



MERIT - Merit based income from sustainable land management in mountain farming

Process Report

Project coordinator: eb&p Umweltbüro GmbH

October 2015



Project Information

This research was carried out under the RURAGRI programme; an ERA-NET supported by the European Commission and national governmental funding bodies under the 7th EU Framework Research Programme (FP 7, CA 235175).

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1 Project Basics

MERIT stands for Merit based income from sustainable land management in mountain farming. MERIT is a research project supported by the European Commission and funding bodies in five countries under the umbrella of FP 7 and the RURAGRI ERA NET. The project has received funding from the European Union's Seventh Framework Program for research, technological development and demonstration under agreement No 235175.

The project started on 1st of September 2013 and ends on 30th of November 2015

2 Project Partners

The international project team consists of well established research organizations from Germany, Austria, France, Switzerland and Italy and additionally a Slovenian partner as observer. See the table below. The project was coordinated by Dr. Daniel Bogner from eb&p Umweltbüro GmbH, which took over responsibility as Lead Partner.

Project Partners	Responsible persons	National financing body
 <p>Institut für Ländliche Strukturforchung an der Johann Wolfgang Goethe-Universität Frankfurt am Main</p>	<p>DI Jörg Schramek Dipl.-Geoökol. Heike Nitsch</p>	<p>SPONSORED BY THE</p>  <p>Federal Ministry of Education and Research</p> <p>Project funding reference number: 033RA03</p>
 <p>Une école d'ingénieurs au cœur de la vie</p>	<p>Dr. Alexander Wezel Dr. Philippe Fleury Dr. Audrey Vincent</p>	 <p>Liberté • Egalité • Fraternité RÉPUBLIQUE FRANÇAISE</p> <p>MINISTÈRE DE L'ALIMENTATION DE L'AGRICULTURE ET DE LA PÊCHE</p> <p>Ministere de l'agriculture, de l'agroalimentaire et de la foret</p>
	<p>Dr. Daniel Bogner Dr. Monika Dubbert</p>	 <p>MINISTERIUM FÜR EIN LEBENSWEERTES ÖSTERREICH</p> <p>Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft</p>
 <p>EXCELLENCE FOR SUSTAINABLE</p>	<p>Dr. Matthias Stolze Dr. Otto Schmid Dr. Sibylle Stöckli</p>	 <p>Schweizerische Eidgenossenschaft Confédération suisse Confederazione Svizzera Confederaziun svizra</p> <p>Swiss Confederation</p> <p>Federal Department of Economic , Federal Office for Agriculture F</p> <p>Eidgenössisches Departement für Wirtschaft, Bildung und Forschung WBF Bundesamt für Landwirtschaft BLW</p>
	<p>Priv. Doz. Dr. Erich Tasser</p>	 <p>MINISTERO POLITICHE AGRICOLE ALIMENTARI E FORESTALI</p> <p>Ministero delle politiche agricole alimentari e forestali.</p>
 <p>Institute of Republic of Slovenia for Natur Conservation</p>	<p>Šabec Nika Debeljak</p>	<p>Observer Status</p>

3 Project Content

Mountain farming benefits biodiversity and ecosystem services, support habitats conservation and improve environmental assets in general. Due to trends of industrialization and urbanization, mountain farming finds itself more and more in difficult situations. Many farms have intensified their production. These cause a loss of ecosystem diversity with related services and also a general decline of rural areas in alpine regions. Some cultural landscapes and cultural heritage are on the way to disappear.

Hence regions and countries try to counteract this development by strengthening financial incentives for biodiversity conservation and landscape maintenance measures.

At the moment there is a change in the direct payment system in Switzerland and also in EU member states. Pilot projects on result-orientated nature protection have been implemented in Switzerland and parts of Germany. This innovative system is handing over more responsibility to farmers for managing their land considering biodiversity and ecosystem services. 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. It is up to farmers to manage their land in order to achieve the agreed outcomes.

The MERIT project helps to develop such innovative governance systems, procedures and tools for managing ecosystem services and public goods based on an analysis if merit based agro environmental programs are more attractive for farmers than standard systems.

