



China's Marine Fisheries Management Since the Implementation of the Fisheries Act in 1986



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1. China's Marine & Fisheries: basic facts

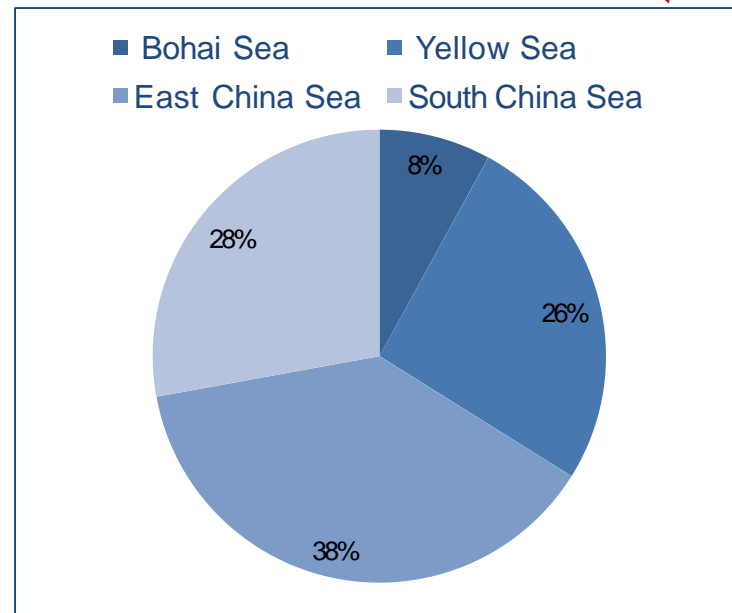
Annual Aquatic Products ≈ 66.9 m.mt.

Annual value ≈ 1200.02 billion CNY.



Annual Marine Catch ≈ 13.28 m.mt (20%).

Annual value ≈ 197.72 billion CNY (16%)



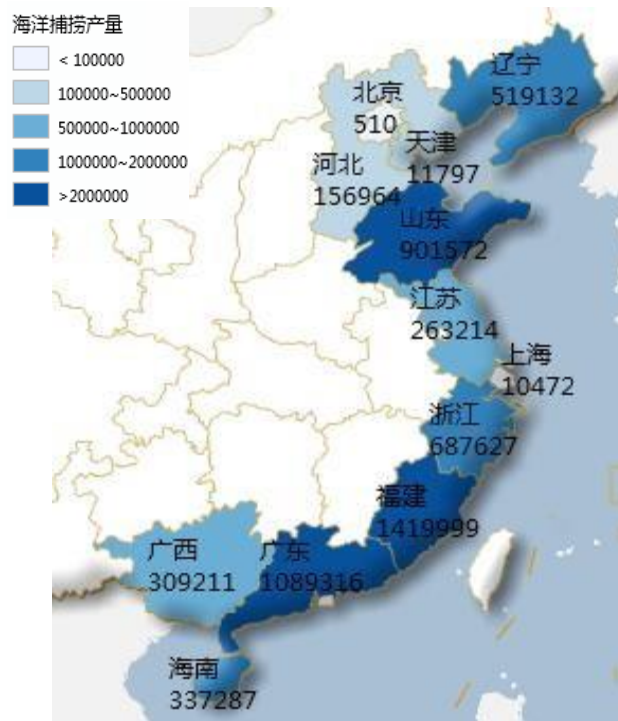
1CNY ≈ 0.15 USD

1CNY ≈ 165KRW

Marine catch value ≈ 0.26% of GDP (74358.5 billion CNY)

1.1 Coastal District & Quantity of Fishermen

- 11 Coastal Districts.



Marine Catch Fishermen \approx **1 million**

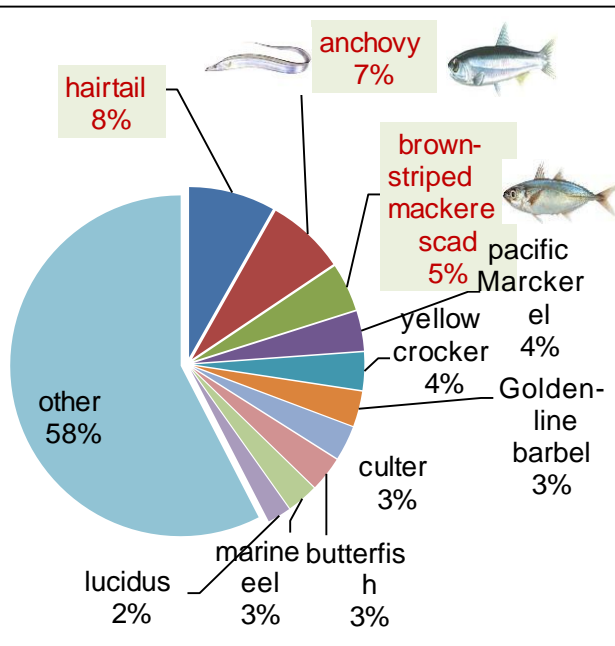
Total fishermen in China \approx 20 million

