



**Marine Fisheries Conservation  
and Management in India  
Taking Recourse to  
The Code of Conduct for  
Responsible Fisheries (CCRF)  
and other Legal Instruments**



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*Oceans and Law of the Sea*

*Division for Ocean Affairs and the Law of the Sea*



# Executive Summary

## Present status:

- Total Indian population - 1,147,995,898 (July 2008)
- Fish - Source of cheap and nutritious food
- Fisheries - Livelihood > 14 million people -  
Employment generator - Socio-economic development  
- Stimulates growth of subsidiary industries



## Current Issues:

- Fish stocks depleted → Food insecurity →  
Unemployment → Poverty → Intra and inter conflicts  
between fishermen and industries





# Executive Summary

## Solutions:

- Amendment/upgradation of existing acts in tune with CCRF and other legal instruments.

Marine Fishing Regulation Act (MFRA)

Maritime Zones of India (Regulation of fishing by foreign vessels) Act, 1981

- International agreements: Acceded 1995 UN Fish Stock Agreement - yet to accede 1993 Compliance Agreement.
- Regional Fisheries Management Organization/Arrangements (RFMO/As)
- Framing of a 'marine fisheries management model' for fishery resources (including depleted stocks) in Exclusive Economic Zone (EEZ) - based on CCRF and other legal instruments.
- National Plan of Action (NPOA) for fishing capacity, sharks, sea birds and Illegal, Unreported and Unregulated (IUU) Fishing.



# **Contents**

- **Background Information**
- **Current Issues**
- **Solutions: Measures taken**

**Recommendations**





# 1. Background Information

Latitudes  $80^{\circ} 4' N$  and  $37^{\circ} 6' N$

Longitudes  $68^{\circ} 7' E$  and  $97^{\circ} 25' E$

## Neighbouring Countries:

North-west : Afghanistan & Pakistan

North-east : China, Bhutan & Nepal

East : Myanmar & Bangladesh

South : Sri Lanka

Total area – 3.29 M km<sup>2</sup>

Coastline – 8,118 km

EEZ – 2.02 M km<sup>2</sup>

Continental shelf area – 0.53 M km<sup>2</sup>

Fish production – 6.57 Mt (Mar. 2.82)

Export (fisheries products) – 0.55 Mt

GDP from fisheries - \$7,108 M

(1.07% of total)

