

THE FISHERIES MANAGEMENT AND DEVELOPMENT ACT

(Cap. 378)

IN EXERCISE of the powers conferred by section 39 (2) of the Fisheries Management and Development Act, the Director-General, in consultation with the County Government of Turkana, has developed the Lake Turkana Fisheries Management Plan set out in the Schedule for the conservation and management of Lake Turkana Fisheries—

SCHEDULE

THE LAKE TURKANA FISHERIES MANAGEMENT PLAN

1. This Plan may be cited as the Lake Turkana Fisheries Management Plan, 2023-2033.

Citation.

2. In this Plan, unless the context otherwise requires—

Interpretation.

“Act” means the Fisheries Management and Development Act;

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“aquatic resources” includes creatures such as fish, crabs, corals, whales; substrates such as sand, rock, minerals, man-made structures; and plants such as algae, kelp that abide underwater, whether in salty water or freshwater that are potentially useful;

“beach management unit” has the meaning assigned to it in the Act;

“biological reference points” means quantitative indicators of variables such as fishing mortality rate, yield or stock biomass by which the current state of the fishery can be judged;

“Cabinet Secretary” means the Cabinet Secretary for the time being responsible for matters relating to fisheries;

“catch per unit effort or catch rate” means quantity of fish caught in number or in weight with one standard unit of fishing effort for instance, number of fish taken per 1000 hooks per day or weight of fish, in tons, taken per hour of trawling;

“critical fish habitats” means the area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection and includes fish spawning or breeding areas, migratory routes and nursery grounds;

“frame surveys” means a census-based approach in which data is collected on all fishing crafts and gears at all the landing sites which could potentially be operating in Lake Turkana’s fishing sector are enumerated;

“fish biomass” means the total weight of all fish including males and females in the population which contribute to reproduction;

“fishing” has the meaning assigned to it in the Act;

“fisher folk” means people who catch fish for a living;

“fishery” has the meaning assigned to it in the Act;

“fish stock” means the living resources in the community or population from which catches are taken in a fishery;

“invasive species” is an aquatic organism that has spread or been introduced beyond its native range and is either causing harm or has the potential to cause harm;

“management measure” means specific controls applied in the fishery to contribute to achieving the objectives, including technical measures such as gear regulations, closed areas and time closures; input controls, output controls and user rights;

“Monitoring, Control and Surveillance” means—

- (a) “monitoring” means the continuous requirement for the measurement of fishing effort characteristics and resource yields;
- (b) “control” means the regulatory conditions under which the exploitation of the resource may be conducted; and
- (c) “surveillance” means the degree and types of observations required to maintain compliance with the regulatory controls imposed on fishing activities;

“Plan” means the Lake Turkana Fisheries Management Plan;

“sustainable exploitation” means exploitation of fishery resources that will not have a negative impact on the aquatic ecosystems and conducted in such a way that future exploitation will not be prejudiced;

“stock assessment” means the scientific process of collecting, analyzing relevant data on the fishery, reporting on the condition of a fish stock and estimating its sustainable yield for purposes of sustainable fisheries management;

“value addition” means the process of changing or transforming a product from its original state to a more valuable state;

“Lake Turkana basin” means a geographic land area draining into Lake Turkana;

“pollution” has the meaning assigned to it under section 2 of the Environmental Management and Co-ordination Act;

“slot size” means a tool used by fisheries managers to regulate the size of fish that can legally be harvested from particular bodies of water;

“Director-General” means the Director-General of the Service appointed under section 15 of the Act; and

Service” means the Kenya Fisheries Service established under section 7 of the Act.

APPLICATION OF THE MANAGEMENT PLAN

3. (1) The geographical area covered in this Plan is Lake Turkana basin and the riparian counties of Turkana, Marsabit and Samburu as set out in Annex 1.

Geographical area of the Plan.

(2) Lake Turkana, formerly Lake Rudolf, is a closed basin lake, stretching from 3° 34' 59" N, 36° 7' 0" E in Northwestern Kenya.

(3) Lake Turkana and Omo River basin covers an area of 130,860km² straddling between the Federal Republic of Ethiopia and the Republic of Kenya.

(4) Lake Turkana is the world's largest permanent desert lake and Africa's fourth largest lake by volume covering an area of 7,560 km².

