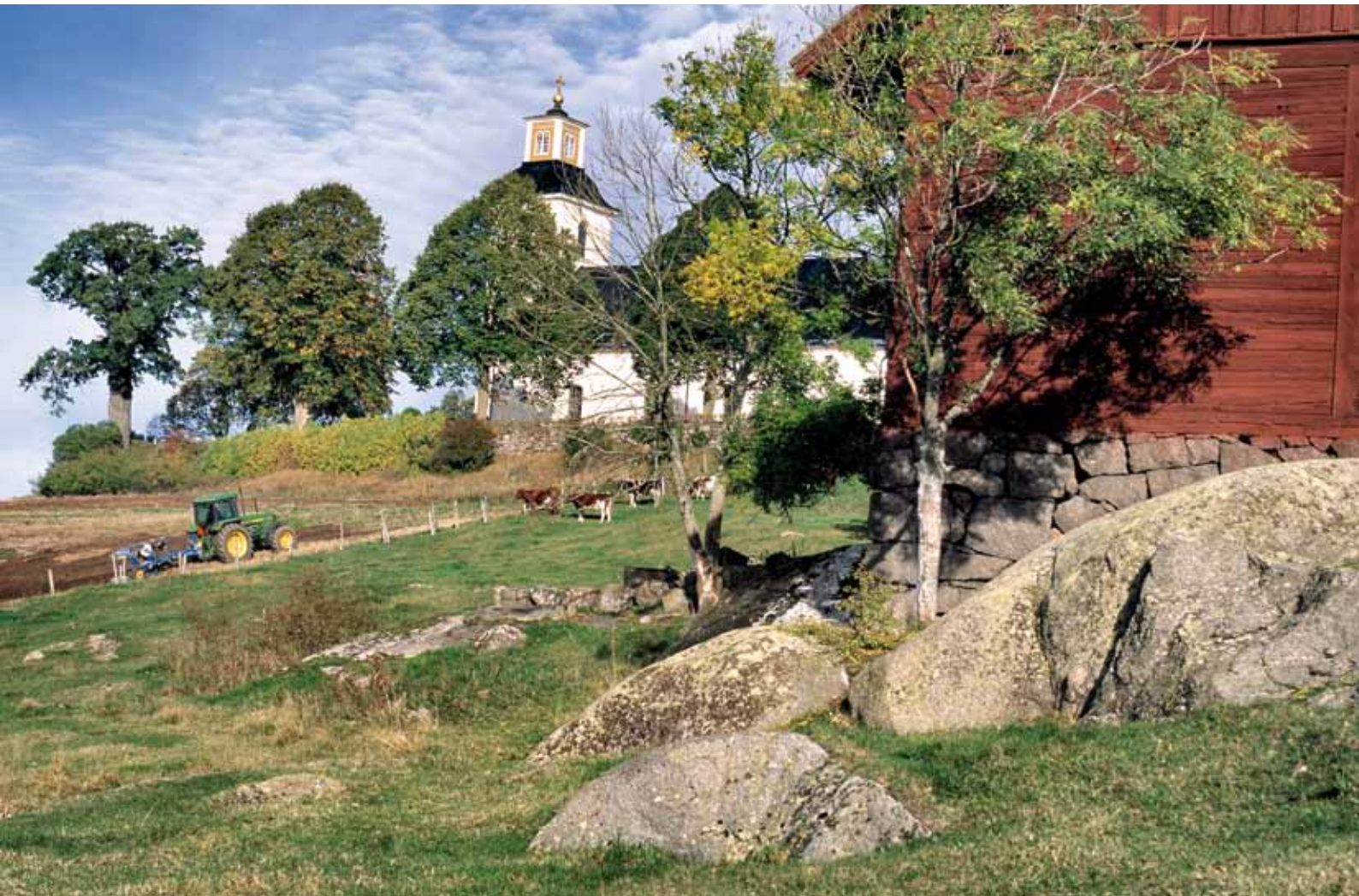


Environmental Effects of Cross-Compliance



- The Statutory Management Requirements within cross-compliance incur low additional costs for farmers whilst the environmental benefits are small. The Good Agricultural and Environmental Conditions provide greater environmental benefits.
- The cross-compliance standards are often viewed as complicated and unclear, which has increased the feeling of uncertainty among farmers. Furthermore, the aid deductions which are based on the total amount received by the farmer may, for the same error vary significantly between farmers.
- Cross-compliance information and advisory services have increased farmers' awareness of aid regulations and environmental legislation.

Environmental Effects of Cross-Compliance

This report is compiled within the project 'Environmental Effects of the CAP', which is a cooperative effort involving the Swedish Board of Agriculture, the Swedish Environmental Protection Agency, and the National Heritage Board.