Year	Marine Fishermen (million)	Marine Catch Fishermen (million)
1995	5.21	1.10
2000	5.55	1.19
2005	5.36	1.10
2010	5.78	1.06
2015	5.76	1.02
2016	5.65	1.00

Total Rural Residents: 589.73 million people (fishery: 3.39%)

Total Chinese Population in domestic: 1.38 billion people

1.2 Top 10 Species of Marine Catch

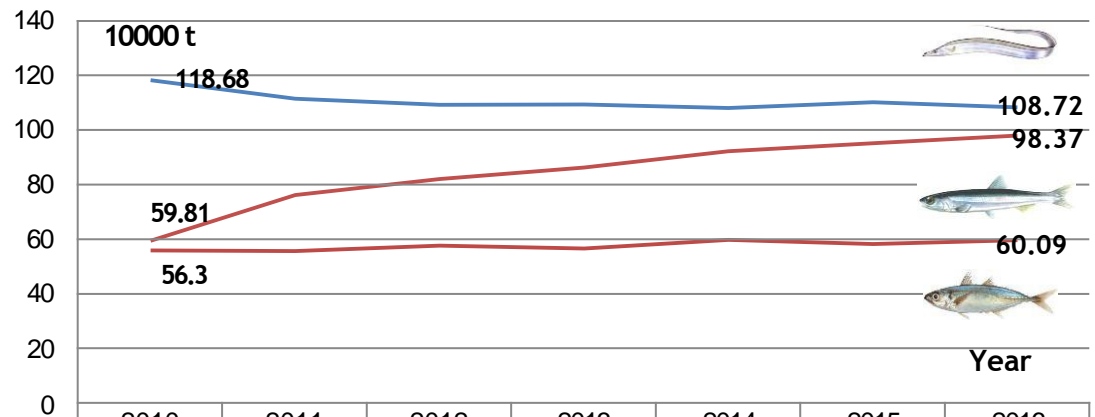


The Harvest: **Variety of species**

The output >0.5m.mt species: **hairtail, anchovy, brown striped mackerel scad.**

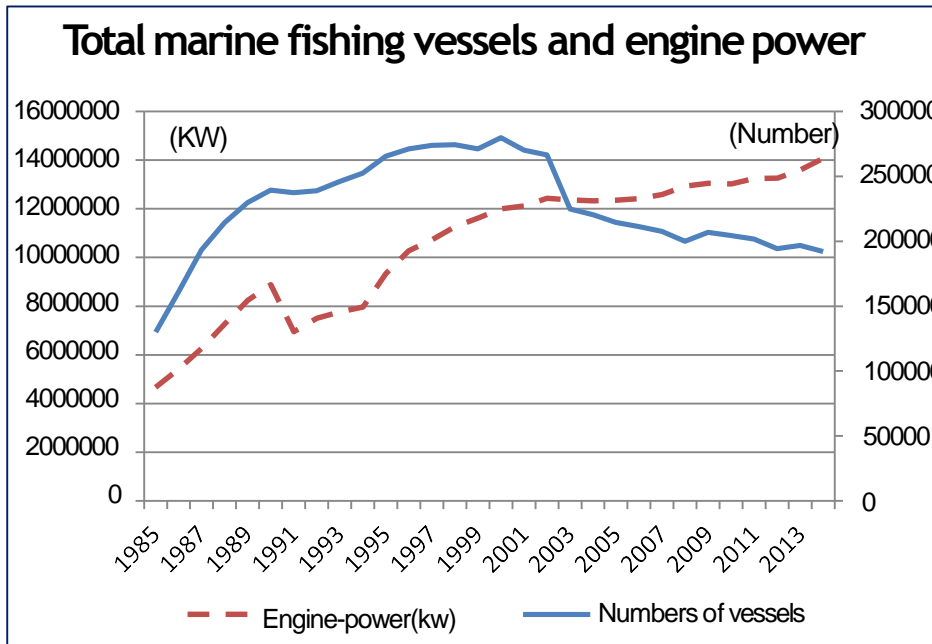
Top 10 \approx 42% of total marine catch

