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Indicators of Sustainable Intensification: Views from British Stakeholders

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Abstract : Growing interest in the concept of the sustainable intensification (SI) of agriculture has been shown by, national governments, transnational agribusinesses, intergovernmental organizations and research institutes, amongst others. This interest may be because SI is seen as a 'third way' for agricultural development, between the seemingly disparate paradigms of 'intensive' agriculture and more 'sustainable' forms of agriculture. However, there is a lack of consensus as to what SI means in practice and how it should be measured using indicators of change. This has led to growing confusion, disagreement and skepticism regarding the concept, especially amongst civil society organizations, both in the UK and other countries. This has prompted the need for bottom-up, participatory approaches to identify indicators of SI. Our aim is to identify the views of British stakeholders regarding the areas of agreement and disagreement as to what SI is and how it should be measured in the UK using indicators of change. Data for this investigation came from 32 semi-structured interviews, conducted between 2015 and 2016, with stakeholders from throughout the UK food system. In total 110 indicators of SI were identified. These indicators covered a wide variety of subjects including biophysical, social and political considerations. A number of indicators appeared to be widely applicable and were similar to those suggested in the global literature. These include indicators related to the management of the natural resources on which agriculture relies e.g., 'Soil organic matter', 'Number of pollinators per hectare' and 'Depth of water table'. As well as those related to agricultural externalities, e.g., 'Greenhouse gas emissions' and 'Concentrations of agro-chemicals in waterways'. However, many of the indicators were much more specific to the context of the UK. These included, 'Areas of high nature value farmland', 'Length of hedgerows per hectare' and 'Age of farmers'. Furthermore, tensions could be seen when participants considered the relative importance of agricultural mechanization versus levels of agricultural employment, the pros and cons of intensive, housed livestock systems and value of wild biodiversity versus the desire to increase agricultural yields. These areas of disagreement suggest the need to carefully consider the trade-offs inherent in the concept. Our findings indicate that in order to begin to resolve the confusions surrounding SI it needs to be considered in a context specific manner, rather than as a single uniform concept. Furthermore, both the environmental and the social parameters in which agriculture operates need to be considered in order to operationalize SI in a meaningful way. We suggest that participatory approaches are key to this process, facilitating dialogue and collaborative-learning between all the stakeholders, allowing them to reach a shared vision for the future of agricultural development.

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