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UNITED ARAB EMIRATES
MINISTRY OF CLIMATE CHANGE
& ENVIRONMENT

برنامج المصايد السمكية المستدامة
لدولة الإمارات العربية المتحدة
UAE SUSTAINABLE
FISHERIES PROGRAMME

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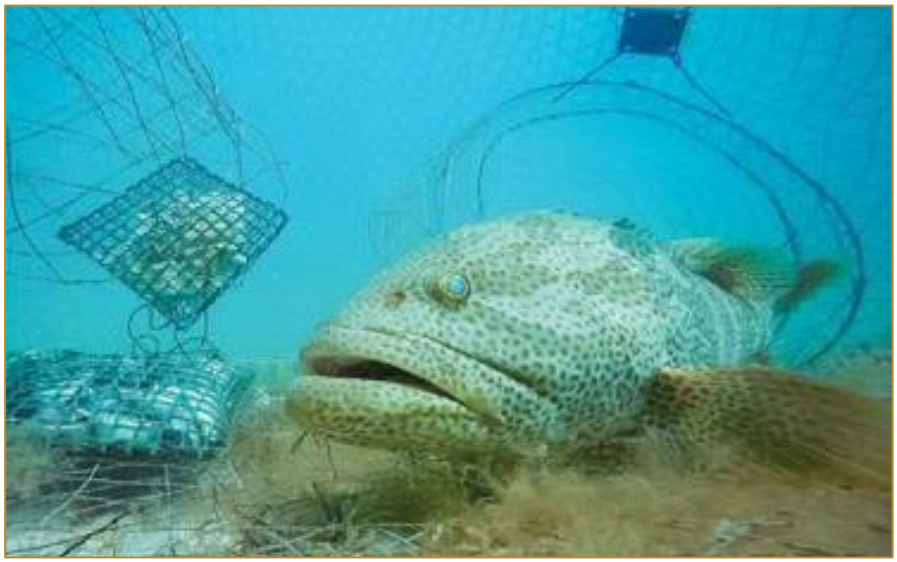
هيئة البيئة - أبوظبي
Environment Agency - ABU DHABI

The UAE National Framework Statement for Sustainable Fisheries (2019-2030)



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Ministry of Climate Change & Environment

Foreword. Message from the Minister

Ministry of Climate Change and Environment

Our relationship with the sea has always been a key component of the cultural fabric of our nation – and fisheries has been and will continue to be important to us and a part of who we are. In partnership with the Environment Agency - Abu Dhabi and our stakeholders and in recognition that our fisheries resources like those globally are overexploited, we launch this clear and transparent plan to achieve a sustainable fishery within the UAE by 2030. Based on comprehensive scientific studies and after consulting with our fishing community, I am confident that this Framework we put in place will guide how we achieve this.

Our Ministry is grateful for the valuable feedback and ongoing contributions made by the various local authorities for fisheries management across the UAE. Special thanks are due to the Environment Agency - Abu Dhabi team, who prepared the Framework, and for their dedication and continued support in pursuing the achievement of sustainable fisheries in the UAE.

By continuing to work together, government entities, the private sector, our fishing community and the wider public, we can overcome our challenges and achieve our fisheries vision. And regionally for migratory fish species, we will of course continue working with our regional partners to achieve our goals.

His Excellency Dr Thani Al Zeyoudi
Minister of Climate Change and Environment
United Arab Emirates

Foreword. Message from the Secretary General Environment Agency – Abu Dhabi

The sea has always been part of what it means to be Emirati and has always been our bridge to the world, a source of livelihood and pride for us in the UAE. Historically, our seas have been and will continue to be an important bridge not only for us, but for all nations in the Indian Ocean Region. One key global, regional and local issue that is impacting our ocean and coastal communities is the overexploitation of fisheries. Here in Abu Dhabi and the UAE we are facing the same issues. In recognition of this, four years ago the Environment Agency - Abu Dhabi partnered with the Ministry of Climate Change and Environment and established the UAE Sustainable Fisheries Programme, that would enable us to better understand our fishery and put in place plans to achieve its sustainability. Under the umbrella of this Programme we have completed the most comprehensive fisheries survey of the UAE's waters; completed socioeconomic and traditional knowledge surveys; developed fisheries laws, policies; and a national fisheries research and monitoring plan; improved fisheries enforcement on land and sea; and improved fisheries information management across Abu Dhabi Emirate.