MERIT investigates the feasibility of this system to generate sustainable income for mountain farms and hence its effects on rural development. The basic idea of result orientated land management is to agree with farmers on the qualities and quantities in dealing with ecosystem services and biodiversity. Thus agro-environment payments could get strong aspects of a merit-based system which should encourage mountain farmers to carry on. Results in MERIT are gained through interdisciplinary research and trans-disciplinary approach involving farmers, governments, stakeholders and NGOs.

The project MERIT deals with following research questions:

1. The project MERIT investigated the potential for sustainable **income sources for mountain farms from result orientated land and biodiversity management as well as from provision of ecosystem services**. The socio-economic situation of mountain areas of five different countries was analyzed with focus on how to support and to foster rural development. Relevant questions were:
 - What potentials exist in mountain areas to generate income from land and biodiversity management?
 - How can farmers be motivated to take part in innovative systems for rewarding their services to the public?
 - Which methods for rising awareness among farmers are suitable?
2. The project tested and demonstrates **how farmers can take more responsibility** to achieve a high performance with environmental measures for agriculture in mountain areas. Therefore the project MERIT also faced actual conflicts of productions vs. maintaining biodiversity as well as the loss of farmland in alpine regions. Relevant questions were:
 - What kind of qualification do farmers need to generate income from land and biodiversity management?
 - What kind of training and consulting is necessary for farmers? Who can train and qualify the farmers?
 - What are the costs for relevant educational programs?
 - Evaluating the outcome: How can the impacts of qualification activities be evaluated related to income potential and “knowledge increase”? How can the impacts of qualification be assessed with respect to land and biodiversity management (farmers monitoring of biodiversity)?
3. The project evaluated how **merit based income systems could be implemented in practice**. Innovative models were tested through case studies in different mountain regions, considering spatial topologies that also can be representative for other regions in Europe. Standard agri environment measures were compared with result oriented systems, both public and private ones. The project evaluated how innovative systems could be administrated with new type of farmers engaged in agro-environmental programs. Relevant questions were:
 - How funding programs should be designed to support land and biodiversity management as income source for (mountain) farmers?
 - How should administrative procedures be adapted/ simplified in order to motivate farmers to participate?
 - How can results be evaluated and controlled?
4. The project team aims at **analysing complex effects of innovative reward systems for mountain farming**. With interdisciplinary and trans-disciplinary methods involving farmers, governmental officials, researchers and NGOs it will be analysed if and how outcome orientated agro environmental measures contribute to rural development. Relevant questions were:
 - How can farmers be motivated to switch to innovative rewarding systems?

- What kind of system relations in rural regions are relevant to agro environmental payments?
 - What unexpected side effects can be found?
5. The project provides concrete recommendations for policy to adapt sustainable merit based income for farmers in mountain areas, which contributes to the EU 2020 Biodiversity Strategy and the Common Agricultural Policy (CAP) of the EU as well as to regional rural development. Partnerships between local governance, agriculture and non-agriculture stakeholders will be supported. Relevant questions were:
- What kind of funding possibilities could be available from the private sector?
 - How can innovative systems be implemented in mountain areas?
 - What will be the effect on ecosystem services on larger scale?

3.1 Work packages (WP)

The MERIT project was structured in five work packages (WP). Each partner took over responsibility for at least one Work Package.

Table 1: Work packages and responsibility

Work Package	Title	Responsibility
Work Package 1	Research framework and inventory - Review on result oriented measures & comparison of case study areas	IfLS
Work Package 2	Case study regions – farm level analysis	Isara - Lyon
Work Package 3	Impact of result oriented measures on regional level	eb&p Umweltbüro GmbH
Work Package 4	Innovative governance systems – Policy Handbook	Fibl
Work Package 5	Communication and dissemination	IfLS

3.1.1 WP 1 – Research framework and inventory (Review on result oriented measures & comparison of case study areas)

In WP 1 an inventory of existing agri-environmental programs, result oriented environmental measures and related educational programs as well as further initiatives in mountain regions of the involved countries was done. A SWOT – analysis of risk and chances of result oriented measures was done.