(5) The basin climate is highly variable thus Lake Turkana experiences the highest water level fluctuations of all Kenyan lakes.

(6) The major source of water to Lake Turkana is the Omo River which has its source in the Ethiopian highlands and it enters Lake Turkana from the north and contributes more than ninety percent of the total water influx.

(7) Other inflowing rivers are the Turkwel and Kerio both of which are characterized by massive flooding during sporadic rains.

(8) The lake is bordered by Turkana, Marsabit and Samburu Counties to the west, east and south respectively as shown in Figure 1 in Annex 1.

4. The vision of the Lake Turkana fishery is to be a sustainably developed, well managed, competitive and optimally utilized fishery.

Vision of the Lake Turkana fishery.

5. (1) The broad objective of the Plan shall be to—

Objectives of the Plan.

- (a) provide a framework for interventions, investments and development of Lake Turkana fisheries;
- (b) provide an effective mechanism for sustainable exploitation of fisheries resource by involving the resource users in the management of Lake Turkana; and
- (c) develop mechanisms for reducing and resolving any conflicts arising from resource use, social and economic dimensions in the region.

(2) The specific objectives of the Plan shall be to—

- (a) in the case of biological objectives—
 - (i) rebuild the fisheries stocks levels in Lake Turkana;
 - (ii) apply a Harvest Control Rule exploiting no more than 20% of biomass in any one year effectively raising the catch;
 - (iii) apply a precautionary harvest control strategy by annually harvesting not more than 70% of the estimated annual biomass; and
 - (iv) apply the precautionary approach towards management of fisheries stocks;
- (b) in the case of socioeconomic objectives—
 - (i) increase fish production from Lake Turkana;
 - (ii) create employment opportunities and generate income;
 - (iii) enhance export opportunities and strengthen value addition;
 - (iv) reduce post-harvest losses from 40% to 10% by 2030 and increase value addition in fish and fishery products; and
 - (v) create incentives and increase financing in target fishing communities; and
- (c) in the ecological objectives—
 - (i) identify and protect at least twenty critical fish habitats in both sides of Lake Turkana by year 2030;
 - (ii) regulate capture fisheries and commercial aquaculture in the lake to minimize its potential impacts in the aquatic ecosystem;
 - (iii) adopt climate change mitigation measures in the fisheries resource;
 - (iv) ensure sustainable exploitation of all fisheries while retaining the natural trophic structure and ecological balance as well as a healthy and sustainable environment for fisheries production;
 - (v) develop a fisheries data collection system for monitoring commercial stocks, keystone species and ecologically important components of the fishery; and
 - (i) promote necessary research, technology, innovations and information sharing mechanism for management and development of Lake Turkana fisheries.

6. The conservation and management of Lake Turkana Fisheries shall be guided by the following principles and approaches—

Guiding principles.

- (a) precautionary principle;
- (b) biodiversity conservation principle;
- (c) cultural and social principles;
- (d) sustainability of fisheries resources;
- (e) ecosystem approach to fisheries management;
- (f) inter-generational and intra-generational equity;
- (g) participation, public accountability and transparency; and
- (h) the global dimension.

MEASURES FOR PROTECTION AND CONSERVATION

7. The Director-General declares the geographical areas specified in Annex 1 in the areas of Lake Turkana described in Figure 3 as breeding areas. Declaration of fish breeding areas.
8. (1) Fishing is prohibited in the breeding areas specified in Annex 1. Prohibition.
- (2) The breeding areas specified in Annex 1 shall be identified by marker buoys.
- (3) Any person who contravenes paragraph (1) commits an offence.
9. (1) It is prohibited to catch, land and trade in— Slot size prohibited.
- (a) Nile Perch (*Lates niloticus*) from Lake Turkana whose total length is less than 54 centimeters; and
 - (b) Nile Tilapia (*Oreochromis niloticus*) from Lake Turkana whose total length is less than 25 centimeters.
- (2) Any person who contravenes paragraph (1) commits an offence.
10. (1) No person shall use any gill nets for fishing in Lake Turkana, whose size is less than 12.5 centimetres in stretched diagonal length. Limitations on the mesh sizes of nets.
- (2) Any person who contravenes paragraph (1) commits an offence.
11. The fishery stock levels shall be built through— Fish Stocks Conservation and Utilization.
- (a) strengthening capacity for monitoring, control and surveillance;
 - (b) identification and protection of fish breeding grounds;
 - (c) training and sensitization on co-management;
 - (d) adoption of both precautionary and ecosystem approach to fisheries management; and
 - (e) development of standards for management of the fisheries stocks.

