

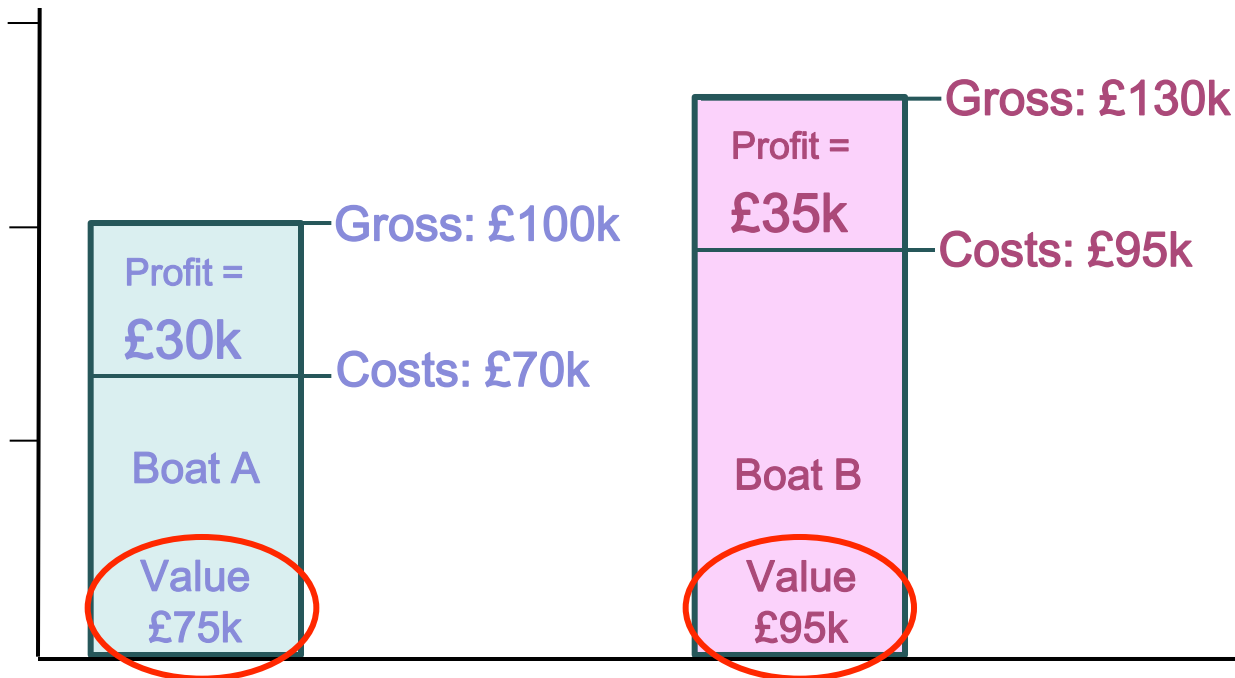


# Efficiency and profitability in fisheries

Fishing into the Future  
Hazel Curtis

*supporting the seafood industry for a sustainable, profitable future*

# Which boat would you rather own?



Profit = sales – costs  
Profit margin = profit as a proportion of sales.  
Profitability = profit as a proportion of money invested.  
Return on investment.

Profit margin  
 $\text{£}30\text{k} / \text{£}100\text{k} = 30\%$

Profit margin  
 $\text{£}35\text{k} / \text{£}130\text{k} = 27\%$

Profitability  
 $\text{£}30\text{k} / \text{£}75\text{k} = 40\%$

Profitability  
 $\text{£}35\text{k} / \text{£}95\text{k} = 37\%$

# Profitability and efficiency – fishery level

Fishing industry 1 Annual activity	
No. of boats	100 ←
No. of crew	500 ←
Total value of boats	£50 million ←
Total gross (sales)	£60 million ←
<b>Total</b> costs	£55 million ←
Total profit	£5 million ←
Return on investment	10% ←