The report evaluates the environmental impact of the cross-compliance systems of rules and inspections in Sweden, as well as the extent to which cross-compliance is an effective way of achieving Swedish environmental objectives.

The report concludes that the cross-compliance Statutory Management Requirements (SMRs) incur low additional costs for farmers, as many of these requirements are already in place. At the same time, however, the achieved environmental benefits are small. The standards of Good Agricultural and Environmental Condition (GAECs) provide greater environmental benefits, though they are also more costly. Furthermore, cross-compliance is viewed as complicated, which has increased the feeling of uncertainty among farmers. On the other hand, information and advisory services in connection to cross-compliance have increased farmers' awareness of aid rules and environmental legislation.

Editor
Torben Söderberg

Cover photo by Mats Pettersson

Summary

Cross-compliance is intended to contribute to a sustainable agricultural production, preserve the agricultural land in good condition, advance the level of environmental protection and animal welfare, prevent disease and provide consumers with access to safer food. Cross-compliance was introduced, among other things, in order to justify the large amounts of financial support provided to farmers as part of the Single Payment Scheme (hereafter referred to as SPS), and to help making the agricultural aids more accepted amongst consumers. This report analyzes only the cross-compliance requirements assessed as having an environmental impact.

In order to maintain cross-compliance, there are systems of rules and inspections attached to the SPS. Cross-compliance implies the necessity of meeting certain standards in order to receive the Single Payment in full. Most of the cross-compliance requirements (in particular those known as Statutory Management Requirements or SMRs) are not new regulations but have existed within Swedish legislation for a long time.

The systems of rules and inspections are often both complicated and unclear. A large number of amendments have been made since the introduction; however, a lot still remains to be done. For example, the European Court of Auditors has expressed that the objectives of the cross-compliance policy have not been defined in a specific, measurable, relevant, and realistic way. Therefore, the European Court of Auditors recommends that the current cross-compliance rules are subject to simplification, clarification, and ranking.

The SMRs are regulated through pre-existing legislation. Most farmers therefore do not need to take any further measures to fulfill these requirements. Thus, the SMRs often give rise to minor improvements regarding environmental impact, hence entailing a low level of cost-effectiveness.

For farmers, the additional costs of compliance with the SMRs are on average low. However, there is occasionally a large variation in costs between different farms. For a small farm with extensive livestock husbandry the number of cross-compliance rules is significantly higher than for a large farm with crop production only. For farmers with small margins, the expenditure in time and money can be significant.

The standards of the Good Agricultural and Environmental Condition (hereafter referred to as the GAECs) that are regulated through aid rules have had a more significant environmental impact than the SMRs; at the same time, however, the costs of compliance with the GAECs have been higher.

Breaches of the cross-compliance requirements (non-compliance) that have an insignificant environmental effect occasionally result in disproportionate aid deductions. This is due to the deduction being based on the total aid amount received by the farmer. Thus, two farmers with a similar case of non-compliance may be faced with very different deduction amounts.

One of the Environmental Quality Objectives (hereafter referred to as EQOs) in Sweden is to maintain 'A Varied Agricultural Landscape' and one of the interim goals is to

preserve 550 000 hectares of semi-natural pastures, requiring continued pasture management. The SMR of registration of all bovine animals accounts for a large percentage of all non-compliances. This situation may have an indirect negative environmental impact on semi-natural pastures, for example, due to a decrease in farmers' motivation to keep grazing livestock and, in effect, to manage the pasture.

The information available as the system of cross-compliance was introduced, as well as the cross-compliance advisory services, has had a positive effect in terms of increasing farmers' environmental awareness, in particular with regards to compliance with the GAECs. Furthermore, it is clear that the systematic spot-checks, along with the size of the Single Payment and the accompanying threat of deduction, have benefited the work of improving the environment more widely. Yet, the occasionally unclear, extensive and complicated regulations, including certain hard-to-interpret definitions, have been of a disadvantage with regards to achieving any major environmental improvements.

A postal survey has revealed that large numbers of farmers experience both uncertainty and anxiety with regards to breaching the rules. According to the survey, this applies mainly to farmers with cattle and/or smaller-sized farms.

If the GAECs regarding *no growth of unwanted vegetation* and *pasture management* would be removed from the SPS there is a risk that farmers, in extreme cases, would stop managing large parts of the pasture area. Here, the model calculations (by the Swedish Agricultural Sector Model or SASM) suggest that pastures in receipt of SPS, where the cost of management is higher than the aid (SEK 1200/hectare), would cease to be grazed should this no longer be a requirement. This, and further hypotheses in connection with the model calculations, will be discussed in this report.

Abolishing the GAEC requirement of *no growth of unwanted vegetation* from the SPS would entail the risk of approximately eight per cent of the total arable area no longer being cultivated, according to the model projections; that is, areas where cultivation is border-line profitable and dependent on the cost (SEK 500 per hectare) of managing the fallow. Cultivation of such land would imply a financial loss, though this loss would be even higher for managing the fallow should the requirement still be in place.

