Benchmarking sustainability, fishing production systems under examination

TOOLS FOR THE TRANSITION TO SUSTAINABILITY

Lonxanet Foundation has started up a project that enables us to evaluate to what extent each fishing production system contributes to sustainability. To this end a tool has been designed to determine the sustainability index of traditional fishing, semi-industrial and industrial fishing by applying social, economic, environmental and institutional indicators. Apart from distinguishing between the most sustainable and the least sustainable method of fishing, the tool can identify the factors that affect the future or the disappearance of a fishing ground, contributing essential information to the sector.

The origin of the project lies in the worldwide need to work towards models of sustainability. As the chairman of the Lonxanet Foundation, Antonio García Allut, points out, the concept crops up *at both international fishing policy meetings and in the framework of the reform of the Common Fishing Policy (CFP).* Furthermore, this concept has been set up in Brussels as the focal point of the economic, social and environmental approach to the fishing and maritime policy. However, as García Allut states, *it is not clear whether a single concept has come out of the debate taking place in the political field in Brussels, including the common ground in the different studies on sustainability to create a model that will determine the future goals of the fishing policy.*

Faced with this situation, in 2009, a team led by the Lonxanet Foundation set up a small-scale project to define sustainability indices in fishing.

PILOT PROJECT

The first step, after defining the production system as the series of activities aimed at production

Boat pilot project participant

involving a certain type of inter-related procedures operations and activities whose goal is to turn investment into profit, was to transfer this to fishing. The application of the definition to fishing showed, as García Allut points out, that there are three different production systems*: traditional, semi-industrial and industrial.* In order to reach this classification, twenty-five vessels were used as samples, divided up according to their length, GRT and their target fishing grounds. The first group consisted of minor tackle boats of up to 15 metres and from 1.5 to 20 GRT (GT1). The second group consisted of boats 15 to 25 metres long— most of which are used for off-shore fishing — and from 20 to 60 GRT (GT2). The third group consisted of trawlers and deep sea long liners over 25 metres long and over 60 GRT. According to Project technicians, this criteria was an excellent division of the fleet.

The sustainability model takes the social, economic, environmental and institutional dimensions into account

Once the three systems had been set up, the second phase was started - a methodology was designed with a series of variables agreed by experts and fishermen to obtain sustainability indices as universal as possible. The indices are obtained from the information provided by fleet owners in surveys received during the project to evaluate the sustainability indices of fisheries bearing in mind their social, economic, environmental and institutional dimensions.

Within the economic dimension, indices were established to measure the level and structure of investment. Among these were subsidies, external investment, average investment, the variation of profits, equality (the economic value produced by each production unit and the distribution of income and profit).

The last step was gathering the information from the twenty-five surveys and putting it in tables with a statistical evaluation programme to obtain the first results by fishery and fleet segment. This work and the subsequent methodological adjustment implied, in the words of Federico Martín Palmero, professor at the University of A Coruña and a participant in the project, *a tool that enables the measuring of the sustainability indices of any European fishery. This tool makes it possible for European, domestic and regional institutions to draw up policies aimed at using resources for sustainability for each fleet or fishery.* However, its effectiveness is not limited to this field, as it is also an interesting instrument for both social structures and political parties or non-governmental organisations (NGOs) that wish to redefine their fishing policy, and also for the sector itself - the information obtained with this benchmarking of fishing production systems, in the words of the chairman of Lonxanet, is

