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More from agriculture – testing the concept and practise of locally driven environmental initiatives

Ulla Ovaska and Kaj Granholm



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– testing the concept and practise of locally driven environmental initiatives

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Abstract

The current control oriented approach in agri-environmental governance responds poorly to environmental issues on the local scale, as well as on the regional and macro-regional scales. Furthermore, it contributes to the distrust that exists between the agricultural and environmental sectors, this is partly due to the inefficiency of the implemented measures in delivering the required outcomes, and partly due to the frustration among farmers who feel that the policy is not addressing the right issues and is not taking the situational specifics on the farm into account. *Thus, a paradigm change to a more management-oriented approach is needed.*

Recent experiences in participatory agri-environmental management projects and initiatives in the Baltic Sea Region suggest strong motivation and willingness of farmers to assume responsibility and engage in actions concerning the environment. Farmers are increasingly building their self-images as land managers, in addition to food producers. This image must be appreciated and acknowledged in the administration and the governance system must find ways to overcome the inherent challenges in producing better environmental outcomes through locally adapted and collective approaches. There are initiatives throughout Europe that seek to utilize the Rural Development Programmes better for a more holistic benefit.

We must learn to value, not only environmental services and the ecosystem as a whole, but also the extra time and money invested in initial communication, consultation and coordination in local development projects and management actions.

The cases studied and highlighted in this report offer examples of different ways to integrate agricultural production with land and water management, and to utilize the opportunities the general EU CAP framework provides. It is largely up to the will and motivation of individuals, farmers, government officials and advisors alike to make the most of these opportunities. This paper suggests how different local, regional, national and international fora and networks can support the local management. Ultimately, as our cases demonstrate, strongly motivated persons can drive initiatives if they have the appropriate support tools and data available and over time this has the potential to also contribute to adaptations on the system level. *Better communication – on all levels, when it is open, honest, transparent and continuous – is the key to success.*

Keywords:

water protection, agricultural runoff, ecosystem services, place based management

Kokemuksia ja ajatuksia viljelijöiden aktivoimisesta paikallisiin ympäristötoimenpiteisiin – esimerkkinä vesiensuojeluhankkeet

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Tiivistelmä

Nykyinen maatalouden ympäristöpolitiikka perustuu valvontaan ja säätelyyn, eikä kykene vastaamaan sille asetettuihin haasteisiin paikallis- ja aluetasolla tai alueiden välillä. Se myös lisää epäluuloa maatalouden toimijoiden ja ympäristöhallinnon välillä. Tämä johtuu osin siitä, etteivät toimenpiteiden vaikutukset ole odotetunkaltaisia, mutta myös siitä, että viljelijät ovat turhautuneita nykyiseen tilanteeseen. Toimenpiteiden ei katsota kohdistuvan oikeisiin asioihin tai ottavan kunkin maatalousyrityksen tilannetta yksilöllisesti huomioon. *Tästä syystä tarvitaan uutta lähestymistapaa, joka korostaa paikallislähtöistä johtamista.*

Viimeaikaiset kokemukset maatalouden ympäristötoimenpiteiden toteuttamiseen liittyvistä hankkeista Itämeren alueella osoittavat, että viljelijöillä on voimakas motivaatio ottaa enemmän vastuuta ympäristöasioissa ja toteuttaa toimenpiteitä tiloillaan. Viljelijät kokevat yhä enenevässä määrin, että he eivät ole työssään ainoastaan ruoantuottajia vaan myös vastaavat maankäytöstä ja maaseutu ympäristön hoidosta kokonaisuudessaan. Tätä näkemystä on syytä kunnioittaa ja hallinnon tulee ottaa se huomioon toiminnassaan. Ympäristötoimenpiteisiin liittyvien ongelmien ratkaisemiseksi tulee kehittää paremmin paikallisiin oloihin soveltuvia hankkeita ja korostaa yhteistyötä niiden toteuttamisessa. Tämän saavuttamiseksi maaseudun kehittämissuunnitelmia pyritään hyödyntämään kaikkialla Euroopassa.

Meidän tulee oppia arvostamaan myös ylimääräistä aikaa ja rahaa, jotka investoidaan sisäiseen viestintään, konsultointiin ja koordinaatioon paikallislähtöisissä kehittämissuunnitelmissa sen lisäksi, että arvostamme ympäristöpalveluja ja ekosysteemiä kokonaisuutena.

Tämän raportin tapaustutkimukset tarjoavat esimerkkejä erilaisista tavoista yhdistää maataloustuotanto maankäytön ja vesien hallintaan. EU:n yhteinen maatalouspolitiikka antaa siihen myös mahdollisuuksia. Kyse on pitkälti yksilöiden: viljelijöiden, virkamiesten ja neuvojien halusta ja motivaatiosta hyödyntää näitä mahdollisuuksia parhaan mukaan. Tämä raportti esittelee kuinka erilaiset paikalliset, alueelliset, kansalliset ja kansainväliset verkostot voivat tukea huomion kohdentamista paikallistason johtamiseen. Vahvasti motivoituneet henkilöt voivat vetää aloitteita, mikäli heillä on käytettävissään sopivia työkaluja ja riittävästi tietoa. Ajan myötä tämä käytäntö lisää hallinnon tasolla tapahtuvia uudistuksia. *Parempi viestintä kaikilla tasoilla on menestyksen avain, mikäli se on avointa, rehellistä, läpinäkyvää ja jatkuvaa.*

Avainsanat:

vesiensuojelu, maatalouden ravinnepäästöt, ekosysteemipalvelut, paikallislähtöinen hallinta

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Abbreviations

AECM	Agri-Environmental and Climate Measures
BSR	Baltic Sea Region
CAP	Common Agricultural Policy
CLLD	Community Lead Local Development
EAFRD	European Agricultural Fund for Rural Development
EBM	Ecosystem Based Management
EIP	European Innovation Partnership
EMFF	European Maritime and Fisheries Fund
ERDF	European Regional Development Fund
ESF	European Social Fund
GAEC	Codes of Good Agricultural and Environmental Condition
LAG	Local Action Group
RDP	Rural Development Programme
SMR	Statutory Management Requirements
WFD	Water Framework Directive
WTO	World Trade Organisation

1 Introduction

The aim of this report is to open a discussion on the possibilities of a paradigm change in agri-environmental governance. The current control driven approach is based on strictly pre-defined actions, whereas more context-based solutions would require improved capacity and opportunities for bottom-up local governance approaches. We aim to find out, what are the main obstacles and challenges in the process of change from the administrative point of view, and how to overcome them. This is enhanced by mapping out success factors behind the locally managed bottom-up projects that have been carried out in our research area and how to move forward with the experiences derived from these projects. In the end, we aim to present a coherent picture of the relevant stakeholders and platforms to carry out the process.

In order to achieve this, we will first introduce the theoretical framework behind the paradigm change: the concept of ecosystem based management transferred into the agri-environmental context, in which it applies elements of participatory management from the theories of sustainable development. We will present the current agri-environmental management system that relies on measures implemented by farmers on their fields and in other production processes and introduce some challenges faced in achieving its goals. Furthermore, we will present the water management aspects of this system in more detail for two reasons: its potential for both environmental improvements and for emphasizing an active role of the farmers in utilizing local knowledge and adapting the measures to local contexts.

The empirical part of the report reflects on the results of farmer surveys that were conducted, and introduces five case-study projects in the region (Finland, Sweden and Germany) and draws common lessons from the cases for the promotion of local management approaches. The lessons are further transposed into the administration level, highlighting the considerations and expected benefits from adopting a more balanced management approach both horizontally and vertically.

In Appendix 1, we introduce the opportunities for a bottom-up local governance approach based on the updated CAP and National Rural Development Programmes.

2 The theoretical concept

2.1 Ecosystem based management

The theory of ecosystem based management assumes a holistic approach to the ecosystem with the inclusion of man. According to some scholars, ecosystem based management (EBM) is a complementary management approach to technology-lead management which primarily foresees and believes that sustainable development is achieved through technological means and innovations (Senecah 2013). Collaborative governance processes and location-based management in order to adapt to local contexts (issues, challenges, needs and opportunities) are central in ecosystem based management (Senecah et al. 2006). This requires the implementation of a multi-level governance approach in practice, in which management actions (assessment, intervention, monitoring) are made on appropriate levels of commensurate scale to the issue or intervention.

Within the notion of sustainable development, the role of participatory models of management, where the stakeholders influence or share control over development initiatives, decisions, resources and outcomes, is proven to enhance sustainability (Rogers et al. 2008). Key criteria to realize participatory development are political will and public awareness. In implementing the projects, stakeholders should assume ownership of the venture, be empowered to monitor and manage the system and be provided with appropriate support. Division of financial and other responsibilities and rights are also important. It is recognized that the additional time spent in the beginning of the process is usually returned with interest in smoother implementation (ibid.). Participatory development strengthens local ownership and commitment and enhances social capital by bringing different groups together (ibid.).

With respect to the environmental challenges of the Baltic Sea becoming ever more complex, more focus on people, is suggested. Yrjö Haila (1999), perceiving the need for a more unified policy response to environmental challenges, argues for the value of democratic policy processes and application of empirical knowledge:

“As environmental problems are woven together with the values and livelihood of local people, they are only exceptionally amenable to an ‘optimal solution’ that could be derived from [natural] science alone. It is more important to get the right people involved, and to respect the identities and subsistence needs of local people than to make calculations on some abstract grounds. This amounts to a continuous process of framing and reframing with the deliberate purpose of getting the relevant stakeholders recruited into the constituency.”, and further:

“The approach from below [...] takes as its framework an analysis of specific situations: the task is to differentiate management practices and get the relevant constituencies involved [...] On the ground level, the main challenge is to make alternatives visible, as well as to create new alternatives. [...] The emphasis of bottom-up perspectives implies a reassessment of the role of knowledge in environmental issues. [...] Perhaps we know enough about many of the problems. Perhaps the main challenge is to broaden the conception of knowledge to include the practical wisdom of local actors whose livelihood is at stake. Solutions imposed from above cannot but induce mistrust, resistance and conflicts.” (Haila 2008 in Joas et al. 2008; Haila 1999).

In short, benefits from applying local knowledge come through the fact that local people are the first to notice positive and negative development, and often are those most strongly motivated to improve their living environment. Consequently, provided that the local knowledge is applied in practice and systematically, it increases the local people’s sense of ownership and democracy (Rogers et al. 2008).

Local collective agri-environmental management, as it is discussed in this paper, attempts to exemplify the transfer of the ecosystem based management concept into the agri-environmental context, in which it applies elements of participatory management. In the specific rural context, the approach is aligned with the concept of Community Lead Local Development (CLLD).



Photo by Anu Suono

3 The emerging paradigm change

The Baltic Compass project (2010–2013) assessed the Baltic Sea Region’s agri-environmental challenge, in particular from the point of view of maintaining viable agriculture while ensuring efficient enough measures to reach the water quality targets. The point of departure for the Baltic Compass project was the severe eutrophication of the Baltic Sea, the process of which must be reversed and considered the environmental goals and targets set in the HELCOM Baltic Sea Action Plan as the environmental objective to strive for. In its review of the challenges across the region from a governance perspective, the project reached two conclusions regarding steering agri-environmental governance to a more sustainable course in the next CAP (EU Common Agricultural Policy) period (2014–2020). The first conclusion calls to continue the periodic revisions of the CAP and to ensure that it, as an instrument, truly recognizes and rewards environmental services produced by farmers. The second conclusion highlights the heterogeneous nature of agriculture in the Baltic Sea Region and calls for the CAP to ‘embrace diversity in agriculture’. This would also mean that environmental measures need to be more context-based. In turn, these “context-specific solutions require improved capacity and opportunities for bottom-up local governance approaches.” (Powell et al. 2013).

Monitoring and controlling public expenditures is a necessity. The EU subsidy framework brings about certain specific and strict monitoring requirements, but they lack alignment with the overall goals, especially with regards to environmental goals. Overall, there is great distrust in the monitoring and control system (Powell et al. 2013).