Conclusions: In the light of increasing pressure of the public to prove effectiveness and results of support payments to farmers and due to rising experience with such schemes, the acceptance of farmers and administrations towards result-oriented schemes might increase in the future. Further variations such as habitat-oriented schemes or cooperative approaches might be able to overcome some of the weaknesses of the current measures, e.g. where monitoring of single species is unreliable or to address animal species with a larger home range. On the other hand, climate change might increase risks for farmers due to unexpected ecological interactions resulting in difficulties to achieve desired outcome. Result-oriented approaches are not suited to every condition, the acceptability by farmers is an element of uncertainty, and the effort for administrations remains regarding the determination of indicators and the need for farm advice and information.

3.1.2 WP 2 – Case study regions – farm level analysis

Objectives of WP 2 were to select several farms per case study to evaluate the present income, motivation and qualification of farmers, knowledge about ecosystem services and their land use and biodiversity management. Therefore, farmers were interviewed about the farming activities, and also vegetation surveys have been carried out on selected farms. Constraint risks and chances of implementation of result oriented measures were discussed with the farmers. On the basis of 44 field surveys, an assessment of the farm areas in terms of habitat quality and biodiversity were carried out and represented in a fact sheet inclusive all maps for each single farm. These results were presented and discussed in all project areas with the farmers and the stakeholders during the Farmer workshops and the User Forums.

Conclusions: The 79 interviews that have been carried out with farmers in different case study regions in Germany, France, Austria, Italy, and Switzerland provided new insights in mountainous farmland and biodiversity management and farmers use, perceptions, and opinions on result-oriented measures.

- Generally, half of the farmers are satisfied with current payment systems, but many would need additional financial support to implement new measures.
- Many farmers have contacted already agri-environment measures, some of them also result-oriented measures, and important motivation to contract is an economic interest and preservation of the environment.
- Farmers see a lot of constraints implementing result-oriented measures, but many would prefer this approach, seeing also easier implementation, more flexibility to adapt measures, and efficient management of biodiversity on their farms.
- Many farmers would favour different types of grassland management on the farm to improve biodiversity conservation, but they have difficulties to provide own suggestions for result-oriented measures.
- Farmers need advice, support or training to implement biodiversity measures, and many favour farmer field schools.

Within the field surveys the habitats / structure of 1222 single areas, 935 phytosociological surveys, 770 Flower colour surveys and 172 butterfly surveys were carried out. There are big differences in land use intensity and biodiversity on farm level. Farms in Vercors have a very extensive management and the highest biodiversity. Carinthia has an average livestock density and a mean biodiversity quality, the Upper Allgäu, South Tyrol and the Entlebuch/Lucerne Hinterland has the highest land use density, which lead to a quite low biodiversity on these farms.

3.1.3 WP 3 – Impact of result oriented measures on regional level

The focus of WP 3 was to upscale the impact of innovative result orientated and merit based measures applied from farm level to a territorial/regional level. The upscaling was done with a modelling approach and results from modelling were assessed by a large group of experts.

Conclusions: Result based measures have a high effectiveness in achieving biodiversity goals and they bring a higher motivation of farmers for implementing activities for improving biodiversity on their farms. On the other it has to be considered that costs for training, for documentation and control of biodiversity targets will increase. Also it is clear that not every farmer will accept a higher responsibility for biodiversity.

3.1.4 WP 4 – Innovative governance systems (Policy Handbook)

In WP4 recommendations for implementing result oriented and merit based measures to governance structures were evaluated. Administrative needs and farmers` education to foster innovative management measures were adapted.

Conclusions: WP 4 is based on conclusions of WP1, WP2 and WP3. Recommendations for implementing result oriented measures to governance structures are pointed out by following eight golden rules:

GOLDEN RULE 1 - Make biodiversity an issue: Successful programs to support biodiversity must ensure that farmers, policy makers and society understand the important role that biodiversity plays in our natural and agricultural ecosystems.

GOLDEN RULE 2 - Design your program at the regional level: Effective programmes need to be adapted to regional or even local circumstances.

GOLDEN RULE 3 - Choose indicators which are reliable and appropriate: The indicators have to be comprehensible and implementable for farmers and should be adaptable to individual farms with different levels of ecological quality.

