SPONSORED BY THE
Federal Ministry of Education and Research
MULTAGRI
Leibniz Institute of Agricultural Development in Transition Economies

Deliverable 4.1: Stakeholders' positions and identified policy measures

Amanda Sahrbacher[1,3], Christoph Sahrbacher[1], Mark Brady[2], Jordan Hristov[2]

1: Leibniz-Institute of Agricultural Development in Transition Economies (IAMO), Halle (Saale), Germany.
2: AgriFood Economics Centre, Swedish University of Agricultural Sciences (SLU), Lund University, Sweden.
3: Contact person: a.sahrbacher@iamo.de.

Last update: June 2016

Table of content

1. Introduction

The interdisciplinary project MULTAGRI – Rural development through governance of multifunctional agricultural land use – investigates how an increase in biodiversity as well as in landscape diversity could foster rural development and support agricultural production. Involving eight research institutes located in five European countries, the project focuses on optimizing ecosystem services in agricultural landscapes. Ecosystem services describe all possible benefits to humans from ecosystems, in this case agricultural landscapes. The assumption behind the idea of optimizing ecosystem services is that ecological functions can be reunited with agricultural production, i.e., landscapes used for agricultural purposes can provide both a sustainable production of food, feed, fuel and fibres as well as ensure a viable environment. Subdivided in 6 work packages with precise goals and objectives, this report provides information on progresses achieved in the framework of work package 4 (WP4: "Land use conflicts and impacts on agricultural development trajectories in rural areas") regarding the identification of stakeholders' positions relative to past and current policy measures in favour of biodiversity as implemented in the Common Agricultural Policy (CAP).

Biodiversity has steadily declined for some years now. This decline is due to changing land uses on cultivated landscapes caused by agricultural activities. The latest reform of the CAP is partly a response to declining biodiversity in Europe due to changing land uses and agricultural management practices in cultivated landscapes (EEA, 2010). Based on this evidence and considering that "the active management of natural resources by farming is one important tool to maintain the rural landscape, [to] combat biodiversity loss and contributes to [mitigating and adapting] to climate change" (European Commission 2010), 30% of direct payments to farmers (Pillar 1 of the CAP) are now conditioned on compliance with greening measures (EU, 2013). In order to receive full payments, farmers must now i) comply with specific crop diversification requirements; ii) maintain permanent grassland and pastures; and iii) create EFAs on at least 5% of their farmed area. There are well-grounded doubts as to whether the proposed EFA measures will actually contribute to conservation of biodiversity and ecosystem services. In particular the following aspects are likely to water down any potential benefits for biodiversity: reduction of the EFA obligation from an initial 7% to 5% during negotiations of the last CAP reform, various exemptions based on farm sizes and types, and the possibility to classify for instance nitrogen fixing crops, catch crops and short-rotation coppice as EFAs (Pe'er et al. 2014). Moreover the possibility of weighting EFA measures as a way to 'normalise' the biodiversity effects of different measures is also subject to criticism (Matthews 2015). On the other hand farm structures have been changing rapidly in the EU and their development is, for the most part, driven by economic forces. The resultant intensification of agriculture, abandonment of marginally productive but High Nature Value Farmland and changing scale of agricultural operations, are all contributing to the degradation of biodiversity and associated ecosystem services, which in turn is generating land use conflicts in rural areas (Henle et al. 2008).

The objective of WP4 is to identify and analyse those land use conflicts and impacts on agricultural development trajectories in exemplary rural areas of which Gotelands southern plains (Sweden, thereafter called GSS) and Mittelsächsische Platte (in the federal state of Saxony in Germany, thereafter called MP). In eastern Germany where the case study region Mittelsäschsische Platte is located, animal production is being progressively abandoned in favour of crop farming. As large farm structures are predominant due to historical reasons, these farms constitute very competitive production units. However, the concentration of similar agricultural production in the same area not only leads to changes in land use but implies an intensification of production as well as degradation of rural landscapes. The consequence is the decline in biodiversity in cultivated landscapes we observe today. The plains of Scania (GSS) in southern Sweden are a specialized and highly productive arable cropping region. Intensive crop production occurs on large, inter-connected fields where historical removal of field boarders and other impediments have resulted in a simplified landscape. The intensity and scale of production has also increased over time, putting additional pressure on the environment, through increases in fertilizer and chemical use, simplified crop rotations and lack of organic amendments to soils. Similar to Germany, these developments have led to nitrogen leaching, soil degradation, and declines in biodiversity and mosaic values.

