

LEGAL NOTICE NO. 141

THE WATER ACT

(Cap. 372)

IN EXERCISE of the powers conferred by section 22 of the Water Act, the Water Resources Authority makes the following Order

THE FAFI WETLAND CATCHMENT PROTECTION ORDER, 2024

1. This Order may be cited as the Fafi Wetland Catchment Protection Order, 2024. Citation.
2. In this Order, except where the context otherwise requires— Interpretation.
- “Act” means the Water Act; Cap. 372.
- “association” means a water resources users association registered by the Authority in accordance with the Act;
- “Authority” means the Water Resources Authority established under section 11 of the Act;
- “basin area” means the area designated by the Authority as a basin area under section 24 of the Act;
- “Plan” means the Fafi Wetland Catchment Management Plan set out in the Second Schedule;
- “Protected Area” means the area declared to be a Protected Area under paragraph 4 and is demarcated for protection and conservation within the Fafi Wetland Catchment Management Plan;
- “riparian reserve” means land in respect of which management obligations are imposed on users or owners by the Authority due to its proximity to the Protected Area;
- “soil and water conservation plan” means soil and water conservation plan as defined in regulations relating to water resources; and
- “sub-basin area” means the area designated by the Authority as a basin area under section 24(2) of the Act.
3. This Order shall apply to the National Government, national government entities, county governments, county government entities and any other person being a user of water resources and the riparian reserve of the Protected Area. Application of the Order.
4. (1) The Fafi Wetland Catchment Protection Area is declared to be a protected area for purposes of the Act. Declaration of protected area.
- (2) The Fafi Wetland Catchment Protection Area shall be as per the extent and description set out in the First Schedule and is demarcated for protection and conservation within the Fafi Wetland Catchment Management Plan.
5. (1) The Plan set out in the Second Schedule shall, without prejudice to the provisions of the Regulations made pursuant to the Act, Fafi Wetland Catchment

be the basis for protection, conservation and use of the water resources within the Protected Area. Management Plan.

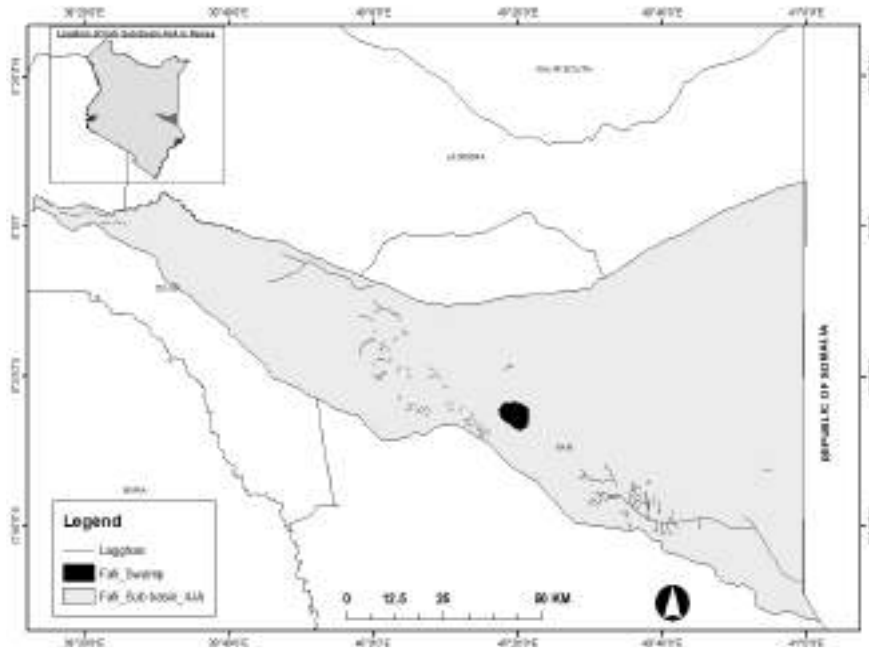
(2) The Authority shall place signboards and beacons in or near the Protected Area or in appropriate public places frequented by land and water users and at the Authority's offices; displaying up-to-date information about the condition of the water resources of the Protected Area.

(3) The public notices shall contain information regarding the action required of water and land users to conserve and protect the water resources of the Protected Area.

