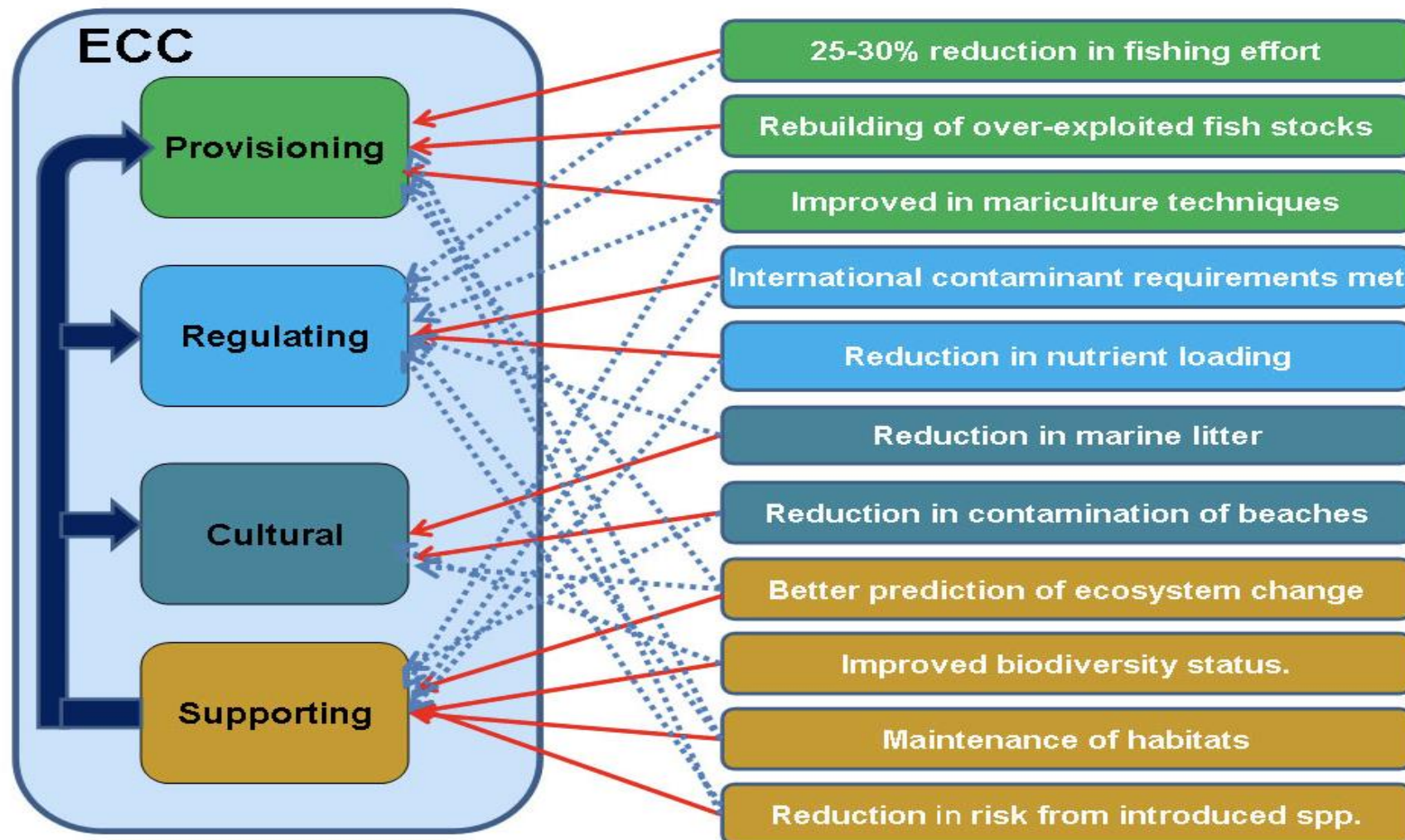


DIM Facts and Reflections in YSLME

- DIM is at infantry stage in YSLME, metadata not required in project-supported studies
- Science-based approach pursued to assist adaptive management
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Restoring Ecosystem Carrying Capacity by achieving 11 YSLME SAP Targets