Fishing is getting **smaller and smaller**



	2010	2011	2012	2013	2014	2015	2016
— hairtail	118.68	111.82	109.66	109.68	108.42	110.57	108.72
— anchovy	59.81	76.66	82.41	86.68	92.65	95.58	98.37
— brown-striped mackerel scad	56.3	56.17	58.1	57.06	60.23	58.72	60.09

1.3 Quantity and Capacity of Vessels



The Number of Marine Fishing \approx 181.9 thousands.

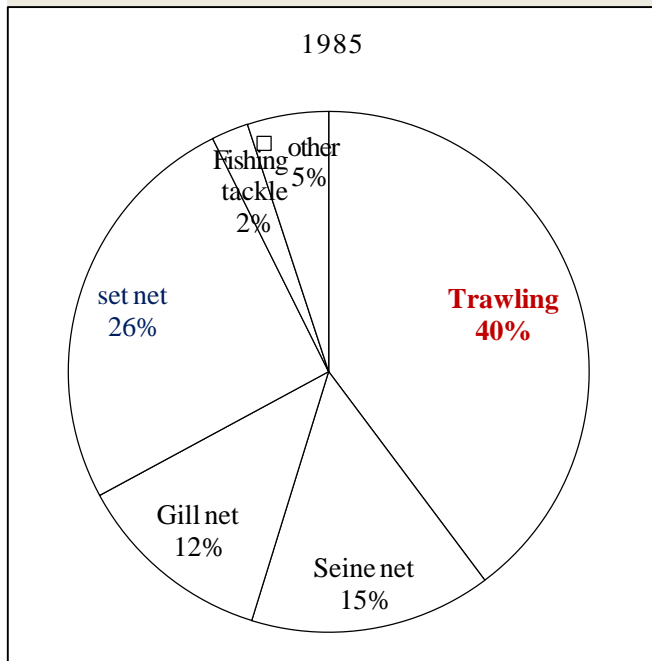
<44.1 KW: 121.3 thousands
Approximately 66.68% fishing vessels
small-scale fisheries...