6. A person who contravenes this Order commits an offence and shall, on conviction, be liable to the penalty prescribed under section 147 of the Act. Offence.

FIRST SCHEDULE
THE FAFI WETLAND CATCHMENT PROTECTION AREA
(p.4(2))

Figure 1: Fafi Wetland Catchment Protection Area



SECOND SCHEDULE

THE FAFI WETLAND CATCHMENT MANAGEMENT PLAN

(p. 2,5(1))

PART I: INTRODUCTION

1.1 Citation

This Plan may be cited as the Fafi Wetland Catchment Management Plan.

1.2 Acronyms

The following acronyms shall have the meanings as assigned below:

LVSBA	Lake Victoria South Basin Area
AG	Attorney General
Ha	Hectares
KFS	Kenya Forest Service
Km	Kilometer
Km ²	Square Kilometer
mm	Millimeters
NEMA	National Environment Management Authority
NGAO	National Government Administration Officer
°C	Degrees Celsius
WDC	WRUA Development Cycle
WRA	Water Resources Authority
WRUA	Water Resources Users Association

1.3 General objectives

The general objectives of this Management Plan are to ensure:

- (a) sustainable management and use of wetland resources; and
- (b) the conservation of the wetland and its catchment areas to improve on the water quantity and quality.

1.3.1 Specific Objectives

The specific objectives of this Management Plan are to:

- (a) enhance implementation of existing regulations to protect the rights of all the wetland users; and
- (b) identify funding sources to implement water conservation programs that help to enhance the wetland's water resources.

1.4 Background Information on catchment and wetland areas

In the context of water resources, a catchment area is an area of land from which water naturally flows into a water course. A catchment area provides a natural water storage mechanism or facility. During rainfall, the vegetation cover allows the water ample time to infiltrate through the soil and form sub-surface flow that recharges the rivers, springs and groundwater aquifers. Often, sub-surface flow is a relatively slow process, which explains the existence of permanent (perennial) rivers in various areas.

The environmental status and conditions of a catchment influences the quantity and quality as well as sustainability of its water resources; for instance, rivers in a well-maintained catchment often have higher base flows even during the dry season with boreholes in such areas recording good or high yields. However, in poorly maintained and degraded catchments, poor infiltration of rainwater results into rapid surface run-off flowing into the river courses. This often causes flash-floods and large volumes of suspended solids which may aggravate siltation of water infrastructure. Furthermore, rivers in degraded catchment have unsustainable base flows during the dry season, hence prevalence of seasonal rivers.

From the foregoing, catchment areas are vital components in water resource management whose protection is imperative. Particularly, vulnerable catchment areas or water resources such as wetlands and those which serve critical purposes such as groundwater recharge areas require more targeted conservation and protection interventions. Such areas need to be formally and legally delineated and protected from encroachment, pollution, overexploitation and destruction to ensure sustainable management, exploitation and ecological integrity.

1.5 Legal and policy framework for wetland and catchment protection

1.5.1 The Constitution of Kenya, 2010

Article 66 of the Constitution provides that the State may regulate the use of any land, or any interest in or right over any land, in the public interest, or land use planning. Furthermore, Article 69 (1) obligates the state to, *inter alia*, ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and equitable sharing of the accruing benefits; encourage public participation in the management, protection and conservation of the environment; and eliminate processes and activities that are likely to endanger the environment. Article 69 (2) on the other hand places responsibility on every person the duty to cooperate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources. Further, Article 70 provides a legal framework through which any person may seek redress in case of violation of their environmental rights.

1.5.2 The Water Act (Cap. 372)

The Water Act provides a framework for the regulation, management and development of water resources, water and sewerage services. The Act establishes the Water Resources Authority (WRA) to regulate the management and use of water resources. The Act defines Catchment Area as an area that is part of a basin designated as such under the Act. In particular, section 22 and 23 provides for protection of catchment areas and conservation of ground water. Regulations relating to water resources made pursuant to the Act addresses the management and use of water resources including the manner of identification and protection of vulnerable catchment areas.

1.5.3 The Environmental Management Coordination Act (Cap. 387)

The Environmental Management Coordination Act generally provides for sustainable management and exploitation of wetlands. Specifically, section 42 of the EMCA proscribes certain activities from wetlands and empowers the Minister responsible for environment to declare wetlands as protected areas and issue specific orders and standards for sustainable management of wetlands.

