



FORO MUNDIAL DE PUEBLOS PESCADORES  
WORLD FORUM OF FISHER PEOPLES  
FORUM MONDIAL DES POPULATIONS DE PÊCHEURS



هيئة البيئة - أبوظبي  
Environment Agency - ABU DHABI



‘Traditional Fishing Knowledge: Preserving our past. Protecting our future.’

Workshop: Developing an international guideline on ‘Utilizing Fishers’  
Knowledge: Policy Development and Modern Applied Uses’

IUCN Communities, Conservation and Livelihoods Conference, Halifax, Canada, 30 May 2018

# WORKSHOP OVERVIEW

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- Introduction
- Workshop Objectives
- What is Fishers' Knowledge?
- Proposed Guideline Objectives
- Fishers' Knowledge Case Studies
  - United Arab Emirates
  - Hawaii
  - Kenya
- Proposed Applied Use Framework



30 mins

- **Workshop:**
  - What are the modern applied uses of Fishers' Knowledge and examples of best practice?
  - What are the issues & challenges?
  - What 'how to' guidance can we give to achieve these modern uses?



30 mins

# WORKSHOP OBJECTIVES

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- Present Case Studies & Guideline Concept;
- Identify team members, and good practices;
- Identify modern uses;
- Identify challenges and good practices for each modern use.

# INTRODUCTION

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Development of a Guideline to achieve:

- **Respect** Traditional Knowledge;
- **Community participation**;
- Traditional Knowledge subject to **national legislation / incorporation in the policy** development process.

# FISHERS' KNOWLEDGE

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- **What is Fishers' Knowledge?**

Fishers' knowledge (FK) comprises the body of experiential knowledge including *ecological, resource-based, ecosystem, fishing practices, fishing communities and livelihoods, governance and markets, and their dynamic relationships*. This knowledge is developed in a social-cultural and geographical context. The working definition of FK is broader in scope than traditional, local or *indigenous* ecological knowledge (TEK/LEK/IEK), but includes these types of knowledge. *The main distinguishing characteristic of FK is that it is experience-based.*

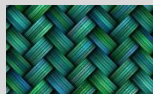
Source: UN FAO. 'Fishers' Knowledge and the Ecosystem Approach to Fisheries Technical Paper. Applications, experiences & lessons in Latin America. Tech. Paper No. 591. (2015).

- **Which fisheries are these Guidelines applicable to?**

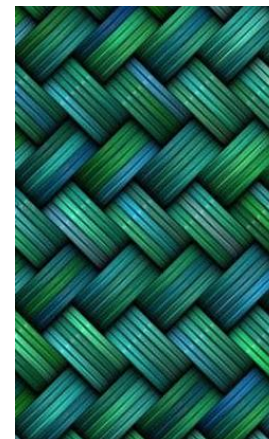
Applicable in *small-scale freshwater, and near shore coastal fisheries* where there is a *community* associated with and relying on fishing for *sustenance, recreation, or a source of income*. The Guidelines can be used in fisheries which are both overexploited, to support fisheries change management, and sustainably exploited fisheries.

# FISHERS' KNOWLEDGE

## A Basket of Fisher Knowledge

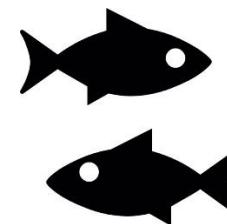


Population-level knowledge; Ecological relationships; Folk taxonomy and systematics; Subsistence food sources; Wisdom; Material Application; Subsistence Skills; Socio-political representation; Myths and Legends; Ritual representation; Symbolic Representation; Contemporary representation.



## 1. Historic state of the fishery and change to today's state –

*Purpose:* Observational evidence can support empirical science and socioeconomic studies in fisheries policy, red listing and management.



## 2. Cultural Elements – e.g. Historic Societal Living; Myths

*Purpose:* Fishers' Knowledge can be applied in modern society to strengthen society's nature-society relationship.



# PROPOSED GUIDELINE OBJECTIVES

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## Promote

1. Promote the gathering and recording of a baseline of FK.

## Encourage and Record

2. Encourage the transfer and preservation of this knowledge.

## Involve, Enhance and Apply

3. Involve fishers in enhancing and applying this knowledge in the modern context in one of six 'applied use' categories:

- 3.1 Fisheries Policy and Management;
- 3.2 Community Fisher Advisory Boards;
- 3.3 Supporting IUCN Red Listing;
- 3.4 Protected Area Co-management;
- 3.5 Traditional Knowledge Enhancement; and /or
- 3.6 Genetic utilization of biodiversity resource – a Nagoya Protocol use.