Fishing industry 2 Annual activity	
No. of boats	60 ←
No. of crew	300 ←
Total value of boats	£30 million ←
Total gross (sales)	£60 million ←
<b>Total</b> costs	£45 million ←
Total profit	£15 million ←
Return on investment	50% ←

Total costs includes: all operating costs, all vessel owner costs, costs of borrowing money, opportunity cost of capital

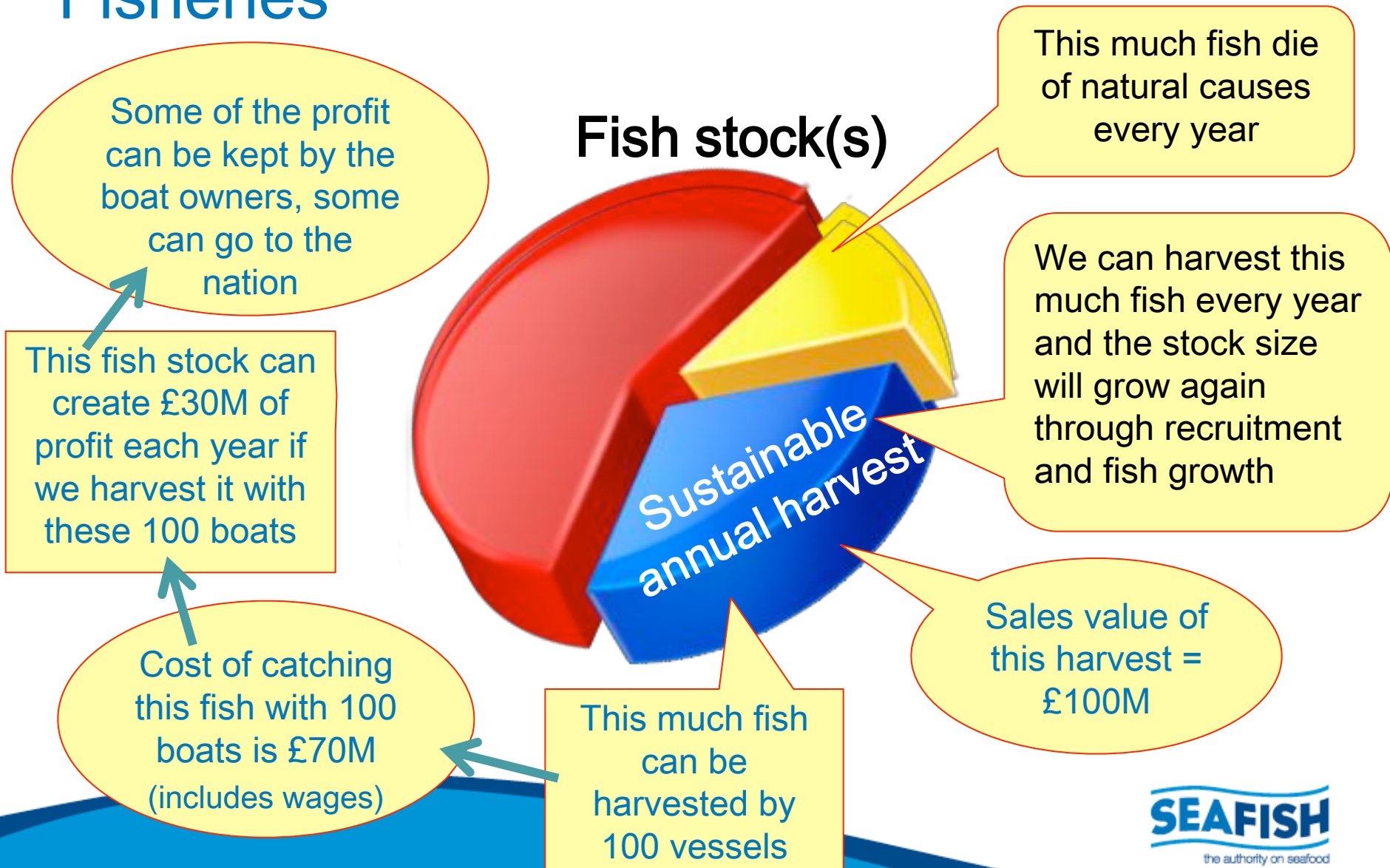
# Farming

But how did it come to  
belong to someone?  
Allocation of property

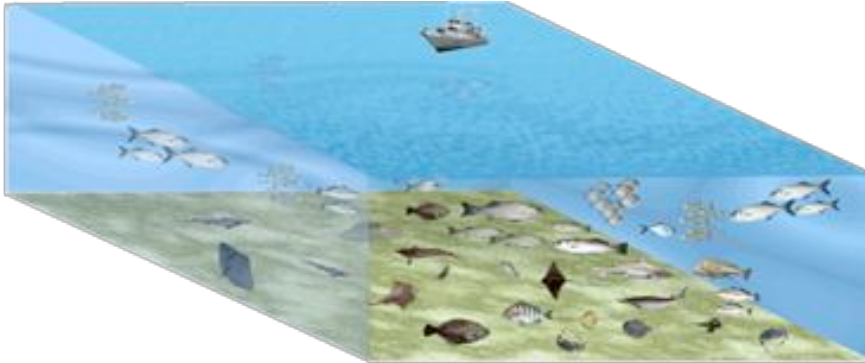
- My land – I get to farm it and keep the profits (or bear the losses)
- No-one else can keep livestock or plant crops on my land
- It cost me money to buy the land so I take good care of it
- If I choose not to farm my land, I can lease it out to someone else who pays me rent. Then they farm it, they keep their profits.



# Fisheries



# Fisheries – what's the problem?



Fish present an opportunity to make a profit using a national resource.

So:

What does the nation want its fish stocks to deliver to society?

Revenues for the exchequer? Jobs for coastal residents? Reliable supply of food?

Who gets to fish?

Why? Why not other people? How do we prevent others from fishing?

Should the nation charge fishing businesses a fee for the right to fish?

Why? Why not?

How much fish shall fishing businesses take from the sea each year?

How do we prevent them from taking more?

These are Political questions – no right or wrong answers



# Fisheries Economics

## CAUSE

- Insecure property rights



## PROBLEM

- Race to fish
  - Overcapitalization
  - Excessive by-catch
  - Mixed species fishing
  - Habitat destruction
  - Political manipulation
  - Mixed use conflict
  - Perverse innovation