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| <p>12. Increased sustainable exploitation of fisheries resource shall be realized through the—</p> <ul style="list-style-type: none"> (a) development of fishing capacity; (b) transformation of beach management units into commercial entities; (c) provision of incentives and sanctions; (d) training of fishing crews in commercial fishing; (e) development of fishing fleet capacity; (f) adoption of modern fishing technology and innovations; (g) promotion of value addition of fish and fish products; (h) provision of suitable financing schemes; (i) establishment of fish processing facilities; and (j) identification of new markets. | <p>Optimal utilization of the fisheries resources.</p> |
| <p>13. To reduce post-harvest losses from 40% to 10% by the year 2033, the following interventions shall be undertaken—</p> <ul style="list-style-type: none"> (a) development of landing site infrastructure; (b) development of wind and solar energy for fish cold chains; (c) improvement of fish processing technologies for value addition; (d) undertaking training needs assessment and plan for capacity building; and (e) strengthening of beach management units' structures and marketing of fish products. | <p>Control of fish post-harvest losses.</p> |
| <p>14. Participatory fisheries resource management shall be undertaken through—</p> <ul style="list-style-type: none"> (a) conducting a survey on co-management needs; (b) establishment and training of beach management units; (c) establishment and strengthening of lake-wide co-management structures; (d) enforcement of beach management units' by-laws; and (e) capacity building on resource mobilization. | <p>Strengthening fisheries co-management.</p> |
| <p>15. (1) A healthy Lake Turkana and watershed ecosystem will be realized through—</p> <ul style="list-style-type: none"> (a) the establishment of a pollution monitoring unit; (b) regular monitoring and reporting on the levels of heavy metals in sediments, water and fish of lake Turkana and its inlet rivers and adjacent dams; (c) regular monitoring of biological oxygen demand and chemical oxygen; | <p>Environmental Concerns (water abstraction, pollution and climate change).</p> |

- (d) regular monitoring of nitrates, nitrites, and phosphates on the waters and sediments;
- (e) establishment of a multi-sectoral unit to assess the impact of invasive species;
- (f) the promotion of sustainable land use in Lake Turkana basin; and
- (g) the establishment of a transboundary River Omo-Lake Turkana management plan.

16. The effects of climate change on Lake Turkana and fisheries shall be addressed by—

Mitigation against Climate Change effects.

- (a) identifying the climate change mitigation measures;
- (b) identifying and implementing climate change adaptation strategies;
- (c) mainstreaming climate change adaptation and mitigation measures; and
- (d) establishment of River Omo-Lake Turkana basin groups platforms on sustainable utilization, and management of Lake Turkana basin.

7. Effective mechanisms for reducing and resolving resource use conflicts shall be put in place and strengthened through the—

Resolving inter-communal and cross-border natural resource conflicts.

- (a) promotion of cross-border peace programs; and
- (b) enhancement of dialogues between fisher folk and pastoralists.

IMPLEMENTATION OF THE PLAN, MONITORING AND EVALUATION

18. (1) The Service shall be the lead agency in the implementation of this Plan in collaboration with—

Implementation framework.

- (a) the State Department for Blue Economy and Fisheries;
- (b) the Ministry of Interior and Co-ordination of National Government;
- (c) the Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works;
- (d) the Ministry of Foreign Affairs;
- (e) the Riparian Counties (Turkana, Marsabit and Samburu);
- (f) the Kenya Marine Fisheries Research Institute;
- (g) the Water Resource Management Authority;
- (h) the Kenya Wildlife Service;
- (i) the National Environment Management Authority;

- (j) the National Museum of Kenya;
- (k) the beach management units;
- (l) the Non-Governmental Organizations in Lake Turkana region;
- (m) the Women Representative, Turkana County; and
- (n) the youth representative, Turkana County.

19. (1) Monitoring and evaluation of this Plan shall be continuous activity regardless of the management approaches adopted.

Monitoring and evaluation.

