

Towards a better understanding of fisheries behaviour

Panel 3.4.22 Innovative approaches to fisheries management

7 July 2017, Marloes Kraan



Why is this important?

From an applied science perspective:

- “The successful use of technical measures appears to depend largely on their acceptance by industry”. (Suuronen and Sarda 2007)
- Batsleer 2017: “Hilborn (1985) was one of the first scientist to point out that the **lack of knowledge on fishers behaviour** may underlie the failure of fisheries management.”



Different perspectives

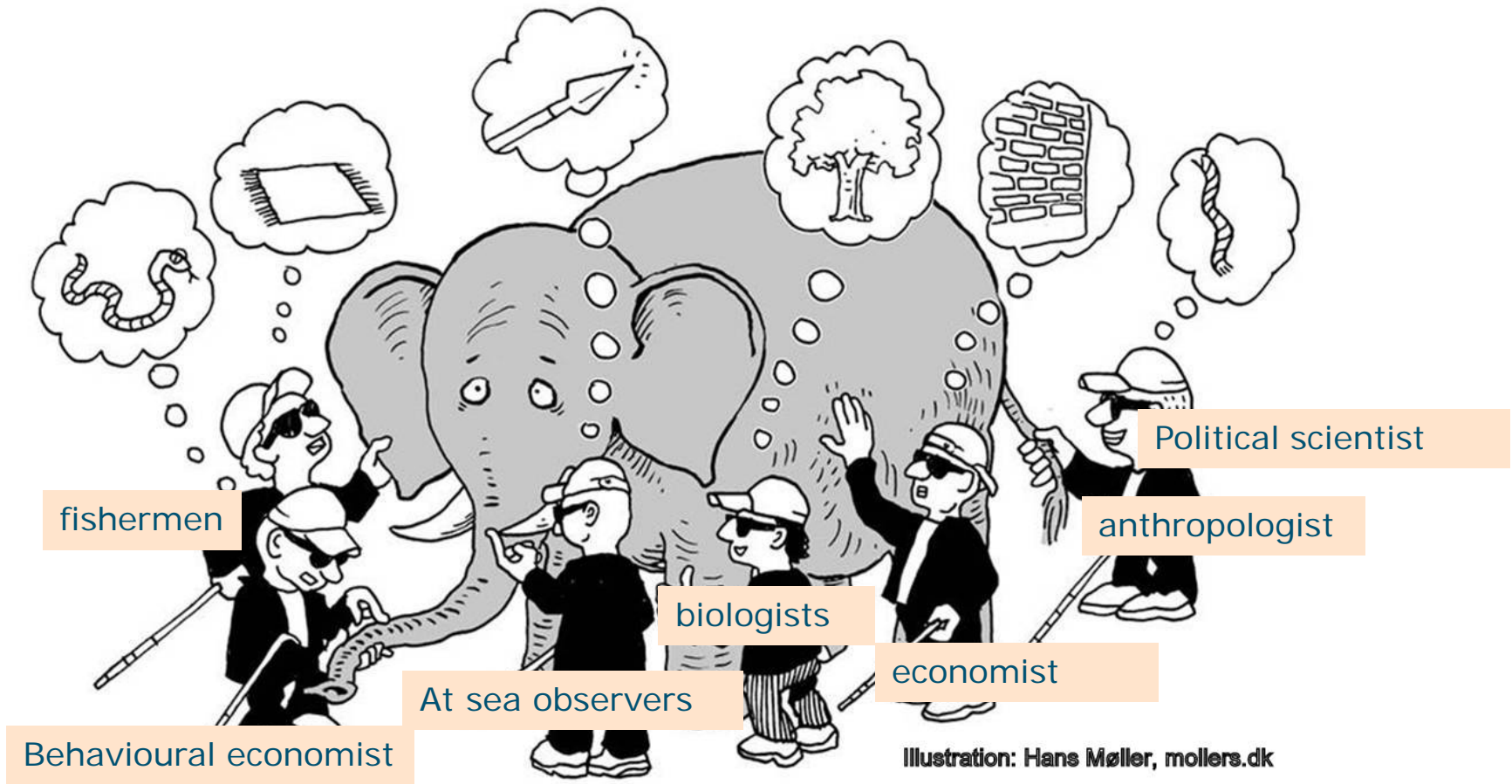
Fishers' behaviour



- What is it?
- How can we study it?
- What do we need it for?