In the future, it is likely to become necessary to find new ways of increasing the effectiveness and environmental benefits of cross-compliance. In order to make cross-compliance more accepted among farmers, the systems of inspections and aid reductions need to be simplified through providing farmers and supervising authorities with a more straightforward and comprehensive regulatory framework.

List of Abbreviations

ACP	Agricultural Conservation Program
AEP	Agri-Environmental Payment
CAP	Common Agricultural Policy
EC	European Commission
EQO	Environmental Quality Objective
ESF	Environmental Sanction Fee
EU	European Union
GAEC	Good Agricultural and Environmental Condition
Ha	hectare
HNV	High Nature Value
Km	kilometre
LFA	Less Favoured Areas
LFASA	Legal, Financial and Administrative Services Agency
LU	Livestock Unit
NHB	National Heritage Board
NVZ	Nitrate Vulnerable Zone
PPP	Polluter Pays Principle
RDP	Rural Development Programme
SASM	Swedish Agricultural Sector Model
SBA	Swedish Board of Agriculture
SEK	Swedish Krona
SEPA	Swedish Environmental Protection Agency
SMR	Statutory Management Requirement
SPS	Single Payment Scheme

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1 Introduction

At the same time as the EU Single Payment Scheme (hereafter referred to as SPS) was introduced in Sweden in 2005, a number of cross-compliance requirements were announced. In order to receive the Single Payment in full, without deductions, farmers must meet these requirements. Non-compliance may result in a deduction to their total aid amount. The aims of cross-compliance include facilitating improvements with regards to animal welfare and the environment within agriculture. However, the level of environmental benefits and effects of cross-compliance varies significantly between different types of agricultural practices.

Further cross-compliance requirements have been introduced gradually, most recently in January 2010. Already in 2007, a number of ‘additional cross-compliance requirements’ were introduced. These apply exclusively to the Agri-Environmental Payments (hereafter referred to as AEPs) as part of the Rural Development Programme (RDP) 2007-2013.

The aim of the SPS is, for example, to strengthen the EU position within the WTO negotiations in order for a larger part of EU agricultural payments to be classified within ‘The Green Box’, that is, those that are not production aids. The system of cross-compliance, then, has been introduced to attain more environmental benefits through the large amounts of money paid through the SPS, and to increase the acceptance among consumers in relation to agricultural aid. Cross-compliance is intended to contribute to a sustainable agricultural production, keep the agricultural land well-maintained, improve environmental protection and animal welfare, reduce the spread of disease, and provide consumers with access to safer food.

1.1 Aims and Objectives

This report shall evaluate the environmental effects of cross-compliance as well as the extent to which the requirements are an effective way of meeting the nationally set EQOs.

The overall objective is to show whether the introduction of cross-compliance within the SPS entails any changes to the positive and negative environmental effects of agriculture. One aim is to evaluate the effectiveness of a number of cross-compliance requirements, primarily those intended to benefit the environment.

A further objective is to assess the effectiveness of using cross-compliance within agricultural policy. Therefore, an evaluation will be made of the environmental effects as well as the costs of meeting the cross-compliance requirements. The aim is for the results to provide supporting data for ‘CAP after 2013’, or the way in which agricultural policy is shaped upon the existing system coming to an end in 2013.

1.2 Scope

All cross-compliance requirements will be described within this report, though not all of them are analyzed. The report will make use of previous studies (in Sweden and within the EU) as well as present analyses by the authors. The focus of the study is on the GAECs within cross-compliance and on environmental aspects of the SMRs.

The study will be analyzing the environmental effects in Sweden as well as describing the ways in which cross-compliance within agriculture affects the environmental changes globally. Questions regarding natural and cultural heritage will be approached in relation to Sweden only.

Environmental effects assessed in the study are those linked to plant nutrient leaching (phosphorus and nitrogen into the air, groundwater and surface water), the use of plant protection products, greenhouse gas emissions, the impact on biodiversity, cultural heritage and the agricultural landscape. To some extent, the study further considers the socio-economic consequences of cross-compliance.

Only those GAECs that have allowed for enough evidence to be obtained will be analyzed. These primarily involve the management of arable land and pastures.

In terms of the SMRs, the study shall analyze the requirements assessed as having a direct or, in some cases (reduced animal husbandry), indirect effect on the environment. Requirements that have a direct impact involve groundwater, nitrate, sewage sludge, wild animals and plants, and plant protection products. Most of the SMRs within the area of animal health as well as all requirements within animal welfare and public health will not be considered since they are assessed as having minor environmental effects.

The evaluation is primarily based on the cross-compliance regulations that applied in 2009 and that have a direct or indirect impact on the environment.