1.5.4 The Sustainable Development Goals (SDGs)

The Sustainable Development Goals (SDGs), were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by

2030 all people enjoy peace and prosperity. Different countries including Kenya have adopted the SDGs as part of its international obligation, prioritizing the SDG targets as integral part of its development agenda. With regard to water resources, SDG 6 which aims to ensure availability and sustainable management of water and sanitation for all is critical by 2030 in catchment protection agenda.

1.5.5 The Ramsar Convention on Wetlands

The Ramsar Convention on Wetlands is the international Convention that focuses on development of the Wetlands Policy. Kenya ratified the Convention in 1990. Since then, six Kenyan wetlands have been listed as wetlands of international importance. The convention provides a framework for national action and international cooperation for the conservation and prudent use of wetlands and their resources.

1.5.6 National Policies

The water and wetland resources management and use is also guided by various policies including:

- (a) The National Water Policy, 2021 (Sessional Paper No.1 of 2021) which provides a framework for sustainable management and financing of water resources; water harvesting and storage; and for equitable, efficient, and universal access to water supply and reasonable standards of sanitation, for domestic, economic use and ecosystem sustenance.
- (b) The National Wetlands Conservation and Management Policy, 2014 (Sessional Paper No.12 of 2014) whose goal is to ensure wise use and sustainable management of wetlands in order to enhance sustenance of their ecological and socio-economic functions for the present and future generations of Kenya.

PART II: BACKGROUND INFORMATION ON FAFI WETLAND

2.1 Fafi Wetland

The Fafi Wetland is located within the Fafi Sub-County which borders Ijara, Garissa and Dadaab sub counties as well as the Republic of Somalia. The Sub County headquarters is at Bura and it has 5 Wards namely Bura, Dekaharia, Jarajila, Fafi and Nanighi. The total population is 392,510 with a population density of 9 persons per square kilometre the lowest among the sub counties of Garissa County. This is attributed to its expansive nature and poor infrastructure. The main source of livelihood is nomadic pastoralism with cattle, camel and goats being the most commonly reared.

The Wetland area experiences a myriad of water resource problems including siltation, drying of the wetland, high evaporation rates and encroachment. Fafi Wetland falls under the catchment area 4JA within the larger Tana River Basin Area. It is the only wetland within Garissa County and is located within the arid area with scattered shrubs. Increase in population has occasioned degradation of the wetland for human settlement. Degradation is further exacerbated by the large number of livestock in the area.

2.2 Rationale for Fafi Wetland Protection

Fafi Wetland is a significant ground water recharge area and a source which falls within the Upper Athi River Basin Area. Over the years, the wetland has been degraded due to encroachment for various land uses e.g. livestock grazing, human settlements, harvesting of trees and shrubs for firewood. The impact of climate change has also negatively impacted on the wetland thus reducing its economic and ecological value.

A management plan is therefore critical for the conservation and protection of Fafi Wetland. This will tackle poor land use practices and restoration of the destroyed wetland. This is anticipated to be achieved through the implementation of the following strategies:

- (a) Sensitization of the local community and stakeholders on the need to protect the wetland to ensure environmental sustainability.
- (b) development of an action plan to protect and rehabilitate the wetland.
- (c) Participatory mapping of the protection zones around the wetland with the community.
- (d) Enforcement of laws on catchment and riparian protection.