(2) The management and evaluation component of this Plan provides a basis for correction, adjustments and improvements to the proposed goals, targeted activities and assessment of the achievements attained.

(3) The guiding principle for the whole process will target the maintenance of multi-functionality values of the ecosystems of the basin including the integration of development agenda or investments with conservation and ensuring full involvement of all basin-dependent stakeholders.

(4) During this stage, problems encountered in implementation of planned activities shall be identified and strategies to address them outlined.

(5) The Plan therefore proposes collection of baseline data for monitoring, updating and reviewing of the Plan in accordance with its objectives.

20. (1) A monitoring and evaluation plan shall be designed and reviewed regularly for the purpose of this Plan.

Methods of monitoring.

(2) A log frame will be institutionalized to guide monitoring and evaluation.

(3) Monitoring indicators will be clearly stated in the implementation or action plan.

(4) Evaluation will be undertaken at mid-term and at the end of the Plan period to assess the progress and achievements in the implementation of the planned activities.

(5) The evaluation will also help to address the constraints encountered during implementation of the Plan.

(6) The issues to be monitored and evaluated include—

- (a) the extent of implementation of the Plan by the stakeholders;
- (b) the responsiveness to education and awareness initiatives;
- (c) progress reports, work plans, and stakeholder involvement and participation;
- (d) the impact of management prescriptions;
- (e) the environmental status of the lake and its catchment through the use of biological, physical, social and economic indicators; and

(f) budget allocations, expenditure and accounting procedures.

(7) Monitoring and evaluation indicators shall be identified, quantified, qualified and verified for the different management activities in order to assess the progress and achievements of the set targets in the Plan.

21. The biological aspects of the fishery shall be monitored by collecting comprehensive research data on the following aspects to identify the gaps— Biological.

- (a) the fish sizes;
- (b) the fish weight;
- (c) the size at maturity;
- (d) the breeding area;
- (e) the breeding season; and
- (f) the population dynamics.

22. The fishery shall be monitored in terms of the following variables— Catch and biomass.

- (a) catch;
- (b) catch per unit effort;
- (c) maximum sustainable yield;
- (d) maximum economic yield;
- (e) spawning stock biomass; and
- (f) harvestable biomass.

23. (1) The various measured effort level shall be derived from the biological and catch data. Effort levels.

(2) These effort levels shall provide an assessment of the existing fishing pressure as compared to target and limit reference points for specific fish species—

- (a) the fishing mortality at MSY (F_{MSY});
- (b) the fishing mortality at MEY (F_{MEY});
- (c) the fishing mortality at 10% of MSY ($F_{0.1}$);
- (d) the optimal fishing mortality ($F_{0.5}$);
- (e) the fishing mortality where SSB is at MSY ($F_{SSB/MSY}$);
- (f) the fishing mortality where SSB is at MEY ($F_{SSB/MEY}$); and
- (g) the fishing mortality where SSB is at MEY ($F_{SSB/MEY}$).

24. An assessment of the fish stocks shall provide information on the stock status and the conservation status of species that may have been classified as— Conservation issues.

- (a) endangered;

- (b) vulnerable; or
- (c) threatened.

25. The Plan parameters to monitor shall include the—

Environmental issues.

- (a) lake level;
- (b) inflows and water budget;
- (c) water quality including physical parameters such as conductivity, temperature or turbidity; and
- (d) water quality including chemical parameters such as nutrients, DO, pH hardness or alkalinity.

26.(1) The Director-General shall, in collaboration with key stakeholders, identify and promote opportunities to develop a sustainable fishery operated by artisanal fishers using small vessels and low impact fishing gears, and shall encourage communities and individuals to invest in artisanal commercial fishery through public-private partnerships.

Special considerations.

(2) The Director-General shall, in collaboration with stakeholders, promote the formation of fisher associations whereby communities and fishers shall be encouraged to form fisher marketing associations in line with national development strategies and develop marketing strategies for artisanal fishers.

(3) The Director-General shall involve the participation of civil society organizations, development agencies and other partners on fisheries development and investment to form joint ventures targeting microfinance, marketing infrastructure and opportunities.

27. This Plan—

Equitable distribution of benefits from fishery resources.

