Balancing local and global challenges in farm-level sustainability assessment tools

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Global environmental, social and economic challenges urge agriculture to develop towards more sustainable modes of production. To support decision making towards sustainable development, a large number of sustainability assessment tools have been developed. These tools operationalize the concept of sustainable development at farm-level by assessing the performance of farms on a wide range of indicators. The assessment results could be used by farmers to identify local solutions to global sustainability challenges. Although the number of tools is rapidly increasing, concerns are raised whether current sustainability assessments actually contribute to sustainable development in practice. This study compared tools in practice to gain insight into their practical requirements, procedures and relevance perceived by farmers. Of 48 indicator-based sustainability assessment tools, only four tools (RISE, SAFA, PG and IDEA) complied to the selection criteria and were applied to assess the sustainability performance of five Danish farms. The comparison revealed differences between tools in the assessment time, data requirements, and scoring and aggregation methods. Critical factors in the farmers' perception of tool relevance were context specificity, user-friendliness, complexity and language use. Moreover, a match between value judgements of tool developers and farmers on what can be considered as sustainable agriculture, is critical for the acceptance and implementation of conclusions derived from sustainability assessments. Farmers in this study emphasized the importance of a context-specific approach to farm-level sustainability assessments, in other words, a tool that is sensitive to regional sustainability challenges and norms. Although context-specific assessments are expected to provide outcomes that match the context in which the farmer is operating, thereby, stimulating farmers in taking action to improve the sustainability performance of their farm, such an approach risks neglecting global sustainability issues. Further research is needed to identify approaches to balance global and local sustainability issues while maintaining farmer's interest and motivation towards sustainable development.

Goals and behaviours of farmers in mountain dairy cattle farms

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The study analysed the goals and their relationships with behaviours of dairy cattle farmers in a mountain area (north-eastern Italian Alps). We performed a qualitative approach giving at 46 farmers face to face questionnaires. They scored a list of statements regarding their goals for their farming career using a 5-point Likert scale. Next, they answered questions on actions that they had performed in the past 5 years. Data on their farm structure and management were also analysed. We performed a principal component analyses (PCA) and a cluster analysis on the goals answers. The relationships between clusters and behaviours were tested with a Kruskall-Wallis test. Three factors resulted from the PCA and they were named 'life quality', 'environmental values' and 'economic values'. Using these factors, we identified three clusters of farmers: entrepreneurial farmers (cluster 1, 7 farmers), traditionalist farmers (cluster 2, 14 farmers) and planner farmers (cluster 3, 25 farmers). The results showed that cluster 1 grouped farmers interested in improving the quality of life through the diversification of their activity, whereas farmers assigned to cluster 2 gave a high importance to environmental problems and to the self-sufficiency of their farm. Finally, farmers of Cluster 3 have broader point of view on the management of the farm, holding in high esteem all the aspects reported. Nonetheless, few behaviours resulted significant among clusters: taking holidays, improving of facilities and machineries, and modification of the amount of concentrates per cow. From the analysis of the farm management, significant differences among clusters were among variables related with the territory (stocking rate and ha of meadows/livestock Unit). The willingness to achieve a set of goals can be affected and delayed by many issues that reduce the differences among farmers actual behaviours. The identification of the heterogeneity of farmers' behaviour is a relevant starting point to achieve the sustainable development of the mountain farming system and for the application of participatory approaches.