## Support and Achieve

4. Support the achievement of Aichi targets particularly Targets 6 and 18.
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# PROPOSED GUIDELINE OBJECTIVES

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## Who does the Guideline apply to?

This is a voluntary Guideline that is intended to be used by fisheries resource managers at the community, local, regional and national levels in countries where there are marine and freshwater fisheries. It can also be used by communities, non-governmental organisations (NGOs) and researchers who wish to study traditional fishing knowledge in marine and freshwater systems.

# FISHERS' KNOWLEDGE CASE STUDIES: KENYA

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# TRADITIONAL FISHING KNOWLEDGE OF THE ELMOLO PEOPLE OF LAKE TURKANA, KENYA

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The Elmolo people also known as the Gurapau (people of the Lake) is the traditional fishing community of lake Turkana. Elmolo is the smallest tribe in Kenya and live on the South – east of the Lake. The community has always depended on their traditional knowledge on fishing and the natural resources in to survive. Fishing is life.

Traditional knowledge in Kenya fishing/fisheries involves the traditional studies of climatic and whether conditions, the winds, the brightness and darkness of the moon, position of particular stars, movement of waves and other phenomena.



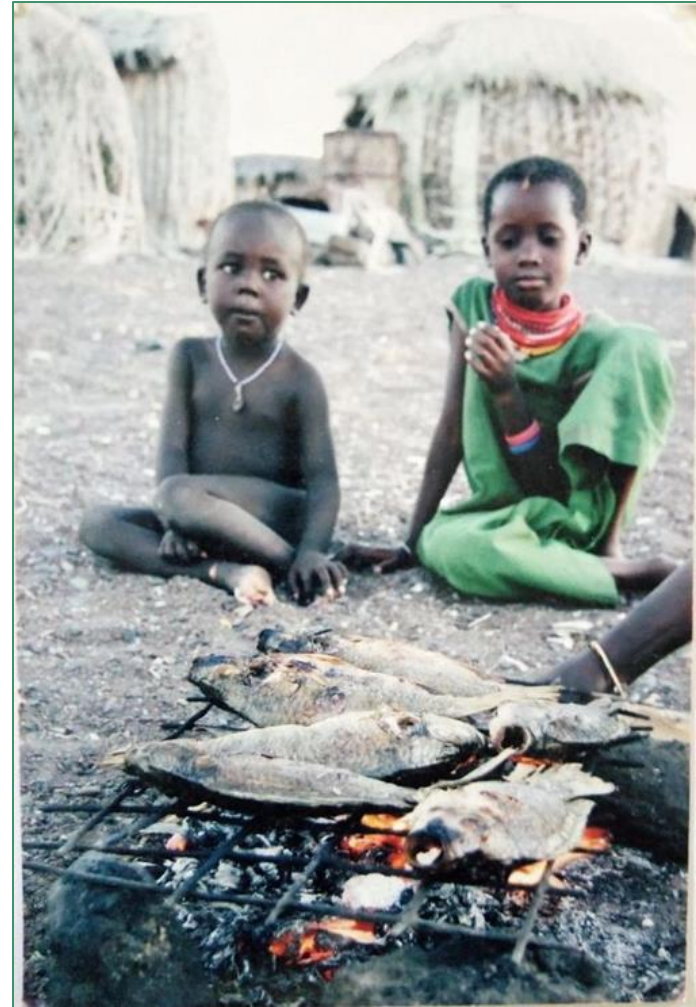
# TRADITIONAL FISHING KNOWLEDGE OF THE ELMOLO PEOPLE OF LAKE TURKANA, KENYA

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It involves appeasing the ancestors giving thanks to God, Mother earth and the waters (lake) for taking care of families and community with songs, blessings and rituals.

Conservation and protection are key in the Elmolo traditional knowledge and is practiced through promotion of oral traditions and good practices that are not harmful to the lake, its ecosystem and environs for example;

- Use of appropriate fishing equipment
- Returning undersize fishes harvested back to the lake.
- Practice of migratory and rotational fishing.