- (a) recognizes the need for empowerment of the local people to utilize the commercial fishery through use of artisanal technology;
- (b) recommends the establishment of a Community Trust Fund, benefits from which shall be distributed through the beach management units; and
- (c) recommends an auction system for catch allocation to increase revenue to the Government.

RESOURCE MOBILIZATION, REVIEW OF THE PLAN, CONFLICT AND DISPUTE RESOLUTION

28. The State Department responsible for Fisheries and the Service shall mobilize resources required to finance the budget for implementation of the Plan.

Resource mobilization.

29. (1) The Director-General shall ensure that implementation of this Plan complies with the relevant provisions of the Environmental Management and Coordination Act, the Forest Conservation and Management Act, the Maritime Zones Act, the

Linkages.

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Wildlife Conservation and Management Act, the Merchant Shipping Act and any other relevant laws.	Cap. 385. Cap. 371. Cap. 376. Cap. 389.
(2) The Director-General shall ensure that the implementation of this Plan is consistent with the National Oceans and Fisheries Policy 2009, Vision 2030 and any other relevant policy.	
30. Relevant stakeholders will put measures in place to ensure sustainable management and utilization of Lake Turkana Fisheries and its ecosystem.	Sustainability.
31. All disputes emanating from implementation of this Plan shall be determined in accordance with the Act.	Resolution of disputes.
32. (1) This Plan may be reviewed from time to time but in any event, at least once in every five years.	Reviews and amendments.
33. The Director-General shall prepare an implementation strategy for this Plan, which shall contain details on activities, responsibilities, timelines, objectively measurable and verifiable indicators, expected outcomes and the cost implications among other details.	Implementation plan.
34. A person who commits an offence under this Plan shall, on conviction, be liable to penalties set out in section 39 of the Act.	Penalties.

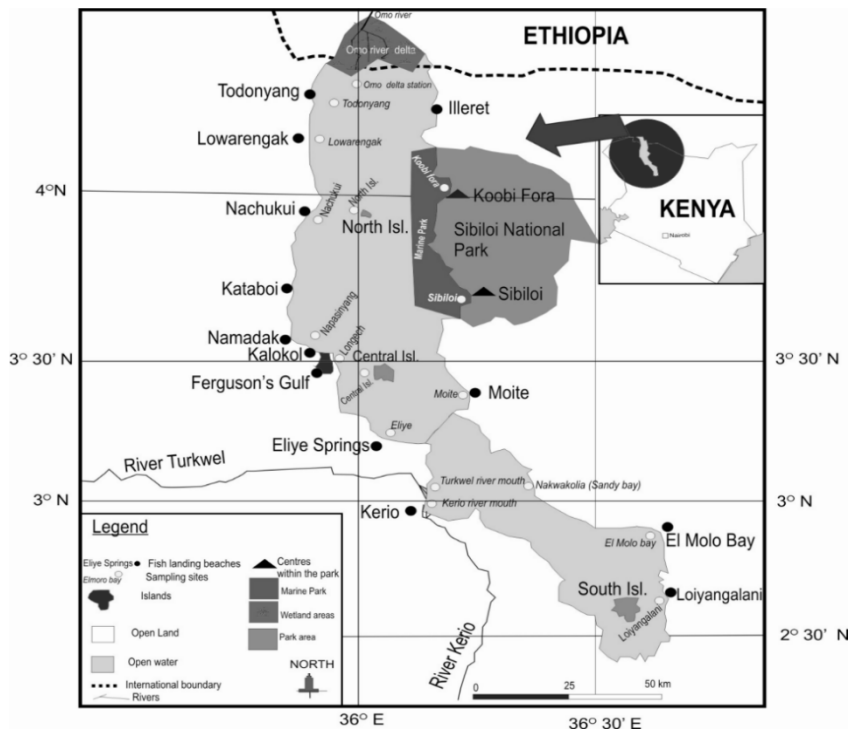
ANNEX 1

A. GEOGRAPHICAL AREA

Name of fish breeding site	Co-ordinates		Area (km ²)
	Latitude	Longitude	
Ekoyo/Napasinyang River Mouth	3°36'145''	35°51'565''	10.5 km ²
Omo River Mouth	4°39'30''	36°15'00''	15.5 km ²
Turkwel/Kerio River Mouth	3°02'57''	36°16'00''	30 km ²
Fergusons' Gulf	3°48'95''	35°91'71''	10 km ²
Koobi Fora	4°02'23''	36°19'78''	30 km ²
Todonyang	4°44'19''	35°96'42''	10 km ²
Central Island	3°47'04''	36°03'87''	10 km ²
Southern Island	2°59'52''	36°59'07''	30 km ²

B. FIGURE 1:

Map of Lake Turkana showing wetlands, park areas, marine parks, open water and international boundaries delineating the coverage of the Plan (Source: KMFRI, 2007).