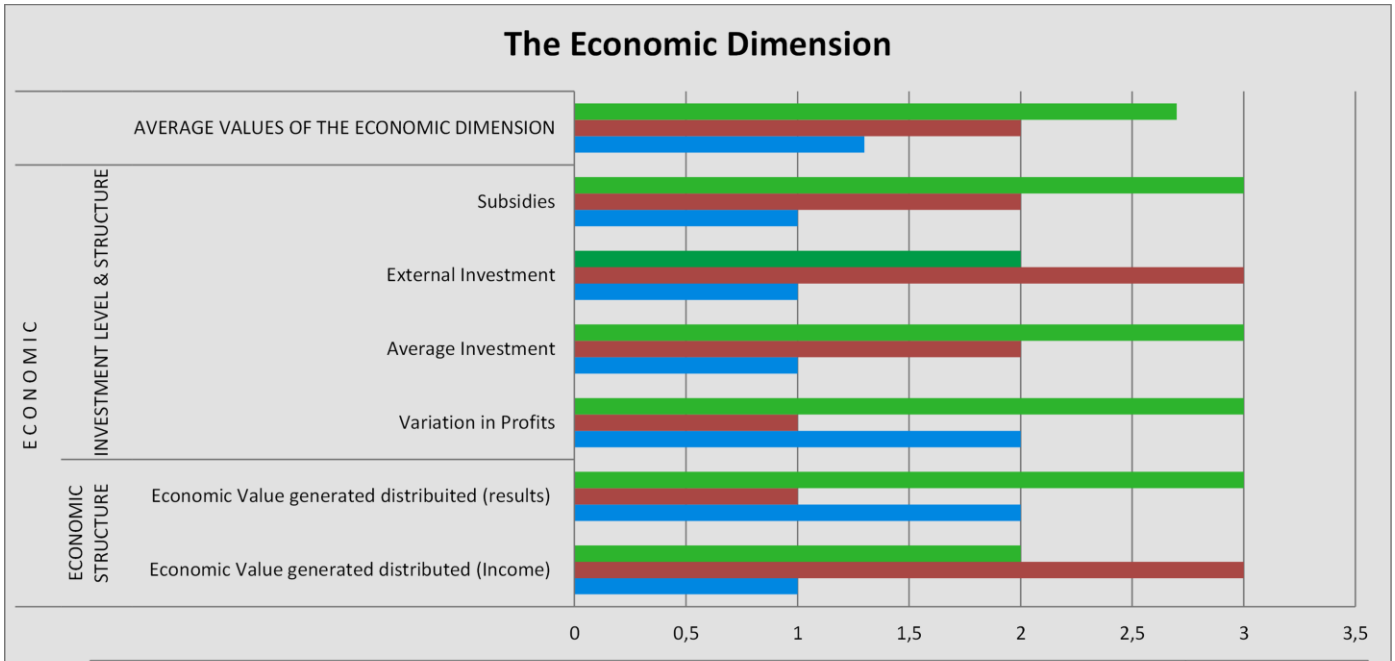
an X-ray of the indicators in which any kind of fleet or any kind of boat receives the fewest points: in other words, the environmental, economic, social and institutional weaknesses shown by the boat or the fleet. And so this X-ray means we can evaluate to what extent the boat or boats contribute to sustainability and that we can make proposals for improvement in each indicator without questioning the boat's global targets in sustainability. Hence, from the information obtained from the variation in profits – one of the economic indices – it could be argued that the indicator that measures the stability of income throughout the year is more stable in the case of the off-shore boats, which makes it possible to identify the strengths and weaknesses of a certain production system: GT1, GT2 or GT3. By identifying the behaviour of each variable in each indicator by fisheries and boats, it becomes an extremely valuable tool for the sector.

The project develops a didactic tool that informs the sector and promotes a culture of responsibility and the improvement of the future of fishing

IMPACT ON SUSTAINABILITY

Even though the sample used in the pilot project is too small for statistical representation, the information gathered from the surveys points us towards which of the three production systems has the most negative impact on the environment, people and the economy. The goal is then to apply thereto the factors that depend on the survival of all the variables.