2.3 Location and size

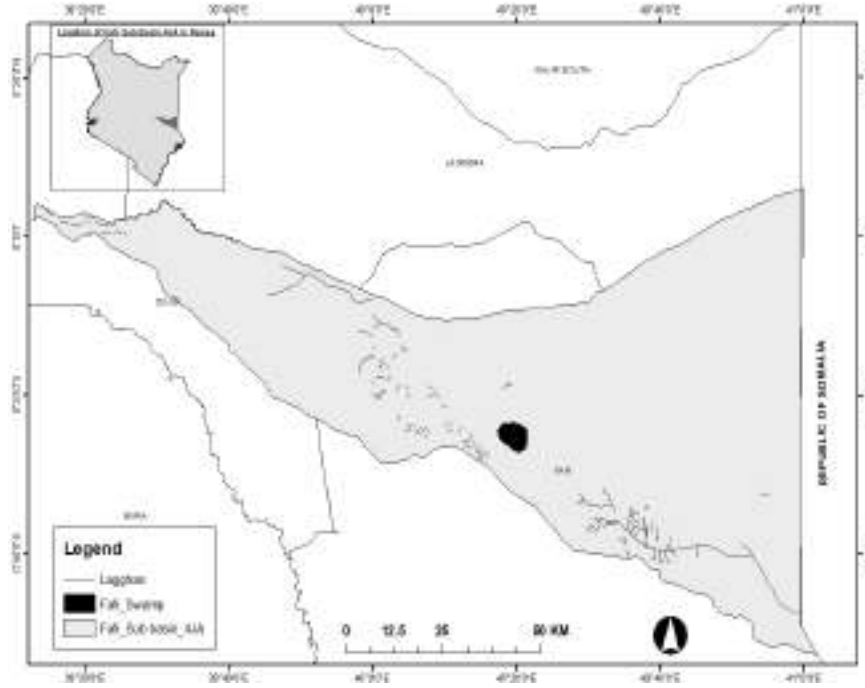
The area identified for Gazettement is spread within Fafi sub location of Garissa County. It is located about 75km to the west of Garissa town. The wetland covers an area of approximately 30km² and is within the 4JA-sub basin of Tana Basin Area.

2.4 Wetland area

The Wetland receives water from the surrounding higher grounds and does not have visible outlet. Therefore, apart from the water that is lost through evaporation the rest is assumed to go into recharging ground water aquifers. The area measures about 30km² out of the 8,635.83 km² catchment area of the whole 4JA sub basin in Tana Basin as shown in Figure 2 below.

Wetland Area

Figure 2. Location of Fafi Wetland within 4JA Sub Basin



2.5 Physiography, climate and rainfall

2.5.1 Physiography

Fafi Wetland is located within the northern part of Garissa County at low lying land on an elevation of about 115masl. The area is enclosed within gentle slopes of less than 10%.

Figure 3. *Google Earth image of mid-Tana basin showing position of Fafi Wetland*



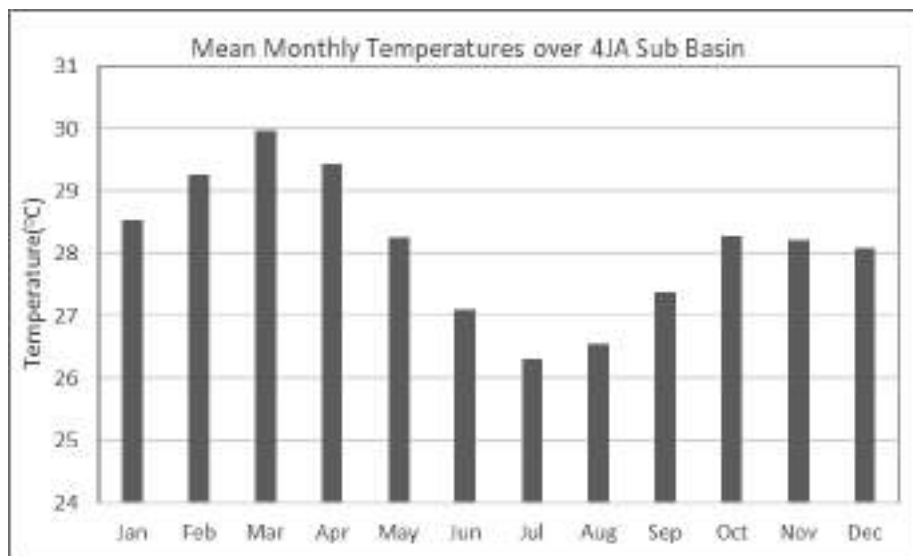
Figure 4. *Google Earth image of Fafi Wetland*



2.5.2 Climate

The climate around Fafi Wetland is tropical with varying amount of rainfall during the year. Climatic conditions given the arid nature of the county, temperatures are generally high throughout the year and range from 20⁰C to 39⁰C. The average temperature is however 36⁰C. The hottest months are January to May, while the months of June to August are relatively cooler as indicated in Figure 5. The humidity averages 60g/m³ in the morning and 55 g/m³ in the afternoon. An average of 9.5 hours of sunshine is received per day. Strong winds are also experienced between April and August with the rest of the months getting calm winds.