What do we require?

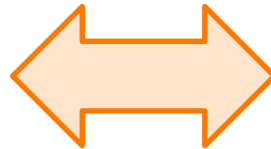
A multi- / transdisciplinary team



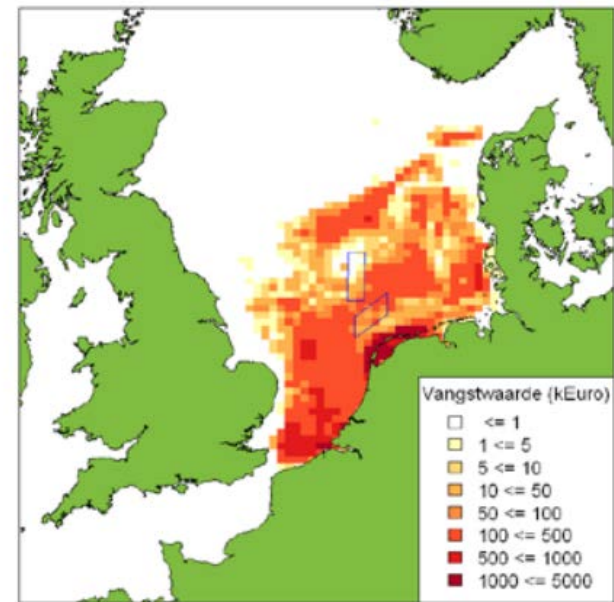
(How) Can we make a better link?

Current common representation
of fishers' behaviour in
fisheries science

Fisher behaviour in
fishing practice



Traditionele boomkor 2013

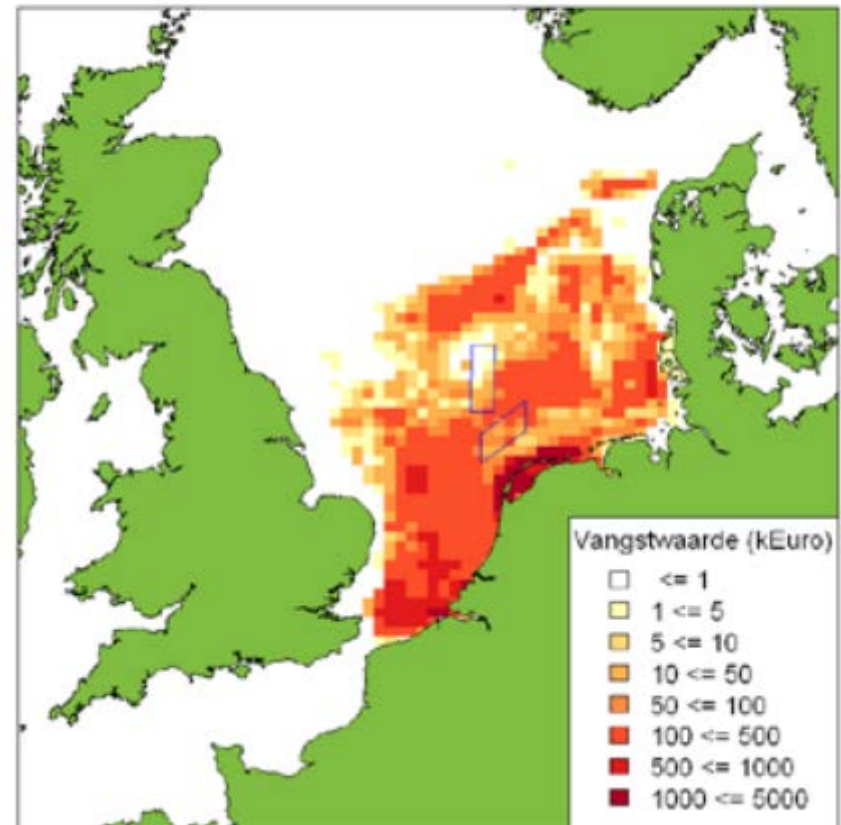


Traditional beamtrawl 2013,
catchvalue

Why do we want to do this? (1)

- Our image of fishers' behaviour:
- Assumption: we only rationalise about the *result / effect* of behaviour, without *understanding* what causes the behaviour.
- This is quite fine (I guess) for understanding fleet behaviour at aggregate level.