Target: 25-30 percent reduction in fishing efforts (SAP)

Indicator: number of fishing boats decommissioned from the fleet in YSLME waters (ProDoc)

End of project targets: 1) In line with the 2020 target of 30%, reduction of fishing boat numbers by 10%, [updated as 18,797 by 2020 in PR China (Liaoning: 6,177; Shandong: 8,976; and Jiangsu: 3,644) and # by 2020 in RO Korea

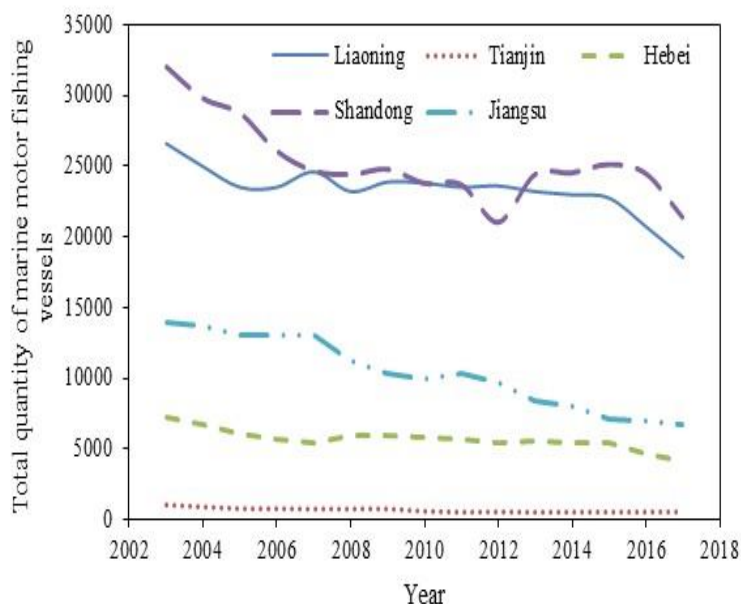
Means of verification:

- 1) project assessment reports; and 2) government fisheries statistics; 3) literature

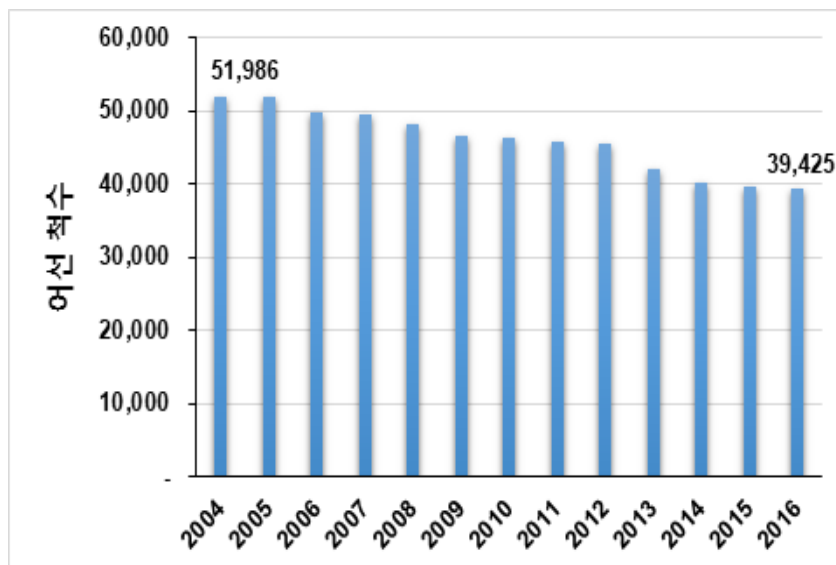
Indicator: number of fishing boats decommissioned from the fleet in YSLME waters

Status

- The total number of marine motor **fishing vessels** in each YS coastal province has a declining tendency in both China and RO Korea. In RO Korea, The number of fishing vessels operating in the coastal and offshore waters in the YS decreased from 51,986 in 2004 to 39,425 in 2016, a reduction of 12,000 during the 12-year period, falling down to about 75% of the 2004 level.