ANNEX 2

Table 1: Implementation matrix

Strategic Actions	Objective	Activities	Expected Output/ Outcome	Performance Indicators	Implementing Agency (s)	Time frame	Source of Funds
1. Fish Stocks Conservation and Utilization.	To increase the percentage of catches to 100% by 2030.	Build fishing capacity among fishers.	- Increased fish catches.	Nutritional survey Household survey.	SDBEF, SDM & SA, County Governments.	2023–2033	GoK, IMO
	To rebuild the fisheries stocks levels in Lake Turkana.	- Enforce fisheries management measures; closed areas, closed seasons on fishing methods, gears or fish being landed, restriction and regulation on fishing methods and gears. - Identify, map and protect fisheries critical habitat by closing the relevant areas from fishing activities.	-Increased fish biomass.	Stock assessment reports.	SDBEF, SDM&SA, MDAs, County Governments, MoE .	2023–2033	GoK, DPs
	Apply a Harvest Control Rule (HCR) exploiting no more than 20% of biomass in any one year effectively raising the catch.	Undertake fish catch and stock assessments.	- Status of fish stocks ascertained. - Harvest levels determined and applied in the management of fishery.	Percentage of stock exploited.	SDBEF, SDM&SA, MDAs, County Governments.	2023/24 – 2027/28	GoK,
	Enhance management and conservation of Fisheries stocks by use of precautionary approach.	Enforcement of fisheries management measures and regulations. -Sensitization on co-management. wyt Development of standards for management of the fisheries stocks.	-Fisheries compliance reports. -Standards for management of fisheries.		SDBEF, SDM&SA, KeFS, KMA, DoD, MDAs, KPA, KRA, KMFRI, KIRDI, County Governments.	2023/24 - 2027/28	GoK& DPs

2. Research on fisheries biology, stocks and fishing effort and habitats.	- Promote research, technology, innovations and information sharing mechanism.	<ul style="list-style-type: none"> - Undertake research on fish catches and stocks, technology and innovations. - Conduct Frame Surveys. - Strengthen fisheries data collection and dissemination. - Establishment of Blue Book for Lake Turkana. - Establish linkages between research and policy decision making. 	<ul style="list-style-type: none"> - Research reports. - Technology and innovations developed. - Reports on fishing effort. - Fisheries bulletins. - Fisheries database. - Blue Book for Lake Turkana. - Scientific information for policy decision making. 	<ul style="list-style-type: none"> - Data on biomass, - Number of Technologies and innovations developed. - Functional Integrated fisheries data base. - Number of policy decisions made based on scientific information. - Blue Bk for Lake Turkana. - Number of Frame Surveys and Stock Assessment conducted. 	KMFRI, KeFS, SDBEF County Governments Private sector BMUs.	23/24 – 33/34	GoK, PPP
3. Increase local fish consumption.	To increase the percentage of catches that goes for local human consumption by 100% by 2030.	<ul style="list-style-type: none"> - Awareness creation on the value of fish as food. - Develop campaign strategy and create awareness on the nutritional value of fish. - Mount eat more fish campaign including training on cooking fish dishes. - Develop local fishing capacity, 	- fish utilization statistics.	Sensitization reports.	SDBEF, SDM&SA, MDAs, County Governments., MoH.	2023– 2033	GoK, DPs
4. Improve Inputs and Technology.	To increase production of commercial species by at least 10%	<ul style="list-style-type: none"> - Develop fishing Fleet capacity. - Under training of fishing crews. - Promote adoption of modern fishing technology and innovations. - Promote value added fish and fish products. - Provide suitable financing schemes. 	<ul style="list-style-type: none"> - Fishing fleet capacity developed. - Fishing crews trained. - Modern fishing technologies adopted. - Value added fish and fish products promoted. - Suitable financing schemes provided. 	<ul style="list-style-type: none"> - Number of fishing fleet procured. - Number of crews trained. - Number of fishing technologies adopted. - Number of value added products. - Number of schemes. 	SDBEF, KeFS, KFMA, TNT, TP, KMA, KMFRI, FLTF, County Governments., Private Sector and Development partners.	2023/24 – 2032/33	GoK, DPS