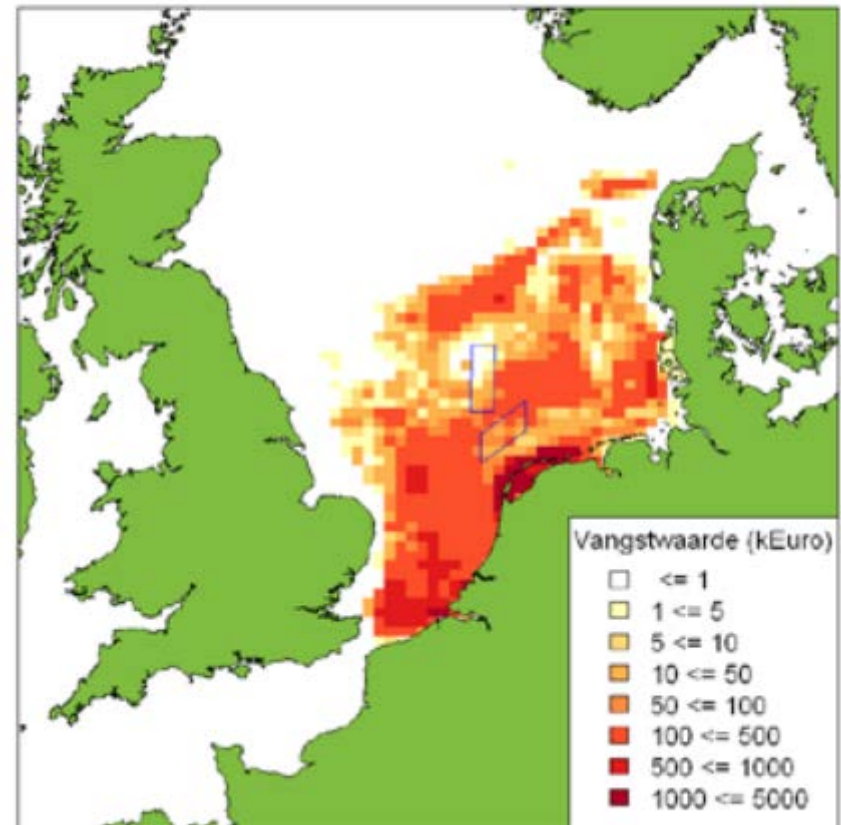
Traditionele boomkor 2013



Why do we want to do this? (2)

- Not sufficient to understand diversity
 - Within métiers
 - i.e. fishermen operate in different métiers
- Nor to predict how (big) changes will work out.
 - i.e. the landing obligation in Europe or revision technical measures

Traditionele boomkor 2013



How do we (in applied fisheries science) deal with fisher's making choices?

- “In many studies on fishers behaviour **economics are used as the main driver for the choices of individuals** (Gordon, 1953, Gillis et al., 1995b, Babcock and Pikitch, 2000, Poos et al., 2010, Dowling et al., 2012). It is assumed fishers will adapt their behaviour and **trade-off cost and benefits** in order to **maximize their profits**”.

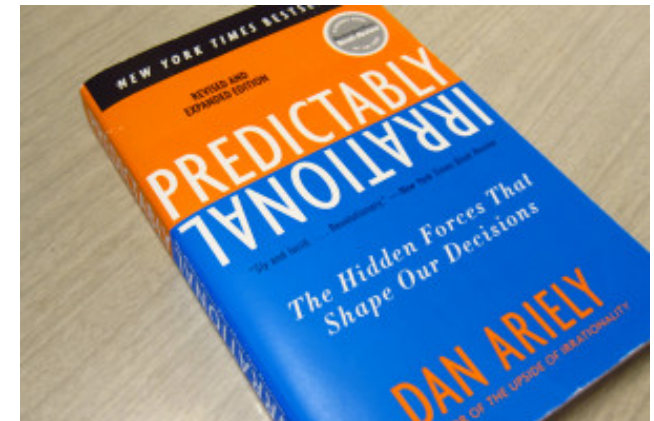


J.Batsleer 2017



Yet....