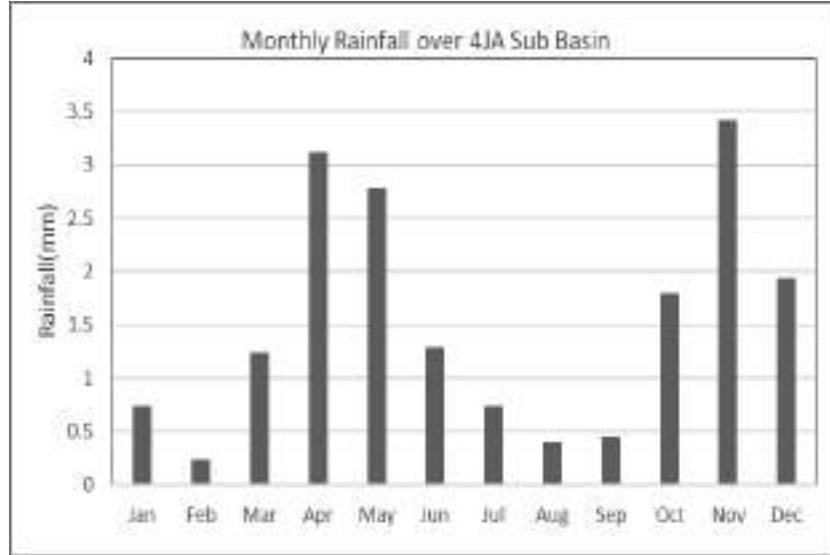
Figure 5: Mean Monthly Temperatures at 4JA Sub Basin



2.5.3 Rainfall

Most parts of Fafi area are hot and dry with rainfall varying between 200mm and 250mm per year, and monthly rainfall is less than 5mm throughout the year. Long rains are between March and May while the short rains are between October and December. The driest months coincide with the coldest periods (July to August); and September while the hottest months are February, March and April. Monthly rainfall over the 4JA sub basin is shown in Figure 6.

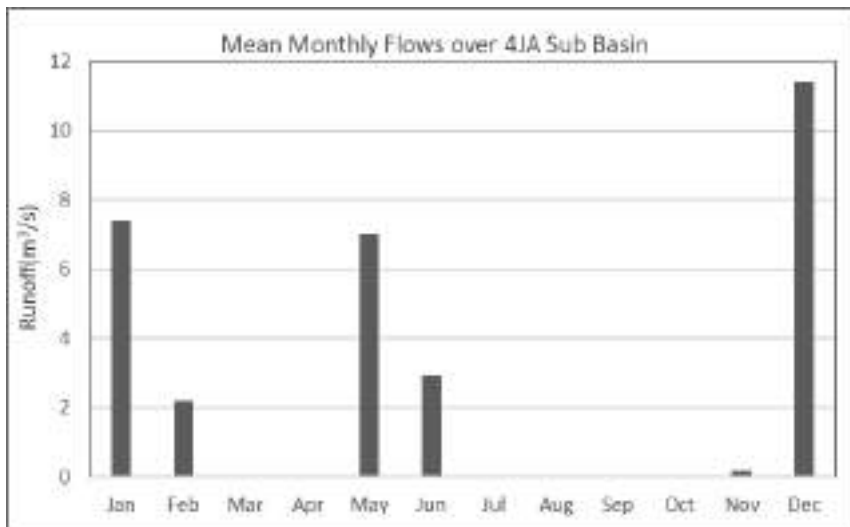
Figure 6. Monthly Rainfall over 4JA Sub Basin



2.5.4 Runoff

Fafi Wetland falls within the middle reach of Tana River basin in the arid region of Garissa County. There is no major river around the wetland, and therefore, the surface water monitoring network within the basin cannot be used to determine the hydrology of the wetland. Rainfall run-off modelling was therefore used to determine the runoff over the sub basin (NWMP 2030). Analysis of mean monthly runoff indicate that there is runoff over 4JA in only six months of the year as shown in Figure 7. The highest mean monthly runoff of 11.38m³/s is in the month of December. Mean monthly runoffs for January and May are 7.4m³/s and 6.99m³/s respectively.