5. Reduce Post-Harvest Losses.	To reduce post-harvest losses from 20% to 10% by 2030 and increase value addition in fish and fishery products.	<ul style="list-style-type: none"> - Designate and gazette landing sites. - Develop all 34-landing site infrastructure and fish cold chains. - Improve fish processing technologies for value addition. - Promote value addition of fish and fish products. 	<ul style="list-style-type: none"> - 34 Landing sites designated and gazetted. - Reduced post-harvest losses. - Infrastructure developed in 34 landing sites by 2030. - Fish value chain actors trained on value addition. - Developed sanitary and fish handling facilities at the landing sites. 	<ul style="list-style-type: none"> - Number of 34 Landing sites designated and gazetted. - No landing sites developed with infrastructure. - No of value-added fish products. - Percentage reduction in harvest losses. - No of Cold chain infrastructure developed. 	SDF & BE, SDM&SA, MoE MPSY& GA, County Governments, Media.	2023/24	GoK, DPs
6. Strengthen Marketing Systems	Promote fish marketing and entrepreneurship.	<ul style="list-style-type: none"> - Conduct a survey on marketing and entrepreneurship needs. - Establish fish marketing system. - Training on fish value chains development 	<ul style="list-style-type: none"> - Report on market and entrepreneurship needs assessment. - Strong marketing system established. - Skills for value chain and product development 	<ul style="list-style-type: none"> - Number of new markets identified. - Number of trainings. - Number of people applying skills for entrepreneurship and value addition. - Number of fish and fishery products. 	KFMA, KeFS, SDBEF SDC, KMFRI, County Governments.	2023/2024 4 – 5	GoK
7. Strengthen co-management	Promote participatory management of fisheries resources.	<ul style="list-style-type: none"> - Conduct a survey on co-management needs. - Establish and strengthen BMUs. 	<ul style="list-style-type: none"> - Survey report. - Increased participation of stakeholders in fisheries management. 	<ul style="list-style-type: none"> - Report on survey conducted. - Number of BMUs established. - Number of co-management areas. 	County Government, KeFS, SDBEF.	2023/2024 4- 5	GoK

8. Coordinate Involvement of Private Sector and Development Partners in Fisheries development.	Provide a consultative forum for stakeholders and development partners.	<ul style="list-style-type: none"> - Carry out Stakeholder mapping. - Carry out stakeholder analysis. - Sensitization of stakeholders. - Formation and registration of the development forum. 	-Organized funding and planning for development in the basin.	<ul style="list-style-type: none"> - Investors and development partners mapped. -Stakeholder analysis report -Sensitization of stakeholders' report. -Development forum formed and registered 			GoK/DP
9. Address. Pollution, invasive species, climate change and Water abstraction, and resource-based conflicts.	To establish a pollution monitoring system.	<ul style="list-style-type: none"> - Appointment of staff to the environmental monitoring unit. - develop terms of reference for the staff in the unit. - Establish a multi-agency enforcement and compliance team. - Carry out regular physic-chemical and biological quality monitoring. 	<ul style="list-style-type: none"> - Quality water ecosystem and quality fish for food produced from Lake Turkana. -Sustained Fish production. 	<ul style="list-style-type: none"> - Appointment letters of staff to the Unit. Terms of reference developed. - Appointment letters to the pollution monitoring unit. 	KeFS, KMFRI, KCCS, Universities, SDBEF, NEMA, Ministry of Water, Ministry of Foreign Affairs, Riparian County Governments.		GoK, /DPs
		<ul style="list-style-type: none"> - Regular monitoring and reporting on the levels of heavy metals in sediments, water and fish of lake Turkana and its inlet rivers and adjacent dams. - Regular monitoring and reporting of biological oxygen demand and chemical oxygen demand of lake Turkana and its inlet rivers and adjacent dams. - Regular monitoring of pesticide residue levels in the water, sediment and fish of lake Turkana and its inlet rivers and adjacent dams. - Regular monitoring of nitrates, nitrites, and phosphates on the waters and sediments. 	<ul style="list-style-type: none"> - Monitoring reports on the levels of heavy metals in sediments, water and fish of lake Turkana and its inlet rivers and adjacent dams. - Monitoring reports on biological oxygen demand and chemical oxygen demand of lake Turkana and its inlet rivers and adjacent dams. 				