Fishing crafts – 0.2 M

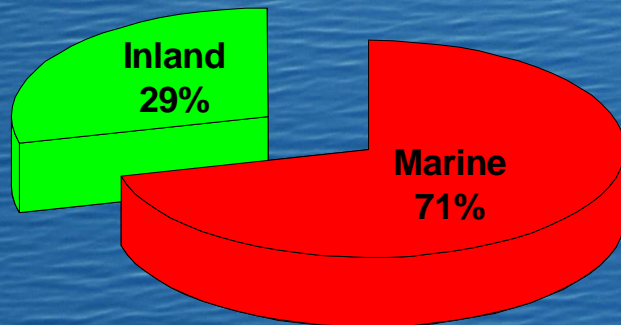


## 2. Current Issues

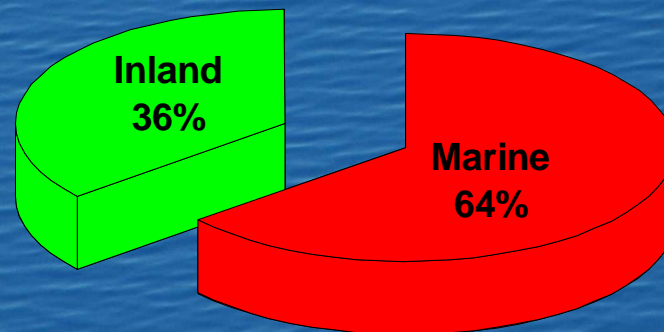
### Fish Production by Source

- marine contribution decreasing

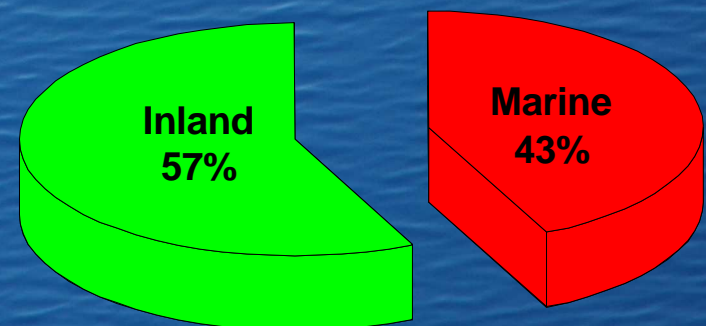
1950 - 51



1979 - 80

