Planning and Implementation of landscape relevant Goals on Farm Scale
with the Help of a Software supported Assessment and Management Tool

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Abstract

Almost all landscape planning objectives finally will have to be implemented at the farm scale. Nevertheless, the farm scale up to now has not been covered by landscape planning methodologically or in practice. A systematically and homogeneously generated information basis for nature conservation advice to farmers is still missing. Existing farm assessment systems notably do not cover biodiversity and landscape aesthetic issues and usually no GIS is integrated. Therefore deficits in acceptance of nature conservation objectives as well as in adaptation of respective measures to farm specific conditions are common. In order to close this missing link between available knowledge, research results and the implementation on the farms, a farm management system (called MANUELA) has been developed for the application in Germany. It includes assessment modules for the issues of biodiversity, recreation, soil erosion and can generate proposals for the improvement and calculation of resulting costs. MANUELA can be coupled to either the existing sustainability assessment system REPRO or to other digital farm records. Centrepieces of MANUELA's software are an open source GIS (OpenJump) and an open source databank (PostgreSQL).

MANUELA is designed to assist farmers or advisors in assessing, managing and improving the environmental performance of farms as well as to support inter farm comparison. The outcomes of the application can be used for documentation (environmental services) and report to authorities, management and self control, application for agri-environmental funds, certification of products or farms, benchmarking or information of the public about environmental farm achievements.

A test of the software module on six test farms shows that the chosen assessment methods are applicable and comprehensible for the farmers interviewed. However, they prefer to use the software with the help of an advisor because of lack of time, limited software experiences or missing knowledge about nature conservation issues. For a wide spread use more incentives or obligations for well documented ecosystem services of farms would be needed.