The work to be achieved in the work package is divided into three subtasks:

- analyze how environmental measures affect farm growth and farmers' income situation,
- identify advantages and disadvantages of existing policy measures supporting environment,
- provide insights about how far should policy measures be specified according to differences in local conditions.

This report provides information on progresses achieved regarding the second and to some extent the third subtask. For this purpose two workshops with stakeholders from the agricultural sector, public institutions and environmental organisations were organised in Nossen (Saxony, Germany) on 5 November 2014 as well as in Höör (region Scania, Sweden) on 13 November 2014.

2. Workshops

The objective of the workshops was to find out which measures are necessary to better reach ecological as well as economic goals and to identify which actors would be called for implementing the measures.

The starting point for discussion was the current greening measures of the CAP as well as agri-environmental measures to be implemented in the next programming period 2014-2020. The measures were assessed by the participants regarding the perceived opportunities and barriers that each presented for reaching ecological and agricultural goals. At the same

time solutions to tackle potential problems were discussed. Workshop results should help the Leibniz-Institute of Agricultural Development in Transition Economies (IAMO) in Halle (Germany) to investigate which impacts selected management measures have on farm incomes and regional agricultural development using the simulation model AgriPoliS developed at the institute (Happe 2004, Happe et al. 2006, Kellermann et al. 2008). Beyond this, the current "Governance" of agricultural ecosystems have been identified and further investigated in the framework of WP5 ("Governance challenges to encourage landscape-scale uptake of appropriate management actions"). This means that current laws, institutions, interest groups as well as their relationships have been investigated in order to understand to which extent the current governance system influences the management of agricultural land. Based on this knowledge, the Leuphana University of Lüneburg developed different approaches which provide tracks towards the design and the implementation of innovative measures integrating the support of biodiversity together with agricultural production (separated deliverables in the framework of WP5).

2.1.Sequence of the workshops

In order to achieve the objectives of the workshops (stakeholder identification, opportunities and barriers) participants were assigned several tasks to be fulfilled during the workshop either individually or after discussion in small groups. In order to facilitate the identification of different positions, participants were divided into the following groups: Farmers, Administrators and Environmentalists. The following table provides an overview of the course of events which took place in the workshops organised in Sweden (SE) and Germany (DE).

Table 1. Outlook on the course of events of the two stakeholder workshops held in Germany and Sweden in November 2014

Programme	Content
Welcome address and presentation of the MULTAGRI project and of the workshop structure – Dr. Christoph Sahrbacher, Dr. Julia Leventon (DE) / Dr. Juliana Dänhardt, Dr. Mark Brady (SE)	The objectives and course of events of the workshop and the project's background were presented.
Presentation of participants	Participants introduced themselves and picked up differently coloured Lego bricks to reflect their own fields of activity or interest.
Overview of existing measures of the CAP with the aim of benefiting biodiversity and the environment – Sarah Velten (DE) / Lovisa Nilsson (SE)	Short overview of CAP measures for promoting biodiversity, with the objective to establish a common language on the issue. Questions/answers and discussion about specific measures.
DE: Promotion of biodiversity in field crop regions: objectives, opportunities, barriers, networks and alternatives. SE: How can we benefit biodiversity in intensively farmed areas: experiences, possibilities, challenges and networks Work in three small groups: "Farmers", "Environment", "Administration"	Participants were first given a schematisation of how actors were involved in the implementation of the CAP as well as an overview of their relationships with each other. Participants could then modify this representation i.e. add, delete or change a number of actors or relationships. Apart from this participants used a questionnaire to assess the effectiveness of different greening options as well as of agri-environmental measures regarding both biodiversity and agricultural production. They formulated which barriers would characterise each policy measure as well as which solutions or alternatives could be considered to tackle specific issues.
Presentation and discussion of results obtained in each small group and summary and perspectives in the large group	First of all results obtained in the small groups were presented to the whole assembly. Parallel to this, the core statements of each group were summarised and finally discussed in the whole group. Finally participants evaluated individually to what extent they would agree to each of the statements. At the end of the workshops an overview of follow-up plans in the project was provided.