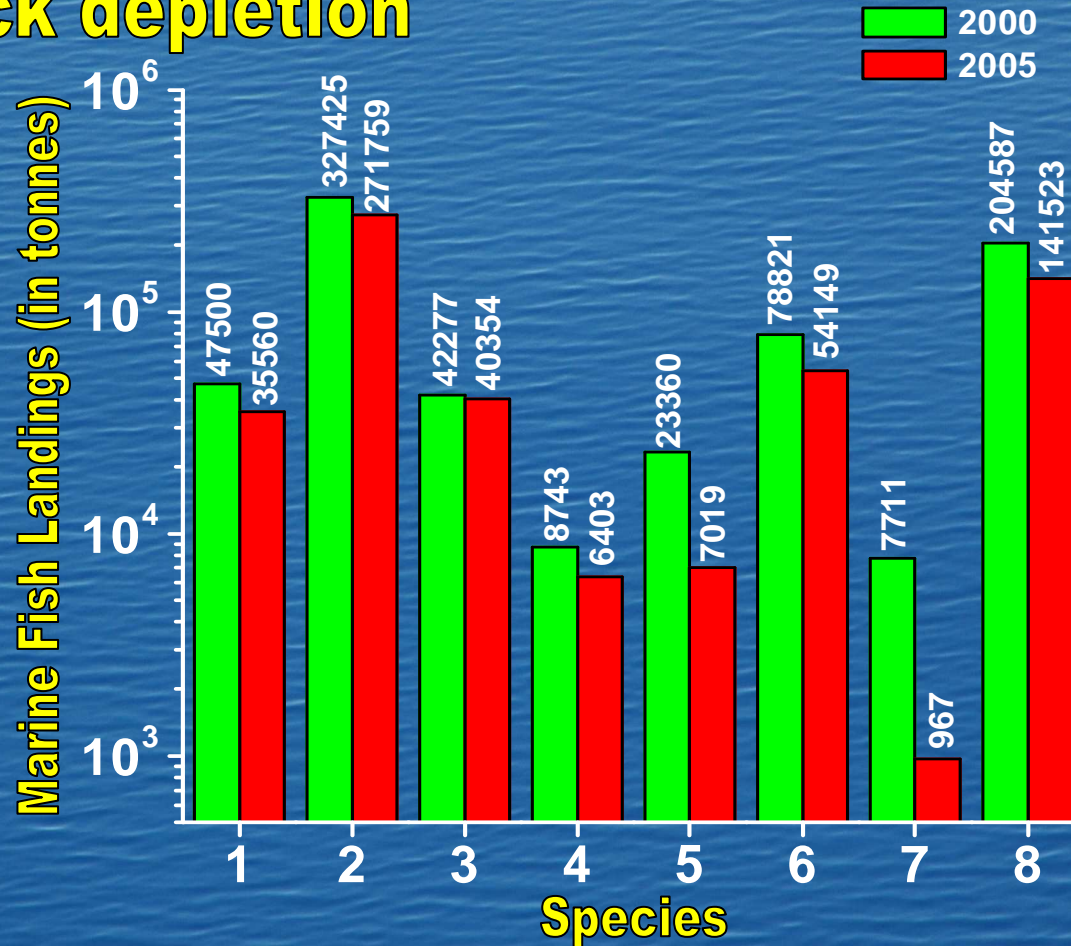


2005 - 06



## 2. Current Issues

### Fish stock depletion

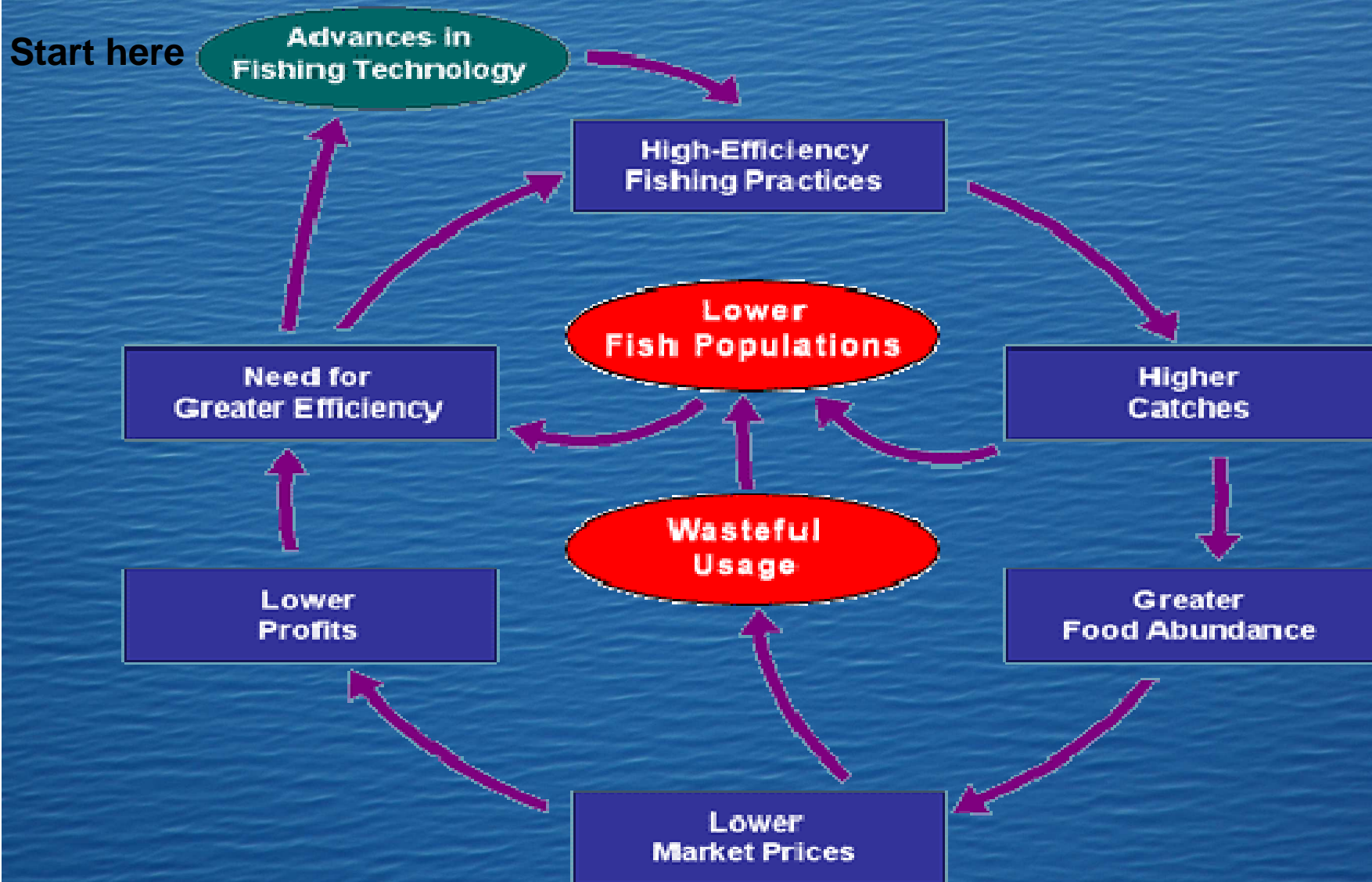


1	<i>Hilsa ilisha</i> ( <i>Tenualosa</i> )	5	<i>Katsuwonus pelamis</i> (Skipjack Tuna)
2	<i>Sardinella longiceps</i> (Indian Oil Sardine)	6	<i>Rastrelliger kanagurta</i> (Indian Mackerel)