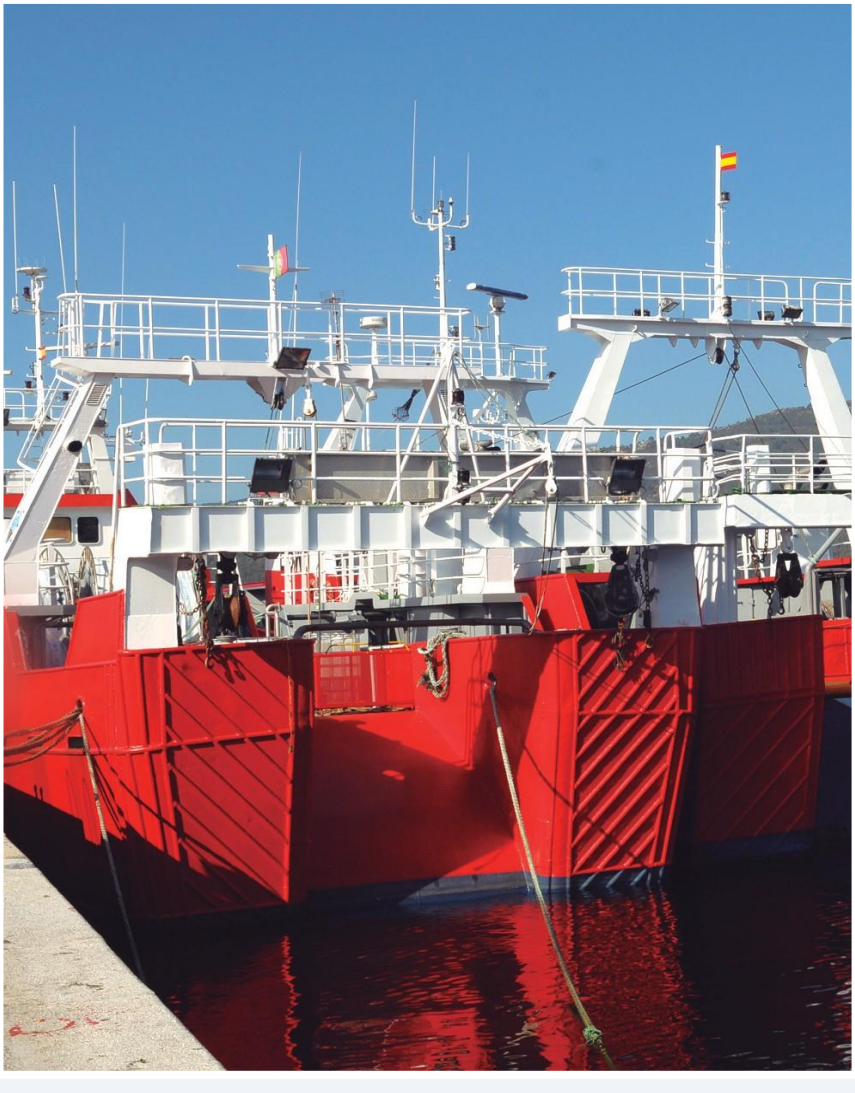
The results of the pilot project based on first-hand data confidentially provided by ship owners generated information that makes it possible to improve ship management, establish forecasts for capture sizes by boat or by fleet, and even to forecast income from sales by fleet. Identifying the factors that impact the future of a fishery or the factors that contribute to its disappearance will lead to responsible management. Likewise, the information gathered from the project suggests that it is necessary to open up spaces for dialogue in order to work towards sustainability

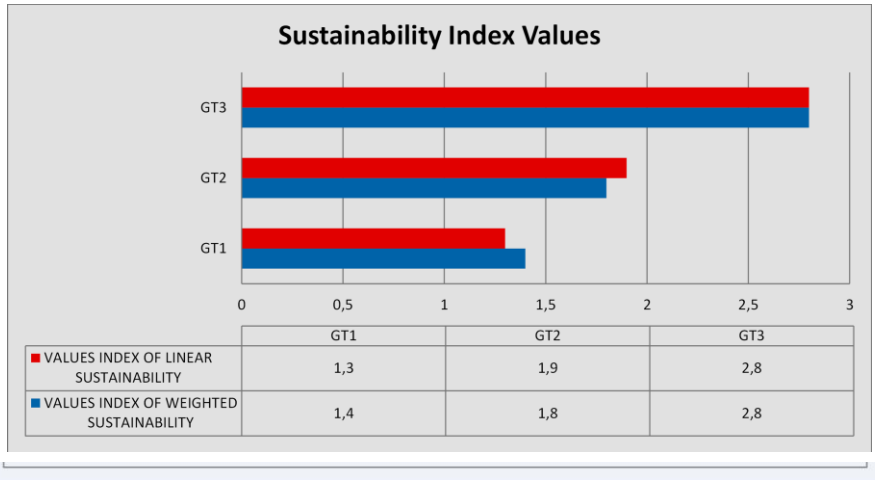


	ECONOMIC						
	ECONOMIC STRUCTURE		INVESTMENT LEVEL & STRUCTURE				
	Economic Value generated distributed (Income)	Economic Value generated distributed (results)	Variation in Profits	Average Investment	External Investment	Subsidies	AVERAGE VALUES OF THE ECONOMIC DIMENSION
GT3	2	3	3	3	2	3	2,7
GT2	3	1	1	2	3	2	2
CT1	1	2	2	1	1	1	1,3

and an agreement between the fishing sector and public managers.

By using this differentiation of segments and the employment of sustainable practices, boats can obtain good practice certificates for sustainability variables.