Figure 7: Monthly Runoff over 4JA Sub Basin



PART III: SITUATIONAL ANALYSIS

3.1 The vulnerability of the water resource

Fafi Wetland falls under sub basin 4JA in mid-Tana basin area and it is drained by several lagghas as shown in Figure 1 above. The wetland has attracted a lot of human activities including clearing of indigenous vegetation and livestock grazing which has resulted into reduced recharge into the ground, lowering of the water table and a decrease in the wetland hydrological water balance. This unsustainable use of the wetland is threatening its survival and potential as a ground water recharge area hence the urgent need to protect it.

3.2 Land uses and their potential impact on the water resources

The area around Fafi Wetland is predominantly arid with the main land use being livestock rearing. The potential impacts on the water resources as a result of human activities include:

- (a) *Encroachment*: People have encroached water catchment areas within the wetland.
- (b) *Overexploitation of available resources*: The population in the area has been rapidly growing over the years. This has led to excessive pressure on available natural resources leading to potential water use conflicts.
- (c) *Deforestation*: The wetland vegetation, the immediate catchment areas as well as the wider catchment is being depleted due human activities. The shrubs are rapidly being cleared to give way for charcoal burning and firewood.
- (d) *Water Pollution*: Practices such as poor human waste disposal, washing of clothes directly in the pans, direct livestock watering in the pans are the main causes of pollution and siltation.
- (e) *Land degradation*: is occasioned by gypsum mining, firewood harvesting and charcoal burning. Bush clearing is a common practice that also contribute to degradation of the wetland.
- (f) *Water Scarcity*: This problem is more pronounced during the dry months when most water pans are dry and water levels in boreholes and wells are very low. Most boreholes also have high conductivity and hardness thus limiting the use. During rainy seasons, the lagghas carry a lot of water but the water is very turbid with a lot of silt.
- (g) *Adverse Climate and Geological Conditions*: The area is characterized by high temperatures as high as 38°C, low rainfall amounts with an annual mean of 250mm. The area also experiences high wind speeds.

PART IV: MEASURES FOR PROTECTION, CONSERVATION AND REHABILITATION OF THE WETLAND

The area within and around the Fafi Wetland is community land. In order to ensure the protection and conservation of Fafi Wetland is achieved and sustained, several measures and strategies will be applied. These include the following:

4.1 Proscribed activities

According to the applicable legal framework, protected areas can be used in a sustainable manner. The activities to be undertaken within the Protected Area are those

with zero impact on its ecological status and integrity. Unless specifically approved in writing by the Authority following an application in the prescribed form, the following activities shall not be undertaken within the Protected Area:

- (a) Tillage or cultivation.
- (b) Clearing of indigenous trees or vegetation.
- (c) Building of permanent structures (especially boreholes and houses).
- (d) Disposal of any form of waste.
- (e) Excavation of soil or development of quarries.
- (f) Planting of exotic species that may have adverse effect to the water resource.

4.2 Catchment protection plan

The objective of the protection plan is to protect Fafi Wetland by encouraging activities that enhance both water quality and quantity while promoting beneficial land and water management practices and discouraging activities that cause the catchment degradation.

Actions

- (a) Sensitization on catchment management.
- (b) Revegetation of the catchment area including indigenous and water friendly tree propagation.
- (c) Regulating activities that may lead to pollution and destruction of the ecosystem (Charcoal burning, grazing, cultivation).
- (d) Controlling abstraction limits and observing of safe yields.
- (e) Controlling encroachment.

Table 1 : *Catchment protection activities planned to be undertaken*

<i>Activity</i>	<i>Sub-activity</i>	<i>Timeframe</i>	<i>Cost (Ksh)</i>	<i>Responsibility</i>
Gazettement of Fafi Wetland as a Protected Area	Delineate & survey the wetland catchment area.	2024	800,000	WRA, WRUA, Garissa County Lands & Survey Team
	Develop the Part Development Plan for the wetland catchment.	2024	500,000	WRA, Physical Planning Dept., Garissa County
	Create awareness on the status of the wetland's catchment area.	Continuous	500,000	WRA, WRUA, NEMA, County Government of Garissa