In developing the locally adapted bottom-up approach further, Baltic Compass introduced the idea of how the agri-environmental governance could apply a more management-oriented approach instead of the dominant control oriented approach. The control oriented approach is based on strict control of pre-defined actions which in many cases respond very poorly to the environmental issues on the local scale, as well as the regional and macro-regional scales. The Baltic Compass report argued, that “*the current system prevents active involvement of farmers*” (Powell et al. 2013), because it is too strictly prescribed and controlled from above. During Baltic Compass, a new communication approach was developed and introduced to strengthen the local voice of active farmers implementing agri-environmental ideas (see Rammert 2012).

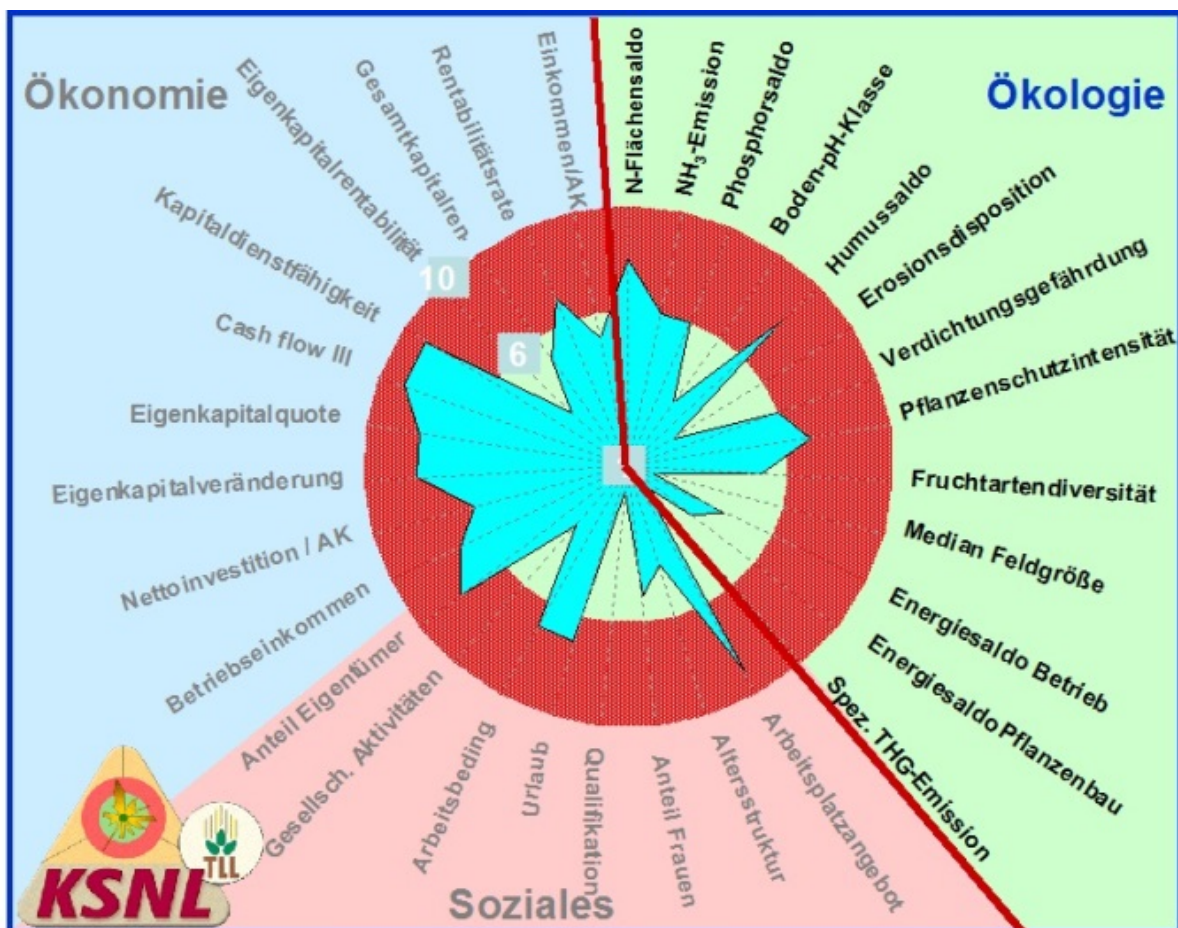
There is a considerable risk, which in some cases has already materialised, that the current control driven approach will demotivate the responsible, pro-active and environmentally minded farmers and the benefits and synergies from active multi-functional agriculture will be lost (see discussion in Heinrich & Rammert 2012).

Recent experiences in participatory agri-environmental management projects and initiatives in Germany (Rammert 2012) and elsewhere in the Baltic Sea Region (see examples highlighted later in this report), suggest strong motivation and willingness of farmers to assume responsibility and engage in actions concerning the environment, if they can do it paying respect to the conditions and needs of the local stakeholders. As this approach is also recommended from the perspective of environmental effectiveness and sustainability, we believe it deserves further attention both on the implementation level as well as policy and administrative levels.

A key step in the paradigm change is the revolution of the farmer’s self-image into a joint producer of food and ecosystem services as an integrated outcome of good and sustainable land and water management in farming. The farmer must develop a strong self-esteem and feeling of empowerment to make things happen. The surrounding society has an important role in how it communicates with the farmer and values the positive externalities delivered through agriculture.

Paradigm change among the authorities is perhaps even harder to come by, as they tend to feel squeezed between the definite budgets and the strict control requirements stemming from EU CAP legislation and related legislation concerning the use of public subsidies. This is in particular limiting the full-scale shift towards relying on management and governance rather than control. For the administrative system, the paradigm change may mean a more fundamental transformation, to understand better the overall

efficiency through local engagement and locally adapted comprehensive approaches, which are better suited to implement more integrated policies. In practice, this may necessitate releasing some of the control responsibility from authorities to farmers who demonstrate self-management and self-assessment capacity. This as such, is not a new concept, as a self-monitoring requirement is applied in national environmental legislation in many countries (e.g. Sweden and Finland). Now that there are also different practical management tools (e.g. criteria systems for self-monitoring of the farm's overall sustainability, such as the German Criteria System for Sustainable Agriculture or KSNL; see Rammert 2012; Ehrmann & Kleinhanss 2008 and graph 3.1) available for farmers, the possibility to test an approach based more on responsibility than control certainly exists.



Graph 3.1 Criteria System for Sustainable Agriculture developed in Germany (Ehrmann & Kleinhanss 2008).

The paradigm change involves the mental development of all actors concerned, politicians, authorities, farmers, advisors, academia and the civil society around. For instance, we must learn to value – not only environmental services and the ecosystem as a whole – but the extra time and money invested in initial communication, consultation and coordination in local development projects and management actions. Many proponents of the approach, as well as persons having been involved in projects in practice, advocate that the financial sacrifices, time and energy spent provide ample pay off, as this solves many of the potential conflicts and problems at an early stage. Essentially, the approach utilizes the supportive role of the “top” administration and self-organisation of the “bottom” working in continuous exchange for management of complex systems (see Atkočiūnienė 2013). The next section reiterates that the environmental benefit can be accentuated through involvement of all stakeholders, including farmers, in larger scale collaborative and locally adapted interventions.

This raises the question of whether the environmental outcome should have a monetary value. If so, it would lead to the need to value the individual environmental service or water quality. However in the current situation in which environmental targets are not used in evaluating administrative cost efficiency in a comparative context (evaluations of e.g. agri-environmental support programmes do not consider effectiveness of money spent for a certain environmental outcome and alternative scenarios), we settle here to argue that the reward/value comes through better integration of social, agricultural and environmental issues and stakeholders, and better cooperation and coordination between environmental, production and rural development. If as a result, conflicts between different interests are fewer and smaller, there is a positive long term environmental trend, and the administrative burden is shared in a balanced way between different levels, in this way the new approach will have proved its value.

4 Local management of water quality in the agricultural context

4.1 Agriculture, water and water quality

Agricultural production depends on water resources in many ways. Of the world's total withdrawal from fresh water resources, agriculture accounts for 70 percent (Rogers et al. 2008) and even in the EU, on aggregate, a quarter of water diverted from natural environment is used in agriculture (EEA 2014). The most obvious form of water use is irrigation which is carried out either by natural processes (rain, flooding, soil saturation from ground water reservoirs) or by irrigation technology which uses either water from water bodies or from drinking water infrastructure. Agriculture also depends on water resources for the drainage of excess water from fields, which is reliant on inland waterways (ditches, streams, rivers). Furthermore, grazing animals need access to potable water of sufficient quality. Therefore, it is quite clear that agriculture is strongly dependent on this public good, which is used for productive purposes on the farm, before once again re-entering the water table and regaining its status as a public good.

This diversion of water through agricultural production affects the quantity and quality of water. We focus here on the water quality, as eutrophication is the predominant challenge in the Baltic Sea Region, with regards to both the Baltic Sea itself as well as the waters within its catchment area. Besides by releasing polluting agents to waters, agriculture and other types of land-use, affect the capacity of the landscape to naturally treat water. In fact, it has been shown in Sweden, that nutrient leaching per farm hectare is approximately the same as in the mid-19th century (Hoffmann & Wulff 2006), however, as there are no reductions in diffuse source nutrient leaching into the Baltic Sea, the answer lies somewhere in between, and the solution in the scale measures are coordinated and implemented. With the rise in the concern of effective use of public budgets, we need to ensure that water management measures are coordinated and implemented on a meaningful scale.



Photo by Anu Suono

4.2 Sensitivity and scale of measures

The current agri-environmental management system relies on measures implemented by farmers on their fields and in other production processes. Some measures are based on baseline legislation, others are part of the cross-compliance in order to qualify for the direct payments under the European Union Common Agriculture Policy (CAP)¹, in addition to which there are voluntary measures which farmers can implement and receive compensation through the Rural Development Programme (RDP). From the perspective of water protection, and water quality (and quantity) management, measures based on this framework are not optimal to achieve an impact on the larger scale, as implementation depends on individual choices by individual land farmers. The effectiveness of agri-environmental measures (see evaluation of prioritized agri-environmental measures in Salomon & Sundberg 2012) depends greatly on the contexts in which they are implemented, appropriate management (e.g. cutting vegetation within buffer zones and in wetlands) and the natural hydrochemical processes governing how nitrogen and phosphorus are transported on surface and in the soil. Such detailed context specific management, including gathering the scientific information needed to plan the measures correctly, is too complicated to be adopted in the current agri-environmental policy. Therefore, it would be more meaningful to address the issue on the appropriate *scale*, on which results can be expected and monitored. In short, the catchment scale is the most relevant scale from the perspective of water protection; on this scale the critical factor is the share of land area within the catchment area on which appropriate agri-environmental measures are being implemented (see e.g. Swedish Board of Agriculture 2013). However impact on the catchment level, which is the meaningful scale to look at the issue from societal and policy perspective, is rarely achieved unless measures are implemented on the catchment scale commensurate with the prevailing pressures in terms of the risk of nutrient leaching. This requires either coordinated complementary measures by all concerned landowners, or cooperative larger scale measures implemented in strategic locations within the watershed (see *inter alia*, Koskiaho et al. 2003 and Puustinen 2005 for conclusions about the effectiveness of different size wetlands; also Berninger et al. 2012).

In its assessment of the agri-environmental schemes, the European Court of Auditors has identified the lack of local consideration and responsiveness of measures to the local environmental challenges in the region, as one of the main and most common handicaps in the agri-environmental policy implementation in the EU countries (CoA 2011). From the perspective of achieved impact, national assessments of agri-environmental support (e.g. Aakkula & Leppänen 2014) have not been able to conclude that the interventions provided by the compensation schemes are an efficient way to reach the environmental outcome and target objectives of the measures set in the Water Framework Directive (WFD) and partly in the RDP. This is even true in countries where over 90% of the arable land area is covered by agri-environmental schemes (Finland).

