




A Case study on **Fishery Co-management in Korea** : **'Fishery Closures'** of Fisheries Cooperatives

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Contents

1. Introduction
 2. Background
 3. Fishery co-management program
 4. Implications
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- A faint, light blue illustration in the background shows a fisherman on the right side, holding a large net. To the left of the fisherman, a school of fish is depicted swimming. The entire scene is set against a backdrop of stylized, wavy lines representing water or a horizon.

1. Introduction

In a recent, fishery co-management between the government and fishermen has been an important paradigm shift in Korean fishery management policy.

In case of Korea fisheries area, three fisheries cooperatives(which refer to purse sein fisheries cooperatives, dragnet fisheries cooperatives, stow net fisheries cooperatives) have co-management programs.

Generally, the main method of fishery co-management programs is 'Fishery Closures' among the programs, and others are restriction of fishing gear and fishermen educations etc.

2. Background

The limitations of government-led fishery management

Despite government's all efforts, fisheries resources are still on the decline. Especially in the 1990s, there was a sharp decline and it is still not be recovering. In addition, government failed to manage its fishing effort.

<Table 1> Production of the fishing industry

(unite : 10,000 ton)

Years	1990	1995	2000	2005	2010	2015	2016	2017
Production	147	143	119	110	113	106	92	93
Increase and decrease	Recent 5 years	-	-5	-24	-9	4	-7	
	Recent 10 years	-		-28		-6		

source : Statistics Korea

Fishing Effort

Fishing Ship : 100,000(1990) → 67,000 (2015) but

Total Horse power : 5,450,000(1990) → 14,070,000(2015)

Unit Horse power : 54.7(1990) → 209.4(2015)

A Crisis for Fishermen in fishing business area

<Table 2> Net profit created each year fishing business

(unite : million won)

Years	2010	2011	2012	2013	2014	2015	2016
Bull trawl fishery	138	200	199	294	-638	-289	38
Danish seine fishery	18	30	35	25	76	61	118
Trawl fishery	349	513	206	225	255	124	218
Purse sein fishery	1,686	4,304	2,607	-355	-1,518	-956	36
Stow net fishery	159	181	94	167	137	230	221

source : National Federation of Fisheries Cooperatives

Implementation of government's fishery management policy

Compulse Closed Season, Restriction length & weight(2016.5 overall execution)

Closed Season : fish 13, crustacean 7, shell 8, seaweed 10, others 3 species

Involved hairtail, mackerel, yellow corvina, blue crab, Japanese common squid

Restriction length & weight : fish 26, crustacean 5, shell 7, others 2 species

3. Fishery co-management program

Main method : Fishery Closures

Sub method : Restriction of fishing gear, Fishermen educations,
Release the fish, etc.

CASE : 3 fisheries cooperatives

Purse sein fisheries cooperatives

Fishery Closures + Restriction of fishing gear

Dragnet fisheries cooperatives

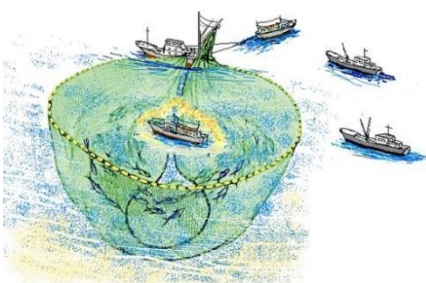
Fishery Closures + Release the fish

Stow net fisheries cooperatives

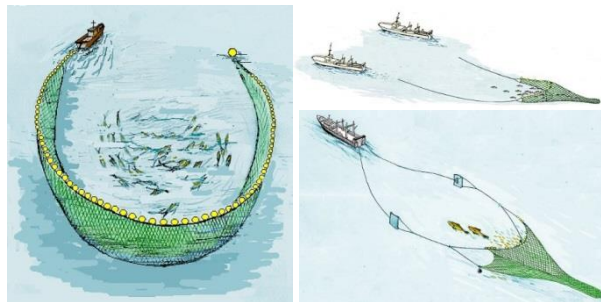
Fishery Closures + Restriction of fishing gear + fishermen educations, Release the fish



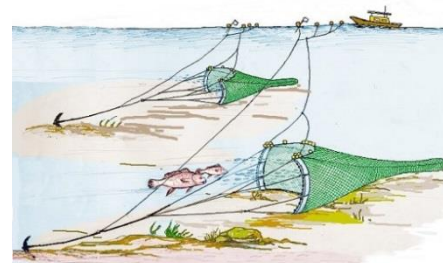
Purse sein fisheries cooperatives



Dagnet fisheries cooperatives



Stow net fisheries cooperatives



Their effort to get involved....

