Development of a trajectory to support sustainable choices at farm level

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1 Introduction

Agriculture is more and more faced with extreme challenges such as climate change, scarcity of natural resources and specific demands from society. Both on farm and agricultural sector level, stakeholders express their need to evolve towards more sustainable farming practices to guarantee their future. To face these challenges many initiatives to identify, measure, evaluate and communicate sustainable development arise. The use of sustainability assessments is seen as an important instrument to move towards sustainability (Pope et al., 2004). Many definitions of sustainability assessment exist. It can be seen as “a range of processes that all have as their broad aim the integration of sustainability concepts into decision-making” (Pope, 2006). Sustainability assessment is “a process by which the implications of an initiative on sustainability are evaluated” (Pope et al., 2004). The initiative can range from an existing policy, a plan, programme, project or a current practice or activity. Hugé et al. (2011) describe it as a process that aims at operationalising sustainable development as a guide for decision-making by identifying the future consequences of current and planned actions.

Literature on sustainability assessment and sustainability assessment tools to support decision making is still rapidly growing (Gasparatos & Scolobig, 2012; Marchand et al., 2014). However, despite this growing interest in sustainability assessments and the existence of numerous assessment tools, opinions differ on how to define, plan and measure the progress towards sustainability (Gasparatos & Scolobig, 2012). There is a lack in literature regarding tool choice, use of tools and use of specific methodologies in assessments (de Ridder et al., 2007). Not only the selection of a tool, but also its implementation plays a major role in the success of a sustainability assessment. Previous research on the implementation of assessment tools which support the decision making process of a farmer have led to multiple insights (Coteur et al. 2014; Marchand et al. 2014; Triste et al. 2014). Ownership, monitoring results over time, the attitude of the tool-users and the organization of discussion groups need to be taken into account when implementing an assessment tool. Nevertheless, insights on how various assessment tools can be used in a complementary way to support the needs of a farmer are lacking. We developed a two-dimensional assessment framework to support sustainable farm choices. The framework allows the farmer to follow a trajectory towards more sustainable farming making use of a set of complementary tools.

2 Materials and Methods

To develop the assessment framework, we have based our analysis on insights from empirical research and lessons learned from two other cases in which we were involved. This enabled us to identify what is important when implementing an assessment and which needs stakeholders have concerning the assessment of a farm.

First, Boerenbond, the biggest farmers’ organisation in Flanders, requested the authors of this paper to design a sustainability assessment framework applicable to different agricultural sectors. This demand enabled us to set-up a participatory research and clearly grasp the needs of the stakeholders concerning the sustainability assessment and its implementation. In our research, we define the participatory approach as the collection and analysis of information on sustainable development of farming practices involving scientists, advisors, farmers and experts in all development steps of the assessment framework. The development steps included a context-specific assessment tool development phase, a reflection of this tool development phase (Coteur et al., 2014) and discussion meetings with experts, advisors, farmers and other stakeholders for the fruit production sector, the dairy sector, the meat production sector and the greenhouse horticulture sector. Concerns and needs were systematically written down in notes and reports during meetings. Second, we analysed lessons learned and reflections from two other cases in which the authors of this paper were involved. The first case is the development and implementation of the Monitoring Tool for Integrated Farm Sustainability (MOTIFS) (De Mey et al., 2011; Meul et al. 2011; Triste et al., 2014) and the second case is the Public Goods Tool (PGT) (Gerrard et al., 2011, Gerrard et al., 2012; Marchand et al. 2014).

3 Results – Discussion

The analysis resulted in five different needs regarding sustainability assessments. First, the sustainability assessment needs to be embedded in the surrounding context. Second, the framework should allow us to approach every agricultural sector differently. Third, communication about the sustainable development of an agricultural sector and
their specific efforts needs to be possible. Fourth, the sustainability assessment framework needs to focus on the farmer and on the encouragement of sustainable practices on farm level. Fifth, the sustainability assessment framework needs to accommodate the goals of a farmer as every farmer should be able to set his own path during his decision process. There is a need for different types of tools as the function of a tool needs to reflect the goal of the farmer at a specific time. These five needs are incorporated in a two-dimensional assessment framework to support sustainable farm choices.

The first dimension of the framework describes five steps of the assessment. The first step involves the implementation and use of an assessment tool to gain insights on the sustainability of multiple farm aspects. After completing the assessment, the results are interpreted in a second step. To enhance the sustainable development of a farm, improvement strategies are developed based on the interpretation of the results. These improvement strategies will be implemented in a fourth step. The fifth and last step is the monitoring step. During this step the farm will be monitored over a longer period of time by for example completing the same assessment every year. In that manner a farmer can see if his farm is progressing towards a more sustainable farm system. The second dimension of our framework describes three levels of complexity of assessment tools. The first level contains basic tools, which consist of mainly sustainability measures a farm can implement. This is a very quick and easy way to assess a farm without the use of quantitative data. In level two both qualitative and quantitative data are used to assess a farm. Indicators used to measure sustainability can be simple or complex, but the data collection itself stays rather simple. In this level, the use of benchmarks allows us to compare farms within a specific agricultural sector. Level three consists of a more complex, time consuming and often more expensive data collection. To assess a farm at level three, expert judgment and/or specific monitoring are necessary.

Different combinations of an assessment phase and a specific level of a complexity form a farm specific trajectory. It is defined as a sequence of steps throughout the assessment framework. The steps a farmer chooses to follow have a different impact on the decision making process as different steps impose different insights in farm sustainability. The framework is flexible and each farmer can choose a specific trajectory within the framework.

4 Conclusions

The two-dimensional assessment framework enables us to support sustainable farm choices by fulfilling the needs of farmers and other stakeholders. It takes into account the general context in which each farmer operates, it can approach every agricultural sector differently, every farmer can choose its own path, communication about sustainable development is an option and different types of tools can reflect the goals of a farmer at a specific time. The flexibility of the framework allows a farmer to choose a farm specific trajectory which may change over time. Our future research will specify the farm specific trajectory for each combination of assessment phase and level of complexity.

References