Some of the SMRs are intended to affect farmers' behavior in other respect than directly environmental, yet they may still have environmental consequences. In this context, the most interesting requirements to study are those of livestock registration and animal welfare. These requirements may entail farmers making reductions in terms of animal husbandry and that the management of pastures effectively decreases (negative) or so that the amount of manure is reduced (positive).

The additional cross-compliance requirements only apply to the AEPs, thus they will not be considered in detail as the evaluation of cross-compliance in this report is limited to the requirements linked to the SPS.

1.3 Outline of Methodology

The study utilizes a number of different methodological approaches for its analyses. Initially, the questions at issue were identified and problematized as well as mapped out in terms of their scope and character (Chapter 3). This was done through a review of the literature connected to the aspects of cross-compliance that are relevant and possible to analyze within the study. A further literature review has been carried out in relation to a number of cross-compliance rules and their connection to environmental effects (Chapter 3). Furthermore, the study considers the introduction of the cross-compliance system in Sweden (Chapter 4).

Thereafter, the study presents a literature review of the various evaluations and analyses (CCAT, CCN, LEI, BLEP, IEEP, etc.) carried out within the EU between the introduction of the reform in 2003 through to 2010 (Chapter 5).

Furthermore, a statistical summary of the rate of non-compliance will be presented, considering a number of different cross-compliance requirements. A description of the various inspection methods will then be presented. This compilation then serves as the basis for the majority of the analyses that follow (Chapter 6).

The project has further developed a method for analyzing the degree to which legal regulations have been adhered to before and after the cross-compliance reform as well as for the developments within the system of inspections. This analysis includes a consideration of the Environmental Sanction Fees (hereafter referred to as ESFs) before and after the introduction of cross-compliance (Chapter 7).

Moreover, the study provides a risk and efficiency analysis regarding various misdemeanours and for different farm types, the aim of which is to demonstrate certain undesired effects of cross-compliance (Chapter 8).

As part of the study, a survey has been carried out, analyzing the achievements of the advisory services (Chapter 9). Another survey assesses farmers' behaviour in relation to cross-compliance (Chapter 10). In order to acquire a figure for the total costs of cross-compliance, an assessment and estimation has been made for each of the different types of costs incurred by the cross-compliance system (Chapter 11). In addition, an estimate has been made of the environmental effects of cross-compliance (Chapter 12).

Finally, the project will provide a partial calculation of the environmental effectiveness of the individual cross-compliance requirements, to the extent that this is possible (Chapter 13). An estimation and summation of the costs are presented in monetary terms using the model Cross Compliance Assessment Tool (CCAT). The study further analyzes the effects of the GAECs and assesses the expected financial consequences of these cross-compliance requirements (through Lars Johansson's Swedish Agricultural Sector Model (hereafter referred to as SASM)).

1.4 Links to Other Projects

There are connections between this study and the ongoing work carried out by Swedish Board of Agriculture (hereafter referred to as SBA) to implement cross-compliance into the direct support rules as well as to guarantee that the cross-compliance inspections are carried out continuously. There are clear links to the work around developing the cross-compliance advisory services, as well as to the ongoing evaluation of this work. In addition, there are several studies evaluating cross-compliance within the EU that bear strong connections to this Study. Furthermore, there are two current inquiries into cross-compliance; one is carried out by AgriFoods Economics Centre and involves a literature review of previous analyses. The other is an analysis by the SBA, which concerns potential ways of simplifying the cross-compliance system.

1.4.1 The Project Team

This project is conducted within the framework of ‘Environmental Effects of the CAP’, which is a government commission to evaluate the environmental effects of the agricultural policy. The commission is carried out jointly by the SBA, the Swedish Environmental Protection Agency (SEPA) and the National Heritage Board (NHB). The following individuals have participated within the project team:

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Tomas Jacobsson, SBA (from October 2010)

2 Background

The aid to Swedish agriculture is based on the EU agricultural reform of 2003. The reform was introduced in Sweden in 2005, as an SPS that is no longer production-related ('decoupled'). Farmers receive the Single Payment subject to meeting the environmental cross-compliance requirements as stated within the *Commission Regulation No 1122/2009 regarding the EU direct support scheme for farmers*, i.e. they must keep their land well-maintained and fulfil the current standards with regards to public health, animal and plant protection and the environment. In practice, cross-compliance and the SMRs is a tool for getting Member States to faster implement various environmental Directives and the agricultural sector to comply with already existing legal requirements.