The programme was a comprehensive fisheries sector review, provided decision makers with the most up to date understanding of the fishery, and put in place the building blocks to achieve a sustainable fishery by 2030.
Accordingly, we are pleased to be launching this UAE National Framework Statement for Sustainable Fisheries (2019-2030). It provides a summary of where we are, where we want to go, and how we will get there. By 2030, I am confident we can achieve our desired national outcome of an environmentally sustainable, economically viable, and socially responsible fishing sector.

We thank the Ministry of Climate Change and Environment, and our stakeholders, public and private, for their support and contribution in developing this Framework. By continuing to work together, we can achieve once again what we have historically always had, a sustainable fishery.

Her Excellency Dr Shaikha Al Dhaheri
Acting Secretary General
Environment Agency - Abu Dhabi
United Arab Emirates

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1. FRAMEWORK VISION

1.1 Framework Aim

Best available scientific and socioeconomic information indicates that the United Arab Emirate's (UAE) fisheries are severely overexploited. In recognition of this challenge, the Ministry of Climate Change and Environment (MOCCAE) in collaboration with the Environment Agency Abu Dhabi (EAD) and Competent Authorities, is pursuing a 2030 aim of 'sustainable fisheries.' This will be achieved through pursuing fisheries management best practice at the national level and working with Competent Authorities and stakeholders at the emirate level. This document is intended to provide a clear vision of the future of fisheries in the UAE and a common basis for action for achieving that vision.

1.2 Framework Objectives

The overall objective of this framework is to achieve sustainable fisheries for the UAE. This will be achieved by pursuing the environmental sustainability of fisheries with the support of economic and social elements. Sustainable fisheries can be defined as meeting the balance between environmental, economic and social objectives, whilst allowing fish stocks to recover.

- Environmental objective: Understand the current state of fish-stocks, re-build strategic fish-stocks above the 30% sustainable threshold, retain existing stock levels for other fish-stocks, preserve the ecosystem, and reduce risks of future overexploitation.
- Economic objective: Retain a commercial element to the fishery at a level which does not undermine environmental sustainability. As fish-stocks recover, focus can move to maximizing economic value from allowable catch and ensuring a level of catch that is in line with protein needs and food security.
- Social/Cultural objective: Preserving the inherent cultural elements (heritage) of fisheries activities, while not contradicting environmental sustainability needs.

1.3 Challenges

The UAE's fisheries resources are severely overexploited with an estimated 90% decline in the adult (reproductive) stock size for the three key demersal indicator species - Hamour (Orange spotted Grouper—*Epinephelus coiodes*), Shaari (Spangled Emperor — *Lethrinus nebulosus*) and Farsh (Painted Sweetlips — *Diagramma pictum*).

Thirty percent is the international sustainable fisheries management threshold below which these stocks are considered to be overexploited yet in the UAE, best available information infers that the relative adult stock size of these three species are considered to be around 10% of their unexploited state.

The severely overexploited state of the fishery (environmental) is the main driver for this framework, with proposed solutions also needing to take into account the importance of fisheries to the UAE's heritage (social) and those fishers that rely on fishing for primary income (economic).

1.4 Legal Authority

MOCCAE is the federal authority for fisheries management under Federal Law No. 23 (1999), as amended by Federal Law No.7 (2016) and its bylaw (Ministerial Decree No. 21 (2018)). Emirate UAE-wide Competent Authorities for fisheries management also have an important role in fisheries management as stated in those legislations, with this framework intended to guide the achievement of sustainable fisheries in the country.

1.5 Application

This framework communicates to stakeholders that fishing resources in the UAE are severely overexploited, and that MOCCAE, in collaboration with EAD and Competent Authorities and stakeholders, has launched this framework statement to guide sustainable management in the future. Key stakeholders are presented in Table 1.

Table 1: Fisheries Framework Stakeholders

Stakeholder role	Stakeholder
Decision Makers	Ministry of Climate Change and Environment Ministry of Economy Executive Councils, Emirate Municipalities & Competent Authorities
Framework Manager	Ministry of Climate Change and Environment
Technical Advice & Framework Delivery	Ministry of Climate Change and Environment Environment Agency-Abu Dhabi
Regulatory Entities	Ministry of Climate Change and Environment Emirate Municipalities and Competent Authorities
Delivery Partners	Ministry of Climate Change and Environment Environment Agency Abu Dhabi Emirate Municipalities and Competent Authorities
Government Entities	Emirate Municipalities and Competent Authorities Critical Infrastructure and Coastal Protection Authority (CICPA) Federal Transport Authority – Land and Maritime (FTA)
Additional Stakeholders	Commercial Fishers Recreational Fishers Fishermen's Cooperative Societies Aquaculture Producers Public

1.6 Framework Effective Date and Duration

This framework, to pursue sustainable fisheries in the UAE, is effective as of 6 March 2019, with its aims and objectives to be achieved by 2030.