YSLME, 2019



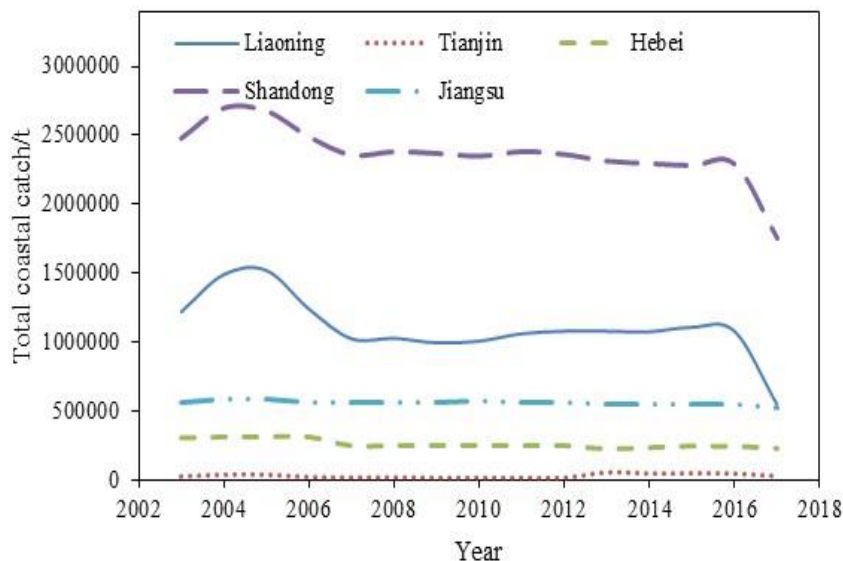
Dohoon Kim, 2019

End of Project Targets Achieved!!!

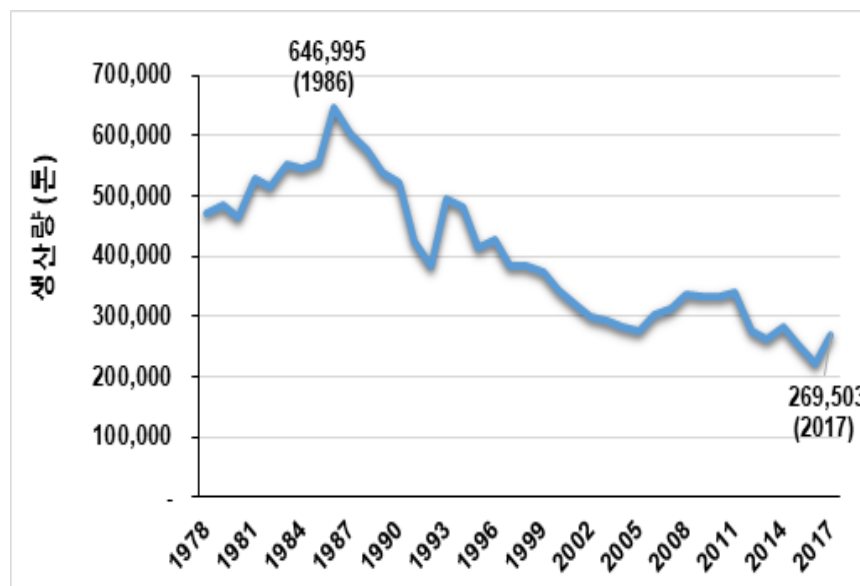
What about the landings?

Status

- UNDP/GEF YSLME Project studies and research by RO Korean experts show that coastal **capture production** had declining tendency in 5 coastal provinces of YS in PR China from 2003 to 2017 and in YS in RO Korea from 1978-2017.