GOLDEN RULE 4 - Pay attention to the implementation at the administrative level:

In designing a new program it has to be decided whether the program should be purely result-oriented or whether it should be combined with action-oriented elements. This is related to the question of how the program should be embedded within existing policy structures.

GOLDEN RULE 5 - Payments are a main incentive: Economic interests and preservation of the natural environment and natural heritage are important drivers for farmers to participate in agri-environmental measures.

GOLDEN RULE 6 - Farmers' knowledge about biodiversity is essential: It is important that farmers understand the importance of their engagement with biodiversity and that they are familiar with the best management practices for achieving targeted biodiversity objectives.

GOLDEN RULE 7 - Make farmers' efforts visible to consumers and society: It is important to raise awareness among consumers and society of the contribution that farmers are making to biodiversity.

GOLDEN RULE 8 - Evaluate the success of your programme: Program managers should think of evaluation as a valuable resource: a source of feedback, a tool for improving performance, an early warning system and a way of systematizing knowledge.

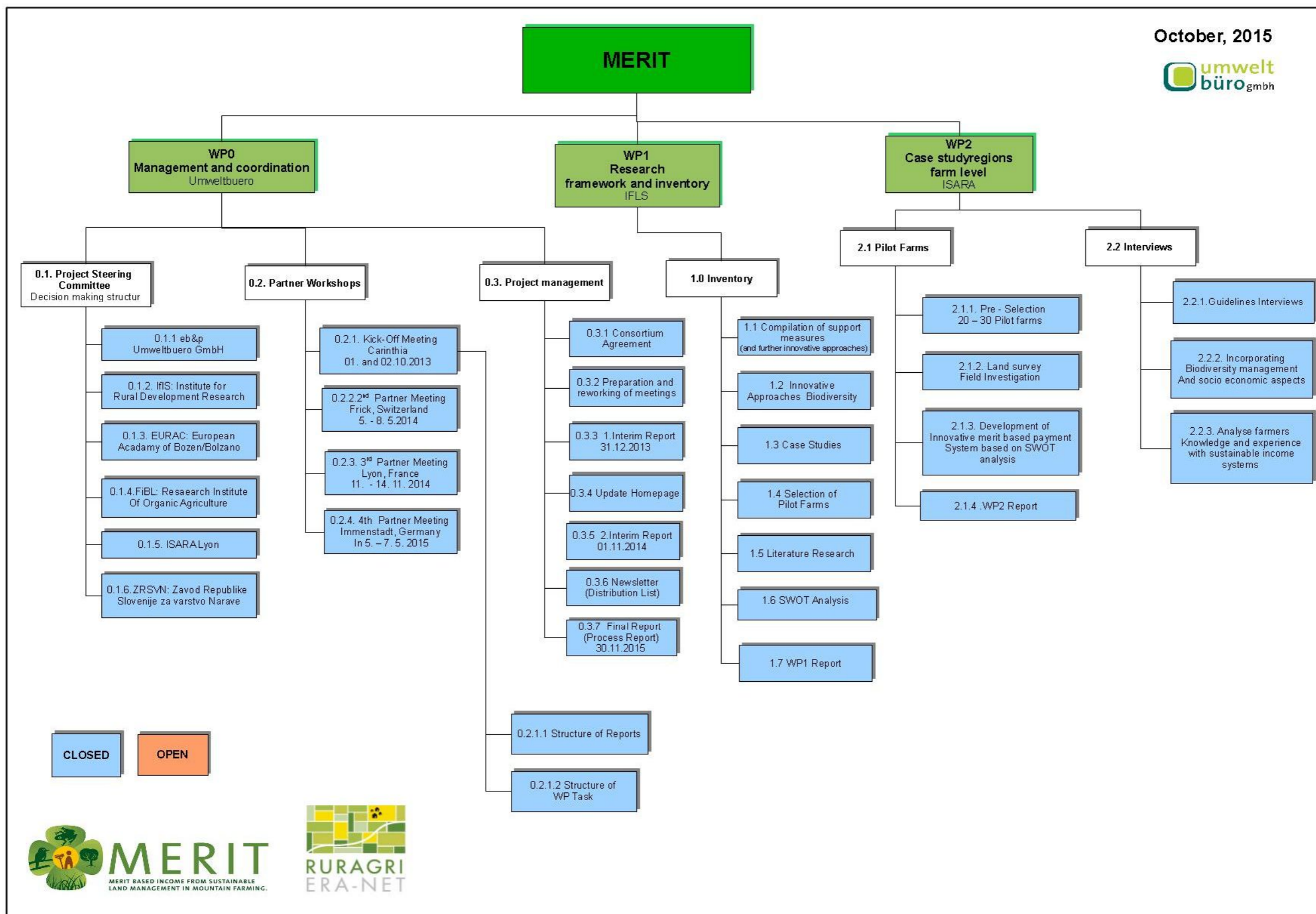
3.1.5 WP 5 – Communication and dissemination

