Newsletter

Issue 2, September 2014

Merit based income from sustainable land management in mountain farming
http://www.umweltbuero.at/merit

Content

Introduction

The history of European cultural landscapes demonstrates that many forms of agriculture benefit from biodiversity and ecosystem services on the one hand and support habitat conservation and improve environmental assets on the other.

Nowadays, intensification of production by keeping more livestock on the available area and increasing production through imported concentrates is not only an issue on highly productive areas but also on mountain farms. As a consequence, losses of biodiversity and ecosystem services decrease in alpine rural areas. Cultural landscapes and cultural heritage disappear. Hence regions and countries try to counteract this development by strengthening financial incentives for the multi-functions of agriculture and food production: biodiversity conservation, delivery of ecosystem services and landscape maintenance measures.

Outcome-oriented payments are considered to improve both the effectiveness of agri-environmental measures and farmers' acceptance of such measures as farmers are paid for quality of producing public goods or ecosystem services rather than for complying to set rules. The general idea is to agree with farmers on outcome and results in terms of quality/ quantity of species and habitats, water, erosion or biodiversity. Thus, outcome-oriented agri-environmental measures have the potential to enhance the policy instrument portfolio of the rural development programmes.

The aim of MERIT is providing recommendations for policy makers on the potential of outcome-oriented land and biodiversity management measures on mountain farms in Europe. It is crucial for the project to analyse, how and in which way farmers can take more responsibility for sustainable land management and management of ecosystem services to counteract biodiversity losses in alpine regions.

"The diversity of plants and animals in the Alps is for me a personal concern."

DI Dr. Daniel Bogner is executive director of the eb&p Umwetlbuero GmbH and has more than 18 years experience in agriculture, cultural landscape development and regional development and the analysis of agro-enviromental schemes and agro-economics. Daniel Bogner is Team leader of the MERIT project.

Impressum:

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Agri-environmental support measures in the case study areas and examples for outcome-oriented approaches

from Heike Nitsch, IfLS Institute for Rural Development Research, Frankfurt

"Typical" support measures targeting agri-environment in the case study areas

Within the first phase of the MERIT project a review has been carried out on existing support payments to farmers with a focus on measures aiming at environmentally friendly management (agri-environmental measures in the EU and comparable payments in Switzerland) in the case study areas: Carinthia in Austria (AT), Upper Allgäu in Germany (DE), the regional nature park of Vercors in France (FR) and the Canton Lucerne with the UNESCO Biosphere Reserve Entlebuch in Switzerland (CH).

Common measures relevant for grassland-based mountain farming in the case study regions are:

- Support of organic farming;
- (Steep) slope payments (AT, CH, DE);
- Extensive management of grassland (e.g. limitation of fertiliser and pesticide use, limitations of intensity of use regarding cutting dates or livestock density);
- Management specifically of mountain meadows and alpine pastures (AT, CH, DE);
- Adapted management according to nature conservation in target areas (categories of high nature value grassland, protected areas or biotopes).

Some measures are specific for single case study areas, e.g. the abandonment of silage production (AT), support of outdoor grazing/runs and free-stable systems under the heading of animal welfare (CH, DE) and outcome-oriented measures (CH, FR).

Outcome-oriented measures – examples, expectations and limitations

The expression "outcome-" or "result"-oriented measures is used in contrast to "input-"or action-oriented" measures, which prescribes a defined set of management actions (e.g. rules for fertilising or mowing) farmers must follow in order to receive payments. Ideally these management rules are closely linked to the desired outcome (e.g. a species-rich meadow); however, the farmer is paid for compliance with these management rules, regardless of the actual outcome.

"Outcome-oriented" measures, instead, are directly supporting the outcome of a desired ecosystem good or service. Within such measures farmers agree to achieve a defined environmental outcome (measured e.g. by proving the existence of defined indicator species on grassland, the occurrence of nests of ground-breeding birds, or maximum field N-surpluses).

The actual management actions are up to the farmers. Plant species are among the established indicators for outcome-oriented schemes, and in two of the case study regions such "classical" outcome-oriented measures have already been established (see examples from Switzerland and France below).