2.1 Agricultural Policy

2.1.1 The EU Common Agricultural Policy (CAP)

The Common Agricultural Policy (hereafter referred to as CAP) has been reformed on several occasions, most recently in 2003. A minimum of 25 per cent of Member States budgets for rural development must go towards protecting and improving the environment and the landscape. Following the 2003 reform, farmers are further obliged to comply with EU environmental requirements as stated within various environmental directives in order to access the financial agricultural aid. In line with the CAP, agriculture within the EU must not be exclusively focussed on intensive farming but there should be space for small as well as large farms. If the CAP was abolished it is likely that more farmers would have to intensify their production in order to survive. One of the objectives of the current agricultural policy is for farmers to be able to invest in a sustainable and environmentally friendly production, rather than being forced to intensify their production.

As part of the financial support schemes within the CAP there is a direct income support (Single Payment), which is primarily intended to maintain an appropriate standard of living amongst the farming community. This aim is closely linked to the objective to keep rural areas alive and dynamic.

The Introduction to the *Council Regulation (EC) No 1782/2003 concerning direct support to agriculture* states the following:

In order to avoid the abandonment of agricultural land and ensure that it is maintained in good agricultural and environmental condition, (cross-compliance) standards should be established which may or may not have a basis in provisions of the Member States. It is therefore appropriate to establish a Community framework within which Member States may adopt standards taking account of the specific characteristics of the areas concerned, including soil and climatic conditions as well as existing farming systems (land use, crop rotation, farming practices) and farm structures.

How Can Agricultural Policy Benefit the Environment?

A certain amount of the agricultural budget, if small, is used to stimulate extensive or organic farming, to preserve landscapes and conserve habitats and biodiversity. All these measures are meant to protect the environment.

The Introduction of Cross-Compliance

The cross-compliance system was used within agricultural policy for the first time in USA in 1936. During the aftermath of the Depression, in order to prevent further erosion on the prairie, a soil conservation policy was introduced within agriculture in the USA: the Agricultural Conservation Program (ACP). Simultaneously, farmers were provided with access to government-guaranteed loans or support under the Agricultural Adjustment Administration, though they were required to take part in the ACP. If the farmers did not meet the standards of the ACP, their support could be reduced or they could lose the loan guarantee (Kramer, R & Batie, S, 2008).

One of the objectives behind the introduction of the SPS and cross-compliance within the CAP was to adapt the aid system in advance to correspond to the new requirements that are expected to be the outcome of the WTO negotiations.

The basis for applying cross-compliance to the SPS is partly to connect the payments to environmental improvements. Moreover, the SMRs provide an opportunity to inform applicants of agricultural aid of the underlying legislation that must be adhered to.

2.2 Environmental Policy

Cross-compliance establishes basic environmental standards as stated within a number of current EU Directives within environmental legislation; thereby, EU Environmental Policy becomes more closely linked to the CAP.

2.2.1 Swedish Environmental Policy

The sixteen EQOs, set by the Swedish Parliament, form the basis of Swedish Environmental Policy. The agricultural sector is regarded as a crucial element in order for Sweden to achieve a number of the national EQOs within the established timeframes.

Additionally, in order to handle all environmental problems, decision-making on a European level is necessary. Cross-border pollution requires to be tackled through cross-border policy decisions.

2.2.2 EU Environmental Policy

Environmental Policy within the EU is based on the precautionary principle and the Polluter Pays Principle (PPP). There are four fundamental goals within EU Environmental Policy:

1. To preserve, protect, and improve the environment;
2. To protect the public health;
3. To utilize natural resources rationally and with care;
4. To promote measures internationally in order to solve regional or global environmental problems.

The EU prioritizes Climate Change and Biodiversity

The EU has decided what priorities should apply within Environmental Policy up to 2012. The current 6th Environment Action Programme states four areas of particularly high priority:

1. Climate change
2. Nature and biodiversity
3. Environment, health, and quality of life
4. Natural resources and waste

Minimum Requirements and Harmonized Legislation

There are two types of environmental legislation within the EU: environmental protection regulations and market-related environmental regulations.

The aim of the market-related environmental regulations is to facilitate movement on the internal market. These regulations are the same across all Member States; in other words, they are harmonized. The harmonized regulations are intended to adopt a high level of environmental protection. The environmental protection regulations, on the other hand, are minimum requirements. Hence, they set what is the lowest standard for the Member States. Thus, Member States may adopt stricter environmental protection regulations; however, they are not allowed to have less strict market-related environmental regulations.

3 An Overview of Cross-Compliance

3.1 The Background, Aims and Objectives of Cross-Compliance

The aims of cross-compliance are to contribute to a sustainable agricultural production, to keep the agricultural land well-maintained, improve environmental protection and animal welfare, reduce the spread of disease, and provide consumers with access to safer food. Cross-compliance is further intended to contribute towards a sustainable agricultural production across the EU Member States.

For farmers who participate in the SPS, receive AEPs, the special beef premium, or certain other agricultural aids, it is compulsory to meet the cross-compliance requirements, or they may be faced with reduced payments. It is the responsibility of the farmer applying for agricultural aid to meet the standards of cross-compliance across the agricultural production and on any associated agricultural land, even if the work is carried out by someone else.