3	<i>Scomberomorus</i> (Seerfish)	7	<i>Thunnus albacare</i> (Yellow Fin Tuna)
4	<i>Auxis thazard</i> (Frigate and Bullet Tuna)	8	Penaeid Shrimp



## 2. Current Issues

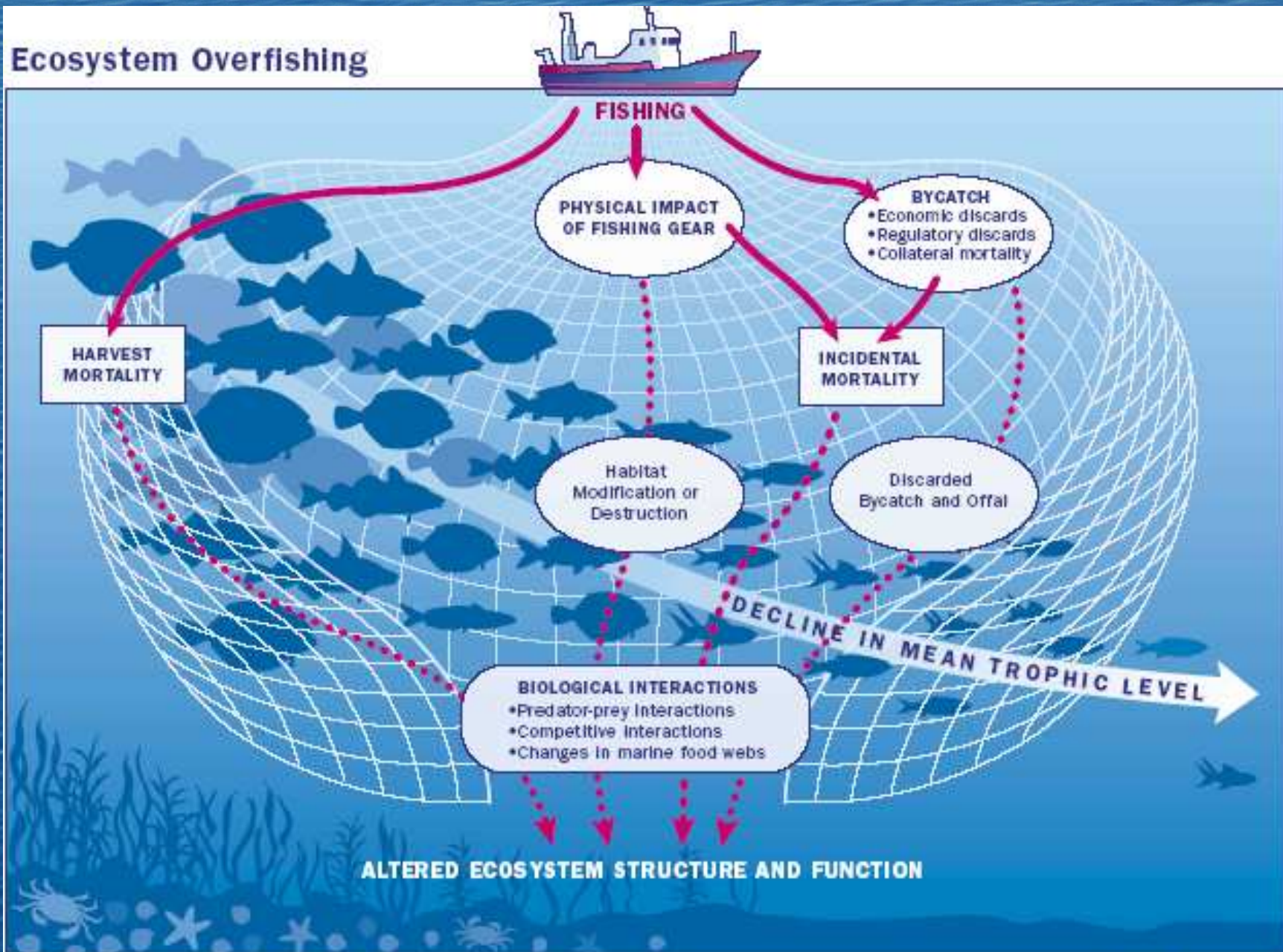
### How did we reach here?