# TRADITIONAL FISHING KNOWLEDGE OF THE ELMOLO PEOPLE OF LAKE TURKANA, KENYA

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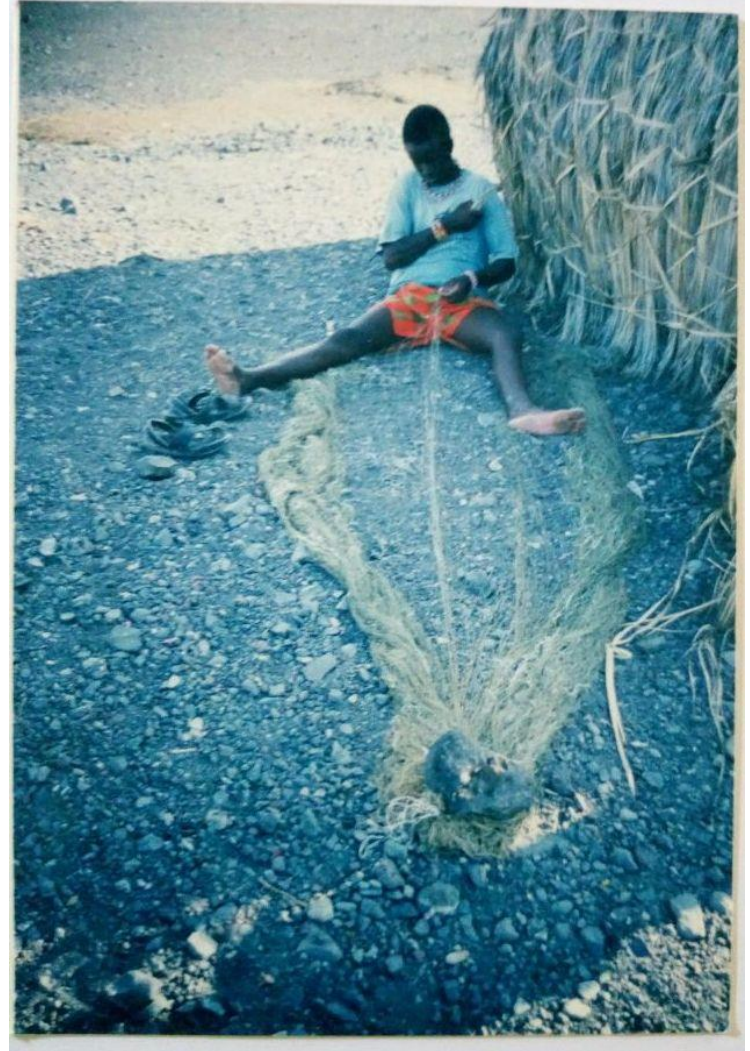
## Issues and Challenges:

- TK and customary laws are not recognized in the national laws and policies.
- Customary laws and National laws conflict other than complement each other.
- National laws are supreme and have thus suppressed the traditional knowledge and customary laws of communities/tribes.
- Damming of the Omo river-the major inlet to lake Turkana in Ethiopia to construct mega hydro electric power dams
- Constitution and laws borrowed from other counties (international community i.e. Kenya constitution has heavily borrowed from SA, USA in trying to unify citizens or the nation under them.

## Moving forward:

- Research and documentation of TK that involves active participation of target communities.
- Integration of TK and customary laws in National and international laws.

# TRADITIONAL FISHING KNOWLEDGE OF THE ELMOLO PEOPLE OF LAKE TURKANA, KENYA



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# TRADITIONAL FISHING KNOWLEDGE OF THE ELMOLO PEOPLE OF LAKE TURKANA, KENYA