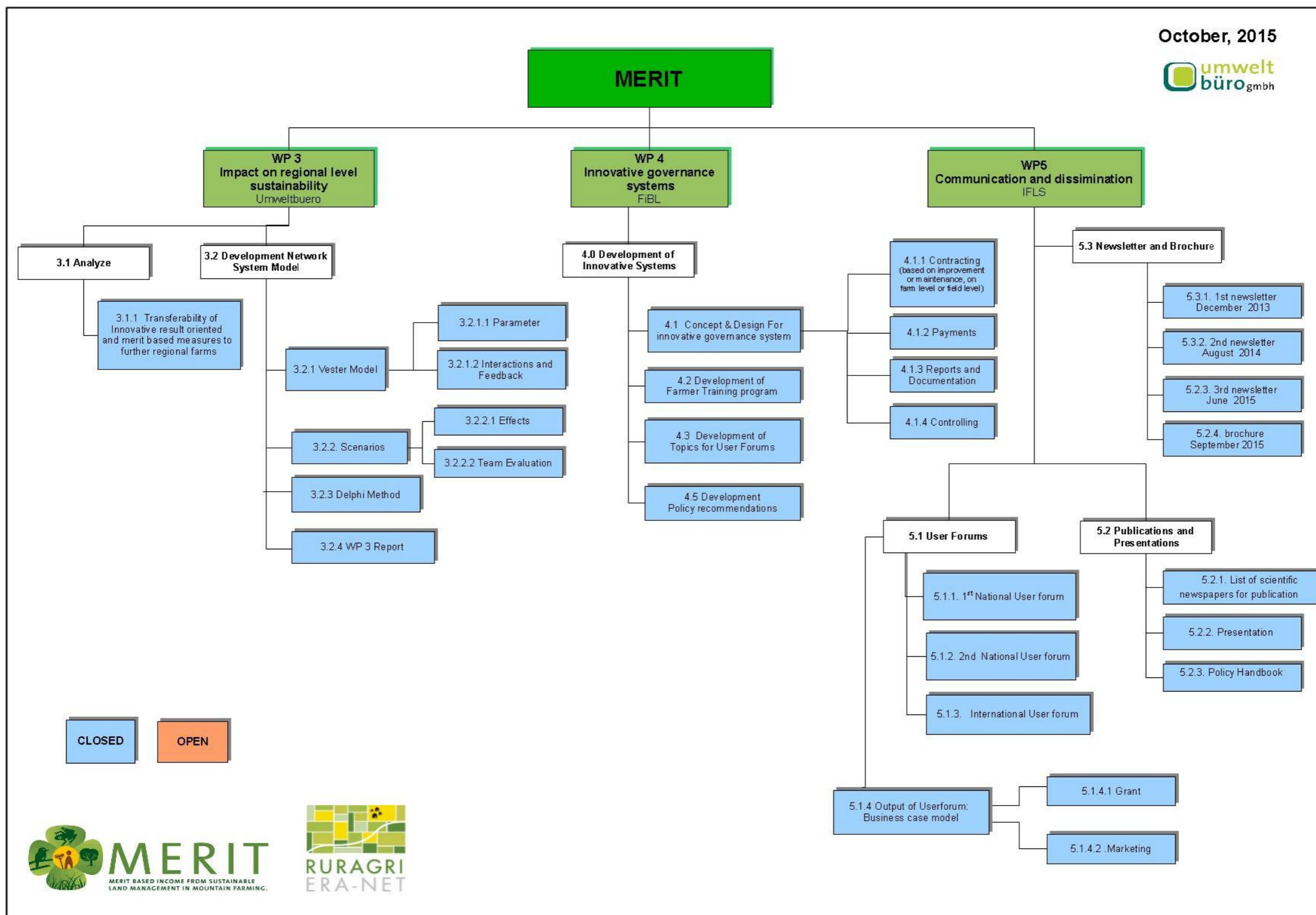
The focus of WP 5 was to ensure effective communication with stakeholders, policy makers and the public at all stages of the project. Trans-disciplinary exchange of knowledge between stakeholders, farmers and researchers will be established. It was also ensured that research results are perpetuated beyond the lifetime of the project, and their impact in practice is extended.