The Fisheries Cooperatives' leader and staff have tried to persuade the fishermen to participate in co-management programs.

However, Fishermen said "No! why me?"

3.1. Case 1 : Purse sein fisheries cooperatives

<Table 3> Co-management programs of Purse sein Fisheries Cooperatives

Years	2005~2017	2018
period	1 month	2 month
	Lunar calendar 3/14~4/14	3/14~5/14
participation	All Fleet	24 Fleet 144 ship, Crew 1,750
note	-	Add 1 month

Restriction for intensity of illumination of light ship 700,000kW → 560,000kW

Case in 2018, the period of fishery closures is added 1 month. This change show us positive result that the length of captured fish get more bigger than before.

3.2. Case 2 : Dragnet fisheries cooperatives

There are three fishery which is Trawl fishery, Danish seine fishery, Bull trawl fishery in Dragnet fisheries cooperatives. They have competitive relationship each other. Therefore it is very difficult to gather the unified opinion.

<Table 4> Co-management programs of Dragnet Fisheries Cooperatives

	Trawl fishery	Danish seine fishery	Bull trawl fishery
period	3 month 4/1 ~ 6/30	1 month Late May ~ Late Jun	2 month Busan : 4/7 ~ 6/6 Kyungnam & Jeonnam : 4/1 ~ 5/15(45 Days)
participation (unparticipate)	40 (11)	25 (5 : Jeonnam 4, Kyungnam 1)	32
note	March ~ Jun closing season	generally July ~ August maintenance season	April ~ May closing season

In fact Fishery Closures of Dragnet fisheries cooperatives have no positive effect for fisheries resources. But they said "This is just beginning, we have many long-term plans. Of course, the period will be gradually lengthen."

They are focusing on the released the younger fish instead of Fishery Closures.

<Table 5> Released the fish amount of each year

(unite : 10,000)

Years	Total Amount	species(Amount)
2015	13(1at : 8, 2at : 5)	1at : red sea-bream(4), Black Porgy(4), 2at : filefish(4)
2016	53(1at : 28, 2at : 25)	1at : filefish(18), Black Porgy(10), 2at : filefish(15), rockfish(10)
2017	47	filefish
2018(July present)	35	

3.3. Case 3 : Stow net fisheries cooperatives

<Table 6> Co-management programs of Stow net Fisheries Cooperatives

Years	Period		ship	people
	Spring	Summer		
2016	1/22 ~ 2/20	7/1 ~ 7/31	72	92
2017			70	102
2018	2/10 ~ 3/11	7/7 ~ 8/6	66	97

<Table 7> Fishermen Education in Stow net fishery

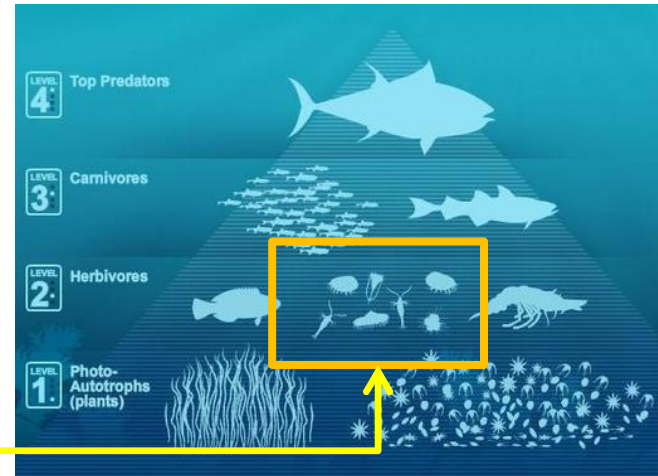
Years	Date	City	People	Years	Date	City	People
2017	04.20	Mokpo	94	2018	04.24	Goonsan	32
	04.21	yeosu	88		04.25	yeosu	87
	07.21	Goonsan	33		06.22	Mokpo	88
	Total		215		Total		207

Restriction fishing gear : prohibit using dense net

Dense net



Marine Ecosystem Food Chain



For example : anchovy, gunnel

We can expect a positive impact on fisheries resource.

In 2017, 2018, it released 100,000 younger yellow corvina every year.

4. Implications

- The role of government
- The limitation of fisheries management in Korea
- 'Fishery Closures' of Fisheries Cooperatives
- Difficulties



Thank you.