Switzerland: Ecological Quality Payments

Farmers all over Switzerland can apply for Quality Payments (Qualitätsbeiträge) within the framework of the Biodiversity payments (Biodiversitäts-beiträge), based on a regulation for ecological quality (Ökoqualitätsverordnung), which has already been introduced in 2001 and ruled out by the new direct payment regulation 2014 as part of the Swiss Agricultural Policy AP 2014-17.

While within the 1. "Quality Stage" certain management requirements have to be complied with (e.g. regarding the earliest first cut, no additional or limited fertilising), the ecological quality for the 2. stage is determined by the presence of a minimum number of indicator species. On extensive and little intensive meadows a minimum of 6 species from a list of more than 30 is required (differentiated according to North and South Alps). For extensive pastures three lists differentiated according to geographical area and altitude (with ca. 45-60 species each) have been developed. The ecological quality of pastures is composed of two elements:

1. the quality of the grassland vegetation according to indicator species, and
2. the structural richness of the pasture area, with at least 5 % structural elements on extensive pastures (woody structures) and at least 10 % on forest pastures in order for that area to qualify.

Ecological quality can also be achieved with high-stem fruit trees, hedges and field woods or woods along surface waters, and vineyards. After a farmer's application to this scheme, an expert examines the respective area whether eligibility conditions are met. Payments can be as high as 1500 CHF for the 2. quality stage (depending on the altitude) for extensively used meadows and 700 CHF for pastures.

France: Flowering Meadows projects

France has included the outcome-oriented agri-environmental measure (GRASS_07: "Prairies fleuries") into its rural development programme 2007–2013. A defined number of plant species out of a list of indicator plants specific to regional or local conditions must be present on the supported plots. Until 2009, 18 of these Flowering Meadows projects were implemented in France on 13,850 ha mainly in regional nature parcs.

The cutting dates of meadows is a key factor for biodiversity – farmers want to have more flexibility (Foto: O. Schmid)

The measure is adapted to the region and accompanied by project managers, who determine the target grassland and the regional list and number of species. In part of the Trièves area of the regional natural parc of Vercors the measure is offered under the name “Maintien de la richesse floristique des prairies fleuries peu productives”. Farmers receive 146 € per hectare if at least 4 plants out of a list of 34 flowering indicator plants are present. In addition the livestock density must be between 0.05 and 1.4 per hectare and the conditions of the basic national grassland measure (Prime herbagère agro-environnementale, PHAE) must be met.

The higher flexibility (e.g. regarding cutting dates) is among the main arguments for outcome-oriented measures. Farmers may adapt their management practices to the conditions on each plot as well as to weather conditions. This means a better integration of the measure in farm management, considering both the productive and ecological performance. From an ecological point of view, the direct link of payments to the desired outcome and the adaptation of the management to the local circumstances, taking into account farmers’ knowledge of *the land, is often assumed to benefit the environmental performance. In this way farmers can be active participants in nature conservation. However sufficient de*gree of ecological knowledge and engagement of the farmer is a precondition for such schemes.

However, farmers often worry about that they may be exposed to a greater level of risk than in case of action-based approaches, as the outcome are often not entirely within the control of a manager or the final desired outcome - such as regeneration of vegetation - may take many years to appear. This suggests that outcome-oriented measures are more suited to maintenance e.g. of remaining valuable grassland than improvement of sites. The main challenge is to define suitable indicators. They have to represent regional conditions and demand, be reliable, easy to identify or to measure and as close to the final objective and at the same time linked to farmers’ management decisions.

Regarding the administrative effort for implementing outcome-oriented schemes the expectations reach from improved controllability and monitoring as benefits to high effort for the determination of indicators, farm advice and high control effort, depending on the design of the measure. There might as well be a higher risk for the administrations to come into conflict with strict EU-funding rules, which base the calculation of payments on additional cost and income foregone due to a change of management practices.

The above examples show that there are hardly any “pure” outcome-oriented schemes. Often they are “top-ups” on “traditional” measures. As well, outcome-oriented schemes are not suited to every problem, as not all outcomes can be observed directly. To oblige farmers to provide suitable habitats for target species instead of a certain biodiversity level is another form that may be regarded as outcome-oriented, although in a more indirect way, but reduces the risk for farmers.