- What we know from social science & behavioural economics is that individuals are not rational operating individuals.
- In fact people are 'predictably irrational'
- In fact people are also very social
- There are rules, there are outcomes, but not in sight what happens; compliance?



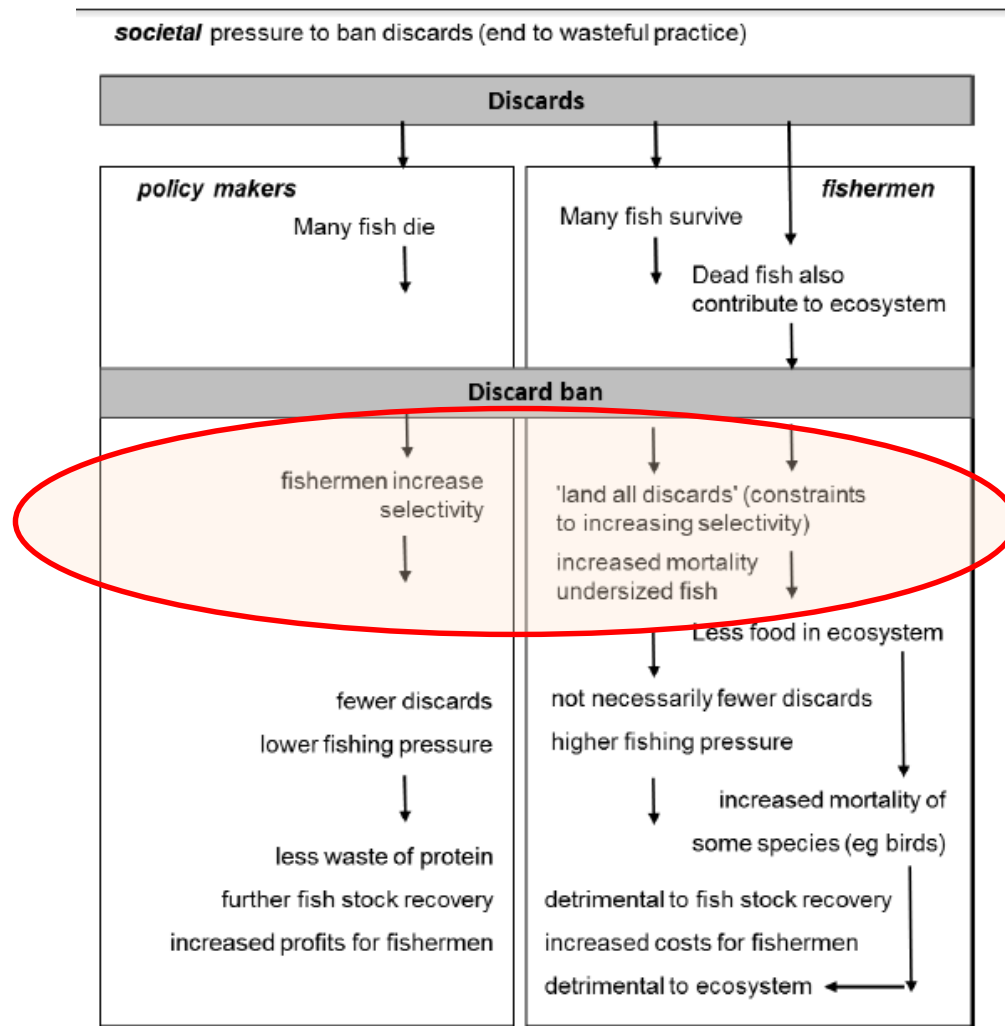
Example: Landing obligation (1)

- “It (the landing obligation) is designed to trigger **behavioural change** and encourage fishermen to **improve selectivity** voluntarily to **avoid** catching small low value fish that will now have to be landed and counted against quota’s.” [EU Commission impact assessment new TM 2016]



Example: Landing obligation (2)

- It is expected that the landing obligation will stimulate fishermen to fish more selective.
- Are they **able**?
 - Technical / rules
 - To what point?
- Are they **willing**?
 - Do they support the goal and mean of the landing obligation?



What drives fishermen' behaviour?