2. BACKGROUND

2.1 UAE Fisheries and Heritage

The waters of the Arabian Gulf and the Sea of Oman, their islands, their coastlines and fisheries are of fundamental importance to the people of the UAE, and the region. Historically, fisheries resources sustained the UAE's ancestors – fishing and harvesting marine resources were integral to their survival, with the sea the link between the Arabian Gulf region, and the rest of the world. Whether on the coast or inland, all life in the UAE was fundamentally connected to fisheries resources and the maritime domain. With the quadrupling of the population of the UAE over the past 20 years (from approximately 2 million in 1990 to approximately 9.4 million in 2017) and a resulting increased demand for seafood and other uses in the maritime domain, the UAE's fisheries, like those globally, have come under increasing pressure.

2.2 Pressures on the Fishery

Consistent with the pressures on global fisheries resources, pressures on the UAE's fisheries resources have included:

- An increased demand for fish due to a rapidly growing population;
- Loss and degradation of key habitats and marine water quality due to coastal development, cumulative desalination activities, pollution and climate change;
    - Three different climate change models have predicted that by 2090, there will likely be an additional decline in fish catch of up to 26% due to climate change;
    - Ocean acidification due to climate change affects reproductive processes and juvenile survival of fish;
- Loss of mangroves and seagrass to coastal development severely impacts fisheries resources due to a loss of nursery function;
- Illegal, and unreported fishing;
- Use of illegal fishing gear;
- Catching of prohibited species or violating size limits; and
- Unreported and significant catch by the recreational fishing sector.

Dedicated UAE-wide socioeconomic studies indicate that one of the key pressures on the fishery is the overcapacity of the commercial and recreational fishing sectors – with the most landed demersal species, Hamour, Shaari and Farsh being overexploited by an estimated five times the sustainable limit, with the pelagic, Kanaad (Narrow-barred Spanish Mackerel – *Scomberomorus commerson*), being overexploited by up to three times the sustainable limit.

2.3 Fisheries Science

2.3.1 A Severely Overexploited Fishery

Sixteen years of fisheries scientific studies by MOCCAE, EAD and UAE-wide emirate Competent Authorities for fisheries management indicate that the UAE's key fisheries resources are severely overexploited. Most recently, in 2016-2017, the most comprehensive Fisheries Resources Assessment Survey (FRAS) was completed in the UAE's waters, the results of which confirm that the demersal fishery is severely overexploited - with Hamour, Shaari, and Farsh at approximately 10% of their mean adult stock size.

Two geographical areas were surveyed – the Arabian Gulf waters of the UAE and the waters of the UAE in the Sea of Oman. The Arabian Gulf survey spanned 250 days at sea, and included over 2500 survey stations and the gathering of information about 200+ species of fish, sharks, and rays. The survey results indicate that the UAE demersal (bottom-dwelling) fisheries resources are severely overexploited due to severe fishing pressures and are in need of major recovery.

The survey was conducted in partnership with the National Institute of Water and Atmospheric Research (NIWA), a New Zealand-based organisation made up of fisheries experts. It aimed to assess the abundance and distribution of fish stocks in UAE waters, evaluate the link between protected areas and key commercial species' stock, and, update status, biological parameters, size and age structures of key commercial fish stocks.

The survey indicated that mainly due to severe fishing pressures, key species like Hamour, Shaari, and Farsh are being overfished. According to the survey results, Farsh is severely exploited and has been reduced to 7% of its adult stock size. Hamour and Shaari are also overexploited with stock sizes at 12% and 13% of unexploited levels respectively. A sustainable level for these species would be between 30% and 40%, with their current state defining these stocks as 'severely overexploited' for these species. For the Hamour, which has a life span of over 20 years, they are only growing to a maximum age of eight years. Even more alarmingly, data collected on Farsh revealed that very few adult fish live over the age of two, despite an expected lifespan of over 30 years in the Arabian Gulf.

