

# ICES PROJECT SOCIAL TRANSFORMATIONS OF MARINE SOCIAL-ECOLOGICAL SYSTEMS

## SOCIAL TRANSFORMATIONS DATABASE

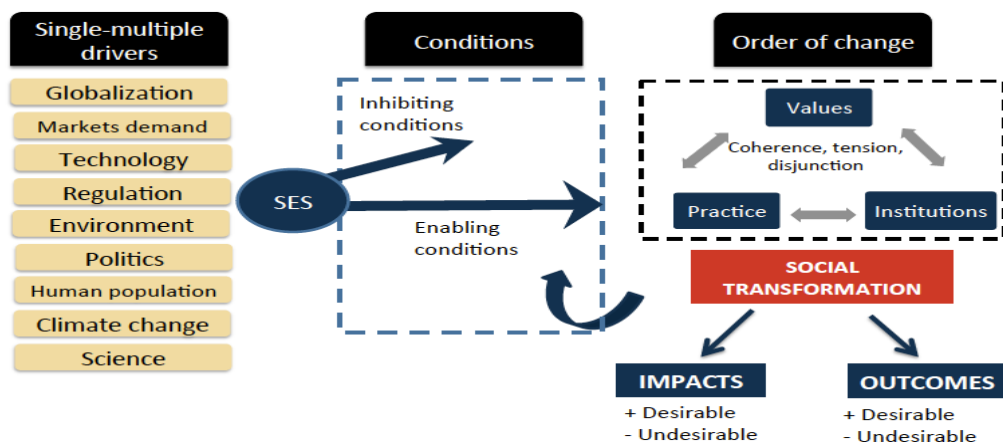
### CASE STUDY TEMPLATE

Updated: 22 July 2017

### BASIC DEFINITION OF A SOCIAL TRANSFORMATION IN MARINE SOCIAL-ECOLOGICAL SYSTEMS

Here we define a social transformation in marine social-ecological systems (SES) as a fundamental and critical change of values, institutions and practices of a social structure at the same time. To analyse the phenomena of social transformations in the marine arena, we examine the following core elements: (1) values, which refers to shared ways of living and thinking that include symbols and language (verbal and non-verbal); knowledge and beliefs (what is “good” and “bad”); (2) institutions, which contains the diversity of laws, regulations and costumes with competence to adopt decision on marine activities, and (3) practices, which includes the changes experienced by different marine activities (e.g., industrial and small-scale fisheries) (Figure 1).

**Figure 1.** Conceptual framework for social transformations in marine social-ecological systems



Source: own elaboration from the ICES Science Project.

A single or multiple factor can drive a social transformation. The capacity of a SES to minimise or absorb the impact of a single or multiple driver(s) depends on the existence of inhibiting conditions present in it, which usually act as barriers to avoid social transformations. For example, inadequacies associated with using MPAs as a fisheries management tool can also be exacerbated by a failure to successfully manage surrounding fisheries. However, there are also enabling conditions which facilitate the navigation towards a social transformation. Enabling conditions generally encompass a suite of governance, community and capacity-related factors that can vary over space and time and may influence the degree of success of a particular management intervention. For example, the existence of formal regulations and legal regimes,

the need for a high degree of information, and national or municipal governance capacity were identified as key enabling conditions in small-scale fisheries. The schematic representation for the analysis of a transformation in marine SES is described in Figure 1.

In addition, it has been demonstrated that a successful implementation of co-management systems around the world is highly dependent on the leadership of local and well-recognized experts in coastal communities. It is important to differentiate the concept of social transformation compared to other related social-ecological concepts such as adaptation. Adaptation reflects the capacity of a system to adjust its responses to change in external drivers and internal processes. For example, the diversification of harvested species can be an adaptive strategy developed by fishers to deal with the scarcity of fishery resources.

## BASIC INFORMATION OF THE CASE STUDY

**GREEN = Free text, paragraph style**

**BLUE = Free text, brief keywords**

**RED = Choose from predefined keyword alternatives**

**BLACK= Optional information**

### 1. Main Contributors

Name(s) and email(s) of those who primarily contributed to the text.

### 2. Name of the case study

Short name for the case study (e.g. North Sea cod fishery)

### 3. Region/State

Region where the specific case study is located (e.g., Galicia-NW Spain)

### 4. Countries

Country in which the specific example is located (e.g. United Kingdom, Germany)

### 5. Spatial scale of the case study

- Local/seascape (e.g. local fishery, community, regional)
- National (country)
- Transnational (e.g., more than one region, country)
- Sub-continental (e.g. South America)
- Global

### 6. Type of the social transformation related to marine traditional and new activities please add others in case of necessary for your case study or experiences). The transformation may imply desirable or undesirable changes.