	GT1	GT2	GT3
VALUES INDEX OF LINEAR SUSTAINABILITY	1,3	1,9	2,8
VALUES INDEX OF WEIGHTED SUSTAINABILITY	1,4	1,8	2,8

It would also be possible to certify by fishery or fishing guild. Hence a cooperative with a high percentage of certified vessels could use this sustainability index not only to prove its good practices in sustainability, but also as a guarantee of the transparency of its production system. For the project promoters, this mark of business quality will help recover the image of certain fleets in the public opinion and before the European Union.

Lonxanet Foundation's goal is to *obtain a sustainability index for the different fisheries in Galicia and produce a diagnosis of sustainability by fleet and fishery segments.* Based on the values of the sustainability indices obtained, fleets and fisheries would be assessed every two years so that there would be updated information about fishing. The tool would help the various different fleets to improve by recommendations that help in the transition to models of sustainability obtained in comparison to other existing production systems in the sector.

THE SUSTAINABILITY OF HAKE

A project entitled "Obtaining sustainability indices for hake in the Northwest Cantabrian Sea" is currently underway with financial support from the Biodiversity Foundation and the Ministry of Agriculture, Food and the Environment. Lonxanet's desire is to extend the study to the whole country and to all fisheries. *This target is backed up by all the international organisations like the FAO.*

The first step in this project about this extremely valuable fishing ground was to hold a series of meetings to agree on the definition of each indicator. This part of the project is fundamental for experts representing the Ministry of Fishing, the Spanish Oceanographic Institute (IEO), NGOs and the fishing sector to agree on the end results.

The next step was to carry out the same survey on over 300 vessels from the different fleets that work in the fishing ground. The choice of boats was made by taking into account the proportion of vessels belonging to each

region and their characteristics.

Lonxanet hopes to have the results of this study by the end of the year, after tabulating and analysing the information from the surveys. The data will be presented to the sector, so that it can evaluate which segments of the fleet and which kind of boats fishing in the Northwest Cantabrian Sea are the most sustainable when the three production systems are compared.

CONCLUSION

The goal of the project is to design a didactic tool to transmit the results to the sector in order to take a deeper look into the responsibility of changing mindsets in the medium and long terms.