In the Sea of Oman, surveys to estimate biomass of demersal fishes were conducted in May and December 2017. Biomass estimates were based on trawl catches from seven stations using the swept area method and from acoustic surveys. Results were compared to previous surveys on the Sea of Oman coast in 2003 and 2012 with the results also indicating that the fishery has been severely overexploited. Previous studies estimated biomass density for the east coast of the UAE at 1,735 kg/km2 in 2001-2002, 529 kg/km2 in 2012 and 1,221 kg/km2 in 2017.

In addition to the FRAS assessments completed in the Arabian Gulf and Sea of Oman, the following MOCCAE, EAD and UAE-wide emirate Competent Authority surveys completed over the past sixteen years corroborate the status of the UAE fishery.

- Three independent studies undertaken over 16 years in Abu Dhabi waters, which account for approximately 72% of the UAE's Arabian Gulf waters, show that at least 12 species have been harvested beyond sustainable levels. This data is also representative of the UAE's Arabian Gulf fishery given Abu Dhabi's majority proportion of the UAE's Arabian Gulf marine area and studies indicating that many fishers from other emirates fish in Abu Dhabi's waters.
- The 12 overexploited species account for 73% of the commercial catch and 85% of the commercial fishery revenue. In addition to the iconic species such as the Hamour (Orange Spotted Grouper - *Epinephelus coioides*), Shaari (Spangled Emperor - *Lethrinus nebulosus*), Farsh (Painted Sweet Lip - *Diagramma pictum*) and Kanaad (Narrow-barred Spanish mackerel - *Scomberomorus commerson*), these overexploited species include the Dhil'e (Talang Queenfish - *Scomberoides commersonnianus*), Zuraidi (Golden Trevally - *Gnathanodon speciosus*), Jesh Um Al Hala (Orange-spotted Trevally - *Carangoides bajad*), Qabit (Gold-lined Seabream - *Rhabdosargus sarba*), Safi Arabi (White-spotted Spinefoot - *Siganus canaliculatus*), Kofar (King Soldier Bream - *Argyrops spinifer*), Esnenuh (Yellow fin Hind - *Cephalopholis hemistiktos*) and Marjaan (Mangrove Red Snapper - *Lutjanus argentimaculatus*).

- Discrete MOCCAE assessments of size and length composition data derived from the northern and eastern emirates (with the exception of Dubai and Fujairah) have indicated that the status of these species in other locations within the UAE corroborates that determined in the Emirate of Abu Dhabi.
- A 2011 EAD study comparing coral reef fish abundance within and outside Abu Dhabi Protected Areas concluded that coral reefs outside Protected Areas had less than 20% of the abundance of Protected Areas.
- In 2002-2003, EAD commissioned a vessel based Fisheries Resources Assessment Survey of the UAE's Arabian Gulf Waters which concluded that at that time, demersal fisheries resources were approximately 19% of their virgin biomass – 16 years ago the fishery was already overexploited.
- Two additional surveys completed for the GCC between1976-79 (UN FAO) and in 2010-11 (KISR) were designed to investigate the whole Gulf region and included relatively few sampling stations in the UAE – the results of sampled stations also indicated low abundance of demersal resources.

EAD's State of the Environment Report (2017) provides additional information.

2.4 Fisheries Sector

The UAE's fisheries sector, comprising of both commercial and recreational subsectors, has maintained its traditional links and is artisanal in nature, with a mix of lansh (motored dhows) and tarad (open fibreglass motor powered vessels) operating across the emirates using traditional methods including gargoor (fish traps) and ghazel (encircling gill nets). The traditional Al hadhra (fixed fish trap using wooden stakes) is used nearshore in Abu Dhabi Emirate with land based dhagwa (beach seining) confined to some of the northern and eastern emirates (Ras Al Khaimah and Fujairah). Hadaq (hook and line) is the traditional method practiced in the recreational fishing subsector in the UAE, in addition to spearfishing which is gaining popularity with the younger generation.

2.4.1 Economic Overview

Economically, the UAE fishing sector comprises only approximately 0.12% (AED 1.8 billion) of the country's GDP. The UAE imports 72 % of seafood products with 27% contributed to by local fisheries catch and 1% aquaculture.

The fisheries sector economic contribution is relatively small in terms of the overall output of the UAE, however this is significantly outweighed by the cultural importance and attachment the fishery has to the people of the UAE.

2.4.2 Social Overview

According to the Federal Competitiveness and Statistics Authority there are approximately 5,262 national fishers in the UAE operating in 5,976 vessels. There are also approximately 20,000 recreational vessels registered by the Federal Transport Authority - Land and Maritime (although whether they all go fishing is unknown), indicating that at the UAE level this subsector contributes to a large proportion of fishing pressure. Whilst the mix between tarad and lansh licenses varies by emirate, overall 90% of commercial fishing licenses are for tarad and 10% the more traditional lansh.

