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Farm Sustainability Assessment: The Case of Small Scale Organic Apple Production in Ningxia Province, PR China

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Abstract

The high dependence on small-scale orchard systems in China makes organic apple production challenging in terms of sustainability impacts and fruit quality. This case study examines the ecological, social and economic performance of organic apple farms under an export-oriented organic apple project in the Ganchengzi village, Ningxia province situated in North West China. An advisory tool called RISE 2.0 (Response-Inducing Sustainability Evaluation) was adopted to assess farm sustainability of selected 10 organic apple orchards and their associated farms. The RISE 2.0 analysis results show high variations in farm biodiversity and economic viability between the analyzed farms, with major ecological deficits in the indicators Nutrient flows and Biodiversity & Plant protection; other critical indicators were Water Use, Energy & Climate and Farm Management. However, the farmers performed well in the indicators Working Condition and Quality of Life. The findings show that organic apple growers participated in the project had more confidence than conventional farmers in the region because of the 15 % price premium which they are entitled for selling table fruits in the domestic market, as well as more comprehensive extension service and farm inputs provided by the exporting company. To enhance economic sustainability of the organic apple production project, it is recommended that the company can strengthen farmers' emotional ownership and economic incentives by providing higher price premiums for their organic apples. In such a way, organic farmers may have more willingness to prioritize inputs to improve ecological sustainability of the small scale apple orchards.

Keywords: Apple Juice concentrate, certified organic agriculture, China, fair trade, farm sustainability assessment, impact, Ningxia, RISE 2.0, small-scale orchards