<i>Activity</i>	<i>Sub-activity</i>	<i>Timeframe</i>	<i>Cost (Ksh)</i>	<i>Responsibility</i>
	Develop guidelines and conservation/protection plan through stakeholders' engagement.	2024	5,000,000	WRA with all stakeholders
	Submit gazette instrument to the AG.	2024	100,000	WRA
Enforcement of Fafi Wetland Catchment Management Plan and other legislations	Enforce Fafi Wetland Catchment Management Plan and relevant legislations.	continuous	5,000,000	WRA, County Govt, NEMA, KWS.
Re-vegetation of the catchment area	Establish indigenous vegetation Propagation.	Continuous	3,000,000	WRUA, WRA, KFS
	Grow live fence on the boundary of the catchment.	Continuous	3,000,000	WRA, WRUA, KFS
	Planting and growing of propagated seedlings (Watering and tending).	Continuous	5,000,000	WRUA
	Exotic species control.	Continuous	500,000	WRUA
Restricting activities that may lead to pollution and destruction of the catchment.	Public awareness creation.	Annually	1,000,000	WRA, CGK, KFS, WRUA.
	Controls/restrictions on charcoal burning, grazing, and farming near the wetland catchment area.	Continuous	300,000	WRA, CGK, KFS, WRUA.

<i>Activity</i>	<i>Sub-activity</i>	<i>Timeframe</i>	<i>Cost (Ksh)</i>	<i>Responsibility</i>
	Enforcement	Quarterly	500,000	NGAO, WRA, KFS, NEMA, WRUA.
Alternative livelihood activities	Promote bee keeping, poultry farming and butterfly keeping, eco-tourism.	Continuous	10,000,000	WRA, WRUA, Agriculture and Livestock
TOTAL			35,200,000	

4.3 Conservation Plan

The objective of the conservation plan is to protect the long-term environmental sustainability of the catchment for enhanced water resources yield and maintain its ecological functions in terms of flora and fauna. In the development of the management programmes, care has been taken to ensure that there are explicit and logical links between the vision statement, management objectives, and the management strategies to achieve the objectives.

Table 2: *Catchment conservation activities planned to be undertaken*

<i>Activity</i>	<i>Sub-activity</i>	<i>Timeframe</i>	<i>Cost</i>	<i>Responsibility</i>
Establish the wetland and sub basin water balance	Assess demand and availability	2024	1,000,000	WRA, County Government, WRUA, KWS
Enhance Water use efficiency (introduction of technologies)	Sensitization and model water use units – irrigation, domestic Demonstration on efficient water use technology	Continuous	8,000,000	WRA, WRUA, County Government
Total			9,000,000	

4.4 Catchment Monitoring Plan

The objective of the monitoring plan is to collect water resources data and maintain a comprehensive database on the Fafi Wetland and its catchment that provides information on water levels and quality of the wetland.

4.4.1 Actions

- (a) Establish a water quality and pollution control plan.
- (b) Water sampling and analysis.
- (c) Establish a water resources database.

Table 3 : *Catchment Monitoring Plan activities*

<i>Action</i>	<i>Sub Activities</i>	<i>Time frame</i>	<i>Costs</i>	<i>Responsibility</i>
Water sampling and analysis	Collect water resources samples and conduct analysis for biological and physico-chemical parameters	Quarterly	500,000	WRA
Capacity Building	Capacity building on data collection and monitoring	Continuous	500,000	Stakeholders and WRA
Water resources monitoring	Establish flow (water level) monitoring gauges within the wetland and the feeding lagghas	1 year	2,500,000	WRA, WRUA
Total			3,500,000	

4.5 Establishment and operationalization of management structure for Fafi Wetland

The objective of the management structure is to ensure that Fafi Wetland Catchment Protection Area is managed in a sustainable manner with the involvement of all stakeholders under the leadership and coordination of WRA - TBA. This will be achieved through:

- (a) Setting up the management structure with defined ToRs and mandates.
- (b) Development of resources mobilization strategies to raise funds for operations, maintenance and conservation of the Protected Area.