Thus, assessment of the current system from the perspective of water protection efficiency shows that the system lacks, thus implying the need for:

- Locally adapted measures, and
- Territorial approaches

Implementation of the WFD has to some extent accelerated the shift towards managing waters on a watershed level and from a watershed perspective (see e.g. Hagstad 2013), but this is not yet fully realized in practical terms and actions. When it comes to proposed solutions and improvements, there is clearly a lack of focus on attaining a more holistic approach to reducing diffuse source nutrient leaching from rural areas, as well as a prevailing inability of the mechanisms available to generate broader measures and increase collective action. Adopting a more holistic view can also trigger farmers to see the joint benefit in co-management of the farm and the surrounding environment.

¹ Obedience of the Codes of Good Agricultural and Environmental Condition (GAEC) and Statutory Management Requirements (SMR) together forming the cross-compliance framework, and the additional “greening measures” in the new CAP all affect the farm’s qualification for the direct payments.



Photo by Anu Suono

4.3 Farmers involvement in catchment scale actions

We conclude above that catchment scale approaches are needed, and the system depends on the farmers' decision to take up and take part in the implementation of measures. Although measures such as wetlands are becoming increasingly popular among farmers (Suomen Aluetutkimus 2014) and there are some successful examples of collective management and construction of wetlands², this is not occurring systematically or on the large scale. There is of course good sense in relying on the farmers for effective environmental measures, since farmers are experts of the local surroundings, land, and environment and they can contribute to the processes with valuable knowledge, historical data and experience. Farmers are also actively managing the environment by default, which means that considering, suggesting and implementing solutions is natural every day practice.

Many of the current examples of farmers acting as environmental managers concern biodiversity management which has been in the front line of catchment level management initiatives in Europe recently³. One of the reasons for this is that there are available measures to monitor the progress of biodiversity management in a more straightforward and inexpensive way than with respect to water quality. Only in few countries, like Finland and Sweden, agri-environmental support schemes are providing support to the construction and management of wetlands as a nutrient retention and biodiversity measure. In Sweden, the regional authorities should prioritize spatial distribution and location of wetlands following a regional development strategy and plan, but often in practice, these are implemented in a similar way to the implementation of individual farm measures, which does not guarantee optimal size and spatial location within the catchment area. Furthermore, the number of wetland projects realized is far below the targets set in the WFD River Basin Management Plans or even the targets in the Rural Development Programmes. For instance in Finland, of the targeted 200 wetlands in the Northern Bothnian region for the 2007–2013 programme period, only 15 wetland projects have been financed (Moisa 2014). On the national level, just over 200 new contracts to establish wetlands with non-

² In Walmore Common Ramsar wetland in the United Kingdom, a collective local management scheme was implemented as an agri-environment measure (RDP measure 214) where local community was empowered in management (see Polakova et al. 2013:68) and in Uusimaa region in Southern Finland, an agri-environment project coordinated a creation of 19 wetlands and flood plains on arable areas susceptible to natural flooding (ibid, 69).

³ See e.g. Hodge and Adams (2013) for a general account of implementing larger conservation areas.

productive investment support were signed (Aakkula & Leppänen 2014), which falls far short of the target of 1624 set for the programme period (Berninger et al. 2012, see also 2012b).

Even more critical in this context is that paying for farmers to construct wetlands as an environmental measure does not necessarily ensure complementarity, continuity and exchangeability with the measures and practices on the farm. If it means the conversion of productive land into a wetland, farmers remain reluctant (Andersson 2012:28). We need stronger steering mechanisms and guidance to exploit the positive synergies of sustainable field management and ecosystem services on the larger scale. The same applies to biodiversity interventions. Thus, the current situation reflects the gap in the thinking between agricultural producers and environmentalists and results in only the most environmentally oriented farmers engaging in water management projects.

Moving from a control-based approach to a management approach and from pre-determined single measures to emphasizing the outcomes, we should also look into transfer and compensation measures between the farm and the watershed, where the impact is desired. For instance, constructing a wetland does not free the farmer from following the fertilization restrictions and therefore there is only a moral incentive for the farmer to engage in countermeasures outside the farm scale. An example of a scheme where flexible fertilization is allowed within a catchment area is from Lake Taupo, Australia, where farmers can trade nitrate (hereon referred to as N) allowances with each other. Within this scheme, one farmer can increase N use (and risk of leaching) above their quota with a purchase of an additional allowance from another farmer in the catchment⁴ area.

Land consolidation mechanisms have been used widely in Central Europe and recently in Denmark (Baltic Compass 2012), but these are not always based on voluntary exchange by the farmer. A more sophisticated system to optimize, for example, creation of wetlands on the larger scale, is the habitat banking system, where a landowner can change from one form of land use to another on his farm (which most often would mean to increase arable land area) provided that he compensates this with investing in a non-productive area in a designated location i.e. the 'habitat'⁵. Other examples of alternative management schemes aiming at creating wetlands or other larger nature conservation areas include the Conservation Reserve Program (CRP)⁶ in which in exchange for a yearly rental payment, farmers enrolled in the program agree to remove environmentally sensitive land from agricultural production and plant species that will improve environmental health and quality.

⁴ Read more in <http://ageconsearch.umn.edu/bitstream/115353/2/Duhon%20Paper.pdf>.

⁵ See e.g. <http://water.epa.gov/lawsregs/guidance/wetlands/mitbanking.cfm>.

⁶ www.fsa.usda.gov/FSA/webapp?area=home&subject=copr&topic=crp-sp



Photo by Anu Suono

4.4 Agricultural drainage systems – a setting for collaborative actions connecting the farm and the landscape

The Baltic Compact project prioritized agricultural drainage systems and drainage related measures (on the field scale these are known as SCIEN -drainage measures, see more at www.agro-technology-atlas.eu) due to their high relevance both for agricultural production and water quality, as well their depiction of the direct connection between the single farm and the catchment. This makes projects on drainage system renovation optimal for the demonstration of multi-stakeholder coordination and cooperation between several land owners. They demonstrate the value of local management approaches in the agricultural context, ensuring concrete relevance for the farmers and local community stakeholders alike. Many experts and studies conclude that agricultural water management and drainage measures should not be planned and implemented on the scale of a single farm, but in the main channel on a scale appropriate for the size of the catchment. In some cases, for optimal efficiency, this can be connected with controlled field drainage systems (Äijö 2013). On the landscape scale, wetlands and restorative measures in ditches and main channels (two-stage ditches, meandering, and bottom dams) have the function of reducing the water flow velocity and represent complementary measures to field drainage. These measures which are largely compatible with definition of Natural Water Retention Measures (NWRM⁷) are, or can be, an integral part of the agricultural drainage system and an essential infrastructure for farming. To attain the full benefits and synergies, these measures are optimally implemented through coordinated planning and collaborative effort by the farmer, neighbouring landowners and the community. National water law in most countries requires any intervention in the drainage network to be approved through consultation with the landowners who are potentially influenced by the intervention, as a pre-requisite for the permission from the authorities. This process offers a platform for a more holistic discussion on how to best meet both the needs of agricultural production and the environmental objectives in the local area. It is not uncommon for farmers to be concerned that measures in the drainage channels may lead to reduced field drainage, and equally environmentalists are often concerned that any improvements in field drainage may lead to deteriorating water quality in the streams.

⁷ For information on natural water retention measures (definition, classification, application), visit www.nwrm.eu.

From the above, we conclude that the current situation indicates a lack of awareness among the environmental sector regarding the needs and practicalities of the farming sector. Additionally the situation requires farmers to identify and propose solutions which are acceptable and beneficial to both sectors.

Drainage systems in countries within the BSR are in need of reconstruction, this is especially true of those that date back to the expansion of agriculture after mid-20th century (for example Latvia, see Travina 2013). This reconstruction provides opportunities to bring agricultural and environmental interests together in new ways in order to achieve positive results both within the field and the landscape.

4.5 Multi-benefit approaches have a particular value for the local-level

The main aspect in the approach introduced in this paper is that the local farmers and the surrounding community are trusted and empowered to manage the agri-environmental issues important in their area. For this reason, the measures should not only be evaluated from a single perspective (e.g. water quality). Small wetlands are not often efficient for water protection (e.g. Berninger et al. 2012); however, even small wetlands can be valuable and worthwhile locally. For example, consideration of the biodiversity value of wetlands, providing habitats for insects and birds, can, in turn, benefit farming by opening possibilities for integrated pest management. Also, wetlands can be important for recreational aspects in the area (see i.e. Heliölä et al. 2010). Adoption of the ecosystem based management approach would mean acknowledgement of a multitude of objectives on various levels – local, regional and national.

Measures with multiple benefits should be emphasized, especially in the situation of uncertainty about effect and changing conditions in short, medium and long term. Focus on measures with multiple positive effects is a way to enhance resilience both on the local ecosystem level and in the overall agri-environmental governance system. Multiple benefit measures can be difficult to argue for from the perspective of cost-efficiency as such calculations are typically made from the single objective and single sector (e.g. water quality) perspective. But local management can and should not only be promoted or evaluated from the water perspective; attractiveness of the approach rests on its win-win nature.



Photo by Anu Suono

4.6 Conclusion: Focus on the role of active farmers in local water management actions

The reason for emphasizing the water management aspect is two-fold. Firstly there is great potential to improve water quality in catchments if both field drainage systems are planned and managed in a sustainable way, and the water retention capacity in the landscape is taken into account and utilized. Secondly, the active role of farmers in water management, on the larger scale, is not yet recognized, and so far mandatory water quality related measures in agriculture emphasize limiting nutrient inputs and creating protective zones. In other words, it is still uncommon in Europe for a farmer to be in some way engaged in active water quality management measures.

The strength of collaborative efforts in water quality management measures, to better utilize local knowledge and adapt to local context is also highlighted in recent studies and proven in communication with farmers (e.g. Hagstad 2013). Collaborative and participatory efforts are also the cornerstone of WFD implementation (ibid) and this paper suggests that farmers can be involved as key actors and even develop self-motivation to be active agents in local water management measures.

5 Recapping the system and the administrative challenge

Earlier evidence, as well as stakeholder dialogues within Baltic Compass, have resulted in the surfacing of a set of challenges, perceived as persisting challenges or obstacles to more bottom-up and locally driven approaches in agri-environmental management. Recent discussion about the efficiency of agri-environmental support schemes (see e.g. Swedish Board of Agriculture 2013) has increased the attention to local adaptation. In parallel, there is ongoing discussion about the principles of the agri-environmental support system and basis for compensation. This has led to evaluating the feasibility of outcome-based measures or payments for ecosystem services, PES (Powell et al. 2013; also Morkvenas & Schwarz 2012; Schwarz & Morkvenas 2013). Outcome based approaches have also been discussed at seminars with a broad group of stakeholders (see Berninger 2012). These discussions concluded, that, basically, the current CAP system of agri-environmental support, which is based on the principle of compensation for costs and income foregone, does not approve payments based on the outcome, nor is it in principle allowed to compensate for measures which bring direct economic savings for the beneficiary. These conditions are derived from the WTO system which governs state aid to economic sectors. Nevertheless, it is worthwhile to continue with pilot studies and projects to test possibilities of outcome based payments, as an alternative compensation mechanism to farmers and as proposed by Andersson (2012), to challenge the current WTO interpretation on ecosystem payments. Encouraging examples worth further testing are auction schemes using a tailored Environmental Benefit Index that can, at least theoretically, yield higher efficiency as more environmental benefits can be achieved with the same resources (Iho & Lehtimäki 2010).

For the reasons above, the CAP system is problem-focused and de-motivating to farmers, as for subsidy (compensation), the farmer has to incur additional costs and justify and document a loss in productivity⁸. This does not help discussing measures with positive synergies for production and environment. Therefore, this paper attempts to open up the issue beyond the agri-environmental support system and proposes to look for synergies between environmental, economic and rural development objectives. This brings up the question of internal administrative and policy coordination.

The requirements put forth by the EU and in particular the CAP on the national and regional administration are real and must be addressed thoroughly. However simultaneously, it is important to consider whether the current control-based system, which is both becoming too expensive and de-motivating, could be improved.