44.1-441 KW: 58.74 thousands

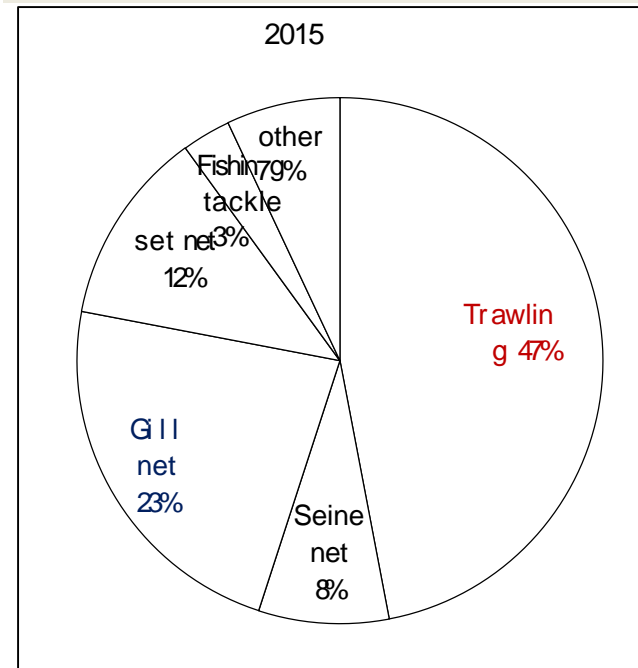
>441KW: 2515

1.4 Fishing Gear by harvest

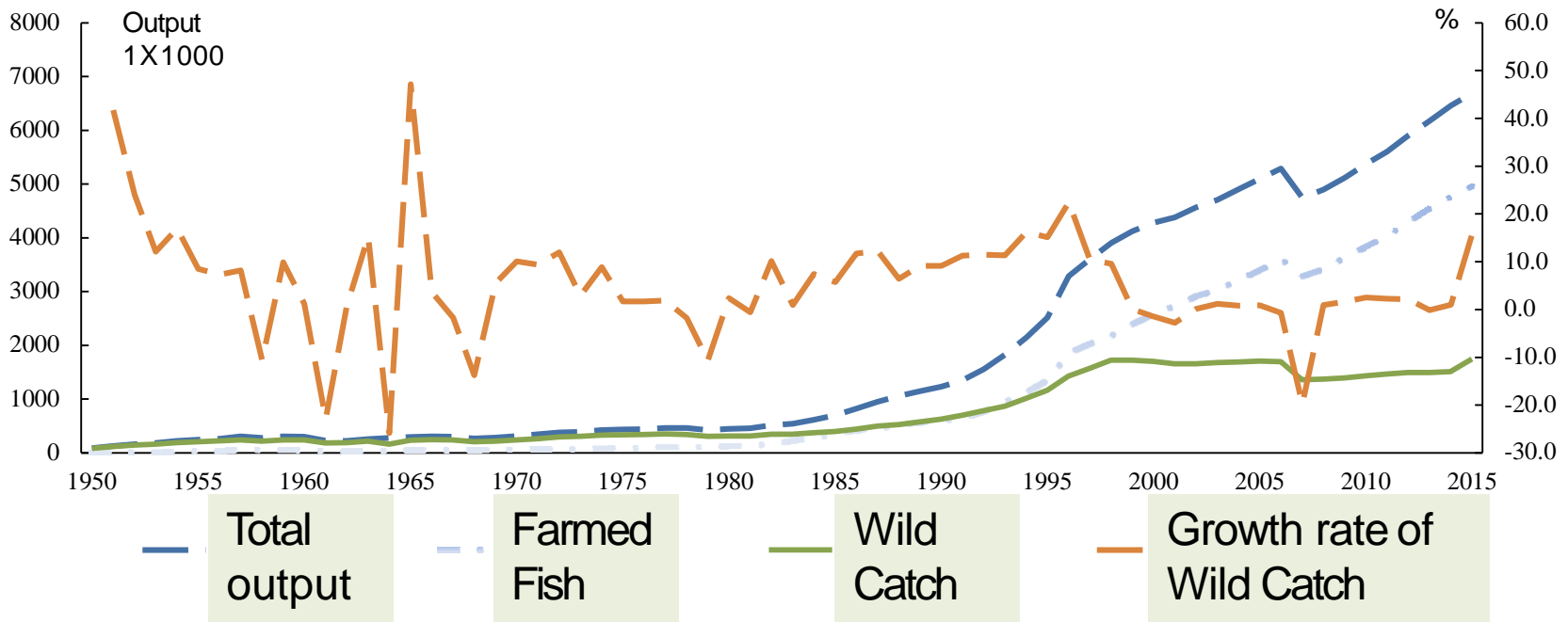
Trawling ≈ **40%** of total fishing gear



Trawling ≈ **47%**, increasing...