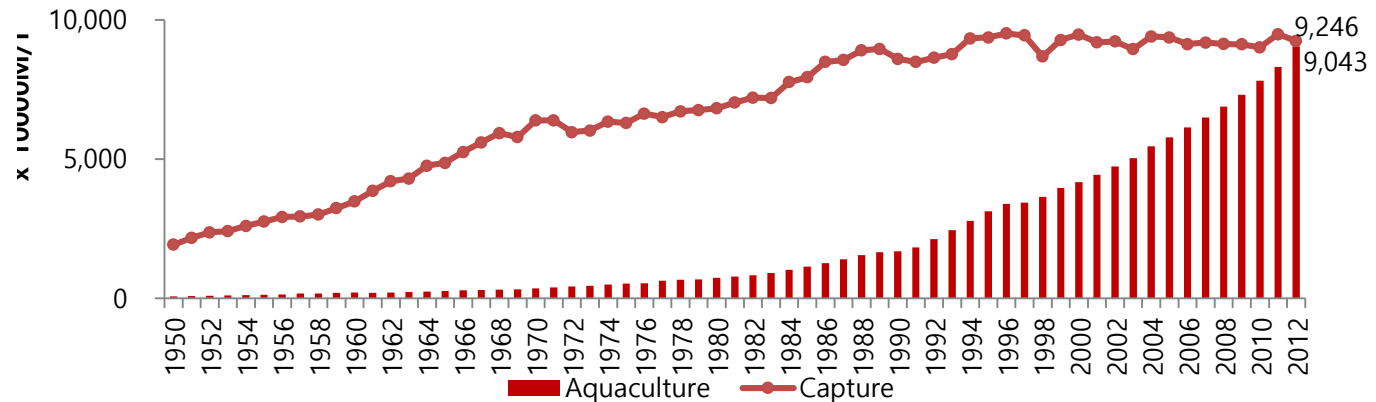
YSLME, 2019



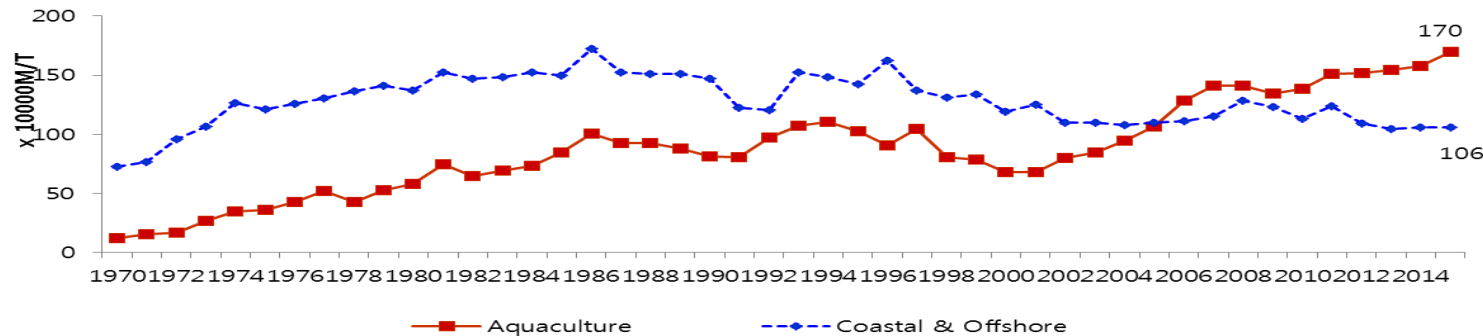
Dohoon Kim, 2019

With Reduced landings, how the demand for seafood is met?

World (FAO)

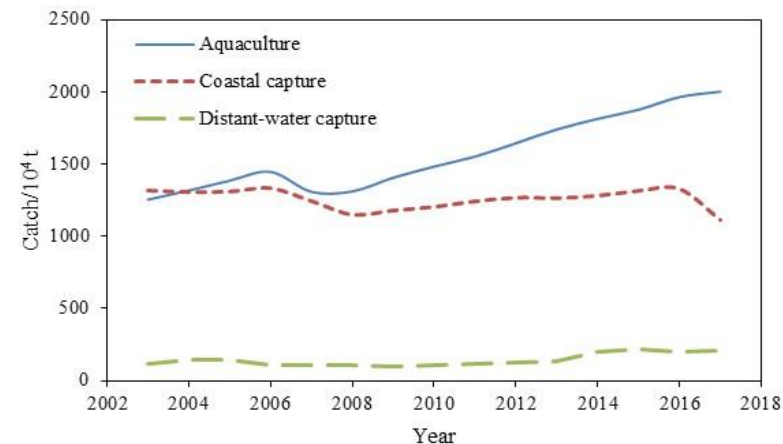


RO Korea, Choi



Coastal **capture fisheries** is declining in both PRC and ROK in its coastal waters, demand increasingly met by **aquaculture**