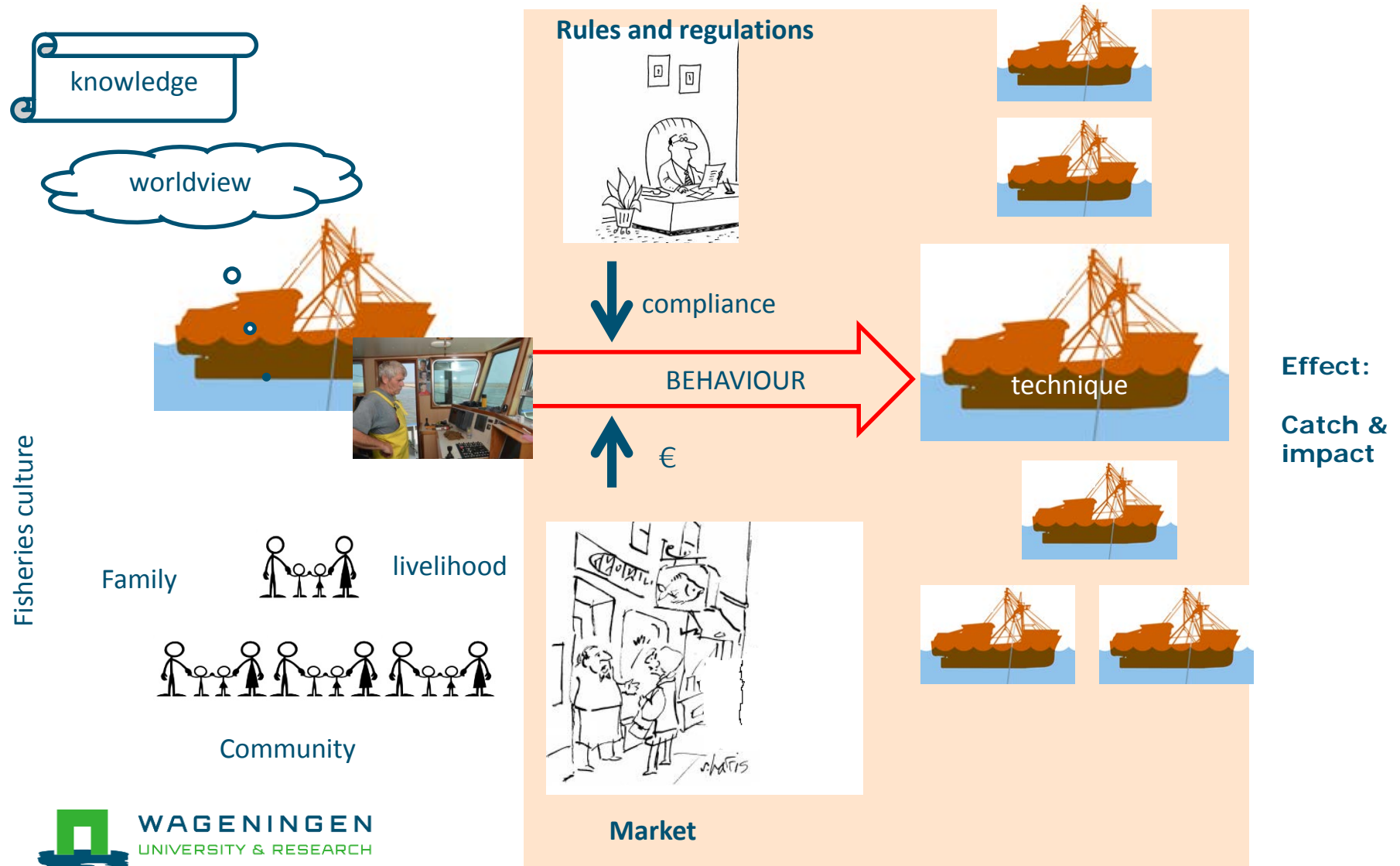


Able?

Willing?

Do we **understand**
why fishermen do what
they do?

An integrated approach:



How will we do this?



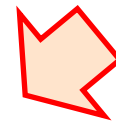
Literature
Fisher'
behaviour



Literature
Human
behaviour



Theoretical
framework



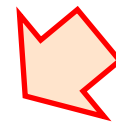
Literature:
case
studies



Logbooks &
diaries of
fishermen



Participant
observation



Discuss
with
fishermen



Develop at
sea
protocol



Gather
data



Standardised method to study it (better)?