2.4.3 Fishing Community – Motivation for Change

Socioeconomic studies corroborate that the fishery is severely overexploited. In a targeted UAE socioeconomic survey of fishers (2015), over 80% of the most experienced fishers across the emirates agreed that the fishery was severely overexploited and had declined significantly with anecdotes including using "few gargoor" in the past which caught "many fish," and the need to use "too many" gargoors now, to catch "few fish." The survey indicated that there was motivation amongst fishers for change in the sector.

The survey also confirmed that fishers in the commercial industry are aging (an average age of 50) with the younger generation having a perceived lack of interest in fishing as a career.

With the completion of the socioeconomic survey, and both the science and socioeconomics corroborating one another, there was a strong case that change in the fisheries sector was needed.

2.4.4 Impacts of a Severely Overexploited Fishery

The impacts of a severely overexploited fishery are social, environmental and economic and go to the heart of the UAE's cultural heritage. Fishing and being resourceful in the maritime domain is at the heart of Emirati culture. The current state of the fishery presents a challenge to the UAE to ensure that this resource that the UAE has depended on and been fundamental for survival, is here for future generations.

There are other social and economic impacts – the opportunities for employment in the sector are jeopardised, with a loss of recreational value and tourism opportunities. Environmentally, impacts include a reduction in ecosystem function – which may have far-reaching effects on the UAE's maritime domain.

2.5 Fisheries Management Responses

2.5.1 Pursuing Fisheries Management Best Practice

Over the past 16 years, an internationally benchmarked suite of management measures have been implemented in the UAE at both the federal and emirate level. These have included:

- Introduction of a licensing system for commercial fisheries (gargoor, ghazel, hadhra, dhagwa, buhoor, and halaq) and recreational fisheries, including a commercial fishing effort cap to prevent expansion and overexploitation of the fishery.
- Established a representative network of marine protected areas with no take zones where fishing is prohibited.
- The updating of Federal Law No. (23) of 1999 and its Executive Bylaw in response to changes and new challenges such as the regulation of vice-captain eligibility.
- Regulated gear use, including limitations on the number and design of fishing gear used. Specifically:
    - Unsustainable fishing techniques have been banned including trawling, drift netting, the use of monofilament in nets, and the use of nets by recreational fishers in the Emirate of Abu Dhabi.
    - On the federal level, gargoor size was regulated to prevent fishers from using small gargoors which target small fish;
    - EAD limited gargoor to 125 traps per lansh and have banned gargoor on tarad since 2003 in the Emirate of Abu Dhabi;
    - EAD implemented an escape panel on gargoors to prevent 'ghost fishing' and the catch of juvenile fish in the Emirate of Abu Dhabi;
- Established season bans to protect fish during their reproductive season (e.g. Safi, Shaari, Kanaad and Badah (Long tailed Silver Biddy – *Gerres longirostris*)); and
- Introduction of minimum size limits and the strengthening of federal fisheries legislation.

Despite pursuing fisheries management best practice at the federal and emirate level, the fishery continued to be overexploited.

2.5.2 Completing the UAE Sustainable Fisheries Programme (2015-2018)

In 2015, in recognition of the state of the UAE fishery, MOCCAE and EAD partnered to establish the strategic UAE Sustainable Fisheries Programme (UAESFP) (2015-2018), a comprehensive four year plan with a Programme vision of 'Sustainable Fisheries for the UAE' and a desired national outcome of an environmentally sustainable, economically viable, and socially responsible fishing sector. The Programme was a strategic priority and incorporated international (Convention on Biological Diversity, Aichi) and national targets – the primary environmental target of which is to have 70% of fisheries resources sustainably harvested above the 30% threshold. It was a nine project Programme with key activities and outcomes specified in Table 2.