Most of the cross-compliance requirements are not new to Sweden, but are already part of our legislation and linked to an existing national system of sanctions. One of the objectives of cross-compliance is for farmers to become better at following the legislation already in place. Non-compliances of the requirements are intended to have financial consequences. Farms that do not comply with existing legislation in terms of environmental protection or animal welfare should not receive their payment in full.

Cross-compliance is not the only type of provision that farmers have to adhere to. In Sweden, there are a larger number of rules within Swedish legislation than there are cross-compliance rules. However, farmers that breach the cross-compliance rules may, in addition to a reduced agricultural aid, be faced with an ESF, a fine, or a court order.

3.2 The SMRs and the GAECs

Cross-compliance may be divided into the SMRs and the GAECs (see Figure 1). The SMRs involve, for instance, that bovine animals must be labelled, filed in an on-farm record, and registered. Pigs, sheep and goats must also be labelled and filed in a record. The requirements may further mean that fertilizers and pesticides must not come into contact with the groundwater, that agricultural production must not disturb birds or have a negative effect on Natura 2000 Sites. Furthermore, there are certain requirements regarding the spreading of sewage sludge onto arable land. In areas classified as environmentally vulnerable zones, as well as the whole of Götaland, there are further requirements with regards to counteracting the negative effects of nitrogen application.

The standards of GAEC state that all arable land is required to be managed and kept in good condition. In addition to the standards for arable land, there are further requirements regarding mown meadows and semi-natural pastures. These entail, for instance, the necessity to maintain the land yearly through mowing or grazing, and preventing the growth of unwanted vegetation. See below for an outline of the cross-compliance requirements for 2010. For a more comprehensive outline, see Appendix 1.

Cross-Compliance 2010	
1. SMRs	2. GAECs
Legislation – EU Directives and Regulations	EU Aid Regulation
<p>Area 1.1</p> <p style="padding-left: 40px;">Requirements</p> <p>Environment - Wild birds - Groundwater - Sewage sludge - NVZs - Wild animals, plants and habitats</p> <p>Plus five additional requirements related to AEPs</p>	<p>Area 2.1</p> <p style="padding-left: 40px;">Standards</p> <p>Management - No growth of unwanted vegetation on arable land - Permanent pasture - No growth of unwanted vegetation on pastures - Management of pastures and mown meadows - Retention of landscape features - Vegetation on sloping arable land - Straw burning - Winter vegetation on land - Extraction of irrigation water</p>
<p>Area 1.2</p> <p style="padding-left: 40px;">Requirements</p> <p>Public Health - On-farm register - Animal labelling - Report to the CDB - Plus six further requirements</p> <p>Plant Protection - Use of approved plant protection products - Correct use of plant protection products</p> <p>Animal Health - Seven requirements for animal health</p> <p>Plus four further requirements related to AEPs</p>	
<p>Area 1.3</p> <p style="padding-left: 40px;">Requirements</p> <p>Animal Welfare - Six requirements for calves - Eight requirements for pigs - Six requirements for bovine animals, sheep, goats</p>	

Figure1. Outline of cross-compliance in Sweden 2010, divided into SMRs and GAECs (for a more comprehensive outline, see Appendix 1).

3.2.1 Cross-Compliance Requirements with Direct Connections to the Environmental Impact of Agriculture

Reported below are the SMRs and the GAECs that have connections to the environmental effects of agriculture and to the Swedish EQOs. In addition, within cross-compliance, there are those requirements that indirectly link to the environmental effects of agriculture. These will also be analysed and evaluated as far as possible.

The cross-compliance requirements that directly impact on the environment and that will be evaluated more thoroughly include the SMRs that involve *the protection of wild birds, the protection of groundwater, the spreading of sewage sludge, the spreading and storage of fertilizers, Nitrate Vulnerable Zones* (hereafter referred to as NVZs), *the use of plant protection products*, and *the protection of wild animals and plants*.

Furthermore, cross-compliance includes a number of GAEC standards for agricultural land, which are of relevance to the environment. Among other things, they involve measures to *prevent the growth of unwanted vegetation on arable land* as well as on *pastures and mown meadows, pasture management* and the *retention of landscape features*.

To date, the requirement of maintaining a certain quota of agricultural land as *permanent pasture* has not been of particular relevance in Sweden. Therefore, the need for permanent pastures will only be considered in brief. Thus far, reliable evidence regarding the requirements of the protection of *wild animals and plants* and *wild birds* has yet to be gathered. Thus, these requirements cannot be analysed as thoroughly as the other cross-compliance requirements.