2.2.Questionnaires

In order to 1) select relevant greening measures as well as of agri-environmental measures to be modelled in AgriPoliS and 2) to assess the relevance of each of those regarding their effectiveness regarding both biodiversity and agricultural production, participants in both regions were given a questionnaire to be filled anonymously. After a first question about the respondent (which interest group does he/she belong to: "Farmer", "Administration", "Environment") each participant had the opportunity to formulate how much and why they would use specific measures on EFA[1].
Apart from this, participants in Saxony were asked whether they would have implemented one of the greening measures in any case (i.e. without greening payment) or not. Farmers were also asked about their own assessment on how much landscape elements already shape their arable land; non-farmers were asked to assess how much arable land farmers would allocate to such elements.
In Sweden participants were asked to assess the percentage of small biotopes on their arable land.

Original questionnaires submitted and filled in Germany and Sweden are provided in Appendices 1 and 2.

3. Results of the workshops

This section provides results regarding both aspects governance aspects in addition to issues related to environmental measures and the design of policy scenarios. Most of the information below had been compiled in a document in autumn 2015 and sent to stakeholders in Saxony on 20 January 2016 as background information prior to the second workshop organised on 24 February 2016 there (document available in English and German). In the following results extracted from both workshops will be presented separately for Sweden and Germany. More detailed results from those workshops regarding the sole governance issue are part of D5.1.

3.1.Sweden

3.1.1. What did participants expect from the workshop?

Based on the participants' expectations for the workshop in Scania, the willingness to share experiences and benefit from each other's thoughts was high.

Participants expressed their wish to create new contacts and listen to interesting discussions that could extend their own points of view. Interactions during the workshop were expected to help them improve their own creativity by getting tips and new ideas on how to (better) combine production and biodiversity in their current activity. An important concern was related to the future of agriculture and possible development scenarios with decreasing EU

[1] Farmers were asked about the implementation of EFA on their farm; non-farmers were asked about their own perception of which measures in which proportion on EFA could be relevant to support biodiversity.

subsidies and the necessity to produce food while preserving nature and biodiversity. In addition concrete questions were formulated regarding the actual benefits of current policy measures for biodiversity as well as the practicability of implementing these measures while operating a conventional farm. Finally some participants evoked the importance of environmental quality and nature conservation as such as well as for human future development paths. The following discussions were divided into several topics which emerged in some or all focus groups.

3.1.2. Insights on current governance issues in Sweden

The Swedish governance system is dominated by the EU Commission, the Swedish Ministry for Rural Affairs and the Swedish Board of agriculture which take general decisions relative to subsidies, especially their distribution between pillar 1 and pillar 2. However, the County Administrative Boards play a key role as they provide technical input to future Rural Development Programmes (RDP). Nevertheless local constraints often appeared to be neglected in the formulation of measures for biodiversity conservation. In this sense, participants in the "Administrators'" group wondered why the Swedish Rural Development Programme could not be more regionalised like it is in Finland where 16 different RDP are implemented. In this way local constraints could be better taken into account and measures for supporting biodiversity be better adapted and thereby more effective.

Furthermore, there seems to be great potential at the farm level to improve effectiveness. While assuming that incentives work better than fines, participants of the "Farmers" and "Environmentalists" groups desire that farmers could be provided with more stimulating and motivating reasons to comply with sometimes rather strict rules. According to participants of the "Farmers'" group, involving farmers in the implementation of measures at the landscape level as well as enabling more cooperation between actors throughout the process would be a promising "governance" strategy to pursue.

Other ways to improve governance and the current situation were expressed as follows:

- Farmers' lobby groups similar to the member-driven Federation of Swedish Farmers certainly have an influence on the future content of the CAP, as they are represented at the EU level.

- Participants highlighted the role of transversal organisations like water bodies (Vattenmyndigheterna) which initiate, pay for and coordinate measures affecting water quality. Such entities (or the same ones with extended mandate) could act as multipliers for the sake of biodiversity conservation as well.