Increased attention to local conditions and locally driven solutions puts demands on the system's adaptive capacity and that of individual officials (i.e. Rogers et al. 2008). It may also require further targets to be set on the local-level. It is possible (in fact, recommended by the Commission) to at least locally or regionally tailor the AECM to a certain extent. It is also possible to impose several different levels of payment for the same measure, but these solutions also mean a heavier administration, at least in the early stages of the programmes. Strictly from water quality perspective, it can be difficult to get farmers motivated in local management actions because, on the contrary to what theories say about the involvement of local stakeholders from the beginning, often they have not been involved in the target setting and the targets have been set by national and sub-national water management authorities (albeit, when set regionally, targets do to some extent promote implementation of measures, as shown with Swedish experience on wetlands in Andersson 2012).

As we begin to explore the alternatives, it is necessary to acknowledge that proceeding toward the direction proposed here – strengthening the farmer-driven element and active farmers' role in environmental management and the promotion of more holistic local projects – will bring about new kinds of demands for the administration. We must be able to answer the critics who say that participatory

⁸ An example of a voluntary private scheme in which farmers are compensated for any possible loss in income due to implementation of agri-environment measures (reduced fertilization or reduced tillage) is the BMP Challenge scheme in the United States, www.bmpchallenge.org.

management “*consumes too much time and resources, it is logistically and organizationally difficult, [and that] questions of representation may bring about conflicts*” (Rogers et al. 2008). We need mechanisms in place to see that the resources invested will not go wasted, that savings are made elsewhere, and that conflicts are handled in a proactive way which builds capacity among the different participating groups to understand each other and seek synergy.

All in all, administrations are subjected to demands from different sectors, the farmers and their interest organisations, the industrial lobby, the society and the European Commission which need to be managed all more cost-effective way. The forthcoming sections turn attention to the farmers and selected local case examples and how these can enhance understanding on the system level adaptation.

6 Farmer's opinions on environmental management and bottom-up approach

Locally driven water management interventions in agriculture do not only come from academia, but also from farmers around the Baltic Sea who favour and are prepared to engage in such activities. This is shown by our cases and the interviews with farmers in Finland, Sweden, Germany and Latvia (see also Jones 2014).



Photo by Helena von Limburg Stirum

6.1 Finland and Sweden

In Finland, studies have shown that farmers regard the current environmental governance and its steering mechanisms too bureaucratic, divorced from on-farm reality and disrespectful towards the self-determination right of farmers. They also believe that agriculture is a scapegoat blamed for the water pollution (Stenman & Riihinen 2014; Iho et al. 2011). On the other hand, farmers understand the importance of water protection in agriculture to the environment, and feel that they have received sufficient amount of information concerning it. The relationship between farmers and environment is close, and thus farmers regard the conservation of earth and nature as essential to the future of their farm (Stenman & Riihinen 2014). Farmers understand the reciprocal relationship with environment. They are more aware of the state of environment, and their attitudes are more positive towards environmental improvements than earlier (Maisa 2014). Farmers are motivated to implement measures for reduction of watershed nutrient loads, if they are given the opportunity to choose rational and effective measures.

However, farmers do not always fully understand the implications of “the little things”; water management measures carried out on their farms are indeed an important part of a bigger picture, but the

need for the measures and their effects are not easily visible. This has to do with the nature of water protection: other environmental measures, such as biodiversity, are more visible and changes are easier to see (Maisa 2014). In essence, some farmers are poorly informed about the impact of their farming activities on water quality. Surveys conducted among Finnish farmers show that farmers need more information about environmental projects and are interested in participating, if it is rational and suitable to their farm (Joki-Heiskala 2013). It is possible to do this through the agricultural advisory system, especially as farmers do not think that advice on farm environmental measures should be a separate entity, but that it should be included and integrated in other advising services (Teho Plus 2014).

Another aspect is economic: the environmental projects realized on the farms have to be economically rationale and work in practice (Teho Plus 2014). Farmers do feel that costs must be fully compensated⁹.

Some farmers feel that the bureaucracy and paperwork required is too much and not worthwhile. Opinions from the case examples all say the same: the current top-down control-system is not answering to the farmers' needs, and not listening to their ideas. In a recent study among Finnish farmers, the paperwork and bureaucracy were seen as a significant straining factor in their work (Maaseudun Tulevaisuus 3.9.2014).

Interviews with farmers in Sweden support the findings from Finland. According to Hagstad (2013) many farmers are willing to introduce environmental measures. Behind their involvement in water issues lay a general environmental interest and an anxiety about being forced to adopt statutory measures if they did not deal with the problem voluntarily. Farmers also want better coordination between and among bodies responsible for water management and they especially welcome involvement of the different departments in municipal authority in rural water management (Hagstad 2013).

Farmers are not a homogeneous group, and hence there are different values and attitudes concerning the environment among farmers. According to our case studies, one cannot define an environmentally aware farmer by any common variables, such as age, educational background or type of farm. Some farmers are more active in environmental projects than others. The question is how to involve the more passive farmers (Maisa 2014, Järki 2014, Teho Plus 2014).

6.2 Germany

In Schleswig-Holstein, Germany, farmers do not make use of the provided measures to the extent that was originally planned. Many farmers feel that regulations are too strict, and are afraid of inspections and their possible consequences, as farmers are held responsible for misinterpretations and wrong implementations. They are unsure of how to carry out the measures and who to trust and listen to, because information is often unclear and not specific enough regarding the regional circumstances or the farmer's expertise. Some farmers do not trust the agricultural policy-makers and have little confidence in nature conservation policy. In addition, farmers feel that payments are too low to compensate for the cost and effort, and some of the measures are too difficult to carry out, e.g. require special machinery. This all contributes to resistance against the environmental measures and their implementation on farms. As in other countries, there are also farmers who are simply not interested in environmental management issues, and are not likely to become involved in them – at least not in the current system.

⁹ There are examples of alternative governance mechanisms where the farmers get full compensation for lost income if they reduce fertilizer use or tillage. The aim is to reduce resistance caused by uncertainty about the impact of adoption on farm income. The system has works as e.g. in 2011, 89% of respondents among farmers who participated were satisfied with the income protection provided under these programs (BMP Challenge 2013).



Photo by Anu Suono

6.3 Latvia

In Latvia, Baltic Compact distributed a questionnaire within the framework of seminars that were organised by our project partner Latvian Farmers' Parliament (Zemnieku Saeima) to get feedback from the farmers and to attract attention for agri-environmental issues. The topics of the events were mainly related to drainage system management and agricultural policy.

The outcome of the questionnaire shows that most of the farmers (75% of the 93 farmers who filled out the questionnaire) realize that environmental problems occur due to their farming activity. Most frequently they mentioned nutrient pollution, problems with pesticides and land degradation. Concerning the mitigation of these problems the farmers provided numerous suggestions most commonly: improved drainage, manure storage and fertilization, and expressed motivation to study, learn more and increase the introduction of latest technologies. Two thirds of those surveyed would like to have consultancy support from an advisor in designing environmental practices and at least half of them are interested in participating in environmental monitoring activities.

Despite the optimistic facts mentioned above there are some unclarified questions and problems that require further analysis. For example roughly 25% declared that their farming activities do not cause any environmental problems. Furthermore 53% of the farmers who participated in the seminars do not apply for funding from the agri-environmental support system. The major reasons for this may be that nearly 90% stated that there is no sufficient compensation for taking the environment into account, two thirds are dissatisfied with the range of measures in the existing agri-environmental scheme and 67% are of the opinion that the existing agri-environmental support system doesn't work properly. Consequently, the farmers came up with ideas and reasons for additional support measures to protect the environment that are considered most suitable for their farm.

Nevertheless for the Latvian farmers the same is true as for farmers in other BSR countries involved: there are some interested, very active and innovative farmers and others that are not that interested in managing the environment. As an outcome of the project, however, members of the Farmers' Parliament (active farmers) have accepted and support the organization's role also in advocating environmental awareness, spreading information on agri-environmental measures and coordinating local meetings on environmental management.

7 Lessons from case examples in local management in the BSR

In addition to identifying and drawing lessons for improving communication in local projects (see more under paragraph 7.3), Baltic Compact studied four projects with a local focus, to identify lessons for the implementation of local management and the adaptations needed in the governance system. The local case projects studied are introduced in the boxes below. This chapter highlights findings from the cases (coordination, local information, communication, cooperation, administrative adaptation, role of policy frameworks, financing and objectives and outcomes).

7.1 Cases

Box 7.1 Järki

JÄRKI - Sensible enhancement of water protection and biodiversity in agriculture (2010-2018) is a cooperation project of the Baltic Sea Action Group and The Nature and Game Management Trust Finland. It is funded by private foundations and the Ministry of Environment. Järki is a 5 year advisory project, which focuses on agri-environmental issues, (i.e. water protection, biodiversity and connected recreational use) in Finland. The main goal of the project is to give suggestions to the design and implementation of the new Agri-Environmental programme starting in 2015. The Järki project involves the implementation level: meeting farmers, advisers and local and regional authorities to find out problems and suggestions for solutions to problems within the existing system. After meeting the representatives of the implementation level, the ideas are taken to decision makers on state level through the steering group of the project. Meanwhile, by bringing out novel measures and ideas (used in other countries, for instance), the Järki project wants to bring fresh thinking to the discussions concerning water protection, biodiversity and recreational use (hunting, bird watching etc.) of agricultural areas.
<http://www.jariki.fi/en/node/60>

Box 7.2 TEHO Plus

TEHO Plus (2011-2013) was a continuation project of TEHO (2008-2011). It aimed to reduce the nutrition loads from agriculture and to preserve biodiversity. More in detail, they aimed to disseminate the results of TEHO project, to advise farms about environmental issues, to educate environmental advisors (pilot projects) and to find more efficient ways of recycling the nutrients on farms. It was a joint project of the Centre for Economic Development, Transport and the Environment (ELY Centre) in Southwest Finland, Centre for Agricultural Producers and Forest Owners in Southwest Finland and in Satakunta. The project worked in close cooperation with farmers (about 180 farms). The project was financed by the Ministry of Agriculture and Forestry, and the Ministry of the Environment.
<http://www.ymparisto.fi/tehoplus>

Box 7.3 Tullstorp Stream

Tullstorp Stream Project (2008-ongoing)

In the Swedish municipality of Trelleborg, a bottom-up association of landowners was created to jointly re-naturalise the Tullstorp Stream, draining into the Baltic Sea. The main goal is to reduce the flow of nutrients from the farmland into the Baltic Sea, but the aim is also to prevent erosion and reduce the risk of flooding and therefore to keep the stream easily maintained. Several wetlands and a demo zone have been created along the watercourse and other activities such as two-step ditches and meandering. The initiative started in 2008 and has increased from being a project with focus on actions in the stream, to activities in the whole catchment area, with a holistic view of the area. There is even, to some extent, international exchange. The activities are mainly funded under the rural development programme (agri-environment, Leader, non-productive investments) and national programmes.

<http://www.tullstorpsan.se/>

Box 7.4 Maisa

MAISA – Development of Water Protection in agrarian Areas along Waterways in

Saarijärvi (2010–2014) project studied nutrient load from arable land and advanced the implementation of new knowledge and technologies for water protection. Several wetlands and a joint buffer strip by several farmers around a lake were constructed as a result of the project. The project had a coordinator for communication and was also coordinated by the University of Applied Sciences in Central Finland (JAMK). The project was funded by EAFRD.

<http://hinkalo.fi/index.php/hankkeet/maatalouden-vesiensuojelun-kehittamishanke-maisa/>

7.2 Coordination

It has been suggested that a coordinator is needed for locally based projects to facilitate and ease the start and realization of projects. (Ljung & Nordström Källström 2013) The purpose of a coordinator would be to take care of the bureaucracy and ensure cooperation and sharing of information between stakeholders. Some farmers believe that a coordinator would be useful in saving the farmers from excessive paperwork, which has been mentioned as an obstacle for starting bottom-up projects. In addition to overcoming the fear of bureaucracy, a coordinator would perform the tasks of ensuring deadlines are met and nothing is forgotten, motivating those involved and working to continue the further development of the process.

