VALDUVIS: an innovative way of assessing the sustainability of fishing activities

Arne Kinds[1], Kim Sys[1], Laura Schotte[2], Koen Mondelaers[2], Hans Polet[1]

[1] Institute for Agricultural and Fisheries Research (ILVO), Animal Sciences Unit, Fisheries and Aquatic Production, Ankerstraat 1, 8400 Oostende, Belgium
[2] Institute for Agricultural and Fisheries Research (ILVO), Social Sciences Unit, Burg. van Gansberghelaan 115 bus 2, 9820 Merelbeke, Belgium

Summary
In 2014, Integrated Sustainability Assessment (ISA) was introduced as a framework for managing the transition towards sustainability in the Belgian fishery. As a part of the ISA process, the Institute for Agricultural and Fisheries Research (ILVO) developed an indicator-based sustainability assessment tool (VALDUVIS). The VALDUVIS tool informs fishers about their performance on a set of 14 sustainability indicators (environmental, social and economic) for each fishing trip. This gives fishers insight in the sustainability of their specific actions and choices in relation to their colleagues and provides a basis for improving the sustainability of the fishing fleet. VALDUVIS uses official and high-resolution data flows (e.g. the fisher's electronic logbook) to calculate sustainability scores. This allows for a 'near real-time' scoring, meaning that sustainability scores are available to fishers soon after landing the fish. Other than providing individual sustainability assessments, the VALDUVIS tool can be used for monitoring the progress towards sustainability in the Belgian fishing fleet. Stakeholder consultation and participation played a key role in the development of the tool, which enhances the support of the wider fishing sector and assures the relevance of the indicators and the comprehensibility of the tool. The VALDUVIS tool offers a cost-effective alternative to known certification schemes and shines a new light on data use for sustainability assessment. The tool is strongly supported by all major stakeholders in the Belgian fishing sector and its use is currently being tested on a subset of vessels. This presentation describes the development of the VALDUVIS assessment tool in the ISA framework and outlines the benefits and potential applications of the tool.

Introduction
Belgian fishers are increasingly under pressure (by the public, NGOs and new EU policies) to demonstrate the sustainability of their fishing methods. The sector is criticized by NGOs and the public for holding on tight to the beam trawl method (responsible for 80% of the landings), which is contested due to its low selectivity, significant disturbance of the seabed and high fuel consumption. Furthermore, the Belgian retail market has made a pronounced commitment to sourcing sustainable seafood. However, converting to sustainable methods is costly and may not be feasible for fishers who have suffered grave economic losses in the wake of the 2008 fuel crisis. Fishers developed modifications to the beam trawl that reduce environmental impact and save fuel, but large structural changes stayed out. Although some of these modifications were effective in reducing environmental impact and fuel consumption (e.g. replacement of the classic beam with a wing-like profile, 'sumwing'), these cannot be valorized by established sustainability assessment methodologies (e.g. Wild Capture Methodology by WWF or the scoring methodology used by the MSC). The Institute for Agricultural and Fisheries Research (ILVO) was thus asked to develop a tool that could recognize these efforts in order to effectively inform the public and the market about the steps that were being taken towards sustainability. Integrated Sustainability Assessment (ISA) was introduced as a framework for managing the transition towards sustainability in the Belgian fishery. As a part of the ISA process, ILVO developed an indicator-based sustainability assessment tool (VALDUVIS) to inform fishers, policy makers, public and market about the sustainability of the Belgian fishing fleet.

Methods

Integrated Sustainability Assessment (ISA) was introduced as a framework for managing the transition towards a sustainable fishery. ISA offers a cyclic step-by-step approach in which visions of a sustainable future form the starting point for exploring solutions to persistent problems of unsustainable development (Bohunovsky et al., 2010; Weaver and Rotmans, 2006). These visions are developed in a participatory way. To adopt the ISA approach to the Belgian fishery, two complementary projects were introduced: the 'VISTRAJECT' project and the 'VALDUVIS' project. The focus of 'VISTRAJECT, a trajectory towards sustainability in the Belgian fishery' was to develop a shared vision of a sustainable future for the Belgian fishery and to define specific goals and actions. In the VALDUVIS project, ILVO developed the sustainability assessment tool that was needed to monitor the progress towards sustainability. The tool itself was developed in a participatory way, meaning that major decisions with respect to the development and the use of the tool were stakeholder-driven, thus ensuring that the tool is widely supported. In a first step, sustainability themes were determined. This was based on a review of the literature, expert judgment and stakeholder consultation. In a second step, indicators were selected or developed for each sustainability theme. The electronic logbook is the principal data source for the calculations, supplemented with ICES stock assessment data, bookkeeping data and other data sources for the calculation of economic and social indicators. In a third step, a graphical presentation of indicator scores in a radar chart was developed (after Meul et al., 2008).

Results and Discussion

In the presented version of the tool 10 sustainability themes were retained: 7 environmental themes (stock status, vulnerability, season, selectivity, bottom impact, carbon footprint, responsible fishing), 2 social themes (working conditions, social best practices) and 1 economic theme (financial health). The tool contains 14 indicators, of which 12 are fully developed. The indicator 'fishing effort' needs to be finalized and 'stock status', 'discards' and 'retained species' must be reconsidered in the light of multispecies assessment. An overarching indicator combining these three indicators may be much more relevant for assessing multispecies fisheries like the demersal groundfish fishery.

The design of the tool allows for multi-purpose use. Assessments are carried out on a vessel- and trip-specific level, providing information for fishers who can use it for planning their fishing activities. This level of detail is based on the premise that fishers greatly differ in their fishing tactics (e.g. gear modifications, preference for a certain species mix or fish size) and that two fishing trips are never the same (e.g. tow duration, towing speed and choice of fishing ground). For measuring the fleet's progress towards the sustainability goals from VISTRAJECT, individual assessments are combined. A follow-up project was established in which the application of the VALDUVIS tool as an information tool for fishers is being explored. The aim of this pilot project is to assess (1) whether the tool in its present form meets the requirements of the fishers, (2) whether using it on board is feasible in terms of workload and (3) to what extent fish mongers, processors and retailers are interested in basing their purchasing decisions upon the VALDUVIS sustainability assessments. Also, steps are being taken to apply the tool in other North Sea fisheries.

References

Bohunovsky, L., Jäger, J., Omann, I., 2010. Participatory scenario development for integrated sustainability assessment. Reg. Environ. Chang. 11, 271–284. doi:10.1007/s10113-010-0143-3

Meul, M., Van Passel, S., Nevens, F., Dessein, J., Rogge, E., Mulier, A., Van Hauwermeiren, A., 2008. MOTIFS: a monitoring tool for integrated farm sustainability. Agron. Sustain. Dev. 28, 321–332. doi:10.1051/agro:2008001

Weaver, P.M., Rotmans, J., 2006. Integrated sustainability assessment: what is it, why do it and how? Int. J. Innov. Sustain. Dev. 1, 284–303.