- Similar programs to the current "Greppa näringen" (Focus on Nutrients) could be used and adapted to improve biodiversity, as there is a need for more advise about implementation of policy measures.

3.1.3. Potentials and limitations of EFA measures and policy scenarios

According to participants of the groups "Farmers" and "Environmentalists", the 2015 CAP reform including greening measures is primarily developed to reduce farming intensity and therefore targets continental Europe rather than Scandinavia. This may support the argument of the participants in the "Environmentalists" group that measures and subsidies might not be concerned with biodiversity in the first place, but rather be motivated by political reasons.

Participants were first asked to express what proportion of their land they would devote to each allowable "greening" measure in order to reach the 5% EFA required to be eligible for the greening payment and subsequently to list the advantages of or barriers to using the different measures. Out of 21 answers, 18 could be used to build up six different scenarios based on the implementation of five different measures at their disposal. Table 1 summarises these scenarios. The cost-efficiency aspects of the measures were mentioned earlier in the workshop, and factors such as location, economics of the measures as well as production orientation were cited as highly relevant to motivate which measures will be implemented and to what extent.

Table 2: Scenarios for the implementation of EFA in Scania – Proportion of measures to reach 5 % EFA

Scenario	Proportion of EFA [%]					Number of answers			Total
	Fallow	Field edges	Short rotation coppice	Protein plants	Under-sown crops	Farmers	Adminis-trators	Environ-menta-lists	
Environment I	0	100				1		1	2
Environment II	20	40			40	1		2	3
Env. farmers	70	30				2			2
Balanced	20	35	10	20	15	1	2	1	4
Administration		55	10	30	5		5		5
Production		10		35	55	2			2

Source: compiled results of the questionnaires to participants.

Discussions about the selected measures revealed the following important features to consider:

In the "Farmers" group participants expressed worries about the practicality and the economic risks linked to some measures. For instance growing catch crops certainly implies ploughing in spring and would lead to lower crop yields. In addition if a grass catch crop fails to establish, which can sometimes happen, then the greening payment might be lost for non-fulfilment of the measure. Even though benefits for soils and biodiversity (according to the "Administration" group for the latter) are undeniable, one has to consider farm location

(low/high fertility areas), cultivation cycle and potential risks while assessing the relevance of such a measure.

Together with fallow, field edges were most positively rated in all groups. While the importance to link them to watercourses was mentioned in the “Environmentalist” group, their roles as natural corridors and their importance for recreational activities were highlighted in the “Administrators” group as well. Participants in the “Farmers” group assessed them as being area-effective. However, together with participants in the “Administrators” group, they questioned their limited size, where fallow would certainly be more appropriate for contributing to biodiversity on a larger scale. On the other hand, farmers prefer to establish fallow on their least fertile land i.e. fields. This is unfortunate according to participants in the “Administrators” and “Environmentalists” groups, because such measures help to stop nutrient leaching and run-off off, increase humus content and sequester carbon in the soils, which all contribute to more sustainable agriculture in the long-term.

Protein plants (nitrogen-fixing crops) are currently mostly used as fodder. However increased production could stimulate human consumption of leguminous plants as well as providing residues for biogas production. Both represent potential economic profits in addition to benefits for the growth of subsequent crops as mentioned by participants of the “Farmers” group. However, their cultivation could increase nitrogen leaching and the production of nitrous oxide which together with growing these in a monoculture would neither support biodiversity nor contribute to nature conservation according to the “Environmentalist” group.

3.1.4. Outlook on desirable measures and future solutions

Several issues were preliminary discussed in each small group regarding future options for biodiversity conservation.

In the “Farmers” and “Environmentalists” groups, the wish for more flexibility was expressed regarding the number, combination of possibilities and time scale of measures contributing to biodiversity conservation. Participants in the “Administrators” group agreed on complications linked to changing rules regarding greening measures. However, despite a high willingness to offer interesting incentives to farmers, introducing more variability in measures is strongly limited by control issues at some point; in that case aerial photos could be supportive.