MERIT hopes to contribute to further evaluating opportunities and risks or limitations, farmers’ opinions and needs for guidance regarding outcome-oriented measures.

“Result-oriented agri-environmental measures can be an interesting approach, offering farmers more flexibility of how to achieve environmental aims on their land compared to action-oriented measures. However, the main challenge is to define suitable indicators, which are linked closely enough to the environmental issue and at the same time can be sufficiently influenced by farmers’ management decisions.”

Heike Nitsch from IfLS Institute for Rural Development Research in Frankfurt, Germnay

The farmer and landscape survey in the case study regions

Interviews with farmers in case study regions

In every case study regions 20-30 farms were pre-selected of which finally at least 15 farms were interviewed on biodiversity management, socio economic aspects, and knowledge and experience with outcome-oriented measures. The results of the surveys in all case study areas are currently analysed and compared by ISARA in Lyon (France)

Furthermore, between May and July 2014, in each case study region the specialists from EURAC European Acadamy of Bozen/Bolzano (Italy) were investigating the floristic and faunistic quality on some 6-7 selected farms in each case study region.

Michaela Plaikner from EURAC making flora and fauna investigations on selected farms in Entlebuch region.

Outcome-oriented biodiversity measures for agriculture in Swiss mountains

Master Thesis of Sophia Rudin, ETH-Zürich

In co-operation with ETH, the Swiss Federal Institute of Technology in Zürich, Sophia Rudin conducted her Master thesis in the frame of the MERIT project. The thesis with the title “Outcome-oriented biodiversity measures for agriculture in Swiss mountains” was supervised by Florian Knaus from ETH (Institute of Terrestrial Ecosystems) and Otto Schmid from FiBL (Research Institute of Organic Agriculture) in Frick.

The study investigated the farmer’s commitment and willingness to implement various outcome-oriented biodiversity measures and the farmer’s acceptance regarding this approach in comparison to the action-oriented approach. For this purpose a qualitative study with 21 mountain farmers within the mountain zones in the Canton of Lucerne was used to get context-specific insights of the farmers to the outcome-oriented approach. A quantitative within the mountain zones was used to get statistically representative and significant results on the respective research questions.

The results show, that the farmer’s current commitment and willingness for different outcome-oriented biodiversity measures and their corresponding rewards are relatively low for most farmers. The better a farmer understands the utility of a outcome-oriented approach, the greater the probability of his or

her participation for it. A fourth of the Swiss German-speaking mountain farmers (25%) prefer the outcome-oriented approach over the action-oriented because they assume that through this approach biodiversity is increased more directly and effectively. Three fourth of the farmers chose the action-oriented approach because they believe that less external specialists and controls are needed to analyse the efficiency of the approach.

A publication is in preparation, where more details, e.g. on preferred measures and recommendations for different actors (e.g. for information activities), will be given.

Sophia Rudin: *"The results of my thesis suggest that the strategy to lower the farming intensity (e.g. stocking density) should be pursued or even reinforced in the future by the Swiss government if the commitment and willingness of farmers to increase biodiversity in mountainous systems should be strengthened."*

Sophia Rudin (right) at the excursion with the project team on Birkenhof farm in Entlebuch (Foto: O. Schmid)

MERIT Team visits the Swiss Case Study Region Entlebuch

Otto Schmid, FiBL, Frick

On the 8./9. May 2014 the MERIT project team visited the Swiss Study region in Entlebuch.

Characteristics of Biosphere Reserve Entlebuch

In the Biosphere Reserve Entlebuch 17'000 inhabitants are living in 7 villages. The region is a 394 km2 large area situated in the Northern foothills of the Swiss Alps, ranging from 600-2350 m in altitude. This is a mountain-grassland region with particular topographical and climatic conditions (mainly because of the high share of moorland and the characteristic calcerous "Schrattenflüh" mountain ridge). The area consists of 42 % of forests, 30 % of agricultural area, 18% of alpine zone, 3 % settlement zone and 7 % non-productive area. There are ca. 960 farms, mostly rather smaller with on average 18 ha agricultural but generally relatively intensive (70 % full time) and with milk production but since some years also beef and suckler cows.