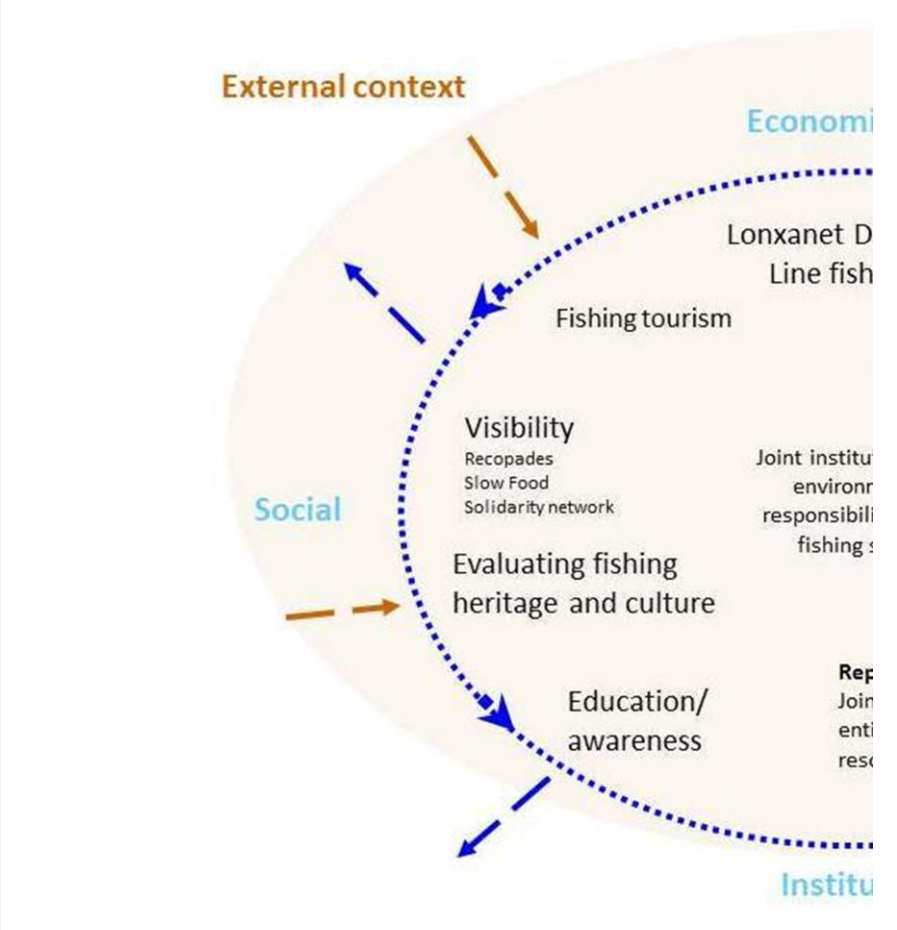
The VARIABLES of SUSTAINABILITY

The experts who have designed this tool to evaluate to what extent each of the different production systems contributes to sustainability used variables related to each one of the dimensions, or pillars, that determine each field of action. These variables, taken from the scientific literature and agreed with representatives from the Spanish Oceanographic Institute (IEO) and from the sector, are inter-related and make no sense on their own. They are parts of a whole and should be evaluated by indicators directly related to them so that the whole may be sustainable. Among these variables are:

- The institutional and/or political variable, which establishes the degree of representativeness of the production systems in decision taking and their capacity of influence thereon.

-The social variable, which examines the local context, the community, possibilities of employment, costs and benefits from fishing and their distribution among the community. It also measures the wealth and impact that fishing generates in the local population.

- The economic variable, which evaluates the financial resources



This powerful tool can be applied to the different fisheries and fleets in domestic fishing grounds. This would make it possible, as the FAO suggests, to have information that is better than the rest to negotiate the application of the fishing policy under the best possible conditions. *If we want to have a sustainable world in thirty or forty years' time we should find the tools to get it.*

The end product would be a master plan to guide ship owners and politicians in the direction where changes should be made so that fisheries of the future can be more sustainable, and in the long term, more profitable, as fishing is a common asset.

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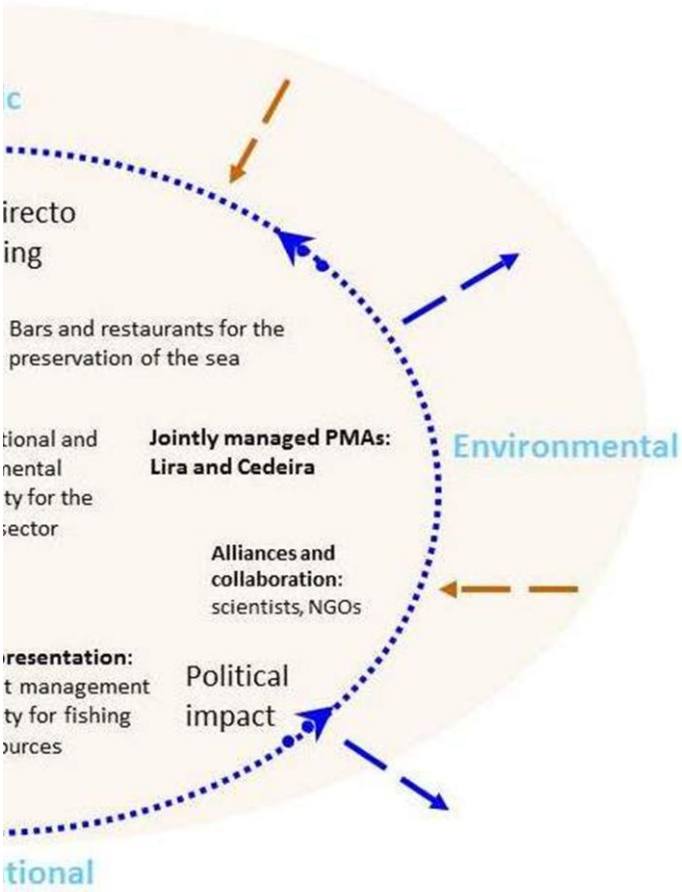

invested and the return on investment, and how it is distributed in society. In this variable we should bear in mind where the investment in fishing comes from: the ship owner, regional, national or international aid in the format of fishing agreements or funds for improving boats, etc.

- The environmental variable, which analyses the impact of each production system on the ecosystems and on the resource populations being fished.
- The ethical variable, essentially focused on the balanced redistribution of resources.
- The cultural variable, which measures the capacity of a group to generate patterns of conduct.

These variables define a series of sustainability indicators, which as the Lonxanet team planned, enable us to evaluate the trend towards the sustainability or non-sustainability of any production system at a given time.

We can thus define the path to follow, or the road map for fishing, or at least certain patterns to evaluate the degree of sustainability of fishermen's daily work and the methods of fishing employed by the different fleets.

J.M.S.