Social practice theory

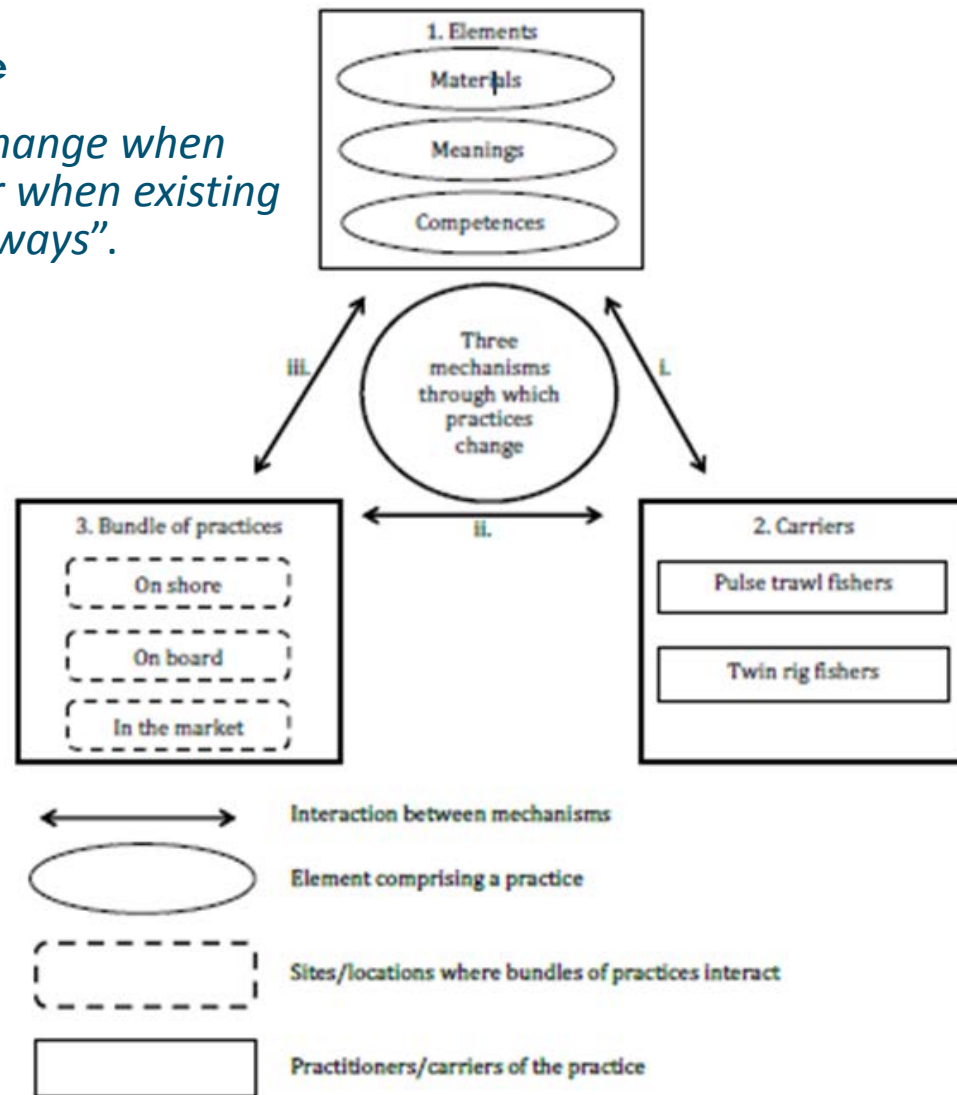
Discarding as social practice

Shove et al. (2012) “*practices change when new elements are introduced or when existing elements are combined in new ways*”.

Source: Scherders 2016

Decisions of fishers:

- Individual
- **social**



Source: Scherders 2016

Insights from behavioural economics

- 'Humans' instead of 'Econs'



If you want to encourage a behaviour,
make it Easy, Attractive, Social and Timely
(EAST)

Thanks!



Please send any tips,
ideas, links to
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unidentified fishermen)



Pics: Schuitemaker #GAP2 project