Complementarity of Socio-Economic and Emergy Evaluation of Agricultural Production Systems: The Case of Slovenian Dairy Sector

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ABSTRACT

Agriculture is a complex system in which the economic principles of production are directly intertwined with its biological and ecological characteristics. The paper investigates synergetic potentials of multiple-criteria and multiple-perspective evaluation of agricultural activity through a study of the dairy sector in Slovenia. Socio-economic and emergy evaluation was performed on nine farm types, formulated to represent the diversity of the country’s dairy sector. The results indicate larger discrepancies in the performance of the farm types when defined by socio-economic or emergy based indicators. Standard socio-economic evaluation favours larger conventional systems that are cost efficient and financially independent. Emergy analysis however, favours less productive organic farms, which show greater ability to exploit free local resources and produce less stress on the local environment. Socio-economic and emergy indicators show that small conventional farm types are the poorest performers overall. Analysis of emergy flows reveals for all farm types a high dependency on the wider socio-economic system, suggesting that within the current economic system agriculture itself has little ability to affect its sustainability. The paper suggests a complementarity in the evaluation approaches. Their joint application can improve the quality of the decision-making process in various stages of planning in agriculture and land use.

Citation
