to overworking of the machines and the personnel involved.

- Non – payment of the water bill by the residents, this leads to less revenue collection hence inability of the water utility to pay its own power supply.
- Large number of casual workers which requires their pay from the revenue collection.

## **QONE -MODOGASHE WATER PROJECT**

### **OVERVIEW OF QONE -MODOGASHE WATER PROJECT**

**Mr Speaker Sir ,**

The Qone- Modigashe water project commences on December 2023 and is funded by the county government. It estimated completion time is one year. The source of the water is at qone which has four boreholes. The project has two sub-stations on the way before its final destination to Modogashe town.

The sub-stations are served by different pipes size due to different pressure experienced. The first sub-station, pipe size is pn 20 and is 4 nch while the second face the pipe size is pn 16(6 nch).

This is the main source for Modogashe water project. It is served by four boreholes with an average yield of 35% per day and the depth of the borehole is 250 M each. The sites have two reservers and two pump houses.

The project progress is up to speed and is within the stipulated timeline of the project. It is going well and if the contractor continues with the same rate, it will be completed on time.

**Mr Speaker Sir,**

The initial topographical survey was performed utilizing Real-Time Kinematic (RTK) technology to gather essential site data. Additionally, a dumpy level was employed to maintain a consistent ground elevation throughout the project.

The committee was informed on trenching and pipe Installation that a total of 58 kilometers of trenches were excavated, with depths varying from 1.2 meters to 1.7 meters, contingent upon the slope of the terrain. The project encompasses the installation of 28 kilometers of 8-inch diameter pipes extending from the water source to the storage facility.

**Mr Speaker sir,**

The pipes deployed are rated for different pressure thresholds, first 3 kilometers: 8-inch PN20 pipes, chosen for their ability to withstand higher pressures at the initial section, based on site directives and subsequent 25 kilometers 8-inch PN16 pipes.

In addition, two parallel pipelines were successfully installed from the

storage facility to Madogashe;

- First Line: A 6-inch PN16 pipeline extending 16 kilometers to serve the existing tanks at Kulan.
- Second Line: A 4-inch PN20 pipeline supplying water to an elevated tank at the Modogashe Sub-County hospital.

It was learnt that the selection of pipe materials across various sections is informed by existing pressure conditions and flow requirements to ensure long-term durability and performance.

**Mr Speaker Sir,**

The committee was informed on the tank Infrastructure construction is underway for two 225m<sup>3</sup> ground-level tanks and two powerhouse facilities at the initial booster station located at the water source. Additionally, another 225m<sup>3</sup> ground-level tank will be constructed at the storage facility, as per site instructions. A 200m<sup>3</sup> elevated steel tank, mounted on a 15-meter-high tower, is also under development. Notably, the height of the tank was originally specified at 10 meters, but an additional 5 meters was mandated as a site instruction.

**Mr Speaker sir,**

The Elevation Changes on the pipeline route experiences notable elevation variations from Qone (Source) to Ware (Booster Station 1): An elevation increases of 40 meters and from Ware to Modogashe: An elevation increases of 20 meters.

In total, the elevation difference amounts to 60 meters, indicating that Modogashe is positioned on a steep incline, necessitating specialized considerations for effective water pumping.

**Mr Speaker sir,**

The committee learnt the Equipment and Power Supply of Borehole Power Supply at A150 kVA Perkins generator will serve as the power source for Booster Station 1.

A 37-kW surface pump will be utilized at the first booster station to facilitate the upward movement of water and Borehole Setup: Each of the four boreholes is equipped with an 18 k.

## **STATUS OF ELEVATED TANKS**

The tank in town has a capacity of 150,000 litres cubic. It is an old tank in good condition, only the plates are corroded. The tank was previously constructed but the piping system is new and included in the new project.

The tank at the hospital has a capacity of 200,000 litres cubic and is also old.