## SOLUTION

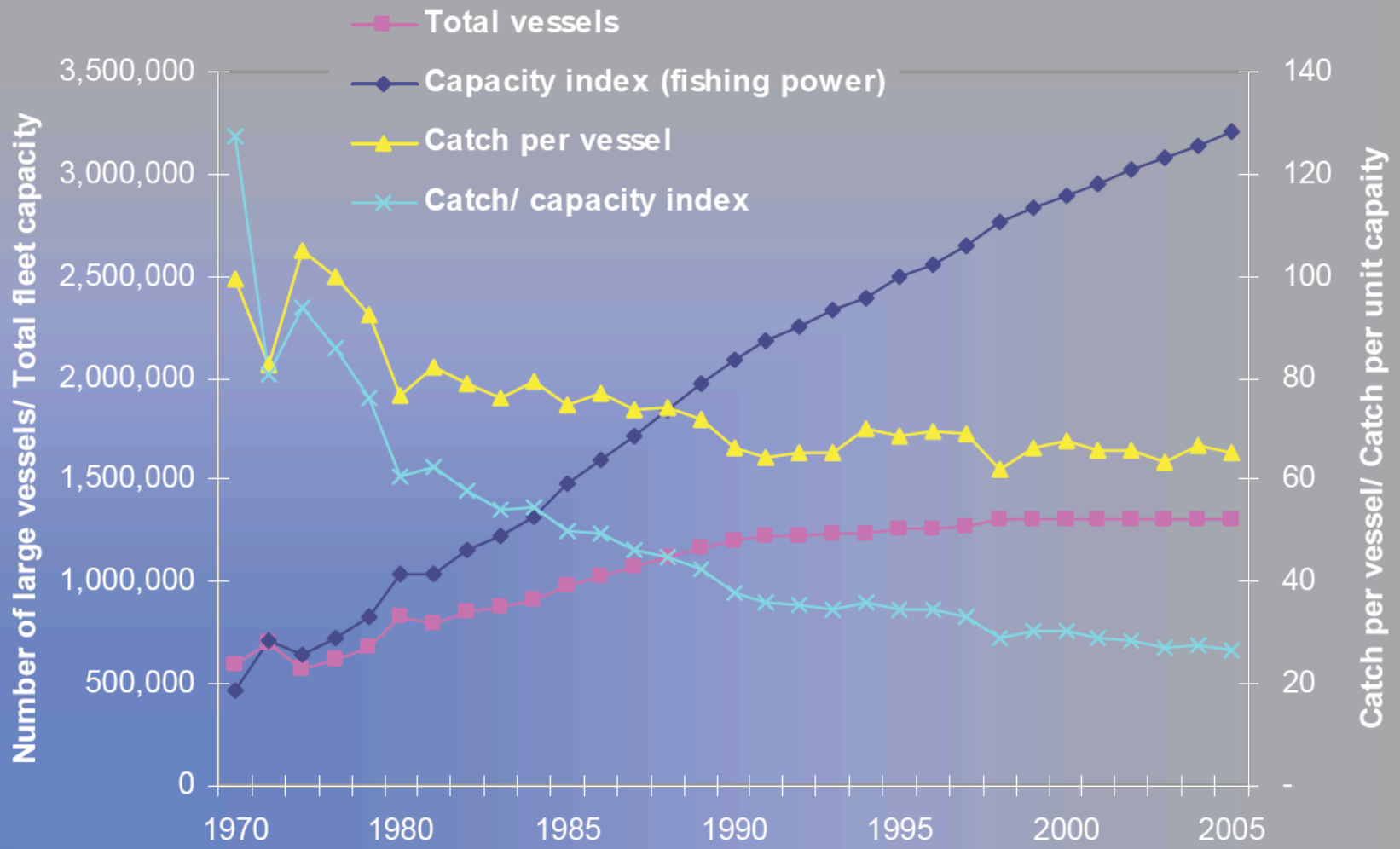
- Fix property rights problem
- ITQs, IFQs, etc.
  - Cooperatives, TURFs

If we avoid property rights because we fear the results of initial allocation, we will continue to suffer the problems caused by no property rights!

# Over capitalisation / Excess capacity – the most pressing problem?

- Waste of economic resources
  - could catch same amount with fewer boats
- Leads to overfishing of target species
- Exacerbates other forms of environmental degradation (e.g. sea bed damage, impact on non-target species, ecosystem)
- Increases level of biological and economic risk in system
- More pressurised politics and decision making
- Management fails to tackle root causes and consider system as a whole