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IRAN

SAUDI ARABIA

Arabian Gulf

UNITED ARAB EMIRATES

INDIA

Arabian Sea





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**Bahrain**

Al Khor  
الخور

**Qatar** Doha  
الدوحة

Kish  
كيش

Khasab  
خصب

Ras Al-Khaimah  
رأس الخيمة

**Dubai**  
دبي

**Abu Dhabi**  
أبو ظبي

Fujairah  
الفجيرة

Sohar  
ولاية صحار

Ruwais  
الرويس

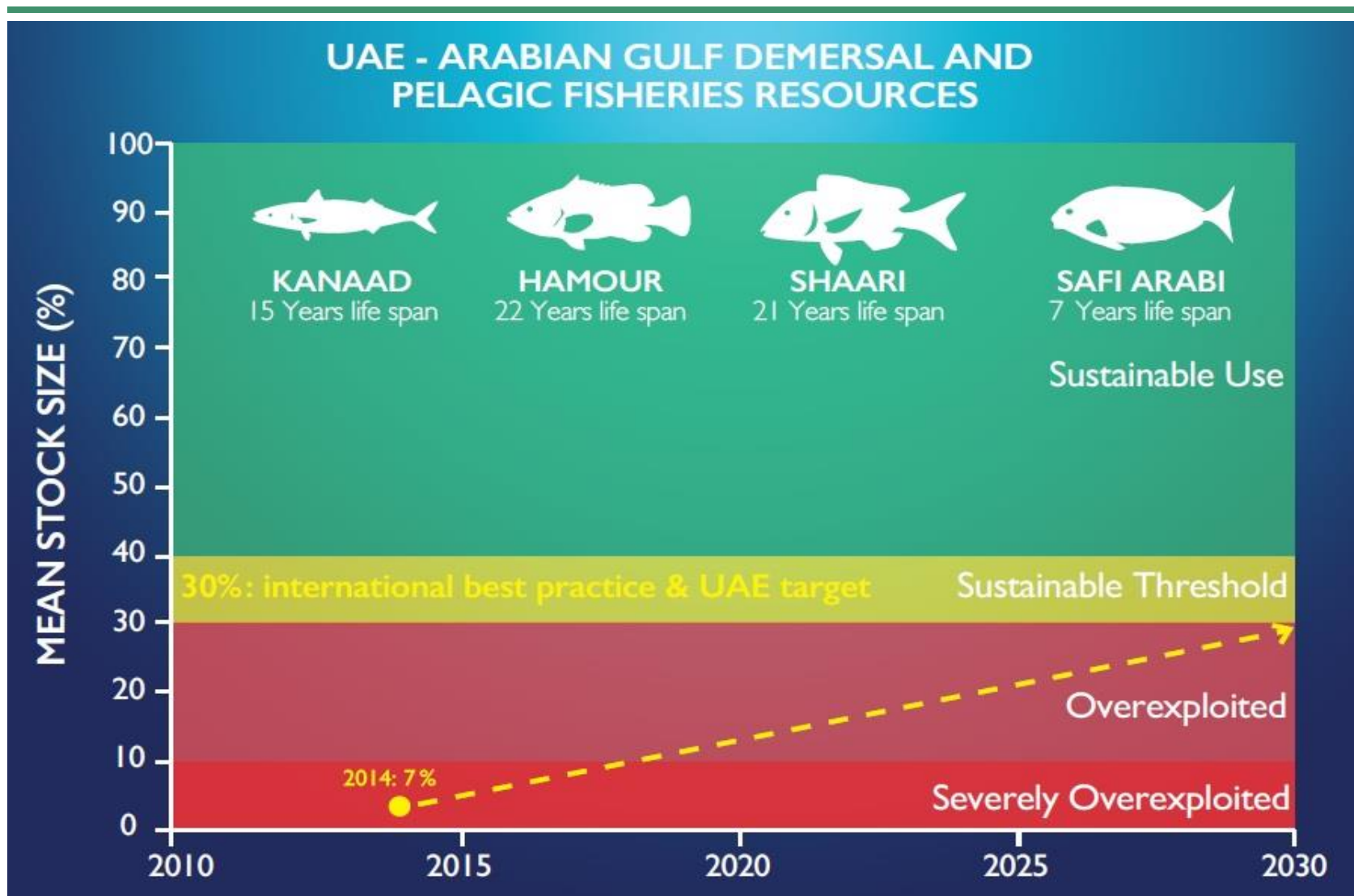
**Al Ain**  
العين

**United Arab Emirates**

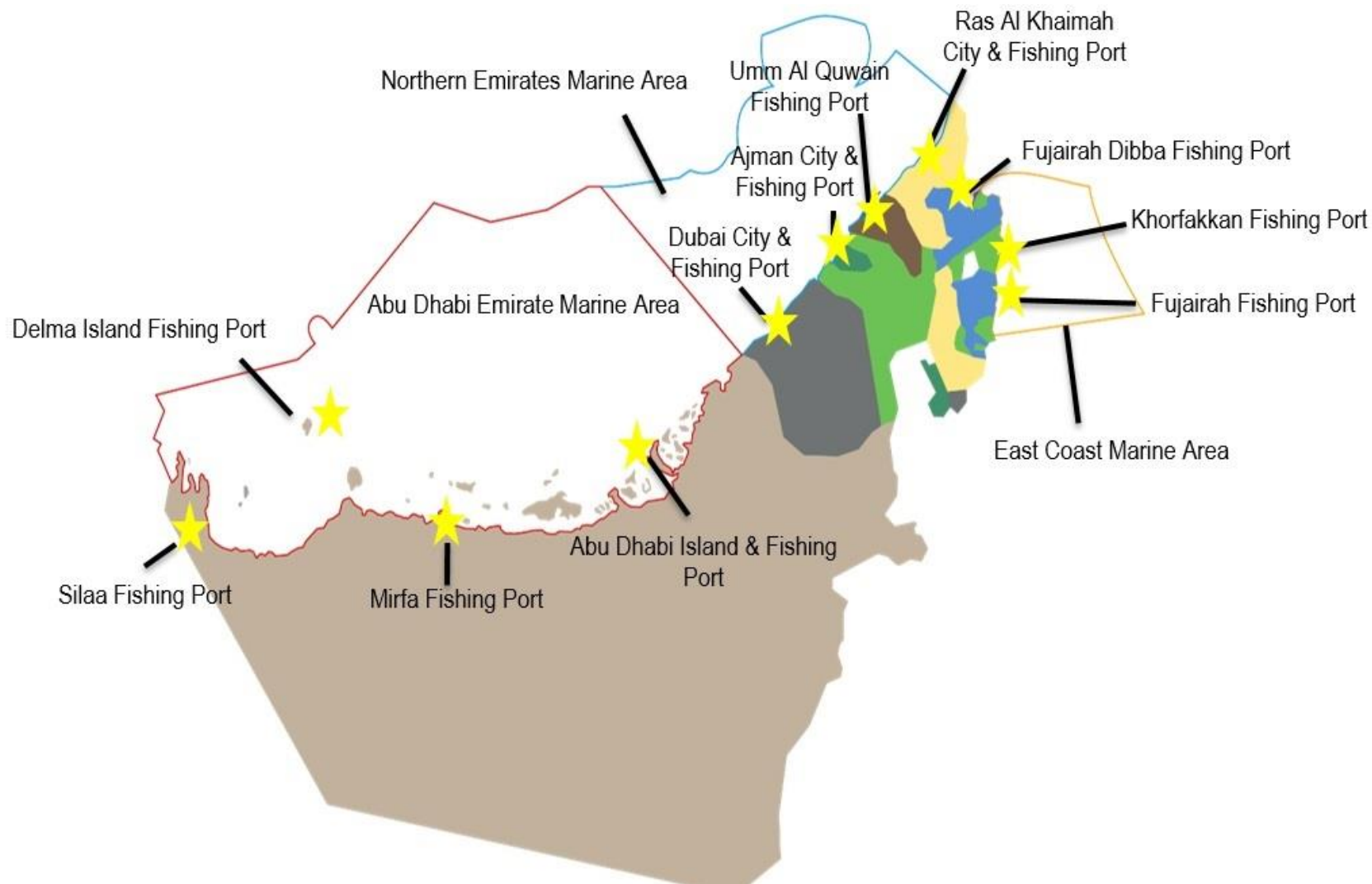
Ibri  
ولاية عبري



# FISHERS' KNOWLEDGE CASE STUDIES: UAE



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# FISHERS' KNOWLEDGE CASE STUDIES: UAE



# FISHERS' KNOWLEDGE CASE STUDIES: HAWAII

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# FISHERS' KNOWLEDGE CASE STUDIES: HAWAII

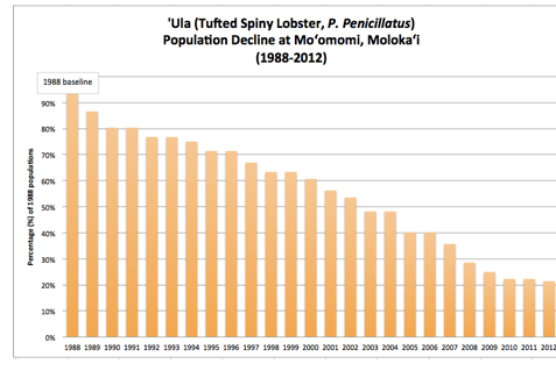