Cross-Compliance Requirements that Will Not Be Evaluated

There is insufficient data in relation to certain cross-compliance requirements, or they were only introduced in 2009 or 2010. Thus, there is insufficient evidence in order to evaluate these requirements. For instance, this applies to the GAECs concerning *steeply sloping vegetated soil* and the *ban on straw burning*, which were only introduced in 2009. Likewise, there is insufficient data in regards to the SMRs concerning *ban on irrigation* and *landscape features on arable land*.

3.2.2 Cross-Compliance Requirements without Direct Connections to the Environmental Impact of Agriculture

The cross-compliance requirements with indirect environmental effects that will be evaluated in this study include the SMRs concerning the *registration and labelling of livestock*, in particular bovine animals. These requirements may lead to farmers choosing to reduce their animal husbandry, effectively reducing the availability of grazing cattle.

Cross-Compliance Requirements that Will Not Be Evaluated

There are further SMRs and GAECs that have to be met by farmers in receipt of the Single Payment and/or other agricultural aids. These cross-compliance requirements, or *additional cross-compliance requirements*, do not have a direct connection to the environmental effects of agriculture or the SPS. The standards around animal welfare, for instance, will not be evaluated in this report. *Additional* cross-compliance requirements applying to the AEPs do not affect the Single Payment and will thus not be evaluated.

4 The Introduction of Cross-Compliance in Sweden

In introducing the GAECs in 2005, Sweden, together with several other Member States, took as a starting point the management standards stated in *Appendix IV of the Council Regulation No 1782/2003*. These had been set as examples from which Member States could choose the standards relevant to the respective countries. Hence, in the case of Sweden, GAEC standards were introduced for arable land and semi-natural pastures, whilst no specific requirement was identified for landscape features, for instance.

Since then, the Commission has adopted a stricter view in this matter by clarifying that all standards are obligatory (except in certain cases those listed in Column 3 in *Appendix III of the Council Regulation 73/2009*).

Shortcomings that Emerged at the EU Commission Audit in 2008/2009

In regards to the GAECs concerning *protection of the soil through appropriate measures, preservation of the organic content of the soil through appropriate measures, and the retention of landscape features*, there is insufficient evidence as to indicate to the Commission that the requirements have been subject to an effective system of inspections. The same applies to the SMRs for *wild birds and habitats/wild animals and plants*, which have not been inspected systematically. The GAEC regarding *appropriate use of machinery* has not been subject to any spot-checks at all.

A third of all Municipal Governments¹ have not submitted reports in relation to the spot-checks of SMRs involving *groundwater, sewage sludge, and nitrate*, which raises doubts as to whether such inspections have in fact been carried out at all. The insufficient reports apply also to the SMR for *plant protection products*. Not all competent supervising authorities have reached the minimum level of inspections.

For a substantial number of farmers, where non-compliance had been identified in connection to a spot-check, no measures were taken. These incidents mainly concerned the GAECs and the SMRs of *identification and registration of livestock*. Often, deductions of one per cent had been made in cases where three per cent would have been a more appropriate figure.

During 2006, hardly any inspections were carried out in relation to the SMRs of *food and feedingstuff safety* within the cross-compliance control system. These shortcomings affect the entire population of farmers who have applied for direct support. The lack of systematic risk assessment on Municipal Government level, together with the fact that the risk factors applied by the County Administrative Boards were unsuited to the specific demands and standards of cross-compliance, is considered to be a shortcoming with regards to the implementation of the cross-compliance control system.

¹ Note: From the Swedish term *kommuner*.

Measures Taken in Sweden

As a regular part of the work to develop the cross-compliance system, the SBA has taken measures to improve the guidelines for inspections and assessment, as well as the IT systems. In connection with the introduction of cross-compliance, the SBA has implemented several additional measures to improve the cross-compliance control system. In Sweden, the control system has been improved as follows:

With the aim to meet EU regulations, the SBA has incorporated new rules within the GAECs for agricultural land. Furthermore, new standards have been introduced in connection to irrigation and landscape features, since this is a requirement under the Council Regulation (EC) No 73/2009 establishing common rules for direct support schemes. Since 2007, the County Administrative Boards have been conducting systematic inspections in regards to the SMRs concerning *wild birds and wild animals, plants and habitats*.

As part of the Health Check, the requirement regarding the *retention of landscape features* was extended and incorporated into Appendix III of the Council Regulation (EC) No 73/2009 establishing common rules for direct support. The SBA has decided that this standard, implemented since 2010, should apply to landscape features such as stone wall, open ditch, solitary tree, and pond. However, it is only relevant to arable land in Support Area 9, which mainly consists of distinct plain districts in Götaland and Svealand.

Following a suggestion from the SBA, the Swedish government shifted the responsibility for the supervision of cross-compliance over to the County Administrative Boards, as part of the regulation changes for 2010. Since then, the County Administrative Boards have carried out the supervision and inspections of all cross-compliance requirements; thus, Sweden is no longer relying on the Municipal Governments' participation in this context.