**Were sub-station:** The sub-station is served by two pipes of 6 and 4 inch which supply water to the town. It has an old tank but the piping is new.

The rate of completion, pipe laying is complete and the elevated tanks is at 75% complete.

## **COMMITTEE FINDING ON QONE- MODOGASHE WATER PROJECTS**

- Resistance from the community- communities residing along the project route have expressed strong resistance, prioritizing immediate water needs over the long-term benefits of the project. This resistance has resulted in project delays and disruptions.
- Project stopped for 2 months due to the enhanced rains- The project experienced a two-month suspension owing to heavy rainfall. Such weather-related interruptions underscore the need for flexible project timelines and contingency planning.

## **COMMITTEE FINDINGS ON MASALANI WATER PLANT**

- High Utility Costs

The committee were informed that the electricity bill for the operation of the plants amounts averagely on 400,000 on monthly basis. The plant incurs substantial expenses on utility bills, particularly for electricity (KPLC) and the operation of generator sets, which significantly increases the cost of maintaining water services.

- Non-operational Mobile Treatment Units

The two mobile treatment vehicles, critical for water treatment and distribution, are currently grounded or non-operational, hindering the plant's ability to provide adequate water services, especially in remote areas.

- Lack of Fuel for Water Trucking Operations

Most of the area's outskirts Masalani are not covered by the water plant, hence rely on water trucking and the water trucking program lacks a reliable fuel supply, limiting its capacity to deliver water efficiently to areas not directly served by the plant's infrastructure.

- Staff Motivation and Payroll Integration

The committee found out that majority of the staff are casuals who served many years.

There is a need to improve staff motivation through fair and timely integration of employees into the payroll system. Ensuring that all staff members are formally absorbed and compensated on time would enhance morale, productivity, and commitment to operational efficiency at the plant.

- Non-Payment of water bills by the resident

The committee found that there are 800 active connections excluding institutions but most of the clients do not pay the water bill. significant challenge is the persistent non-payment of water bills by residents, which impacts the plant's revenue stream and operational sustainability.

## RECOMMENDATION

The committee recommends installation of alternative power sources such as solar panels to supplement power from Kenya power and lightening company (kplc) in Masalani Water Plant.

The committee recommends the department of water to repair the grounded mobile treatment vehicle. The department to allocate funds specifically for the repair and regular maintenance of the mobile treatment vehicles to ensure they remain operational and effective in extending services to remote areas .

The committee recommends that the department of water to secure a fuel supply agreement with local fuel suppliers to establish a consistent supply chain and also ensure to implement a tracking and reporting system for fuel consumption and reduce risk of misuse of the water boozers in Masalani

The committee recommends the creation of Community Awareness Campaigns: Initiate public education programs to understand their concerns and aspirations and also involves them in decision-making processes to foster ownership and support of the Modogashe water project. It also help raise awareness about the importance of paying water bills for the sustainability of the plant's services. This can be achieved by using the following methods.

•**Flexible Payment Plans:** Develop and offer flexible payment plans to help residents settle outstanding bills, possibly through installment payments or subsidized rates for low-income households.

•**Incentive Program for Timely Payments:** Establish an incentive system, such as small discounts or bonuses, for residents who consistently pay their bills on time.

• **Improved Billing and Collection System:** Modernize the billing process, perhaps by introducing digital payment options and efficient collection mechanisms, to encourage easier and timely payments.

The department should develop a flexible project timeline that can accommodate unforeseen circumstances, such as weather-related delays and enhance contingency plans to minimize disruptions and ensure timely project completion of the Qone-Modogashe Water project.

## **CONCLUSION**

The Masalani and Modogashe Water Projects are significant step towards achieving water security for Garissa County. With 80% of the project complete, the focus should now be on addressing the remaining challenges to ensure the plant and Qone boreholes becomes fully operational and delivers the intended benefits to the local communities.

The committee commends the efforts made so far and urges the County Government to expedite the final phase of the projects to ensure it meets its objectives.