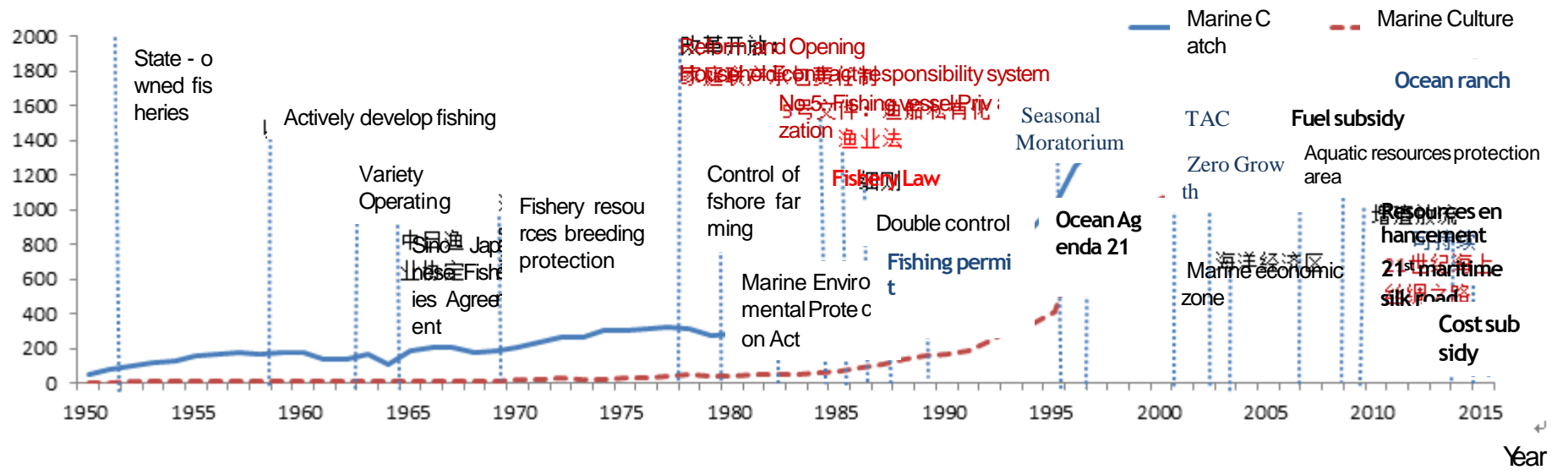
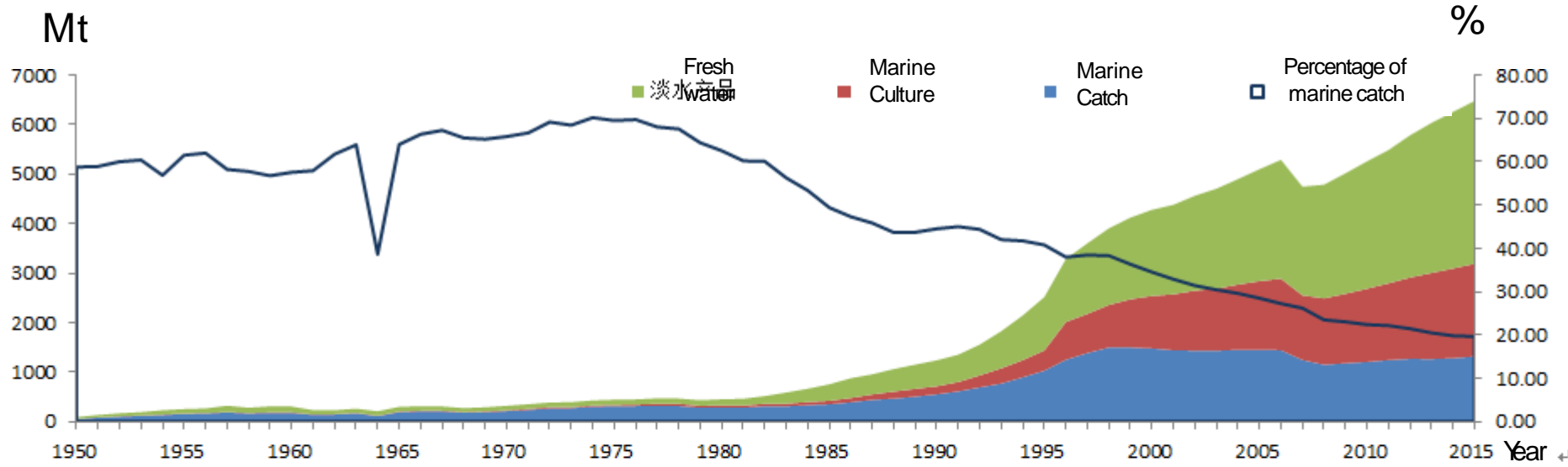


What's role the policies play in the development of Fisheries in China? From 1980 to now : strategy for fishery development is mainly focus on "aquaculture".



- a. 1950-1970: stable production
- b. 1971-1979: gradual increase
- c. 1980-1999: accelerated to its PEAK
- d. 2000-present: decreased slightly from its peak, then gently increases

2. China's Marine Fisheries Management during 1986-2018



2. China's Marine Fisheries Management after 1986

Input Controls

- Permit
-1986
- License
- 1986
- Double Control
-1987
- Fishermen relocation program
-2003

Output Controls

- Zero Growth Target
- 2000
- Total Allowable Catch
- 2017
- Catch share program
Pilots
-2017

Technique Controls

- Seasonal Moratorium
-1995
- Fishing boat upgrade
-2012
- Minimum catch size of fishing and fishing gear/nets
- 2013

Other Measures

- Resource fee
-1988
(Proliferation & release)
- 2009
- Marine protected areas (MPAs)
 - Aquatic germplasm resources conservation Area-2009:492(50)
 - Aquatic Plant Nature Reserve-1997:24(7)
- Ocean Ranch
-2014

Have these policies worked?

The answer is affirmative!

**However, Challenges & Difficulties
still remain!**

3. Challenges & Difficulties?

- **3.1-Input Controls**
 - **Fishery Law- Basic law - 1986**

The first condition for applying for a **fishing license** is that the applicant must be a unit and individual who has a certificate for the inspection of fishery vessels and a certificate for the registration of fishing **vessels**.