“Farmers have good ideas, what they need is a little push from the outside.” (Maisa 2014)

Characteristics for a coordinator of this kind is a positive mind, a genuine interest and knowledge about different fields within their own organization and other organizations. A coordinator would also bring continuity to the work, as projects are short but their effects should be long lasting. However a coordinator does not save farmers from all paperwork, as they remain responsible for the measures carried out on their farms. For example in some projects the coordinators have functioned as an inspiration or have focused on sharing information but not carried out the paperwork at all (Tullstorp Stream 2014).

According to our case studies, a coordinator from the local or regional level would be best suited, because in larger units trust building would not be successful. When farmers have ideas, they contact a person they know and trust (Keskinarkaus et al. 2009). Thus far the coordinators have been funded by the

projects they are involved in, other financing possibilities are hard to find, and for example municipalities do not have financial instruments. The expertise and trust between the coordinator and farmer comes from previous successful projects. In some cases it has been difficult to find experts to work in the projects, because many projects only can offer fixed-term contracts of employment that do not necessarily last for a long time. Hence, it is important that these coordinators or key persons are taken care of within their organizations and continuously educate new personnel for this role (Tullstorp Stream 2014; Teho Plus 2014). The experiences from Schleswig-Holstein (and Niedersachsen) in Germany indicate that the local management element can be realized in different kinds of institutional structures where almost anyone could adopt the role of a coordinator to initiate and drive local development projects. In particular in the German case study, but also in the Finnish case study there is support for the strong role of educational institutions in realizing the local approach and coordinating the work.

7.3 Local information

Local people have relevant and important historical information and should be involved in making general land use plans and planning specific projects. The farmer is in the best position to be provided with relevant information about the intervention, as they can spread the information around and lessen suspicions in the community, especially with other farmers (Moisa 2014:14). Furthermore, local and stakeholder knowledge contribute to ensuring that different solutions are considered (Gonzalez & Therivel 2014). According to Hagstad (2013) the greatest opportunities for increased participation are working and collaborating locally and in groups based on farmers' knowledge referring to local watercourses. Another factor is the formulation of individual objectives and creation of local mitigation programmes in which the farmers themselves could identify solutions to meet specified targets. Creating an environment in which the farmers can innovate win-win solutions for their business and local community increases mutual trust and cultivates a favourable attitude among the farmers' or landowners' which is a key to any success in these projects. Furthermore, results can be seen among the stakeholders: they gain new knowledge about their local area, the projects can work to raise awareness and several spin-off effects can be seen emerging from the projects (Tullstorp Stream 2014).



Illustration by Ville Heimala

Advisory services have arranged meetings with farmers and landowners to start new projects in our case studies, which has turned out to be useful. However, obtaining specific information about the farm and combining them with other information, e.g. general maps, has proven to be slow and difficult, as the information is scattered and no one place holds a complete set of data. This is problematic in projects that are based on exact local data (Teho Plus 2014).

7.4 Communication

There is a need for more advisory services for farmers regarding carrying out environmental measures on their farms, and information from the implementation level needs to be included in decision-making. In the case studies considered here, all the stakeholders learned from each other during the projects. At the start of the projects, in some cases, there were prevailing prejudices against farmers, who were seen to be purposefully neglecting the environment, and similar prejudices held against the administration for collecting detailed information from farms for inspections and sanctions. During the projects these prejudices were broken down, through the sharing of information, this affects attitudes and brings the elements of certainty and continuity to the processes being undertaken.

One of the success factors in the case studies is that all stakeholders have participated in the projects from the beginning; their opinions were heard and taken into account. The projects were transparent and provided relevant information to all stakeholders and the public actively and in time. Nonetheless, also the greatest challenges were connected to communication; it was not always easy to reach the public, although all relevant stakeholders were involved in the processes from the beginning.

It is important to have a communication strategy in order to inform the stakeholders and the wider public about the project in question and its positive effects on the environment (Teho Plus 2014). The farmers participating in the projects strongly emphasize the importance of the showing the positive effects the project will have on the environment (Maisa 2014). This is also a question of marketing. In a case where external communication to those not involved in the project is successful, it is possible that many organizations visit the project, and representatives of the projects may be invited to several conferences and other events (Tullstorp Stream 2014). Aside from lack of funding, the greatest obstacles to success are the lack of dialogue and communication between farmers, municipalities and authorities; and any lack of understanding of other the parties' views on water management.

Baltic Compact consolidated theoretical and practical lessons in local projects and process management in a web-based tool targeted for anyone who is involved or is considering involvement in or initiation of a local agri-environmental project. The tool is available at <http://www.agri-enviro-solutions.eu>.



Figure 7.1. Information board in Alajärvi (Maise-project).

In addition to all participants being kept up to date on all activities, in some successful projects a tight-knit organisational network was formed used to share information between all the stakeholders involved. Another aspect to be taken into account is conflicts between stakeholders and the way in which a project handles these. In the cases where conflicts are managed correctly this may lead to a stronger bond and increased trust between the stakeholders in question, and new arguments and conflicts are avoided. In the end it is important not that everyone change their minds at once but that in the end there is an agreement that everyone accepts (Tullstorp Stream 2014).

7.5 Cooperation

Cooperation should not be over-emphasised for its own sake but should be favoured when it is useful for the common goal (Järki 2014). Cooperation appears in different forms. Landowners can cooperate to implement a joint measure (such as the joint buffer strip in MAISA project). Local project administration can be handled in a collective way, but this doesn't necessarily mean that the actions are undergone collectively in the landscape. On the grassroots level, cooperation is needed not only between farmers but also between farmers and landowners (Järki 2014). The importance of good networking was strongly emphasised in the case studies; it is always the active farmers who participate in agri-environmental projects, and it is probable that the good experiences of the active farmers could make the more passive farmers more inclined to participate in the projects. In order to achieve this, different stakeholders need a common language and assistance from the administration when needed. In this aspect, advisory services are important, which was shown in all our cases. The advisory services have thus far concentrated on single farms, but experiences on group advising have been promising and should be highlighted more in the future (Järki 2014). It is also possible that, a common vision can emerge among farmers who apply individual advice, as was the case in our Swedish example, the Tullstorp Stream project. Once ideas spread in the local area, the decision was made to restore the whole stream instead of individual actions carried out on each farm (Tullstorp Stream 2014).

In addition, the local divisions of the Farmers' Union are important as stakeholders in some cases, as they represent farmers and promote their interests. Their involvement can contribute to the commitment of farmers to environmental projects. *"In this project we had the administration and the farmers' union cooperating. If we cooperate, why not farmers and administration?"* (Teho Plus 2014) According to Hagstad (2013), in order to carry out the correct measures at the right locations and at the right time, farmers' involvement is needed. Working and collaborating locally and in groups based on farmers' connections to local watercourses was also considered a factor of success.

7.6 Adaptive capacity by administration

The administration both in municipalities and at the regional-level have had difficulties in recruiting specialists to their projects because of limited financial resources. Nevertheless, the local-level is regarded as the most effective platform for successful realization of agri-environmental projects. Changes can be rapidly made within the legislative framework but a real agri-environmental cooperation requires time and change in informal institutions that react slower than the formal ones. Thus, the role of local-level stakeholders is important in building trust among actors and linking individual actions to environmentally effective collective action. The more flexibility local-level stakeholders have with regards to their actions, the more successful they are (Kröger 2009; Kaljonen 2011). Our case studies gave an example of regional-level administration providing the possibility to change an application for funding that was not properly made, and promising to be more flexible in certain types of applications.

"Behind the bureaucracy there are people who can be reasoned with" (Maisa 2014).

Flexibility is part of success, but it has its limits. The use of public funds has to be controlled, and bureaucracy, for its part, contributes to equal treatment of people and projects engaged in agri-environmental measures (Teho Plus 2014). The decisions and actions made by the administration have to be predictable and consistent. Administration should avoid too strict a confinement to certain tasks and responsibilities, even though the workload is high and there is not enough personnel. Administration has the major task of finding connections between the general project idea, the farmer's proposals and their own work.

One inhibiting factor for farmers is that sanctions can be imposed afterwards, if the result of the measure is not compliant with the conditions. These can mean cutting or even the payback of payments. Sanctions can also come in the form of legal measures if some higher administrative body interprets the measures as being unlawful. We are still in the discouraging situation where legislation is not really streamlined yet and there are known conflicts and legal cases against people who have implemented innovative land use measures.

In general, it is desirable to integrate the environmental, social and economic dimensions if possible (Partidário 2012). This calls for coordination across administrative sectors. Having learned from past conflicts in particular with wetland projects, Sweden is paying increasing attention to internal coordination within County Administration and their capacity to support local projects (Baltic COMPASS 2012). Also the example from Germany where the Schleswig-Holstein State Agency for Agriculture, Environment and Rural areas (LLUR) has joined sectors under one admin body (recently having also included energy issues), favours those who are ready to adopt a more holistic approach.

7.7 Role of policy frameworks

Some projects emerge from local ideas and needs, and have only a formal connection to policy goals – the policy frameworks are known through the financing facility, or the policy goals have been used as arguments for funding. Other cases are strongly driven by incentive from a specific policy. Recently some projects are being initiated in order to reduce pressure for even stricter mandatory agri-environmental measures.

Fear of mandatory measures experienced by the agricultural community may increase attractiveness of voluntary measures, but it must be secured that this does not happen at the expense of ownership, responsibility and attention to the local context.

The Swedish example (with advisory programs *Greppa Näringen* and *Odling i balans*) shows that legal requirements for an advisory service can develop into systems to support management and local projects (Tullstorp Stream 2014).

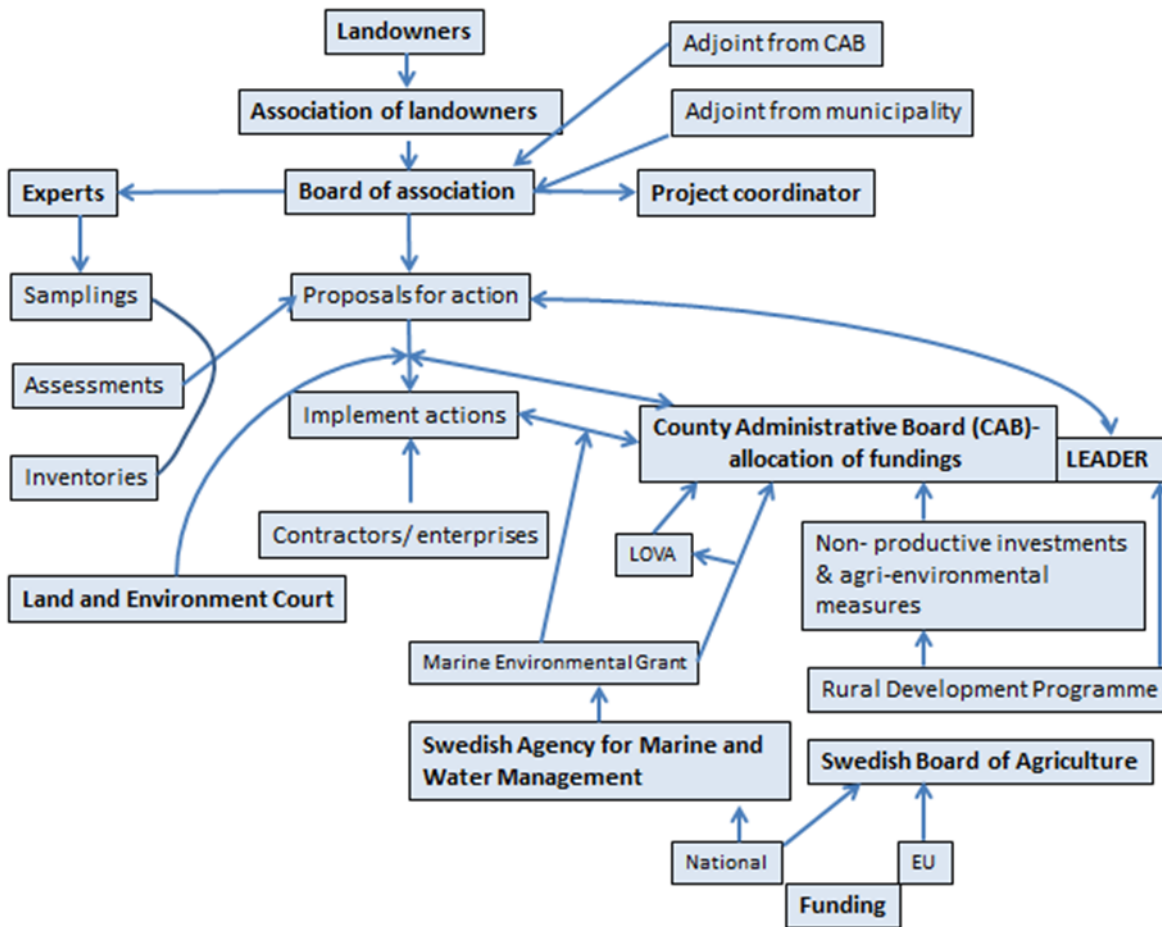
Policy can also encourage more long-term management, through longer maintenance and management contracts and addressing the land owners' (in case of rented farm land) interest in maintaining good soil and water quality through, for instance, monitoring frameworks and insurance schemes.