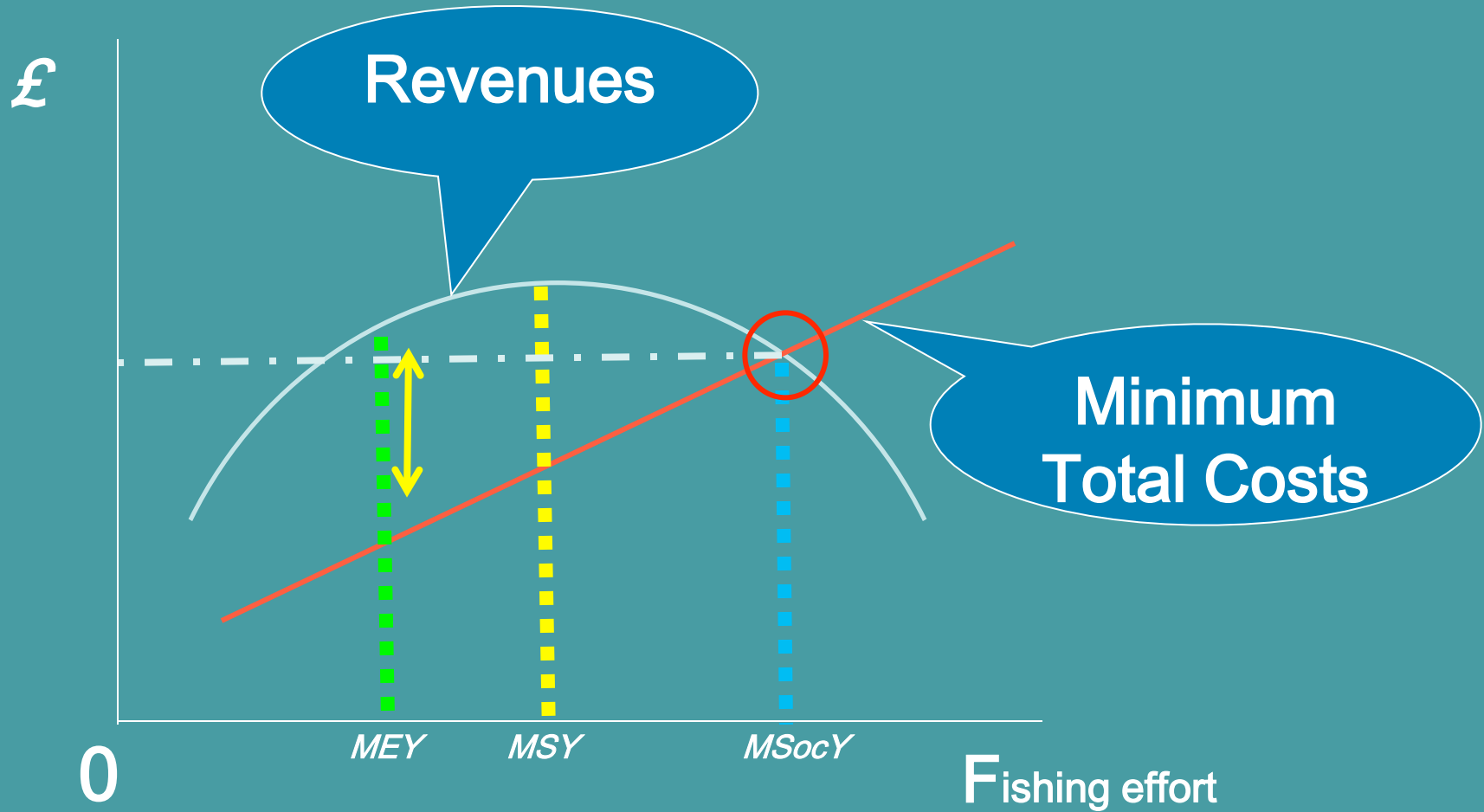




World-wide: Declining productivity, but increasing fishing fleets and fishing power

Source: Sunken Billions, World Bank, 2008

# Economics



# Policy Options: what should we aim for?

- Maximum Biological Yield (MSY) = maximum fish harvest
- Maximum Economic Yield (MEY) = maximum profits
- Maximum Social Yield (MSocY) = maximum jobs
- Somewhere in between? Compromise?
- Cannot maximise all three at the same time

# Take Home messages

- Fishing is a business
- Efficiency = ratio between inputs and outputs – investment and profit at business level or fishery level
- Economic benefit or welfare is not just money
- The choice of what benefits fish stocks should deliver to society is a political choice
- You could choose to run a fishery for maximum efficiency but you don't have to aim for that. You could aim for more jobs, small businesses, family-run firms...or other preferences.
- Economics can inform how best to achieve desired outcomes
- Well-managed fisheries can increase the wealth of the nation
- Poorly-managed fisheries waste resources and cost the nation / the taxpayer money