## How Modern Science, Traditional Science & Fisher's Knowledge are Informing Effective Fisheries Management Strategies

### FISHERS' KNOWLEDGE

- ✓ General Declines in certain species
- ✓ Majority local fishers agreements for 2 bag limit
- ✓ Identified unsustainable method using lobster nets

### TRADITIONAL SCIENCE

Hui Mālama o Mo'omomi Traditional Science

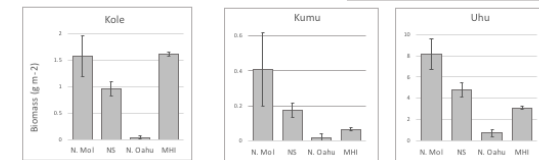


### MODERN SCIENCE

DAR Baseline Survey Findings

- Total reef fish biomass on North Moloka'i:
- 3.5X statewide average
- 3X other northern shorelines in the State
- 15X North O'ahu

Similar patterns are observed with particular species of interest, although not as pronounced








## EFFECTIVE FISHERIES MANAGEMENT STRATEGIES

**Ula, spiny lobster (*Panulirus spp.*)**






- Bag limit: 2 per day
- Size limit: 3 ¼" carapace length (existing state law)
- Closed season: May 1 – August 31 (existing state law)
- Allowable gear: Take by hand harvest, hook, or trap only
- Other: No take of females (existing state law)