7.8 Financing

Finding funding has been a great part of a project coordinators work in the case studies. The projects have often applied and been granted money from several different programmes, and it is a challenge to administer the economy and to understand what needs to be reported for each type of support. A more streamlined system is called for, in order to ensure that the same data does not have to be reported to several agencies at different times, at least in the cases where the funding comes from the same source although from different programmes. “*Some don't even apply for the money, it's too much work for too little pay!*” (Maisa 2014).

Although some farmers still implement measures with their own funding, there is need to simplify control and improve possibilities to combine funding sources. Farmers also raise attention to the risk placed on a single farmer based on pre-financing and the result of a project and propose that it can be reduced for example by using another body to hold responsibility for the project overall or including an unconditional payment. It may be of interest that advance payment is provided as a possibility for LEADER Local Action Groups under RDP Article 42. To overcome the challenge of finding funding for specific local measures to improve quality in local streams and rivers, Sweden has for many years operated the LOVA system¹⁰ financed by the Swedish Agency for Marine and Water Management (Havs- och vattenmyndigheten) and administered through the County Administrative Boards (Länsstyrelsen). This funding was used also in the Tullstorp Stream Project.

¹⁰ LOVA=Lokala Vattenvårdsprojekt.



Graph 7.1. Organization and funding of Tullstorp Stream Project (Emma Svensson 2014).

7.9 Objectives and outcomes

There is a difference between the objectives and results of a project from the project perspective and the administration perspective. A project can achieve its goals as planned but it can, in addition, contribute to something more. In Tullstorp's case several spin-off effects have been seen already before the actual actions in the watercourse have been completed. Recently a local water board has been formed over the Tullstorp Stream and several other streams nearby; that it has only been formed now and not previously may indicate a positive effect from the Tullstorp Stream project. There is also new thinking when it comes to how to promote the area and present it for tourism. The local initiatives in Schleswig-Holstein to collect nutrient rich water resulted in further innovation of its reuse; to produce algae, develop different techniques algae harvesting and further to find uses for the algae as biomass and for the cosmetics industry. In addition, all these cases have contributed to the dissemination of new ideas regarding management-based approaches.

Box 7.5. CASE: Water and soil management union in Schleswig-Holstein

The Water and soil management union (*Wasser- und Bodenverband*) in Schwentine, Schleswig-Holstein, Germany, is a private union run by farmers. The union has been headed for many years by Mr. Gerd Schumacher, a farmer himself, who is active in agri-environmental management issues, and has developed and performed many projects together with other farmers in the catchment area. The union takes care of land management and water purification, and enjoys agri-environmental support as a registered association. It applies for money from various sources, for the implementation of measures for the Water Framework Directive (WFD). In addition to the targets to be reached, achieved or set by the WFD, water quality is regulated by state and national legislation (Water Management Act). Thus, the union fulfils a public task and its activities are controlled by the local and state government. The Union:

- uses the CSSA indicator set to analyse the farms' efficiency and thus reduce the amount of nitrate input (and the losses) substantially
- conducts analyses of nutrient flows from the fields to the water table (together with Kiel University)
- plans to continue these works and to install, for example, controlled drainage systems and/or ways to reduce the nutrient loads in the water through the use of algae and other measures
- implements land swapping and land use changes in order to reduce agricultural activities in sensitive areas and to create larger compound natural areas
- increases the amount of green plants on the fields in order to avoid "black soils" in autumn and winter that may be subject to erosion
- continues monitoring of biodiversity indicators (e.g. otter has been restored)

This case is featured also in film "[Ripples on Baltic Waters](http://www.balticcompass.org)" viewable on www.balticcompass.org.



Photo by Uwe Rammert

8 Summary: Systems can learn through individuals

8.1 Lessons for administrative adaptation in line with local management objectives

We argue in this report for the recognition of the individual farmers' capacity and sense of *responsibility* for management of the farmland and the ecosystem. In line with the needs of the local stakeholders as well as better overall impact, we call for more *local adaptation* of the management measures which can often be enhanced through *collective implementation*. Through this, the aim is to move to more *long term holistic management* in the agri-environmental context. Drawing from the case studies introduced in Section 7 as well as from related studies and literature, the table below summarizes the desired systemic adaptations and the estimated benefits in line with the four aims defined.

Table 8.1. Desired system adaptations and expected benefits in line with objectives of local management approach

Increased focus on	System demands	Expected benefits
Responsibility	<ul style="list-style-type: none"> - Smarter and less control from administration, more self-monitoring - Policies and administration must still ensure predictability and equality - Awareness, knowledge, visualisation of benefits - By-passing the restrictions and de-motivating elements within the CAP system - Communication to share experiences 	<ul style="list-style-type: none"> - Ownership of management measures and environmental management - Increased trust - Improved public image of agriculture
Local needs and conditions	<ul style="list-style-type: none"> - Financing to map needs, opportunities and work - Special expertise, locally set targets - Removing hindrances due to sectoral administration and further sector integration - Good communication with farmers - Monitoring, more specific data and information openly available - Removing barriers to sensible win-win outcomes in RDP - Raising capacity in administration to consider, not just control 	<ul style="list-style-type: none"> - Increased environmental effect - Pick-up by farmers - Trust in system - Trust between stakeholders - Ecosystem services for local community - Cost-efficiency - Spin-offs and boost in momentum in other sectors and among other stakeholders
Cooperation and collective implementation	<ul style="list-style-type: none"> - Role of communication strengthened in RDP and RBMP already in planning stage - Financing for project coordinators - Information and counselling enhanced - Communication mechanisms to mitigate possible local trade-offs and conflicts - Group advisory - Utilization of CAP and RDP for cooperation and collective advisory and implementation - Finding organizational solution to the risk of free-riding in local collective action 	<ul style="list-style-type: none"> - Increased environmental effect - Improved public image of agriculture - Comprehensive benefits for local areas - More comprehensive and long term management through providing methods for collective management of public (and semi-public) goods
Holistic and more long term management	<ul style="list-style-type: none"> - Land valuation - Involving distant land owners in the dialogue - Longer rental contracts - Policy to support active land management by all land owners - Different sources of financing available - Policy to specify and steer by goals, not by measures - Dialogue on long term strategy to reach different development goals 	<ul style="list-style-type: none"> - Active agriculture contributing to sustainability of rural areas and opening opportunities for innovations across the urban-rural spheres

8.2 Individuals hold the key to systemic change

Motivating factors for both farmers and administrators are needed to carry out agri-environmental bottom-up projects on farms. A common understanding and clear vision of what sustainable agriculture or environmental protection is, and how it is to be achieved, would be helpful. This could provide the administrators with more effective tools on how to help the grassroots level to carry out their measures, and to help the farmers to make long-term decisions and commitments concerning the protection of the environment on their farms. The projects last for only a short period of time, but the effects should be long-lasting. Furthermore the financing instruments are scattered in many cases, which increases

long-lasting. Furthermore the financing instruments are scattered in many cases, which increases bureaucracy and forms a major obstacle for start-up. This structural problem was highlighted in many interviews.

The case studies confidently show the power of individual motivation and drive which can make things happen regardless of obstacles, or handicaps in the system, formal structures or policies. There are farmers out there who understand the value of what they can contribute to the society and have the motivation to take action. This is also shown by many other individual good examples uncovered by Baltic Compact, for instance in the film "[Ripples on Baltic Waters](#)". The cases, as well as other experience, show that informal institutions can contribute to increase personal motivation of key actors which in turn can lead to the necessary changes in formal institutions. On this level, it is eventually a question of reorganisation, redistribution of responsibilities and alignment of policies. But the role of routine working interactions between people in opening the pathways must not be overlooked. Better communication – on all levels, when it is open, honest, transparent and continuous – is the key to success.



Photo by Anu Suono

9 Platforms for dialogue and promotion of local agri-environmental management

In attempt to advance new management and governance methods, it is important that the ideas are brought up at and discussed within different groups in a meaningful way. Stakeholders need to be able to see their role and the available room for adaptation. The case studies brought to surface a number of fora, formal and informal groups and platforms where discussion on the local management approach to agri-environmental governance can take place. This section shortly outlines these platforms, emerging from stakeholders' opinions as well as from the overall assessment of the agri-environmental governance context in the Baltic Sea Region. The platforms presented can implement concrete actions and measures, themselves being active stakeholders in policy formulation and building knowledge and capacity to be applied in policy and practice. These are outlined on the local, national and international levels and in addition, some key ongoing policy processes are highlighted with observations about their relevance with regards to increasing the attention to the local-level in agri-environmental governance.

9.1 Local and regional level

Local Action Groups

Local Action Groups (LAG) are the basic units for implementation of the LEADER method in the Rural Development Programmes. These cover areas with a population in tens of thousands (e.g. between 50 000–120 000 in Schleswig-Holstein; LLUR 2013) and can engage hundreds of people in drafting local development plans (Ministry of Agriculture, Forestry and Fisheries of Finland 2013). Peer exchange among LAG coordinators is an effective method to spread new ideas and methods. A brief outline of the LEADER article in Rural Development Programme is provided in the Appendix. For instance, LEADER activity was included in the Tullstorp Stream project and there is an ongoing LEADER project on stream management in Southwest Finland (<http://www.paimionjoki.fi/projektit>).

Regional farmers' associations

For instance in Finland, the regional associations of the Central Union of Farmers and Forest Owners of Finland (MTK) are responsible for educating local authorities of agri-environmental issues with financing from RDP technical assistance funds. These offices are also important contact points for local projects.

Regional administrative boards

Organisation of regional and local water administration varies across countries and can be merged with other local or regional administrative units. Their role and function is central in the implementation of the Water Framework Directive and national water legislation. Management across the territorial boundaries of water administration (watershed) and agricultural administration (administrative units) requires extra attention and adaptation. Administration of other sectors may be merged with water authorities, sectors may be separated or certain activity may be concentrated in one unit, like Sweden has done with the implementation of wetland projects within the environmental unit of the County Administrative Board (Andersson 2012:26). Organisation is also increasingly taking place on a voluntary basis¹¹. Individual projects give valuable experience and lessons and local administrations should continue to initiate and support local as well as targeted advisory projects.

River Basin Authorities

With respect to agriculture, river basin administration and management programmes focus on water quality and countermeasures in agriculture, but they can also counter physical changes in the streams, for example through remeandering. If the work on river basin level would take water flows into account

¹¹ In Sweden, water organisations have established a joint platform at www.vattenorganisationer.se.

more, it could create room to realize positive synergies between agricultural water use and drainage systems, and water quality and needs for ecosystem services on the river basin scale. Land use plans and planning conflicts between basin authorities and the local-level need to be addressed and accommodate both local and basin level objectives. A balanced approach with an adequate role for the local-level (bottom-up) is needed also in river basin planning.