The necessity to cooperate was evoked in the three groups as well. According to participants of the “Farmers” group, cooperation could be useful at least along property boarders between farms and other stakeholders in order to collectively decide which solutions would be best. This is in line with remarks formulated in the “Environmentalist” group where the opportunity to collaborate could be used to optimise the spatial allocation of measures and therefore increase their benefits. The “Administrators” group evoked “landscape-ecological

planning" to support coordination between farms and allowing measures to be better "connected".

At this stage the importance of local constraints and opportunities was highlighted again. Participants of the "Environmentalist" group mentioned that the provision of biodiversity is obviously not identical across the country. Mirroring this statement, participants of the "Administrators" group suggested to instead 1) target measures towards places where they would have the greatest effect; 2) reward farmers accordingly when their efforts (and management costs) justify it. Such a position was shared in the "Farmers" group as well: variable and flexible subsidy levels would be acceptable. Beyond this, commitment and outcomes should be rewarded accordingly.

The last common topic was related to linking biodiversity and water issues. Participants of the "Farmers" group suggested combining biodiversity measures with water elements (ponds, storages, etc.) necessary to avoid floods in wetland zones or to preserve water quality. The topic was also discussed in the other two groups. Whereas taking watercourses into account and bordering them with uncultivated areas was considered normal by participants of the "Environmentalist" group, the "Administrators" group would not necessarily link water storages to more biodiversity without additional efforts.

Based on these statements, the following measures and issues were discussed:

- Small biotopes of which beetle banks, shelter hedgerows, in-field habitats ("viltåker" and "åkerholmar"), cairns and fences ("gärdsgårdar"), ditches, trees, butches, small ponds,… Apart from their benefits for biodiversity and their aesthetic and recreational value, the advantages for farmers would consist of the relative freedom of choice when considering local constraints. However, such elements would certainly raise management, supervision and control costs.

- Corridors and buffer strips could help in connecting neighbouring fields, creating recreational areas and benefiting biodiversity and agricultural activities.

- Regionalisation of the Rural Development Program through three components: 1) regionalisation; 2) cooperation bonus; and 3) individual farm plans. As Pillar II is easier to adapt to each Member State's specificities, this would call for an action which could be called "Focus on Biodiversity" inspired from the current "Focus on Nutrients" plan.

- Measures connected to water "storage". Surrounded by trees and other natural elements these zones could act as buffer zones in case of floods in addition to their recreational value.

At the end of the day, the necessity to better inform farmers about the purpose of each measure was identified together with the need for a better communication towards society about what biodiversity is good for. In this sense the role and importance of farmers'

activities in the maintenance of landscapes and nature conservation could be better promoted.

3.2.Germany

Discussions of the workshops could be classified into four categories. On the one hand biodiversity in general has been discussed. On the other hand governance issues have been evoked especially regarding how these goals could be reached. Beyond this the practical implementation of measures promoting biodiversity were discussed from the angle of economic impacts. Finally possible solutions to potential issues raised by policy measures were discussed.

3.2.1. Biodiversity: a very much discussed issue in Saxony

The topic ”Biodiversity“ was discussed in the three small groups. In the group “Environment” the benchmark for assessing biodiversity was debated. Biodiversity is much higher in man-made central-European landscapes than in primarily wild landscapes. The goal should therefore be to preserve these man-made landscapes and the biodiversity which comes along with them. An issue discussed in the three groups is the necessity to better consider regional conditions while preserving biodiversity. In the group “Farmers”, participants were particularly interested in the assessment of benefits of greening measures, as these are linked to income losses. The group argued that better knowledge of the actual efficiency of these measures would increase the willingness to implement them.

According to experts of the group ”Administration“, it would be difficult to assess the actual impacts of policy measures on the level of biodiversity because of local heterogeneities.

In the group ”Farmers“, the issue of land sharing – land sparing was discussed as well. “Land sharing” means that the same field might be used for agricultural production as well as for the maintenance of biodiversity. In this case it is about using land extensively. Conversely ”land sparing“ involves a very intensive use of productive agricultural land. Thereby less land is necessary to produce the same quantity of agricultural commodities and more natural areas can be preserved. A proposal in this sense has been formulated, i.e., continue using productive areas like in the past while supporting biodiversity in less productive areas. Herewith it would surely be possible to stop the decline in biodiversity but on the other hand it could have negative impacts on agriculture because pollinators or pest antagonists would be missing near agricultural fields. Beyond this such strategies would have impacts on governance because environment protection aspects would be separated from agricultural policy.