# FISHERS' KNOWLEDGE CASE STUDIES: HAWAII



Species-Specific Regulations	
<b>Uhu, parrotfish (Scaridae)</b>	
<b>Redlip parrotfish</b> <i>(Scarus rubroviolaceus)</i>	<b>Spectacled parrotfish</b> <i>(Chlorurus perspicillatus)</i>
 <p><b>uhu 'ele'ele</b></p>	 <p><b>uhu uliuli</b></p>
 <p><b>uhu pālupaluka</b></p>	 <p><b>uhu ahu'ula</b></p>
<b>Kūmū, whitesaddle goatfish</b> <i>(Parupeneus porphyreus)</i>	
	<ul style="list-style-type: none"> <li>• Bag limit: 2 per day</li> <li>• Size limit: 16" maximum fork length; 10" minimum fork length (existing state law)</li> <li>• Closed Season: January 1 – March 31</li> </ul>

- No take: uhu 'ele'ele and uhu uliuli
- Bag limit: 2 total uhu pālupaluka and uhu ahu'ula during open season
- Size limit: 12" minimum fork length (existing state law)
- Closed Season: April 1 – June 30 for uhu pālupaluka and uhu ahu'ula

# FISHERS' KNOWLEDGE CASE STUDIES: HAWAII

Species-Specific Regulations	
<p><b>Kole, goldring surgeonfish (<i>Ctenochaetus strigosus</i>)</b></p> 	<ul style="list-style-type: none"><li>• <b>Bag limit: 20 per day</b></li><li>• <b>Size limit: 5" minimum fork length</b></li><li>• <b>Closed Season: April 1 – June 30</b></li></ul>
<p><b>Moi, Pacific threadfin (<i>Polydactylus sexfilis</i>)</b></p> 	<ul style="list-style-type: none"><li>• <i>Bag limit: 15 per day (existing state law)</i></li><li>• <i>Size limit: 18" FL maximum; 11" minimum fork length (existing state law)</i></li><li>• <i>Closed Season: June 1 – August 31 (existing state law)</i></li><li>• Allowable gear: Take by hook-and-line, spear, or throw net only</li></ul>
<p><b>Ula, spiny lobster (<i>Panulirus spp.</i>)</b></p> 	<ul style="list-style-type: none"><li>• Bag limit: 2 per day</li><li>• <i>Size limit: 3 ¼" carapace length (existing state law)</i></li><li>• <i>Closed season: May 1 – August 31 (existing state law)</i></li><li>• Allowable gear: Take by hand harvest, hook, or trap only</li><li>• <i>Other: No take of females (existing state law)</i></li></ul>

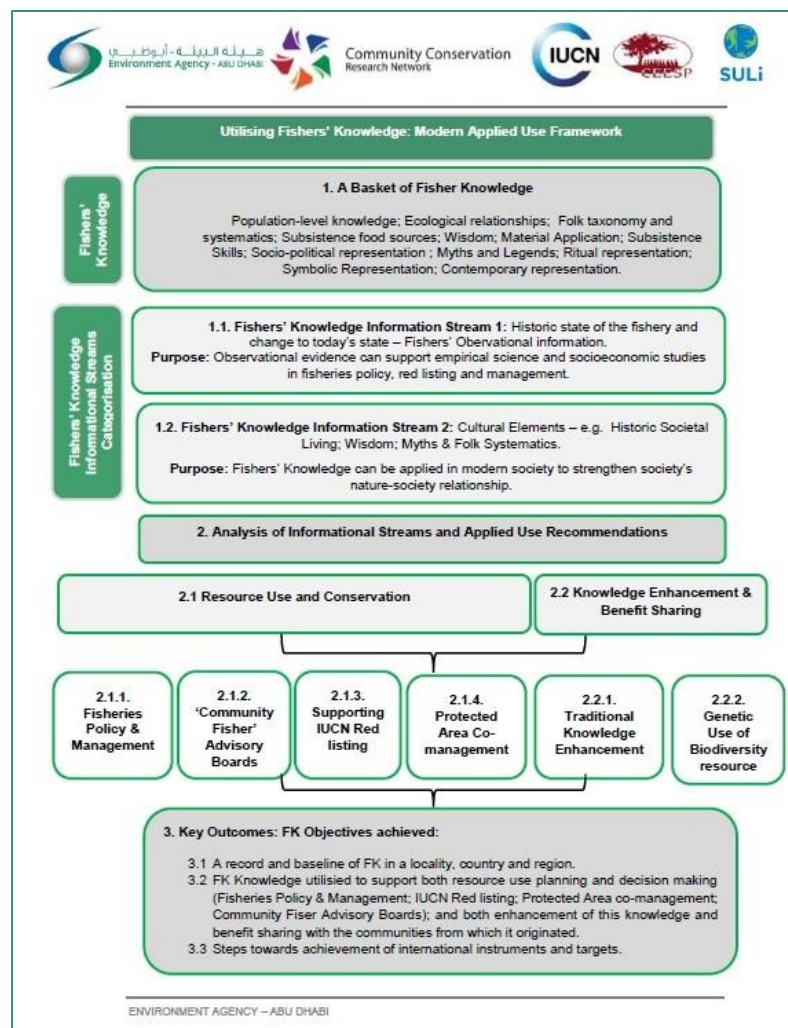
# FISHERS' KNOWLEDGE CASE STUDIES: HAWAII