4 Project Structure Plan

The project structure plan gives an overview of all steps, which were necessary to obtain project objectives. The original project structure plan is attached to the annex.

October, 2015





5 Communication tools

5.1 Partner Meetings

Within project life time four partner meeting were held. Meetings took place in different partner countries. The partner meetings were very helpful for bringing project team together and for discussing and managing project objectives and tasks.

Table 2: partner meetings

Action	Date	Meeting place	Agenda	Participating Institutions
1 st meeting	30 th of Sep. - 2 nd of Oct. 2013	Klagenfurt/Austria	get together, talkthrough work packages and common project understanding; project structure plan, time schedule, excursion to study area Zell/Pfarre Karawanks, 1 st newsletter	eb&p Umweltbüro GmbH, Eurac, FiBL, IfIS, ISARA-Lyon, ZRSVN Slovenia
2 nd meeting	5 th – 8 th of May 2014	Frick/Switzerland	Presentation of WP1-Report, presentation of land survey method, analysis and publication of interviews, working steps for WP 4, newsletter, homepage excursion to study area Entlebuch, 2 nd newsletter	eb&p Umweltbüro GmbH, Eurac, FiBL, IfIS, ISARA-Lyon
3 rd meeting	12 th – 14 th of Nov. 2014	Lyon/France	Finalizing WP1, feedback on workshops and Userfora, analysis of questionnaires, WP3 – Vester model, structure and content of policy handbook, excursion to study area Vercors	eb&p Umweltbüro GmbH, Eurac, FiBL, IfIS, ISARA-Lyon, ZRSVN Slovenia
4 th meeting	5 th – 7 th of May 2015	Immenstadt/Germany	Draft of WP2-report and WP3-report, farmers` fact sheet based on field visits, training program, policy handbook (layout, financing, printing), project brochure, 3 rd newsletter, Excursion to study area Oberallgäu	eb&p Umweltbüro GmbH, Eurac, FiBL, IfIS, ISARA-Lyon,



Figure 1: The MERIT – Project team during the 1st meeting (left) and discussing interim results during the 2nd meeting in Frick (CH) (right)

5.2 User Forum, Workshops

Each partner was responsible for organizing and holding two national userfora and one workshop with farmers in his pilot area. The overall objective of userforum was to ensure effective communication with stakeholders, policy makers, farmers, researchers and NGO's during the project. In workshops with farmers practicability of result oriented measures, their chances and risks were discussed.

Table 3: Userforum, workshops

Responsible for organization	Action	Date	participants
eb&p Umweltbüro GmbH	1 st Userforum	13th of March 2013	Representatives of administration level, nature parks and nature protection, farmers
eb&p Umweltbüro GmbH with EURAC	Workshop with farmers	22 nd of Oct. 2014	Farmers
eb&p Umweltbüro GmbH	2 nd Userforum	5 th of March 2015	Representatives of agriculture, nature parks and nature protection, farmers
IfIS	1st Userforum	4th of Feb. 2014	Representatives of agriculture and nature protection
IfIS	Workshop with farmers	26th of Nov. 2014	Farmers
IfIS	2 nd Userforum	27 th of Nov. 2014	Representatives of agriculture and nature protection
FiBL	1 st Userforum	7 th of May 2014	Representatives of agriculture and nature protection
FiBL	workshop with farmers	2 nd of December 2014	Farmers
FiBL	2 nd Userforum	2 nd of December 2014	Representatives of agriculture and nature protection, farmers
ISARA-Lyon	Workshop with farmers	14. January 2015	Farmers
ISARA-Lyon	User forum	27. February 2014	Representatives of Regional Nature parks in charge of agriculture
eb&p Umweltbüro GmbH	International User forum in Vienna	12th – 13th of Oct. 2015	Project partners, representatives on administrative level of agriculture and nature protection