3.2.2. Current governance of environmental measures: top-down in Saxony

Regarding the Governance part of the workshop, results show that it seems necessary to adapt measures to environmental conditions as well as to farm activities. The current approach to the management of biodiversity on agricultural land is more directed towards agricultural production. In this sense it is unclear what exactly the goals of the current

system are. At the moment biodiversity only constitutes a secondary goal after agricultural production, in no event is it considered as equivalent.

Results show as well that “Environmentalists” consider the role of the CAP as marginal because it tends to support small-scale, ineffective measures to protect the environment. For instance monocultures are supported by the policy whereas it is well-known that these negatively affect bees’ pollination performance. Furthermore actors have different opinions about nature protection and about its importance as well. The views of apiculturist unions sometimes diverge from those of environmental organisations.

On top of this the results point out that communication between actors with different interests could be improved.

Other central statements regarding governance aspects are listed in the following:

- The information flow is organised in a top-down manner and feedbacks with suggestions for improvement or change are missing.
- Lobbyists have a high influence on the implementation of the CAP.
- A high personal effort persists regarding the administration of measures and their implementation, especially relating to controls.
- There is knowledge about the promotion of biodiversity at the institutional level; however it seems difficult to communicate it to the farmers.

3.2.3. Practical implementation and economic feasibility of EFA measures: possible policy scenarios

During the discussion regarding Ecological Focus Areas (EFA) and agri-environmental measures, participants were asked which measures they would adopt in order to reach the 5% EFA required to be eligible for the greening payment of the CAP. Out of 28 answers, twenty could be used to outline four scenarios; eight of them could not be classified in any of the four scenarios (Table 2).

The first scenario is characterised by a focus on production and cost minimisation with the growing of leguminous plants and catch crops. In contrast 80% of EFA would be used for environmental purposes in the scenario “Biodiversity” with the establishment of flower strips or fallow, which have a much more positive impact on biodiversity than nitrogen-fixing and catch crops. The last two scenarios draw a compromise between production and biodiversity. The four defined scenarios were also supported by a similar number of participants.

Table 3: Scenarios for the implementation of EFA in Saxony – Proportion of measures to reach 5 % EFA

Scenario	Proportion of EFA [%]				Number of answers			Total
	Fallow	Flower strips	Catch crops	Legumi-nous plants	Farmers	Adminis-tration	Environment	
Production	0	0	80	20	6	0	0	6
Biodiversity	40	40	10	10	0	4	3	7
Compromise I	10	25	45	20	0	2	3	5
Compromise II	0	45	40	15	0	1	1	2

Source: compiled results of the questionnaires to participants.

When comparing answers it becomes interesting to see that three participants, whose answers were considered for shaping the scenario „Production“, were ready to use fallow or flower strips on the whole EFA, if not even up to 10% of the arable land. In the “Biodiversity” scenario one participant advocated the use of strong environmentally-friendly measures like fallow and flower strips on the whole EFA; however other participants’ answers considered catch crops and leguminous plants relevant at the level of 10% EFA.

The discussion about individual measures lead to the following justifications for explaining the preferences for catch crops and leguminous plants:

- Economic considerations are decisive by the choice of measures as well as farm concept and location.
- For this reason catch crops and leguminous plants are most attractive to farmers. Their impact on biodiversity is low, but positive on fertility while reducing nitrate leaching and erosion. Yet these measures should also be considered good agricultural practices according to the Federal Agency for Environment.
- Farmers consider themselves as being primarily food producers. Leaving land idle contradicts their goals as well as expectations of private and institutional land owners who aim at reaching as higher returns as possible.
- Specific problems to crop farming: some measures lead to increasing pest pressures (insects, weeds) and increase costs for re-cultivation.
- Administrative problems with fallow and flower strips: rules are complicated and can easily induce errors which can even lead to the loss of the Greening payment.