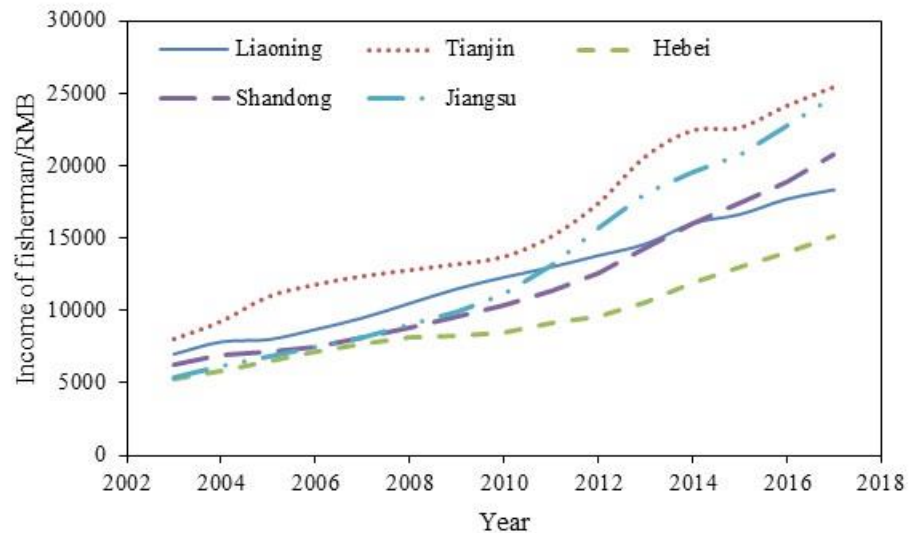
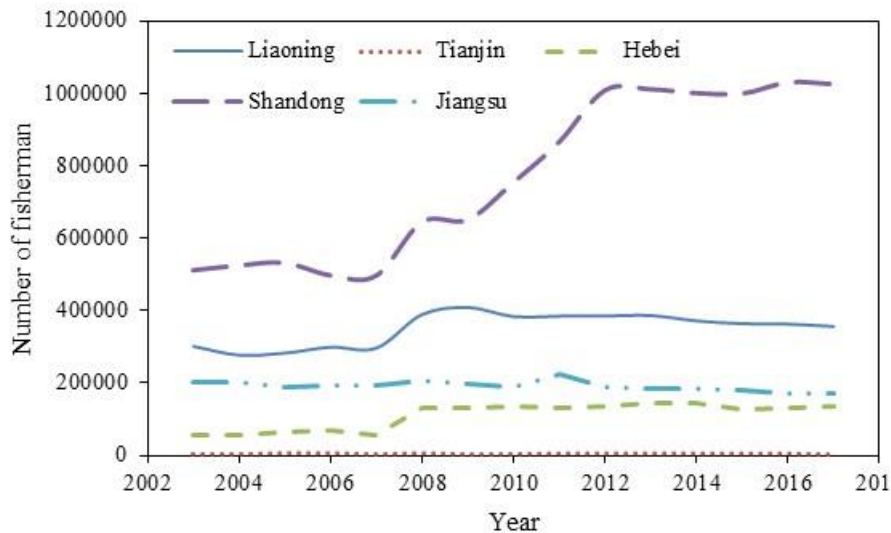
YSLME, 2019



What are the socioeconomic implications?