Secondly, . According to register information of the fishing license: the type of fishing operation, the location, the time limit, fishing licenses (fishing vessel registration certificates, fishing vessel inspection certificates), the holder of engage in fishing activities.

Q1: Cannot distinguish traditional fishermen (small scale fishermen to make living by marine catch) or non-traditional fishermen (Commercial Unit). In particular: Resource fee (1% ~ 3%) the average annual output value of the ex three years of the fishing.

Q2: Does not have a clear limit on allowable catch of the fishing vessel.

- **3.1 Input Controls-“Double Control” System**

total number and engine-power-1987-

	1987	1990	1995	2000	2005	2010	2016
Number of vessels	193401	239477	265620	279729	214560	204456	181930
Engine-power(kw)	6278040	8889877	9361302	12017986	12363850	13040623	14343686

- **3.1 Input Controls- Fishermen relocation program-2003**

Q1: Limited inspection and enforcement power by local government.

Q2: Illegal vessels still existed, difficulties in law enforcement

Q3: Compensation standard is lower than income by marine catch, Lack of ideal way to transfer new jobs, different social welfare system between fishermen/rural & urban residents.

Q4: New fishermen (Income of rural in middle-west is lower than income of coastal fishermen.

3. Challenges & Difficulties?

- **3.2-Output Controls**

- Zero Growth Target - 2000

- Total Allowable Catch - 2017

- Catch share (Quota) program Pilots -2017

- (Liaoning, Shandong, Zhejiang, Fujian and Guangdong)

- Q1: lacked continuous scientific investigation and accurate estimation of the stock of marine fishery resources.

- Q2: Difficulties in set reasonable distribution principles and distribution methods of fish quotas. This system cannot be fully replicated by other coastal places and its effectiveness is still being explored in pilot areas for one specie in one pilot.

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3. Challenges & Difficulties?

- **3.3-Technique Controls**
- - Seasonal Closed Zone: Summer Moratorium -1995

1995 to 2017: Bohai Sea June1-Sept1

1999 to 2017: South China Sea May16-Aug1

East China Sea (North of $26^{\circ}30'N$) Jun1-Sept16

Others May 16-Aug1

Yellow Sea(North of $35^{\circ}N$) Jun1-Sep16

(South of $35^{\circ}N$) Jun1-Sept16

After 2017: The close all marine fishing zone adjusted to 12:00 on May 1 of each year. 4 full months seasonal moratorium.

- Q1:Lacks specificity to sufficiently cover all species.(some species should be harvest in the season, but missed)
- Q2: Rush into the sea immediately when moratorium is over.

3. Challenges & Difficulties?

3.3 Technique Control- Minimum mesh size regulation (2004)

Gears	MMS (mm)	Application	
		Sea Area	Species
Trawl	54 39(40,2005)	Yellow , East South	AI I AI I
Drift gillnet	137 90 90	Bohai, Yellow, East Yellow, East Bohai, Yellow, East	Silver pomfret Chinese herring Spanish mackerel
Codend of Winged stow nets	50	East	Hairtail

Fishing nets with meshes smaller than the minimum meshsize.

Q1: A few number of legally bind standards for mesh size

Q2: Standards (Update)

4. Discussion & Recommendations:

4.1 Output Control:

a. TURF(Quotas) in future? Yes! But not replicated and Precondition: Improve the **Total Allowable Catch** I system, scientifically assess the status of China's marine fishery resources, and reasonably determine the total allowable fishery in line with the rate of resource regeneration and reproduction.

4. Discussion & Recommendations:

4.1 Output Control:

b. According to the degree of development of marine fishery resources, endowment conditions, and ecological characteristics, **improve the marine fishery resource zoning system**, and implement differentiated treatment of different sea areas(Category of fishery resources area: Priority, Restricted and Forbidden area).

c. Improve the ecological compensation system(**Seasonal Moratorium and fishermen relocation**), and **unify social welfare system between fishermen and farmer**.

4. Discussion & Recommendations:

4.1 Input Control:

a. **License adjustment-** For traditional fishermen, the fishery rights system of coastal fisheries and sea areas can be explored; For commercial fisheries, explore the system of restricting accessrights.

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4. Discussion & Recommendations:

- 4.2 Input Control:

b. Improve the system of resources fee. For commercial fisheries, explore the resource tax ladder tax system and play a role in resource conservation to regulate resources.

c. Strengthening fisheries enforcement, Strengthening the illegal and illegal fishing supervision and reporting system.

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THANKS!