In addition to Greening measures, agri-environmental programmes constitute further incentives for environmentally-friendly agriculture. However agri-environmental measures usually change every seven years with each new Rural Development Programme and do not

constitute any incentive whatsoever, as they only compensate income losses. Additional barriers to participation in agri-environmental schemes are:

- The obligation to implement the measures over several years, as well as strict rules, somehow frightens farmers. Farmers fear they would lose the support if they committed minor errors.
- Some farmers prefer to implement selected measures at their own cost in order to avoid time and effort devoted to controls.
- For some measures the agreement of the land owner is compulsory, for instance for planting hedgerows.

3.2.4. Solutions

A further goal of the discussion was to develop and formulate statements for providing solutions to identified problems. The following requests and ideas were expressed:

- The conservation of biodiversity should be considered as an effort and be rewarded accordingly.
- Knowledge about the concrete impacts of the measures should be improved among farmers and public opinion (for instance regarding the image of flower strips).
- Owners' requirements regarding land use as well as rental prices should be considered.
- Thanks to personal interaction between actors, the individual consultancy in the framework of the „Operating plan: Nature" is a good approach.
- A direct and local exchange between actors regarding biodiversity is most efficient.

4. Outlook

Results of these workshops have been compared to those obtained in other workshops organised in western Lower Saxony (DE) in the framework of WP5„Governance". This work should help to draw a comprehensive overview of opportunities and barriers identified as resulting from current laws and programmes, institutions, interest groups and relationships (separated deliverables).

In WP4 ‚Land use conflicts' the identified scenarios as well as further options will be modelled using the agent-based model AgriPoliS (Agricultural Policy Simulator) with the objective to assess the impacts on farm income and structural development in the regions Scania (SE) and Mittelsächsische Platte (DE). Modelled regions and measures will be described in D4.2 "Modelling environmental measures in AgriPoliS and data update" and results on impacts of those measures on farm structures in both regions in D4.3 "Possible trajectories of agricultural development depending on policy measures".

5. References

EEA, European Environment Agency (2010). The European Environment State and Outlook – Land Use. In: http://www.eea.europa.eu/soer

European Commission (2010). "The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future." COM(2010) 672 final, Brussels, 18 November.

EU (2013). Regulation (EU) No 1307/2013 of the European Parliament and of the Council of 17 December 2013 establishing rules for direct payments to farmers under support schemes within the framework of the common agricultural policy and repealing Council Regulation (EC) No 637/2008 and Council Regulation (EC) No 73/2009 [2013] OJ L347/608. In: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:347:0608:0670:EN:PDF

Happe, K. (2004). "Agricultural policies and farm structures – agent-based modelling and application to EU-policy reform." IAMO Studies on the Agricultural and Food Sector in Central and Eastern Europe 30, IAMO, Halle (Saale). In: http://www.iamo.de/dok/sr_vol30.pdf

Happe, K., Kellermann, K., Balmann, A. (2006). "Agent-based analysis of agricultural policies: an illustration of the agricultural policy simulator AgriPoliS, its adaptation and behavior." Ecology and Society 11(1): 49.

Henle, K., Alard, D, Clitherow, J., Cobb, P., Firbank, L., Kull, T., McCracken, D., Moritz, R., Niemelä, J., Rebane, M., Wascher, D., Watt, A., Young, J. (2008). "Identifying and managing the conflicts between agriculture and biodiversity conservation in Europe–A review." Agriculture, Ecosystems & Environment 124 (1–2): 60-71.

Kellermann, K., Happe, K., Sahrbacher, C., Balmann, A., Brady, M., Schnicke, H., Osuch, A. (2008). "AgriPoliS 2.1 - Model documentation." IAMO, Halle (Germany). In: http://projects.iamo.de/agripolis/documentation/agripolis_v2-1.pdf

Matthews, A. (2015). "What biodiversity benefits can we expect from EFAs?", Online blog. In: http://capreform.eu/what-biodiversity-benefits-can-we-expect-from-efas/

Pe'er, G., L. Dicks, P. Visconti, R. Arlettaz, A. Báldi, T. Benton, S. Collins, M. Dieterich, R. Gregory and F. Hartig (2014). "EU agricultural reform fails on biodiversity." Science 344(6188): 1090-1092.