Status

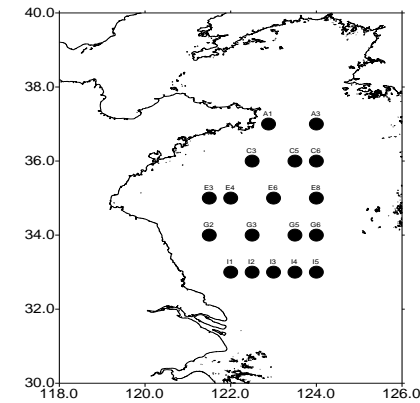
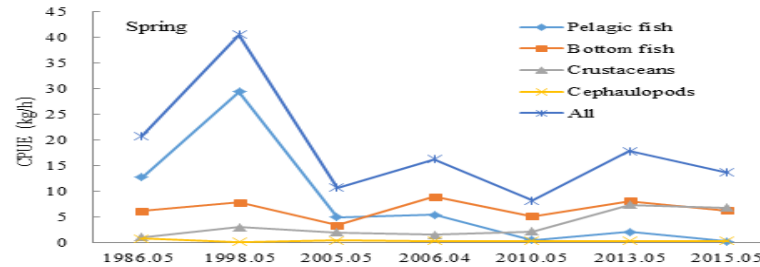
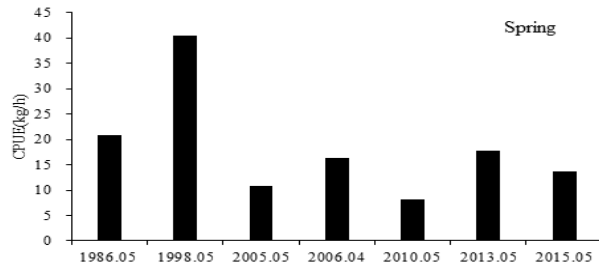
- Fishery sector **employment** is increasing sharply in Shandong between 2007 and 2012
- **Income** of fisherman has increased gradually for all provinces



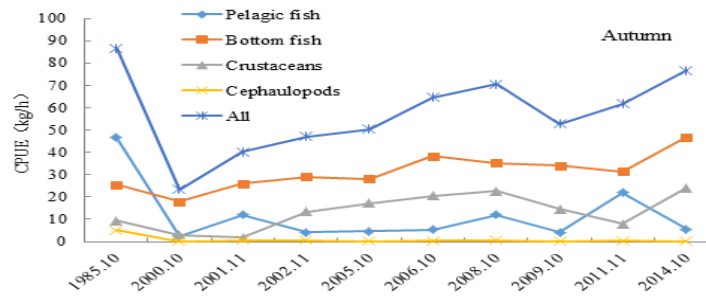
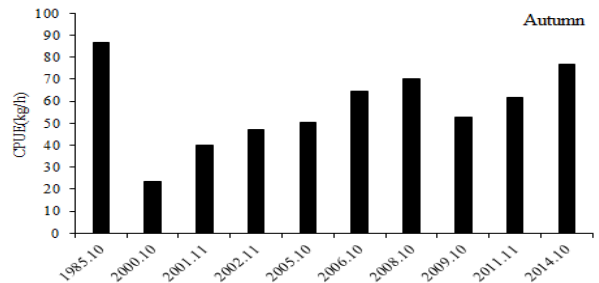
YSLME, 2019

What about inflation?

What about abundance of fish species?



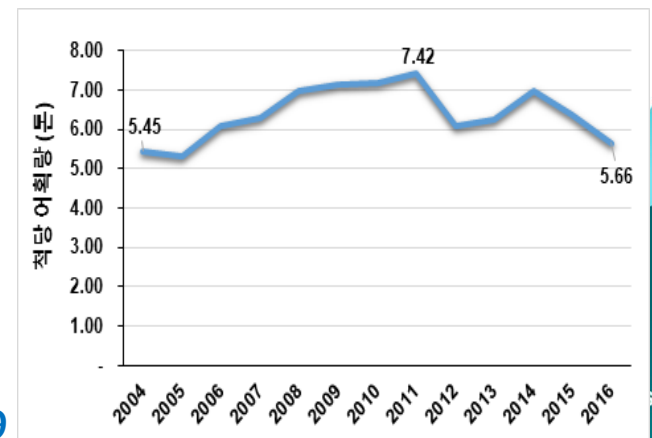
(Survey data by R/V BeiDou of YSFRI)