Meeting with local representatives

At the BBZN, the Cantonal Education and Advisory Centre (agricultural school) in Schüpfheim we had an information meeting and discussion with local represenatives and with the representative of the Federal Office of Agriculture, (David Raemy), which finances the Swiss participation in the MERIT project.

Florian Knaus informed about the Biosphere Reserve Entlebuch, which is since 2001 recognised by UNESCO. Key elements of the development process in the Biosphere Entlebuch were: conservation of typical landscape and identity, development of economic structure (increase regional added value, alternative income sources), participation of inhabitants, cooperations (business between local producers and service providers, ecological network projects) supported by education and research.

Pius Hofstetter and Isabelle Falconi-Bürgi from the Cantonal Education and Advisory Centre gave us information how farmers are supported to promote biodiversity and also in marketing activities. Supportive cantonal programmes to implement better the new Swiss Agricultural Policy 2014-17 regarding biodiversity were focussing on rising the ecological quality of hedges, the re-establishment of extensive flower-rich meadows and support for ecological network projects on municipality and regional level with special outcome-oriented goals for target organisms.

Pius Hofstetter from BBZN, the Cantonal Education and Advisory Centre in Schüpfheim, Switzerland (Foto: M. Stolze)

(Information in German on cantonal support see: http://www.lawa.lu.ch/index/landwirtschaft/direktzahlungen/biodiversitaetsbeitraege.htm)

The range of regional cheese specialities has been diversified (not only AOC Emmenal cheese) and is promoted through the Entlebuch Biosphere centre (Foto: O. Schmid)

From the project team Heike Nitsch from IfLS Frankfurt presented preliminary results of the comparison of outcome-oriented agri-environmental measueres in the invovled countries. And Sophia Rudin showed first results from her Master Thesis on outcome-oriented biodiversity measures (see above).

Farm visits in Entlebuch region

The project team stayed overnight on two interesting agro-touristic farms: the Salwideli, an organic farm (www.bauernhof-salwideli.ch) and “Geris Beizli”, an integrated farm, which offered us local food products and gave us information about their farm.

We had an interesting visit on the multi-functional farm Birkenhof (www.birkenhof.ch) near Sörenberg, where Christian Schnider, the farm manager showed us how they preserve and maintain biodiversity through different measures and try to combine this also with their agro-touristic activities (farm-shop and restaurant, guided tours, strawberries, etc.).

Christian Schnider (Sörenberg) is a farmer highly committed to preserve biodiversity also linked to agro-touristic activities. Half of his farmland (49%) is used as different quality-oriented Ecological Compensation Areas: extensively farmed meadows and pastures, litter meadows as well as hedges (Foto: O.Schmid)

Next Steps

- Analysis of Farmer and Land Survey
- Completion of SWOT Analysis of outcome-oriented agro-environmental measures
- Examples from the partner countries on how result-oriented agri-environmental measures are calculated
- Upscaling from farm to regional level
- National User Forums in autumn 2014

Meetings/Events

- The next meeting of the project team will take place in Lyon at ISARA, with excursion in the case study region Nature Parc Vercors on 12-14. November 2014.
- In between October and December 2014 in the different regions meetings (User Forums) with interested stakeholders will be organised by the project partners.

The participants of the 2nd MERIT Project Meeting at FiBL in Frick, Switzerland

During this second meeting, the project team discussed preliminary results from the first project phase: The farmer survey, the comparison of relevant agri-environmental implemented in the partner countries and the SWOT-Analysis.

Particular focus was laid on:

- The preparation of the landscape survey aiming at analysing the regional quality of the agricultural landscape and the effect of biodiversity measures on different farms in the cases study regions.
- Identifying parameters which affect farm land biodiversity in alpine regions. This is to develop a system model to up-scale the impact of outcome-oriented biodiversity measures from farm to regional level.

Finally, the project teams decided on the concept of one final deliverable of the project: the Policy Handbook. With the Policy Handbook MERIT will transfer the research results to policy recommendations for effective design, implementation and governance of result oriented biodiversity management.

On the last day of the meeting, the MERIT team visited the Swiss case study region Entlebuch (see article above).

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