Species-Specific Regulations	
<p><b>'Opihi, limpet (all varieties)</b> <i>(Cellana spp.)</i></p> 	<ul style="list-style-type: none"><li>• <b>Size limit:</b> 1 ¼" shell diameter; ½" meat diameter, if meat only (<i>existing state law</i>)</li><li>• <b>Other:</b> No take or possession while diving</li></ul>
<p><b>Limu (multiple species)</b></p> 	<ul style="list-style-type: none"><li>• <b>Other:</b> no taking with holdfast/roots attached</li></ul>



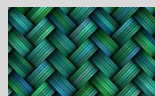
# Building A Beloved Community

# PROPOSED APPLIED USE FRAMEWORK



# FISHERS' KNOWLEDGE

## A Basket of Fisher Knowledge

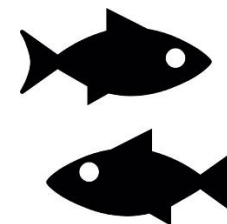


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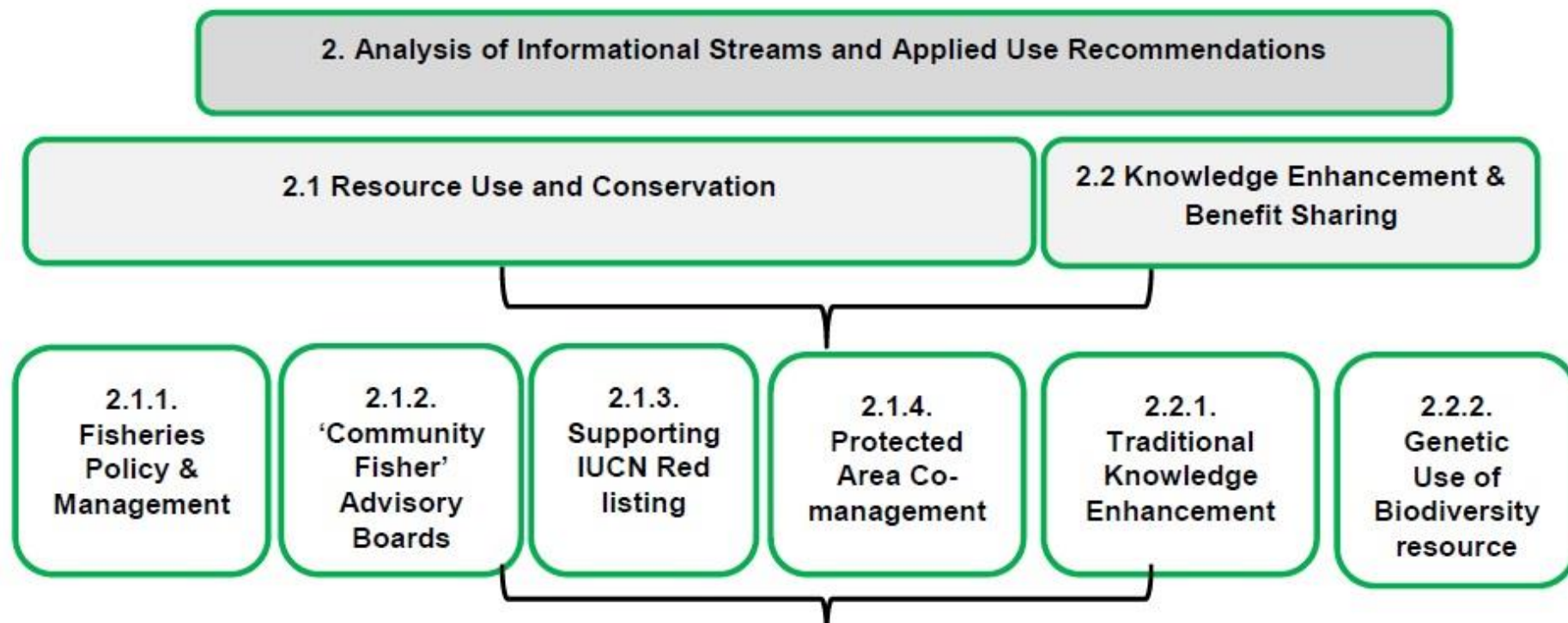
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# PROPOSED APPLIED USE FRAMEWORK