		<ul style="list-style-type: none"> - Establishment of a multi-sectoral unit to assess the impacts of invasive species and mobilize to combat of the invasive species. - Assessment and recommendation of appropriate measure for elimination of prosopis juniflora and any other invasive from the banks of lake Turkana and its landing, feeder river banks and dams or their waters. - Execution of recommended methods to eliminate prosopis Juniflora or any other invasive species from the banks of lake Turkana, feeder river banks and dams or their waters. 		<ul style="list-style-type: none"> - Monitoring reports on pesticide residue levels in the water, sediment and fish of lake Turkana and its inlet rivers and adjacent dams. - Monitoring reports nitrates, nitrites, and phosphates on the waters and sediments - Multi-sectoral unit established 			
	To mitigate against invasive plant and fish species.	<ul style="list-style-type: none"> - Establishment of a multi-sectoral unit to assess the impacts of invasive species and mobilize to combat of the invasive species. - Assessment and recommendation of appropriate measure for elimination of prosopis juniflora and any other invasive from the banks of lake Turkana and its landing, feeder river banks and dams or their waters. - execution of recommended methods to eliminate prosopis Juniflora or any other invasive species from the banks of lake Turkana, feeder river banks and dams or their waters. 	Improved access to fishing grounds and fish landing sites	<ul style="list-style-type: none"> - Appointment letter to the multisectoral unit on invasive species -Assessment Report on Invasive species and recommendations 	KeFS, KMFRI, KCCS, Universities, SDBEF, NEMA, Ministry of Water, Ministry of Foreign Affairs, Riparian County Governments.		GoK, DPs
	To Mitigate against climate change effects.	<ul style="list-style-type: none"> - Train on climate change and mitigation measures. - Carry out climate change research to predict the future of fish species in the lake. - Identify climate change mitigation related issues. - Identify climate change adaptation strategies. - Mainstream climate change adaptation and mitigation measures. 	<ul style="list-style-type: none"> -Assured future of the fishery from climate change impacts. -Number of climate smart technologies adopted. 	<ul style="list-style-type: none"> - Research reports of climate change - Training reports. 	KeFS, KMFRI,		GoK, DPs

	To promote sustainable use and conservation of transboundary water and fisheries resources.	<ul style="list-style-type: none"> - Establishment of River Omo-Lake Turkana Basin groups/platforms on sustainable Utilization, and management of Lake Turkana Basin. - Establish a water management monitoring unit 	- Sustainable water levels in the lake achieved	<ul style="list-style-type: none"> - Appointment letters of staff to the Unit. - Terms of reference developed. 	KeFS, KMFRI, KCCS, Universities, SDBEF, NEMA, Ministry of Water, Ministry of Foreign Affairs, Riparian County Governments.	GoK, /DPs
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NOTES:

- CGs — County Governments.
- DoD — Department of Defence.
- FLTF — Fish Levy Trust Fund.
- KeFS — Kenya Fisheries Service.
- KFMA — Kenya Fish Marketing Authority.
- KIRDI — Kenya Industrial Research and Development Institute.
- KMA — Kenya Maritime Authority.
- KMFRI — Kenya Marine Fisheries Research Institute.
- KPA — Kenya Ports Authority.
- KRA — Kenya Revenue Authority.
- MDAs — Ministry, Departments and Agencies.
- MoE — Ministry of Environment.
- MoH — Ministry of Health.
- SDPHPS — State Department for Public Health and Professional Standards.
- NEMA — National Environmental Management Authority.
- TNT — The National Treasury.
- SDC — State Department for Cooperatives.
- SDBEF — State Department for Blue Economy and Fisheries.
- SDS&MA — State Department for Shipping & Maritime Affairs.

Made on the 30th day of January, 2025.

DANIEL MUNGAI,
Director-General, Kenya Fisheries Service.