## 2. Current Issues

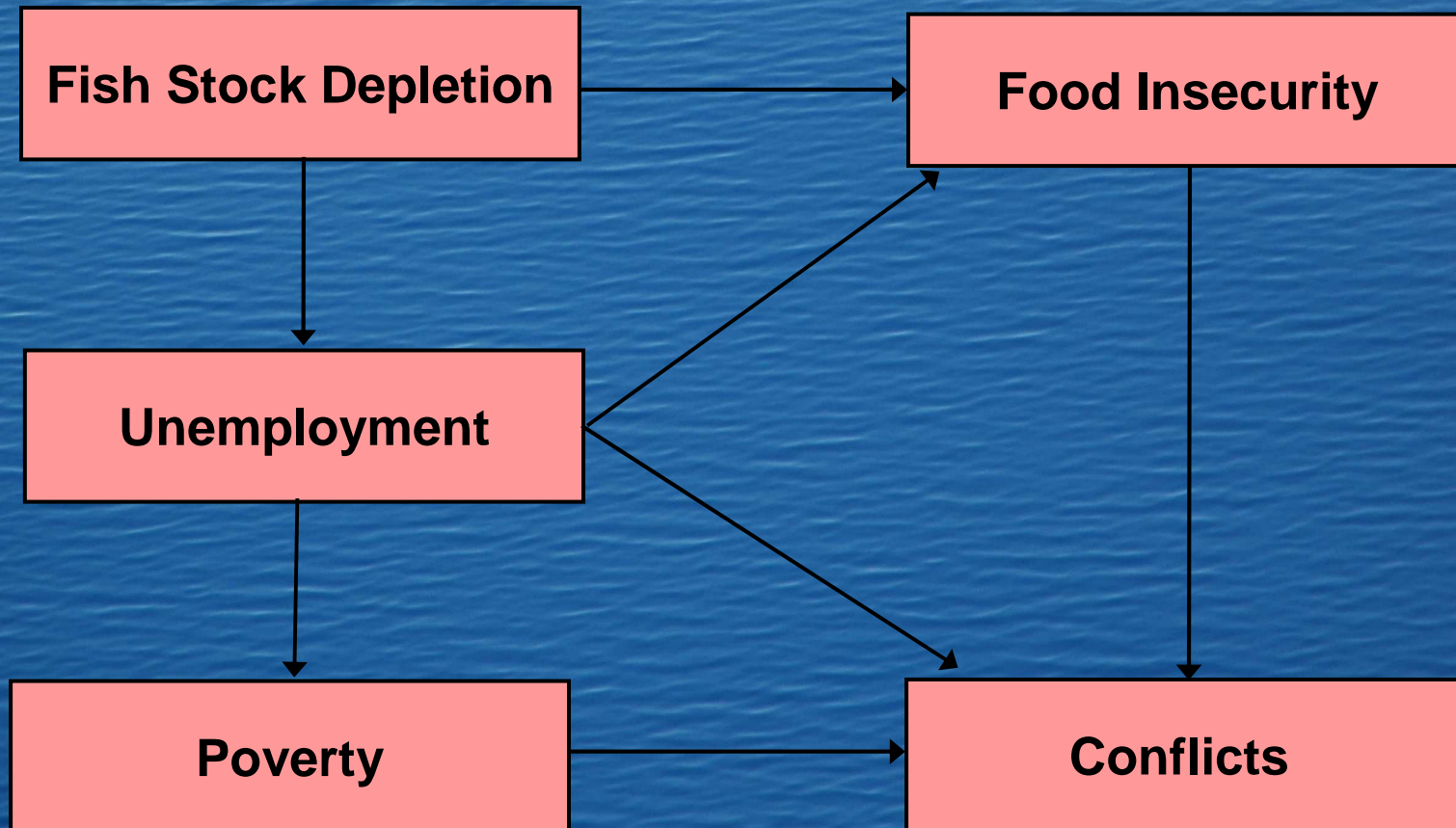
### Ecosystem Overfishing





## 2. Current Issues

- Vulnerable/threatened shark population.
- Incidental catch of seabirds.
- Destructive fishing gears, bottom trawling and pair trawling methods.
- Fishing during breeding seasons.





# 3. Solutions

## NPOA - Capacity

### Measures taken :

- Cap on trawling capacity fixed.
- Coastal states advised not to increase trawler fleet and to register mechanized fishing vessels.
- Unselective and environmentally harmful fishing practices discouraged.
- Conversion of trawlers into tuna long-liner encouraged through financial assistance.
- Marine Fishing Regulation Acts (MFRAs) – framed by all coastal states and Union Territories.
- EEZ made limiting access area and fishing restricted to resource specific vessels.





# 3. Solutions

## NPOA - Capacity

### Measures taken :

- Central legislation on Regulation of Fishing and Fisheries by Indian fishing vessels in the EEZ.
- Approval from Central Government mandatory for fishing in EEZ.
- Maritime Zones of India (Regulation of fishing by foreign vessels) Act, 1981.
- Comprehensive Marine Fishing Policy, 2004.

### Recommendations :

- Amendment/upgradation of existing acts in tune with CCRF and other legal instruments.

Marine Fishing Regulation Act (MFRA)

Maritime Zones of India (Regulation of fishing by foreign vessels) Act, 1981



# 3. Solutions

## NPOA - Capacity

### Recommendations :

- Compliance Agreement 1993 to be acceded.
- Framing of a 'marine fisheries management model' for fishery resources (including depleted stocks) in EEZ.