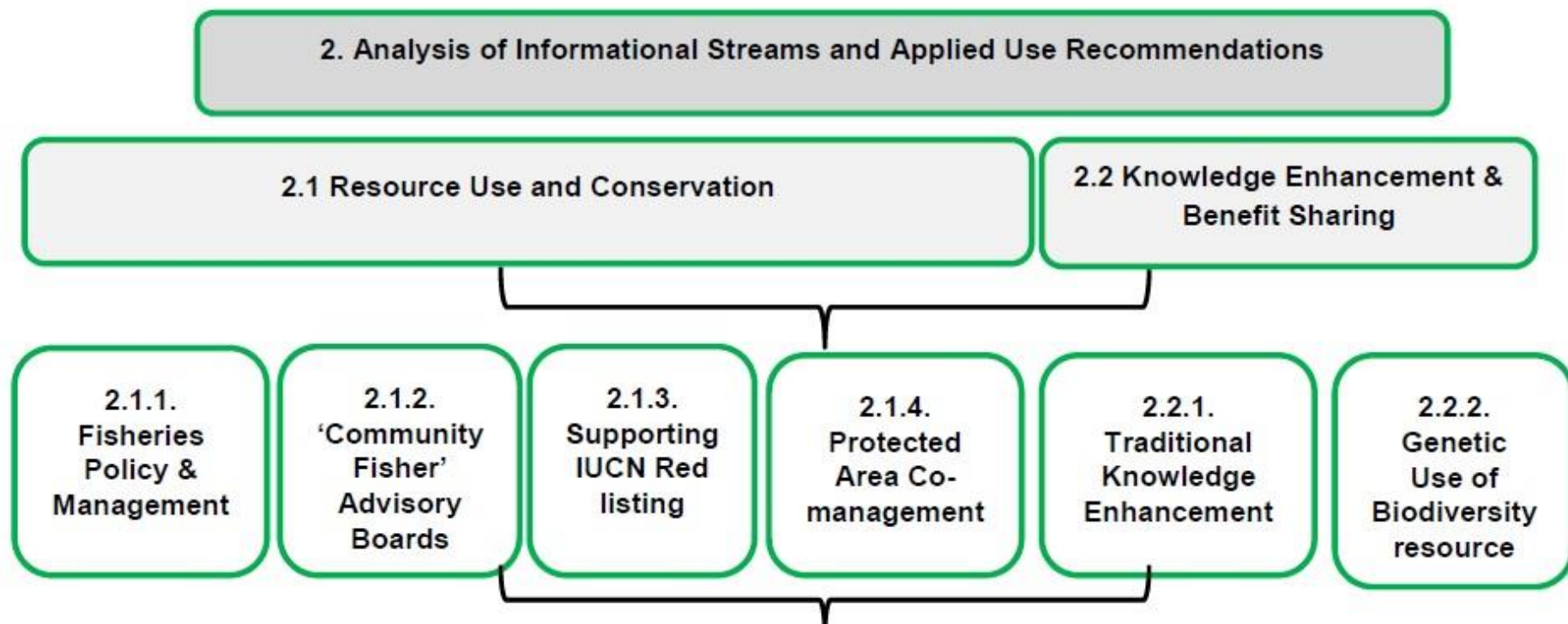
- Workshop Question 1:
  - What are the modern applied uses of Fishers' Knowledge and examples of best practice?



# PROPOSED APPLIED USE FRAMEWORK

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- **Workshop Questions 2 and 3:**
  - What are the issues and challenges?
  - What 'how to' guidance can we give to achieve these modern uses?
  - Please share global case studies.
  - Three groups.



# PROPOSED APPLIED USE FRAMEWORK

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Workshop Question 2: Guideline Questions: What are the issues & challenges?

- **1. Data Integration:** *How can FK be integrated with other sciences to support the data requirements and criteria* for better species conservation measurements, identification of conservation areas, and to improve management and assessment procedures?
- **2. What are the cultural, social, and legal barriers** that have reduced or prevented engaging FK in fisheries management sciences and policies?
- **3. Institutional needs:** *Which institutional arrangements and approaches* need to be developed or reinforced to effectively integrate FK into management policies?
- **4. How to help government:** *How well prepared or aware are management agencies and/or academic and scientific sectors* of the resources and procedures needed to incorporate the FEK into their management plans?
- **5. Women:** *Have women been effectively engaged in the process of FK generation and transference?*

# WHAT'S NEXT?



Task	Indicative Timeframe
Form Wider Team	June 2018
Finish Guideline Draft 1	July 2018
Network Review	August – October 2018
Launch and Dynamic Comms.	November 2018



# CONTACTS

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