Table 4: Activities related to establishment and operationalization of management structure

Activity	Sub-activity	Timeframe	Cost	Responsibility
Setting up the management structure	Form a committee from each of the following stakeholders: 1. Kenya Forest Service 2. National Environment Management Authority 3. National Government Administration in Garissa County; 4. Kenya Wildlife Service; 5. Ministry of Agriculture; 6. Fafi WRUA;	3 months	0	WRA
	Terms of References (ToR) will include but not limited to: i To manage the catchment prudently on behalf of other stakeholders. ii To submit quarterly reports to WRA - TBA on all planned and implemented activities. iii To develop by - laws and submit a copy to WRA – TBA for approval before implementation.	Continuous	0	WRA, WRUA
Develop and implement resources mobilization strategies	Mandate and responsibilities: iv Promote the conservation and protection of the catchment. v. Promote equitable distribution of the resources within the catchment. vi. Promote socio-economic and environmental sustainability of the catchment.		0	Management Committee

<i>Activity</i>	<i>Sub-activity</i>	<i>Timeframe</i>	<i>Cost</i>	<i>Responsibility</i>
	The sources of funds for the committee may include: vii. Bee keeping viii. Tree Nursery; ix. Eco-tourism; x. Well-wishers/Donors xi. WRA/WRUA - (WDC)	Continuous	5,000,000	WRA
Sub Total			5,000,000	

WRA as the agent of the National Government in the regulation of use and management of water resources, will be the co-ordinator of the committee. The members of the Management Committee will serve on honorary basis as this will be a non-profit and non-commercial venture. The Committee will be required to solicit for funding from well-wishers and other sources to supplement the income that may be derived from activities permitted in the Protected Area.

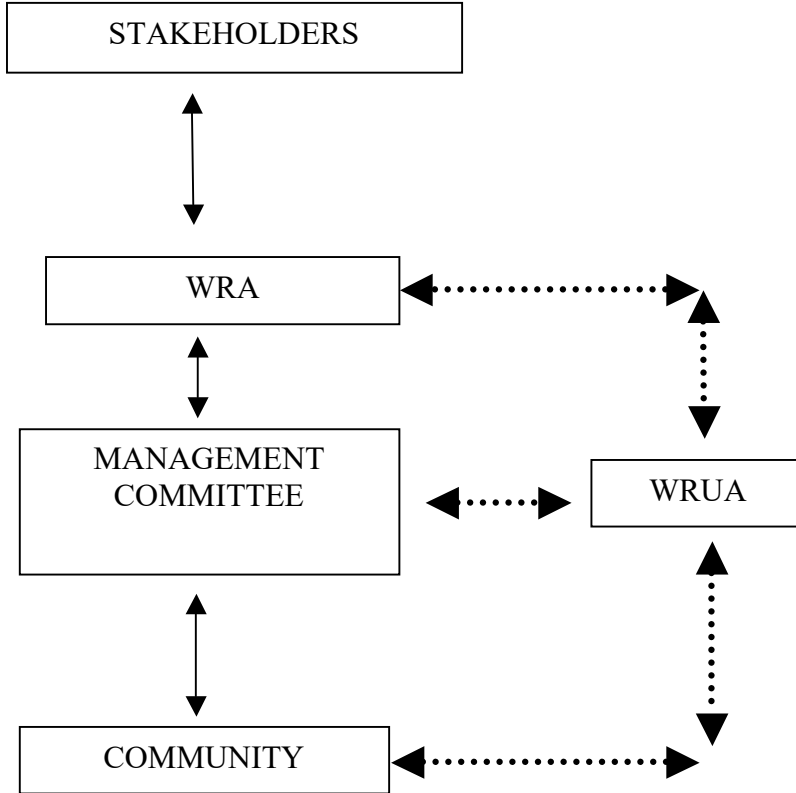
Figure 8 shows the proposed linkages between various stakeholders. The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa.

4.6 Catchment and Water Resources Monitoring

The objective of the monitoring plan is to collect and analyse Fafi Wetland and water resources data to provide information on water discharge or recharge, water quality and catchment health as a response to human activities within the neighbourhood.

The following are the proposed linkages between various stakeholders. The arrows indicate the direction of flow of information. The dotted lines indicate WRUA can also communicate directly to communities and vice versa.

Figure 8: Reporting Linkages for the Management Committee



4.7 Catchment and Water Resources Monitoring

The following matrix will be used for Monitoring and Evaluation to capture detail of the progress of implementation of the planned activities.

Table 7: Monitoring and Evaluation matrix template

Activities	Implementation Schedule		Status (% completion)	Planned Cost KSh.	Total expenditure to date	Source of funds	Output	Comments
	Start date	End date						

Made on the 12th August, 2024.

MOHAMED M. SHURIE,
 Chief Executive Officer,
 Water Resources Authority.