Table 2: Outcomes of the UAE Sustainable Fisheries Programme

UAESFP projects	Project Summary	Programme outcomes
Scientific Research Program Project ID: FISH1	This project involved the development of an integrated UAE-wide research program to support future stock assessment and monitoring to measure the effectiveness of fisheries management measures.	○ Development of a UAE National Fisheries Integrated Research and Monitoring Plan. ○ Workshops held with government and scientific research organizations in the UAE to prioritize future fisheries research in accordance with best practice. ○ Implementation of plan will involve future research work programmes being integrated and coordinated across the UAE by government entities and universities. ○ The additional scientific studies completed will support fisheries managers with additional understanding of the fishery and ecosystem and to assist in developing informed fisheries policy.
Legal and Policy Revision Project ID: FISH2	This included a review of the current (and proposed) laws, decrees and regulations, gap analysis and updates of existing laws to achieve the regulatory basis for achieving strategic fisheries objectives.	○ Fisheries decrees either updated, declared or in progress. ○ Legislative updates spanned an update to Federal Law 23 of 1999, its Executive bylaw, specific legislation for spawning season bans for Shaari and Safi; minimum legal length legislation based on scientific characteristics of fish species; fishing boat licensing; specific decrees for dhagwa and hadhra. ○ National frameworks for both fisheries and aquaculture.
Socio-economic Surveys and Traditional Knowledge Programme Project ID: FISH3 (Socio-economic) and FISH8 (Traditional)	The project involved a socioeconomic and traditional fishing knowledge survey, which gathered, analyzed and summarized available traditional fishing knowledge and fisheries socio-economic data	○ Over 300 boat owners and crew members interviewed across the UAE including 60 of the most experienced fishers in the UAE. ○ A comprehensive understanding of fishers views on how the fishery had changed over time; fisheries management issues; fishers' views on future management; and socioeconomic-profiles of the fishing community was obtained. ○ The majority of interviews with experienced fishers were filmed, with permission, with a video baseline of Traditional Fishing Knowledge for the UAE established.

	from across the UAE to assist in including stakeholder views in decision making.	○ The interviews have formed the basis of a documentary film entitled 'Our Sea; Our Heritage.' ○ The comprehensive stakeholder engagement process has been recognized locally as an example of excellence by Abu Dhabi government excellence assessors in the recent assessment of EAD, and internationally with the Environment Agency Abu Dhabi in working on developing in collaboration with the IUCN a guideline on incorporating Fishers Knowledge in Fisheries Policy.
Monitoring Control and Surveillance Project ID: FISH4	This project assessed and refined UAE Fisheries Monitoring, Control and Surveillance (MCS) strategic goals, established MCS priorities with a vision of a strong and comprehensive land and sea-based fisheries MCS regime.	○ Completed a comprehensive fisheries enforcement needs study and commenced implementation through the development of a guide to improve synergies and fisheries enforcement.
Fisheries Management Planning Project ID: FISH5	This project involved international benchmarking of management measures commensurate with the state of the UAE fishery.	○ Benchmarked fisheries management measures for both commercial and recreational fisheries following review of approaches in other jurisdictions.
Fisheries Communications Strategy Project ID:FISH6	This project involved development of clear communications in respect of fisheries state, awareness of the UAE Sustainable Fisheries Programme, and implementation of project recommendations.	○ Completion of a comprehensive communications strategy to ensure all stakeholders are aware of fisheries management issues, the program, and how they will be engaged.

Fisheries Resources Assessment Survey Project ID: FISH7	Completion of a Fisheries Resources Assessment Survey (FRAS) to assess the status of key demersal fish stocks in UAE waters.	○ Completion of the most comprehensive demersal fisheries survey of the waters of the UAE, the results of which are presented in Section 2. ○ This included the collection of voucher specimens and DNA samples and stock assessment of 20 species.
Information Management: Project ID: FISH9	This project identified fisheries information management needs with a focus of improving data sharing between systems, agencies, and end users of fisheries information.	○ An updated fisheries landings data and effort data collection program designed and developed for the Emirate of Abu Dhabi. ○ Capacity building workshops in designing and managing fishery data collection programmes and in analyzing fisheries data in Abu Dhabi. ○ The existing data collection program for aquaculture production reviewed and improved.

The UAESFP was a comprehensive fisheries sector review, gave the most up to date understanding of the fishery, and put in place the key building blocks to achieve a sustainable fishery by 2030. It enabled the launching of this framework which is based on best available information.

2.6 Sustainable Fisheries – A Strategic Priority

Fisheries is a national strategic priority and falls under the UAE National Biodiversity Strategic Action Plan (2014-2021).The relevant Biodiversity Action Plan targets taken into account when pursuing the programme and in subsequently developing the 2030 targets are:

- **TARGET 1.2:** By 2021, biodiversity values have been integrated in national and local development planning and decision making processes;
- **TARGET 2.1:** By 2021, status and trends of key biodiversity components are assessed and monitored in all the UAE and knowledge is shared and linked to decision making;
- **TARGET 2.2:** By 2021, Traditional Knowledge innovation and practices incorporated in local legislation and plans; and
- **TARGET 4.1:** By 2021, at least 70% of important and vulnerable living marine resources are managed sustainably.