- MCS to disallow destructive gears and to check further increase of trawler fleet.
- Offshore waters under-fished as the maximum number of resource specific fishing vessels like Tuna Long Liners, Squid Jiggers
- Encouraging and involving local community for diversified sustainable and eco-friendly fishing methods.
- Alternative income generating activities for fishermen during trawl ban period – Self Help Groups (SHGs).





# 3. Solutions

## NPOA - Sharks

- Vulnerable/threatened shark population assessment initiated.
- Protection of critical habitats.
- Implementation of harvesting strategies.
- Involvement of stakeholders in management, research and educational initiatives.
- Minimization of bycatch and discards – full use of dead sharks encouraged.



## NPOA - Seabirds

- Assessment of incidental catch of seabirds initiated.
- Training and publicity given.
- Incidental catch of seabirds in long-line fisheries to be reduced.





# 3. Solutions

## NPOA – IUU fishing

- Steps taken to ensure a comprehensive and coordinated approach to address IUU Fishing.
- Active member of UN, FAO and RFMO/As.
- The Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act, 1981 - enforced by Indian Coast Guard.
- Installation of Vessel Monitoring System (VMS) - in final stage.
- Proper monitoring of legal instruments under State level MFRAs.
- IUU fishing is dynamic in character - conditions in fisheries change in short period of time - revision from time to time.
- CCRF disseminated to end users through translations etc. to the regional languages.