Agricultural advisory organisations, individual advisors and specialists

Agricultural advisors enjoy the trust of most farmers and have access to unique farm specific information which is not openly available. Good experiences from Sweden with agri-environmental advisers (Focus on Nutrients initiative, www.greppa.nu) providing free-of-charge comprehensive advice, for example for, wetland projects (see e.g. Andersson 2012) suggest putting a strong emphasis on and added financial resources for agricultural advisory services. In Finland, this has been noted in the new RDP with a significant emphasis and new systematic approach to advisory services. Advisory services have all the possibilities to also: develop more group based and catchment based agri-environmental advice, (see e.g. SBA 2013) to meet farmers and identify locations that should be addressed with environmental measures (Heeb & Johansson 2012). In the UK, the Scottish Environmental Protection Agency has used such ‘catchment walks’ in 14 priority catchments, albeit with variable success (Filby 2013, Arnott & Gray 2013). In addition to qualified advisors, farmers’ rely on many other specialists in daily farm operations, for example drainage technicians, and these specialists could be influential in suggesting new solutions.

Drainage associations

Associations are formed by landowners to manage particular stretches in local water courses (‘täckdikningsföretag’ (Sweden), ‘ojitusyhteisö’ (Finland)), in particular when drainage management or reconstruction concerns state owned land. In addition to fulfilling the legal obligations according to decrees and permit regulations, these associations, gathering all concerned landowners, are in the position to take up more comprehensive measures coordinated with farm agri-environmental management.

Other local associations, village associations

Entities which are concerned with overall development of the local village or area are encouraged to consider how farmers and agri-environmental measures could be better integrated with general village development, tourism and recreation.

Municipalities and municipal planners

Especially with respect to flood management, but also for recreational services, municipal planning should better acknowledge and consider the role of and possibilities for farmers and agriculture to provide ecosystem services. Good dialogue and respect for the agricultural conditions and context is essential in the development of concrete projects. This often necessitates building a mutual understanding and also an adaptive capacity within administration and across the local and regional levels in order to meet legal conditions and objectives (see e.g. Johannessen & Granit, forthcoming; and the related cases).

EIP Operational Groups

The European Innovation Partnership framework and the thematic area of Agricultural productivity and sustainability (EIP-Agri) offers opportunities for innovative multi-stakeholder approaches on the local-level to develop unique pilot projects. In line with Article 53 of the Rural Development Regulation, these are also encouraged for ‘biodiversity, ecosystem services, soil functionality and sustainable water management.’

9.2 National level

National Rural Development Networks

Article 54 of the RDP Regulation prescribes the establishment of National Rural Development Networks. In these networks, good experiences from local, regional and national projects can be shared and discussed, also involving international actors. This is also an important network for national ministries and other authorities to disseminate information and have dialogue with regional and local actors. Using this as a true two-way platform and adding systems emphasis from the perspective of the local actors is welcome.

Depending on the stage of the policy process, policy consultation processes and multi-stakeholder task groups on the national level can be influential in contributing to learning. Narrowly defined agendas and task groups focused on a single regulative detail make it difficult to implement more comprehensive changes in agri-environmental policy. That emphasises the role of ex-post and continuous policy evaluation. For instance, attention should be paid to how the effectiveness of agri-environmental measures is evaluated, how the environment is included in the overall evaluation of the Rural Development Programmes and how much emphasis is put on multi-objective process evaluation. Specific references to key policy processes are made below.

Universities and other educational institutions

Educational institutions should reach out to stakeholders, both administration as well as farmers and advisors, to test, validate and develop scientific methods across disciplines, equally from both natural and social sciences. Not only within research projects, but increasingly more in disseminating the practical value of science.

Ministries

Accurate data shall always be the basis of projects which aim for broader impact and are publicly supported. Access to data across the environmental and agricultural sectors is still a problem which should be addressed on the national level.

9.3 International level

EU Strategy for the Baltic Sea Region

In Priority Area (PA) Agri¹², good examples from local project level and management approaches can be discussed and spread. New flagship projects, where relevant, can adopt to test and demonstrate local management approaches. Within PA Agri, a position paper was introduced in November 2014 on the implementation of EUSBSR objectives through Rural Development Programmes (Ministry of Agriculture of Lithuania 2013). Horizontal Action (HA) Involve¹³, focused on promoting multi-level governance, includes an action ‘Integration of Community-Led Local Development (CLLD) to the EUSBSR’ under which a platform to discuss local development aspects shall be set up by the Nordic-Baltic Rural Development Network.

European Rural Development Network

According to the active members, the EU Rural Development Network is an important network (the only one under DG AGRI concerned with agri-environmental measures) and has activities involving all BSR countries, for instance “countryside shows”, which take place once a year in each country where different themes are discussed, such as innovation or bioenergy, under the umbrella of a competent authority (Johansson & Heeb 2012). The network is strongly driven by persons active in agriculture and is in a position to discuss integration of agricultural production and rural development objectives in the practical context.

¹² Priority Area for Sustainable Agriculture, Forestry and Fisheries.

¹³ Horizontal Action Involve promotes multi-level governance in the implementation of the EUSBSR.

LEADER & European LEADER Association for Rural Development

The LEADER method in Rural Development Programme is analogous to Community Lead Local Development. Countries must allocate a minimum 5% from the RDP budget to LEADER to support local organization. Key principles in LEADER cooperation are regionality, a bottom-up approach, local partnership, diversity, innovativeness, regional and international cooperation and networking (Sihvola 2013). Although in principle, environmental measures are available to be implemented within specific priority areas under the LEADER method, they are rarely explicitly included in LEADER projects. Polakova et al. (2013) note, referring to European Court of Auditors (2010) that “there is a history of LEADER actions supporting more productive sectors than aiming to improve resource management”. Also active farmers are rarely involved in LEADER projects for farm, land or water management, but more to advance marketing of their products. With success of the LEADER method in other thematic areas, there is now an interest in using the LEADER approach for more collaborative projects with agri-environmental focus. In Latvia there have been projects with focus on development of nature trails, cleaning of the rivers and coastlines etc. and in Finland, there are examples of LEADER projects focusing on river and stream restoration and management (www.paimionjoki.fi/hankkeet), in addition to a few other examples (e.g. Polakova et al. 2013). According to the Finnish evaluation of LEADER cooperation, it is a worthwhile method to be further strengthened and applied to new areas, including the objectives of the EU Strategy for the Baltic Sea Region (EUSBSR) (Sihvola 2013) and this has been discussed on the macro-regional level for instance in Vilnius in 2013 (EUSBSR 2013), thereby opening the discussion on further integration of environmental, economic and social goals related to agriculture and rural communities.

European Innovation Partnership

RDP Article 53 prescribes the establishment of a network to facilitate exchange and implementation of concrete projects which support the goals of EIP for Agricultural Productivity and Sustainability (EIP-Agri). Application of the EIP system is further outlined in Articles 55–57. Environmental management considerations, in particular, biodiversity, ecosystem services, soil functionality and sustainable water management, are provided as examples of areas on which to focus when utilizing the EIP framework. Compared to the regular approach, the EIP adds innovation and a trilateral (farmer-research-administration) cooperation element to the implementation of, for example, agri-environmental measures on water, in addition to providing a European platform for sharing experiences and taking part in innovation processes. From the perspective of the local ownership of measures and comprehensive sustainable management, the EIP system should be used for problem specific communication between the farming community, academia and technology development and administration to tap into the farmers’ innovation capacity. Encouraging innovations by farmers, both technical and non-technical can lead to the farmers’ adopting a more positive image of themselves and their capacity to manage the ecosystem.

Groupe de Bruges

A Brussels-based farmers’ think tank, Groupe de Bruges, has initiated a process towards a European platform for territorial cooperation for the production of ecosystem services within the CAP. A [manifesto](#) and a [work plan](#) for such a platform have been produced and they will be presented to European institutions and NGO’s at a meeting in Brussels on 1 December (more information at <http://groupedebruges.eu/events/civil-dialog-Dec>). A process to launch an EIP Operational Group on the topic has also been initiated.

EU WFD networks and River Basin Network

According to stakeholder interviews, officials from both Ministries of Agriculture and Ministries of Environment consider the WFD network (a working group for the Common Implementation Strategy (CIS) of the Water Framework Directive and the Common Agriculture Policy) important for dialogue between the agricultural and environmental sectors (Johansson & Heeb 2013). According to the same study, regional environmental authorities especially highlight the value of exchange within the River Basin Network (RBN, <http://prb-water-agri.jrc.ec.europa.eu/>). Cooperation between these and the Rural Development Network could be implemented and tested, for instance, around field visits and demonstration of local case examples. which was expressed as one way to increase the value of the network by the respondents.

9.4 Policy processes

Overall

Coordination and integration of national policies and their implementation should include mechanisms to mitigate conflicts arising on the local-level between different objectives. Governments could set up specific task forces to streamline policies to ensure the maximum benefit and impact of the various public funds concerned. Polakova et al. (2013:92) suggest to “Enhance coherence of national and regional strategies which include land-based measures; and coherence in the use of CAP and other EU/national funds for water and soils”¹⁴.

CAP Codes of Good Agri-environmental practice (GAEC)

Without compromising the argument to increase the role of the local-level in agri-environmental governance, legislation and cross compliance regulations could also contribute to the increase in the farmers’ own sense of responsibility if applied correctly. We also need to acknowledge the current dissatisfaction from the environmental perspective with the ability of agri-environmental legislation to ensure positive environmental development. According to Polakova et al. (2013), “the GAEC framework is too weak to ensure soil and water protection and rather reinforces existing practice rather than to regulate impacts of agricultural land use and water management”. It should be considered how a possible process to review this framework, and consider the need of additional sustainability criteria for, for instance, field drainage improvements, could be turned into constructive dialogue across the sectors.

Water Framework Directive – River Basin Management Plans

According to a recent study in the Baltic Sea Region, the River Basin Management Plans and the planning process has not succeeded in reaching the farmers (Sall et al. 2012). Farmers could potentially have a bigger role in the process, but are currently relatively isolated from the process. The planning process should better consider local targets and feasibility within land use planning, as well as the role of farmers as land managers. Farmers and agricultural sector could be better involved in the process both through organizing their engagement on the local-level and by better dialogue and coordination between environmental and agricultural administrations. The Baltic Compass study showed (ibid.) that administration of the WFD RBMP implementation is more horizontally de-centralized in Finland and Sweden, than in Estonia, Lithuania and Poland, which does not, however, mean that inter-sector cooperation would be better. On the European level, there is also a need to pay attention to how the WFD requirements are defined, taking into account greening and cross-compliance measures so that the associated RDP article can be effectively used (see, among others, Polakova et al. 2013). The WFD also gives consideration to hydro-morphological pressures and changes in the stream network, but further attention needs to be given to managing these changes, and possible mitigation measures in coordination with purely agricultural measures.

Water law

As discussed above, permit processes for drainage interventions or ditch restoration provides an opportunity to bring all concerned landowners together and discuss objectives and possibilities in a constructive and proactive way, instead of merely concluding whether a proposed project is harmful to the environment.

¹⁴ Referring to e.g. Nitrate Action Programmes, Flood management plans, plans for natural water retention measures, drought management plans and possible future green infrastructure strategies.