Figure 2: Field visit in Vercors (France) (left); Some of the Merit Team discuss result oriented measures with a farmer from Entlebuch (Switzerland) (right)

6 Results and Deliverables

6.1 Project homepage, Newsletter, Project brochure,

Project homepage - <http://www.umweltbuero-klagenfurt.at/merit/media.php> - gives an overview of project content and objectives, partners and financing bodies and interim results. Also final results will be published on project homepage, so that they can be used by public. During project life time three newsletters were published in October 2013, September 2014, July 2015. The newsletters informed about actual project status, interim results, project activities and next step and were mainly sent to target groups via e-mail. At the end of the project a project brochure has been designed and printed. The project brochure gives an overview of the main project results and is available in English, German and Italian.

Table 4: newsletter, project brochure

Title	Responsibility	Download
1 st Newsletter – October 2013	eb&p Umweltbüro GmbH	http://www.umweltbuero-klagenfurt.at/merit/media.php
2 nd Newsletter – September 2014	Fibl	http://www.umweltbuero-klagenfurt.at/merit/media.php
3 rd Newsletter – July 2015	Isara - Lyon	http://www.umweltbuero-klagenfurt.at/merit/media.php
Project brochure	ifLS	http://www.umweltbuero-klagenfurt.at/merit/media.php

6.2 Work package reports and Policy Handbook



Result-oriented Measures for Biodiversity in Mountain Farming



For work package 1, 2, and 3 objectives, literature researches, field methods, interviews with farmers, results and conclusions are described in a structured way in a report, which can be downloaded from the homepage and is also available as a printed version. Translation for German is underway. Report of work package 4 is a policy handbook which is one of the most important outputs of the MERIT-Project. This policy handbook is targeted at policy makers from governmental bodies, public authorities, farmer associations as well as other private or public organization involved and interested in the development and implementation of agri-environmental policies. It provides information about the implementation of result-oriented agri-environmental measures, enhancing and supporting biodiversity on agricultural areas - in the context of meadows and pastures and other habitats and landscape elements in mountain regions in Europe. The handbook provides policy recommendations for the effective design, implementation and governance of such measures that can be adopted by public bodies (governments, other responsible administrative bodies) as well as private organisations (NGOs or food chain managers).

The process report describes the project structure, the communication tools of the project and the deliverables of the project.

Table 5: list of reports and responsibilities

Title	Responsibility
WP 1 - Report	IfLS
WP 2 - Report	ISARA-Lyon
WP 3 - Report	eb&p Umweltbüro GmbH
Policy Handbook	Fibl
Process Report	eb&p Umweltbüro GmbH

Reports can be downloaded from MERIT – homepage: <http://www.umweltbuero-klagenfurt.at/merit/media.php>. Other reports are internal reports which have been sent to the RURAGRI coordinator.

6.3 Publication/presentation of results

Table below give an overview of papers and presentations in which project results are planned to be published/presented.

Table 6: list of journals for publication/presentation

Publication/Presentation	Responsibility	Name of Journals/Meeting
Review of resultoriented agri environmental measures for protection of grassland biodiversity in Germany, France, Austria and Switzerland	IfLS	Natur und Landschaft
WP 2 - Report	ISARA-Lyon	Agriculture, Ecosystems and Environment; Journal of Environmental Management; Land use policy
WP 3 - Report	eb&p Umweltbüro GmbH	7 ÖKL Journal „Land und Raum“
Policy Handbook	Fibl	8 International Userforum of MERIT in Vienna; Agrarforschung, Bio aktuell, Die Grüne,
Presentation of MERIT-results	EURAC	Bauernbund Südtirol
Presentation of MERIT-results	EURAC	Work group of liquid manure in Natura 2000 areas - Südtirol



Figure 3: MERIT – project team after the final conference in October 2015 in Vienna