# 3. Solutions

## Key statutes that relate to the coastal and ocean spaces

Title of Law/Decree	Decree/ Law No.	Year Enacted/ Revised
The Indian Fisheries Act	4	1897
The Indian Forest Act	16	1927
The Wildlife (Protection) Act	39	1972 / 2002 / 2006
Water (Prevention and Control of Pollution) Act	6	1974 / 1988
The Coast Guard Act	44	1978 / 2002
The Forest (Conservation) Act	69	1980 / 1988
Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act	50	1981
Environment (Protection) Act	29	1986 / 1991
The Biological Diversity Act	18	2002
The Coastal Aquaculture Authority Act	24	2005
The Petroleum and Natural Gas Regulatory Board Act	19	2006



# 3. Solutions

## Implementation of International Agreements

- The United Nations Convention on Law of the Sea (UNCLOS )
- The Convention on Biological Diversity (CBD)
- Rio Declaration in Environment and Development
- The United Nations Conference on Environment and Development (UNCED)
- The United Nations Framework Convention on Climate Change (UNFCCC)
- International Convention for the Safety of Life at Sea (SOLAS) 1974
- The Ramsar convention
- International Convention for the Prevention of Pollution from Ships, 1973/78 (MARPOL 73/78), London
- Convention on the Territorial Sea and the Contiguous Zone, Geneva 1958
- Convention on the Continental Shelf, Geneva 1958.
- Convention on the High Seas, Geneva, 1958.
- Convention on Persistent Organic Pollutants (POPs)
- Treaty on the Prohibition of the Emplacement of Nuclear Weapons and other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil thereof, Washington/London/Moscow, 1971
- Convention Concerning the Protection of the World Cultural and Natural Heritage, Paris, 1972 (Protection of Coastal Ecosystems)



# 3. Solutions

## Member of RFMO/As:

- Indian Ocean Tuna Commission (IOTC)
- Indian Ocean Rim Association for Regional Cooperation (IOR-ARC)
- Asia-Pacific Fishery Commission (APFIC)
- South Asia Co-operative Environment Programme (SACEP)
- South Asian Association for Regional Cooperation (SAARC)
- Association of South East Asian Nations (ASEAN), East Asia Summit (EAS) and ASEAN Regional Forum (ARF)
- Bay of Bengal Programme – Inter Governmental Organisation (BOBP-IGO).
- Bay of Bengal Large Marine Ecosystem (BOBLME)
- Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)
- Technical Cooperation Group (TCG) of Indian Ocean Marine Affairs Commission (IOMAC).
- Global Environment Facility (GEF)
- Coral Reef Degradation in the Indian Ocean (CORDIO)
- The WWF projects



# 3. Solutions

## Participation in International Organizations

- The Inter-Governmental Oceanographic Commission (IOC) of United Nations Educational, Scientific and Cultural Organizations (UNESCO).
- The Food and Agriculture Organization (FAO).
- The Aquatic Science and Fisheries Abstract (ASFA) Board.
- United Nations Environment Programme (UNEP).
- International Union for Conservation of Nature (IUCN).
- International Maritime Organisation (IMO).
- World Meteorological Organisation (WMO).



# 3. Solutions

## Towards scientific management

- Collection of data with geographic coverage – CMFRI, FSI, NIO, CMLRE, World Bank Sectoral study.
- Maritime education, training and research
- Gene banking for depleted stocks - NBFGR.
- Identification and protection of juvenile nursery areas (refugia/closed areas, seasonal closure).
- Aquaculture, Aquaranching
- Sharing of information and experiences – Lab to Land Programmes
- Applied research utilization of traditional knowledge, management practices and experience.



# 3. Solutions

## Governance levels and their roles

- **Central government:** Formulation of policies, development of legislations and enforcement, funding, link to global and regional conventions and agreements.
- **Local government:** Provision of infrastructure, services and other public amenities in cities, towns and local councils; support coastal user groups and local communities.
- **Non Governmental Organisations (NGOs) and Community Based Organisations (CBOs):** Awareness raising, assist in organising communities, provision of education and training.
- **Private sector:** Provision of capital for investments, assist in enhancing operational efficiencies.



# 3. Solutions

## Implementation, monitoring and updating

- Personnel training to implement co-management.
- Funding: government, others e.g., World Bank, GEF
  - Compliance/enforcement
  - Evaluation and adjustments
  - Political goodwill
  - Women's active participation
  - Communities self-empowerment







**Thank You**