9.5 Questions for further discussion

This paper has proposed a new way in which to perceive agri-environmental governance, a view which attempts to better incorporate the multiple needs of the entrepreneur and the stakeholders involved and to bring about environmental benefits on a meaningful scale. Within Baltic Compact, this approach was studied in several cases, both from the perspective of inter-personal communication, as well as that of a more structural dimension. Lessons in communication are highlighted in an interactive communication tool which was introduced at the GABBS conference and made available to potential initiators of local agri-environmental projects. Stakeholders are invited to participate in further development of the tool. This paper has raised focus on the administrative, structural and legal dimension of promoting a more management-based agri-environmental governance on a farm and territorial scale, looking in particular, into water management. It welcomes further dialogue across all levels on

- the value added by local bottom-up management and landscape level collective agri-environmental action; how to make visible to authorities the utility and benefit from listening to and engaging the farmer in more adapted locally driven management; promoting and spreading the example of pioneers: farmers, groups, communities, municipalities;
- sharing experiences at the authority and government level and finding the best ways to utilize the related RDP provisions for a more locally adapted, holistic and collective land and water management;
- sustaining, building and transferring coordinator capacity to work at the local-level
- integration of food production, rural development, environmental and innovation questions in relevant national and international fora

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Appendix 1. Outlook of opportunities for implementation of local territorial management in CAP 2014-2020 in the Baltic Sea Region

The revised Common Agriculture Policy and the related regulations on direct payments and rural development, feature increased attention to the environment in general and reinforce some of the aspects which can promote a more locally driven and adapted management in the agri-environmental context, such as advice, cooperation and collective measures. This Appendix I outlines the most interesting and relevant content in selected Articles in the concerned EU regulations with examples and experiences on their implementation in selected countries. A related account focusing on the links between Natural Water Retention Measures and CAP 2014-2020 is provided in Fribourg-Blanc et al. 2014. This section also hopes to serve the interest expressed by national authorities to share experiences and approaches between countries.

1 Direct payments

A major change in the new programme with respect to the environment are the ‘greening’ measures under Article 46 of the Direct payment regulation (EU 1307/2013). These are mandatory measures equivalent to cross-compliance aiming to increase the minimum level of environmental measures and awareness across the Union. Although such top down prescription can do more damage than good to the farmers’ sense of overall responsibility of the land and the ecosystem, their practical implementation can open up opportunities for new kind of cooperation and comprehensive planning of agri-environmental measures. For instance, the possibility for neighbouring holdings to jointly implement the greening obligation “ecological focus area”, and thus plan larger areas which serve the environmental objectives more efficiently. However, being aware of the complexity of the implementation requirements of greening measures, it is doubtful that farmers will coordinate the selection of measures between farms, also as such cooperation lacks a financial incentive (unlike with some rural development measures, see below). As the implementation rules on national level for the greening measures are still unclear at this point¹⁵, this report prioritizes focus on the Rural Development Programmes.

2 Rural Development Programme

The section below highlights selected articles in the regulation (EU) no 1305/2013 on support for rural development by EAFRD (Rural development regulation) that can be used to support collective actions related to the environment and agriculture¹⁶. A general account of RDP measures and their link to water quality issues, among others, is provided in Polakova et al. (2013).

2.1 Article 17 Investments in physical assets

This article includes various kinds of investments, as well as non-productive investments which can be investments on a single farm (e.g. restoration of a traditional building) and projects with several stakeholders involved, for example creation and restorations of wetlands and watercourses. Each country has a possibility to increase the support rate for collective investments although the support rate can never exceed 90% of the eligible costs. For non-productive investments the support rate can cover up to 100% of the eligible costs.

¹⁵ The process of clarifying the implications of the greening element has been delayed to 2015. Since the strong connection between the greening of the direct payment and some AECM, Sweden has decided to postpone the new AECM in RDP until the national regulation of the direct payments is set.

¹⁶ References to how the articles will be applied in Sweden, Finland and Latvia are based on the draft Rural Development Programmes, as the programmes have not been approved by the EU Commission at the time of this paper. Examples from other countries are referenced.

In **Sweden**, non-productive investments are part of the package of regionally targeted sub-measures. Regionally prioritized sub-measures are selected by the County Administrative Board (CAB) according to specific needs and conditions in the given region. This is a concept that requires more administration in the initial stage but, according to some officials, most probably leads to higher effectiveness. Aiming for simplicity and reduced administration, the number of sub-measures was reduced for the period 2014–2020. On the national level, the main part of the budget for non-productive investments will be for improved water quality (for example wetlands and two-step ditches). Investments in the drainage system, precision farming and manure handling technologies or structural liming, is possible as productive investments which are also prioritized on regional level.

In **Latvia** support to the reconstruction of drainage systems, also by a cooperative method, is planned for the 2014–2020 Programme. Increased investment support rate of up to 80% of eligible costs is planned for investments in technologies which reduce water pollution risk, such as wetlands and meanders etc. and for investments targeting climate change mitigation, primarily energy efficiency of equipment and buildings.

In **Finland**, the non-productive environmental investments include, for example, improved manure treatment, field drainage and controlled subsurface drainage. Wetlands can be constructed as non-productive investments by active farmers, registered associations or drainage associations. The support rate is approximately up to 80% of eligible costs.

2.2 Article 20 Basic services and village renewal in rural areas

This article can, for example, be used for drawing up and updating plans relating to Natura 2000 sites or other areas with high nature value, investments in recreational infrastructure (e.g. recreational paths on meandered river banks) and maintenance and restoration of cultural and natural heritage and environmental awareness. In general, projects financed by this article have a collective benefit, in this case meaning that more than the applicant should benefit from the support, such as rural entrepreneurs and residents. The article can also be used for basic infrastructure and services that are not directly related to the environment, as is mostly the case in Sweden and Latvia.

2.3 Article 28 Agri-environmental-climate (AECM)

This article largely serves the purpose of the old measure 214, with the added emphasis on climate. Support is only eligible for measures implemented on agricultural land. The number and scope of sub-measures varies greatly across countries and this also has an impact on the possibilities for collective measures or implementation by groups. The revised regulation reiterates the Member States' responsibility to provide beneficiaries under this Article advice or training to implement the measures. Longer contracts than the standard 5–7 year contracts are allowed to secure the anticipated environmental benefits. Cooperation of farmer groups or mixed groups with other land owners is encouraged by allowing a higher share of transaction costs for group applications (30% compared to 20% for individual applicants)¹⁷. According to information given, Sweden is not yet ready to apply these possibilities from the beginning of the programme period due to uncertainties about sanctions, on the spot controls and complementarity with cross compliance. This also delays activation of some individual measures which are strongly related to the greening measures.

Netherlands aims to implement the AECM entirely with a collective approach starting from 2016, first with measures for biodiversity. Implementation and control rules are still unclear but discussion with the Commission are ongoing, based on experiences from testing the collective approach with agri-environmental measures in the current programme. The Dutch approach is introduced *inter alia* by [Deelen and Mulders](#) (2014). The approach to be adopted is an interesting example for other countries to learn from, as it features payment for a holistic intervention (creation of a habitat) and administrative costs are kept moderate by shifting responsibility to collectives.

¹⁷ The same is provided under Article 29 Organic farming. For instance Swedish Board of Agriculture (2013:131) has promoted such incentive for cooperation;

2.4 Article 29 Organic farming

Available also for individual farmers or groups, this article supports conversion to or maintenance of organic farming¹⁸. According to the network for Natural Water Retention Measures, most agri-environmental-climate and nature conservation measures are in line with organic farming which, by definition, supports comprehensive integration of ecosystem and production considerations.

2.5 Article 30 Natura 2000 and WFD payments

This article allows for payments for requirements under Natura 2000 and in the WFD, which are in accordance with the River Basin Management Plans and are complementary to legislation, cross-compliance and greening measures. Justification for support under this article is that these above environmental frameworks restrict the use of agricultural land for cultivation purposes. The maximum yearly payments rates are 500 €/ha for a period up to five years after which the contract can be extended with an annual payment of 200 €/ha. For the new period, a minimum payment of 50 €/ha/year is introduced. Sweden will not apply this article, but will incorporate Natura 2000 and WFD fulfilment through other RDP articles. In a situation with fragmented land ownership, land consolidation and reclamation (discussed briefly above in Chapter 4) could provide a way to address nature considerations on a sufficiently large scale (see e.g. Kolis 2012), provided that land use and land swapping is negotiated with the farmers. Also, with respect to greening, it deserves to be considered how land swapping could be used to avoid further fragmentation of arable land and ecological focus areas due to mandatory greening measures.

2.6 Article 35 Cooperation

This is a measure directly targeted to cooperation in different aspects and different ways (in production, marketing, technology and process development, networking and clustering), including a collaborative approach to environmental projects. This article can also finance the Operational Groups within the EIP (European Innovation Partnership). There is also a possibility to use this article for transnational projects, for example with connection to the Baltic Sea Strategy. This means that during the implementation of a project one could apply for further funding for the collaboration with another project within EU. Eligible costs include, for instance, background and feasibility studies, management plans, training and networking, organization costs for cooperation. Support can be combined with other EU funds as long as the activities supported are clearly distinguished.

Overall, cooperation (as with support applications discussed above) does not necessarily mean that a collective measure is implemented or that the measures across several land owners are implemented in a coordinated and complementary way. In the Dutch example above collective means both planning the measures together on a landscape level and having a common application throughout the whole group. An approach adopted in Flanders region in **Belgium** is a more flexible cooperation scheme, yet going beyond mere joint application (see [Defrijn, 2014](#)). From the viewpoint of promoting natural water retention, in particular AEC measures ‘Restoring and maintaining meadows and pastures’, ‘buffer strips’, ‘field margins and headlands’, ‘beetle banks’ and ‘hedgerows’ are suitable for collective implementation utilising article 35 (Fribourg-Blanc et al. 2014).

2.7 Articles 42, 43 and 44 LEADER (local action groups, start-up kit, co-operation activities)

LEADER¹⁹ is not a support mechanism, but an instrument to work with community or territorial management on local-level. The method is driven by cooperation, local initiatives and local conditions and the measures to be implemented are aligned with a local development. Within LEADER, a new territorial area can be formed independent on administrative boundaries for which a local development strategy is drafted. A minimum of 5% of the RDP budget should be earmarked to this method. For instance, Ireland has decided to allocate 7% and Finland and Sweden just over 5% (www.environ.ie; Ministry of Agriculture Forestry and Fisheries of Finland 2014, Jordbruksverket 2014) in the RDP 2014-2020.

¹⁸ According to definition and criteria of organic farming as defined in EC 834/2007.

¹⁹ See Articles 61-65 in EC Regulation 1698/2005.

The local plan is managed by a Local Action Group, and the organization of the areas and groups varies across countries. RDP support measures on the environment, including investments, are also available to LEADER groups, and countries or regions can prioritise certain RDP measures to be delivered through the LEADER method and also utilize other EU funds. From 2014, Sweden will coordinate the four different EU funds (EAFRD; EMFF; ERDF; ESF) from the Board of Agriculture. Sweden will use the LEADER method to reach the goals in the different funds, gain synergies between the funds and have one agency that coordinates the work. This is different from the earlier programme when the County Administrative Boards administrated parts of LEADER. Most countries apply LEADER especially to enhance the social and economic well-being of the rural communities (e.g. **Scotland**). In Finland LEADER can also be used for education and communication (Art. 14) purposes, i.e. to improve the level of knowledge on environmental measures and water protection among farmers and other rural populations, hence it is coordinated with Art. 15.

2.8 Article 46 Investments in irrigation

Investments in irrigation shall not be in conflict with the River Basin Management Plan and in some cases, irrigation measures which use recycled water could provide win-win benefits for water quality and farm productivity.

2.9 Article 15 Advisory services, farm management and farm relief services

Context specific knowledgeable agri-environmental advice, backed up by good and accurate data is critical for increasing the quality of environmental management in the agricultural community in general. This is also emphasized by the reference to advice in Article 28²⁰. There are different ways and models to arrange agri-environmental advice within the RDP for individuals and groups. For instance Finland is revising the advisory system for the new period in which a framework procurement of advisors is conducted prior to start of the programme to ensure level quality across the country of qualified advisors. Support under Article 15 is paid to the advisor.

²⁰ Member States must endeavor to provide beneficiaries of agri-environmental-climate payments with the knowledge and information required to implement the measures, including via expert advice and/or by making support conditional on relevant training.

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