- Restructuring the sector: Desirable\_\_\_ Undesirable\_\_\_ Unknown\_\_\_
- Employment opportunities: Desirable\_\_\_ Undesirable\_\_\_ Unknown\_\_\_
- Changes in catches: Desirable\_\_\_ Undesirable\_\_\_ Unknown\_\_\_
- Diversification of seafood markets: Desirable\_\_\_ Undesirable\_\_\_  
Unknown\_\_\_
- Diversification of fishing grounds: Desirable\_\_\_ Undesirable\_\_\_  
Unknown\_\_\_
- Diversification of activities (complementary sources of income)
- Migration of people from coastal communities: Desirable\_\_\_ Undesirable\_\_\_  
Unknown\_\_\_
- Cultural diversity: Desirable\_\_\_ Undesirable\_\_\_  
Unknown\_\_\_

- Other (please specify): \_\_\_\_\_

**7. Ecosystem type in which the case study is located**

- Marine and coastal
- Freshwater systems
- Other (please specify): \_\_\_\_\_

**8. Type of species included in your case study**

- Fishes
  - Demersal
  - Pelagic
- Crustaceans
- Mollusks
- Other (please specify): \_\_\_\_\_
- Oysters, mussels (aquaculture)

**9. Which Economic activity is examined in this case study**

- Aquaculture
- Shellfish farming
- Large scale fisheries
- Small-scale fisheries (boats less of 12m of length)
- Canned industry
- Shellfisheries gathering
- Other (please specify): \_\_\_\_\_

**10. Scale of the social transformation on single, two or multiple sectors**

- One sector (e.g. industrial fisheries)
- Two sectors (e.g. SSF and industrial fisheries or aquaculture)
- Multiple sectors (more than two, e.g., SSF industrial fisheries, aquaculture, canned industry)

**11. Key drivers of social change (please add others in case of necessary for your case study and mark as many as you need)**

- Change in costs for the economic activity
- Recognition of harvesters social rights or other social benefits
- Overfishing
- Introduction of new technology (e.g. new equipment on board)
- High mortality of farming shellfish or fish
- Introduction of new regulation (e.g. EU landing obligation, MPA, co-management system, ITQs)
- Change of governance system (e.g. New organizations, MPA's, etc.)

- Invasive species impacts
- Non-compliance of fisheries policies (e.g. insufficient TAC/quota)
- Market demand for seafood
- New way of selling produce
- Climate change impacts
- Environmental shocks (e.g. forest fires, oil spills, etc.)
- Interactions with new economic activities or infrastructures (e.g. port development, windmills (conflicts))
- Other (please specify): \_\_\_\_\_

**12. Impacts of the social transformation on marine ecosystems' components**

- Key commercial species (e.g., cod, hake, anchovy)
- Non commercial species
- Habitats
- Entire ecosystem
- Other (please specify): \_\_

**13. Impacts on human wellbeing**

- On Food security / or Nutrition
- Income and employment
- Security of housing and infrastructure
- Leisure and recreation
- Cultural heritage
- Social relations
- No direct impacts
- Others (e.g., demography, health, education, etc.) \_\_\_\_\_

**14. Time scale over which social transformation occurred**

- Months
- Years
- Decades
- Unknown

**15. Reversibility of social change**

- Irreversible (on 100 year time scale)
- Hysteretic (difficult to reverse)
- Easy to reverse
- Unknown
- Other (please specify)

**16. Sources of evidence (please add others in case of necessary)**

- Field work

- Time series
- Local ecological knowledge
- Models
- Literature references
- Other (please specify): \_\_\_\_\_

**17. Confidence of existence of social transformation**

- Speculative – Social transformation has been proposed, but little scientific evidence as yet
- Contested – Reasonable evidence both for and against the existence of social change
- Well established – Wide agreement in the literature that the social transformation exists

**18. Key features of the management system before and after the social transformation**

**Before**

- Effort management system
- High leadership
- Individual transferable quotas
- Lack of co-management
- Marine protected area
- Strong co-management system
- Top-down system
- Other (please specify): \_\_\_\_\_

**After**

- Effort management system
- High leadership
- Individual transferable quotas
- Lack of co-management
- Marine protected area
- Strong co-management
- Top-down decision making
- Other (please specify): \_\_\_\_\_

**19. Drivers and impacts of social changes (max 500 words)**

Description of the key drivers that caused the system to transform socially from State 1 (before the social transformation) to State 2 (after the social transformation). Include key references. What impacts did this have on human well-being? Who benefited and lost?

**20. Adaptive governance system**

Describe the management actions/adaptive governance strategies taken by policy makers and the alternative options for preventing undesirable social transformations or encouraging desirable social transformations. Describe how social transformation interact with the others systems and how governance interactions influence the adaptation of the governance system.

### **21. Diversity of options after the social transformation**

Describe what is the diversity of options (e.g., diversification of catches, seafood markets, etc.) currently adopting by key actors after the large social transformation?

### **22. Barriers for successful trajectories**

In your case study, what are the barriers (if any) that fishers, shellfish and fish farmers, enterprises and institutions are facing in relation to current social transformations in your case study to navigate into successful systems.

### **23. Adaptive strategies adopted after social transformation**

Describe what were the innovative adaptive strategies developed by key actors to deal with the social change.

### **24. Summary of the case study (max 1 page)**

Provide a brief and easy-to-understand summary of the case study at state 1 (before social transformation) and state 2 (after social transformation). This section is intended to be understandable by the general public. Limit the summary to 1 page and do not include list of references here. This section should be written last, once you have finalized all the above sections. Here we provide a tentative guideline: type of system (e.g., coastal, marine), key features (e.g., governance system, high leadership, etc.) before and after the transformation situation of the system (e.g., status stock, economic profitability, social changes), “*when*” (year, decade) and “*how*” (which key driver generated the change) social transformation happened, main impacts on marine ecosystem and human well-being, and policy interventions and/or other actions since the social transformation.

### **25. References**

Key references to get more information about the case study if available (scientific papers, reports, etc.)

### **26. Diagrams, Photos and Videos**

Diagrams, photographs or videos that illustrate the social transformation in the particular case study. Include a caption as well as the source. Only include material that can be freely distributed.

### **27. Additional comments**

Please provide any additional comment you consider necessary to describe your case study.