YSFYI, 2019

The total biomass of fishery species fluctuated in last 30 years; trophic level appears stable

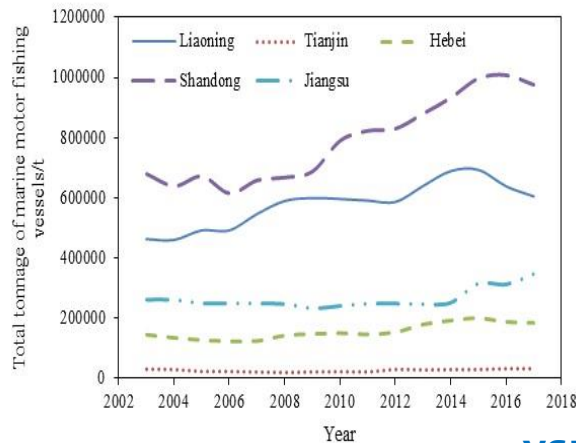
Dohoon Kim, 2019



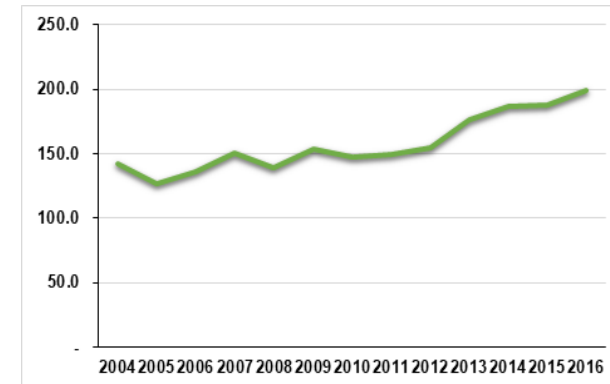
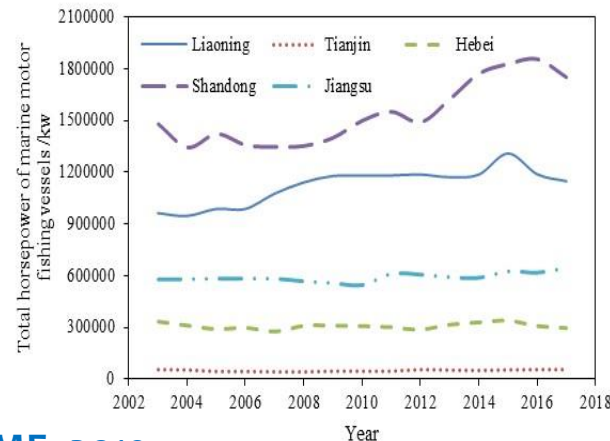
Does fishing vessel buy-back scheme has to address quantity, tonnage and horsepower at the same time?

Status

- The total **tonnage** of marine motor fishing vessels has an increasing tendency for each province in PR China
- The total **horsepower** of marine motor fishing vessels increased in Liaoning and Shandong. In RO Korea, horsepower per vessel in 2016 is about 40% higher than that in 2004.



YSLME, 2019

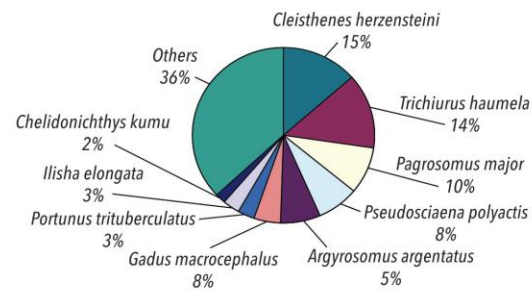


Dohoon Kim, 2019

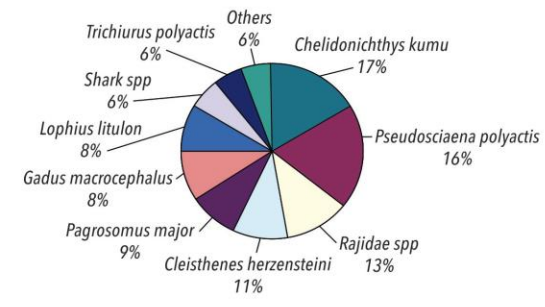
Trophic level stable! What about your seafood menu?