Achieving Target 4.1 by 2021 will be a challenge to achieve because changes in fisheries management generally take the life cycle of a fish species to manifest themselves. That is why the duration of this Framework is 2030, which gives time for the key fisheries to recover, with 2030 Framework targets specified in Section 5. In addition to the above targets, most recently the national Food Diversification Policy and Implementation Strategy (2017) identifies a wide range of actions to strengthen and support sustainable food security in the UAE, including priority initiatives on fisheries and aquaculture.

3. FRAMEWORK STATEMENT

The UAE National Framework for Sustainable Fisheries Statement:

MOCCAE, working with EAD and Competent Authorities and stakeholders, seeks to achieve a national framework vision of 'sustainable fisheries for the UAE,' with key fish stocks recovered to sustainable limits by 2030.

This framework:

- Confirms that as a challenge the UAE's fisheries resources are considered severely overexploited.
- Confirms that as a solution MOCCAE is pursuing sustainable fisheries with a framework aim and objectives of an environmentally sustainable, economically viable, and socially responsible fishing sector.
- Builds on MOCCAE, EAD and other Competent Authority's fisheries management progress, and that of the UAE Sustainable Fisheries Programme, and pursues the achievement of best practice fisheries management at the national and emirate level, within the context of climate change; and
- States how sustainable fisheries will be pursued.

3.1 How Sustainable Fisheries will be Pursued

This sustainable fisheries framework will be pursued through the completion of the following actions:

- **ACTION 1: Implementation of management measures commensurate with the state of the fishery -** MOCCAE, pursuing, in collaboration with EAD and Competent Authorities, the development and implementation of a suite of fisheries management measures, and their enforcement, that will allow fish stocks to recover by 2030. These measures will seek to achieve the following management measure strategic objectives:
    - 1) Reduce pressure on the fishery;
    - 2) Develop aquaculture research and programmes to support fish stock improvement; and
    - 3) Enhance fish stocks.

These measures will be presented in Fisheries Management Plans for the demersal and pelagic fisheries by locality.

- **ACTION 2: Rehabilitation of fisheries habitats -** MOCCAE is committed to rehabilitation of fisheries habitats through the cultivation of coral reefs and the installation of artificial reefs for the purpose of biodiversity protection and fisheries recovery.

Additional details are specified in Section 4.1: Framework Implementation.

3.2 Framework 2030 Targets

The Framework Targets are:

Target 1: Environment

- **Target 1.1: Mean relative adult stock size.** Overexploited demersal fish stocks rebuilt to minimum sustainable thresholds. This will be measured as progress towards an increase in mean relative adult stock size for the three key demersal species (Hamour, Shaari and Farsh) based on annual landings' stock assessment, from 6.6% average in 2017 to 30% in 2030.
- **Target 1.2: Sustainable Fisheries Catch Index.** Achievement of 70% in this index for all species. The term sustainable catch index is a measure for the UAE's fisheries resources that describes the proportion of the total catch landed that consists of sustainably exploited species, estimated each year. This will be measured by progress towards an increase in the index from 8.4% for all species in 2017, toward a target of 70% in 2030.

These environmental indicators will be used to monitor the status of key species of commercially exploited fish in the UAE's waters in order to provide the scientific basis for fisheries management regulations and policy.

Target 2: Social and Economic Indicator

- **Target 2:** Stakeholder satisfaction with the ongoing fisheries management planning process, measured via survey at regular intervals over the time horizon of the Framework.

The social and economic indicator will be used to monitor the satisfaction of stakeholders outlined in Table 1 of this Framework.

4. FRAMEWORK IMPLEMENTATION

4.1 Implementation Mechanisms

The following implementation mechanisms to achieve the stated actions and targets are fundamental to achieving this framework:

Table 3: Framework Implementation Mechanisms

Framework Action	Implementation Mechanism
ACTION 1: Development and implementation of management measures commensurate with the state of the fishery.	**Actions 1 and 2 Implementation Mechanisms:** Develop and implement management measures to allow the fishery to recover and support fisheries recovery enhancement with pursuit of the following strategic management measure objectives and assessment of the following fisheries management tools: • **Strategic Objective 1: Reduce Pressure on the Fishery** ○ Enhancement of enforcement of existing fisheries regulations, particularly in respect of vessels needing an Emirati captain (Article 31 of amended Federal Law No.23 (1999) and its bylaw (Ministerial Decree No. 21 of 2018); ○ Seasonal closures of severely overexploited fisheries; ○ Restrictions and caps on gear types that are contributing to the overexploitation of fisheries resources; ○ The continuation and review of caps on commercial fisheries licenses; ○ Consideration of moratoriums on catch for species that are severely overexploited, or for methods that are non selective; ○ Take limits in the recreational fishery. **Lead Entities:** MOCCAE and Competent Authorities. **Timeframe:** To be commenced from effective date with key measures to be implemented in 2019. • **Strategic Objective 2: Develop Aquaculture Research and Programmes to support fish stock improvement** ○ Establishing policies, regulations and codes of conduct to support sustainable aquaculture development for the purpose of improving the status of stocks. **Lead Entities:** MOCCAE and Competent Authorities. **Timeframe:** To be commenced from effective date with key measures to be implemented in 2019.
ACTION 2: Rehabilitation of fisheries habitats	• **Strategic Objective 3: Enhance Fish Stocks** ○ Rehabilitation of fisheries habitats through the cultivation of coral reefs and the installation of artificial reefs for the purpose of biodiversity protection and fisheries recovery; and the pursuit of additional fish stock enhancement methods. **Lead Entities:** MOCCAE and Competent Authorities. **Timeframe:** Ongoing and to be continued from effective date.

4.2 Resources Needed to Support this Framework

The following will be needed to support the achievement of this framework:

- Commitment from stakeholders to achieve sustainable fisheries, and allow fish stocks to recover.
- UAE Fisheries Management Plans developed and implemented by sector, fishery and locality.
- UAE Aquaculture Plans for fish stock improvement developed and implemented.
- Decrees implementing Management measures declared and enforced.
- Training Manual for land and sea based enforcement agencies.
- A Fisheries Scientific Research Plan implemented.
- Comprehensive data on fisheries gathered across the UAE.

5. FRAMEWORK ANALYSIS

5.1 Framework Benefits

The key benefit of this framework is publically acknowledging the current "severely overexploited" state of the fishery and establishing steps to achieve a "recovering" and a sustainably managed fishery. Social benefits include all stakeholders feeling aware, informed and engaged in respect of the fisheries sector and framework direction, and economically, improved touristic and business opportunities through a likely increase in stock size over time. In summary:

- The framework is a response to the state of the fishery;
- It is evidence-based and pursues fisheries management best practice at the federal and emirate level, based on the scientific state of fish species;
- Pursuing sustainable fisheries is a collaboration between federal and local authorities;
- It is a holistic framework – and recognises that all stakeholders need to be involved in the pursuit of sustainable fisheries – recreational fishers, commercial fishers, wholesalers, retailers and consumers; and
- The framework direction seeks to balance environmental, social and economic objectives, as fish stocks recover.

In summary, the scientific state of the fishery, the socioeconomic conditions and fisheries being a strategic priority justify the framework direction.

5.2 Framework Criteria Achieved

This framework:

- **Is a step towards fulfilling the National Biodiversity Strategy targets** – of 70% of fisheries resources sustainably harvested above direction the 30% sustainable threshold.
- **Is Socially / culturally acceptable** – preserving the inherent cultural elements (heritage) of fisheries activities, while not contradicting environmental sustainability needs, is one of the objectives of this framework.
- **Pursues informed decision making** – pursuing sustainable fisheries and gathering scientific and stakeholder socioeconomic information results in informed decision-making.
- **Is a step towards achieving intergenerational equity and wider government food security objectives** – by acknowledging the fisheries framework challenge transparently and seeking to achieve sustainable fisheries, intergenerational equity and food security are more likely to be achieved because all stakeholders– public, private and government are aware of the fisheries state and that all stakeholders will need to be part of the solution.
- **Is a framework based on science** – the framework is a response to best available science, with the recently completed Fisheries Resources Assessment Survey, informing future management measures.
- **Is consistent with international approaches** – international best practice uses the 30% sustainable threshold as a standardized target for sustainable fish stocks.
- **Is economically equitable** – maintaining a commercial element to the fishery is a framework objective, which will be commensurate with achieving environmental and social objectives.
- **Proposes stakeholder engagement of programme outcomes** – all relevant stakeholders entities will be engaged in the pursuit of sustainable fisheries.

6. FRAMEWORK REVIEW

Review of this framework will be completed annually by progress made against targets, with the overall Framework to be reviewed in 2030.

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