Species shift in dominance:

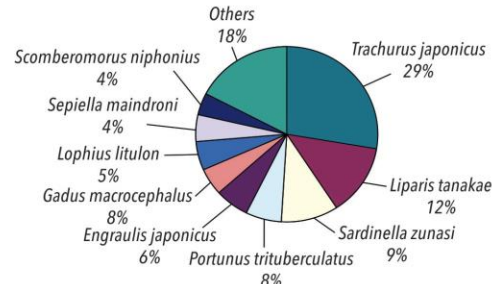
- From demersal, high value species to pelagic, low valued species during 1958-1959 to 1998-2000
- From pelagic, low valued species to demersal, low-valued species during 1998-2000 to 2015-2015.



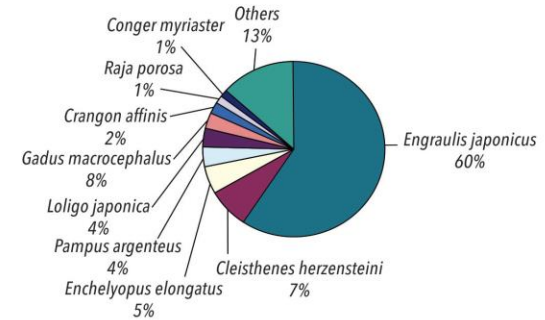
October 1958



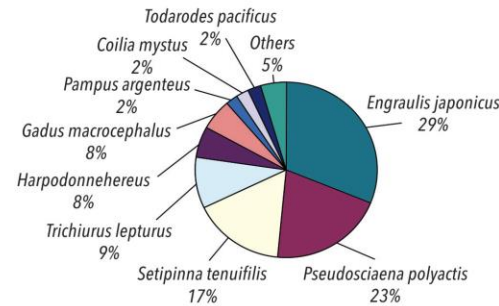
May 1959



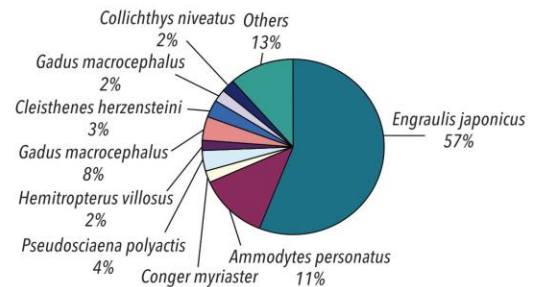
October 1985



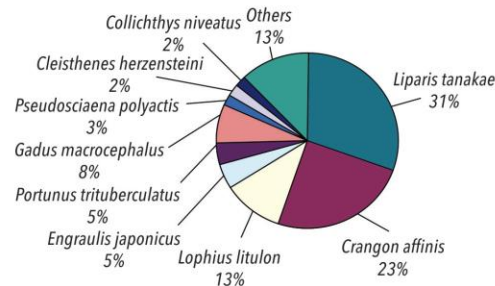
May 1986



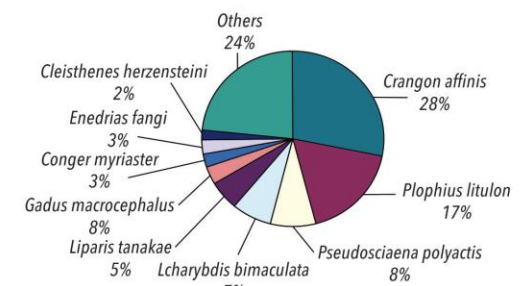
October 2000



May 1998



October 2014



May 2015

Qiang Wu, YP Ying & QS Tang.
2018

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- Funding for research never enough – bringing scientists together to deliberate is the cheapest way to help build YSLME a stronger knowledge base (17 workshops organized in 2.5 years with 28 partners)
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