The SBA revised the guidelines for aid deductions in 2009, in time for the decisions to be made by the County Administrative Boards. The aim was to have a deduction rate of three per cent in normal cases, whilst zero per cent would only be applied in cases of minor non-compliances and where these would be rectified by the farmer. Statistics for 2009 show that significantly fewer farmers escaped aid deductions following non-compliance compared to previous years. Moreover, a larger percentage had their support reduced by three per cent, rather than one or five per cent. Since 2009, the County Administrative Boards conduct systematic spot-checks in regards to the SMRs regarding *hormones and animal disease*. Furthermore, the SBA has developed the methods for a risk-based selection of samples and provided the County Administrative Boards with improved guidelines on how to select farms for a complete cross-compliance inspection.

In 2009, following a government decision, the responsibility for the supervision of animal welfare shifted from the Municipal Governments to the County Administrative Boards. In connection with this change, the SBA incorporated a number of cross-compliance inspection items in relation to animal welfare into the checklists used at spot-checks of various types of livestock, the aim being to minimize the additional work for the County Administrative Boards with regards to cross-compliance inspections and animal welfare. Animal welfare is the cross-compliance area entailing the largest number of practical problems when it comes to inspection and assessment of non-compliances, due to the differences between Swedish regulations and underlying EU Directives.

With the aim to further increase the quality and cohesion of the assessments made by the supervising authorities, the SBA has updated the written guidelines for cross-compliance inspections from 2008. To clarify what is needed of supervising authorities in order for Sweden to meet the EU requirements regarding the cross-compliance control system, inspection frequencies were established for each county and the County Administrative Boards were provided with risk criteria for selecting the farms to be checked.

Changes to Decision-Making and Further Participating Authorities

Ever since the introduction of cross-compliance in Sweden in 2005, the County Administrative Board has been the authority responsible for making the decisions regarding aid deductions following non-compliance. However, the way in which the administration is organized in Sweden was subject to early criticism from the EU Commission. In 2009, to prevent further criticism, the SBA suggested to the Swedish Ministry of Agriculture, Food and Fisheries that the SBA take over the decision-making responsibility.

Since 2004, the SBA has cooperated well with other central government authorities in implementing the cross-compliance system in Sweden. However, problems have arisen when other authorities have not had the possibility to prioritize work on guidelines, information materials, etc. In 2009, the SBA pointed out the importance of guidelines with regards to the participation of other central government authorities in order to ensure a high standard of information and inspections with regards to cross-compliance and its underlying regulatory framework.

5 Previous Studies of Cross-Compliance

5.1 A Review of Previously Published Studies

Ever since the SPS and cross-compliance were introduced, following the reform of the CAP in 2003, various analyses and evaluations of cross-compliance have been conducted across the Member States. Largely, it has been a question of general viewpoints regarding cross-compliance with analyses of the introduction of cross-compliance, the way in which the requirements were formed, what options there are in terms of control systems, the costs of introducing cross-compliance, evaluations of the environmental benefits, etc.

As cross-compliance has only been implemented since 2005, a good part of the analyses are concerned with the introduction of cross-compliance as well as the initial development of cross-compliance and its control system in the individual countries. In addition, a number of studies detailing the experiences of cross-compliance up until 2009 have been produced across the Member States.

The Introduction of Cross-Compliance

1. The implementation of cross-compliance across Member States (EU 25) was evaluated by Alliance Environment in 2007. The basis for the evaluation was a survey with questions across five different thematic areas, which was sent out to a number of experts chosen by Alliance Environment (2007).

The first thematic question involved the GAECs and the requirement of maintaining a rate of permanent pasture. According to the experts, cross-compliance has had a positive impact on the environment. Yet, at the same time, the requirements had had no or little effect on farmers' incomes or on productions costs. To date, the requirement of a rate of permanent pasture has had insignificant environmental effects.

The second thematic question was concerned with information, rules and control systems. Here, too, the experts considered most countries to have implemented effective systems of information, regulation, and inspections. No major issues were noted in connection with introducing these systems. However, certain Member States have perhaps been too restrained in executing deductions.

The third question involved the shared environmental goals. The experts considered all Member States to have made efforts to reach the targets, but with varying effort levels and results. The fourth question addressed the level of effectiveness of cross-compliance. Here, the experts concluded that the effectiveness was relatively good considering the low costs of introducing the system and the inspections, yet on the other hand cross-compliance has had minor effects on the environment. A larger degree of effectiveness may be attained if certain, local-scale environmental objectives are addressed locally (for example soil erosion).

Question number five involved further effects of cross-compliance. As the system has not incurred any new costs for farmers, according to the experts, it will have limited effect on competition within the internal market. Cross-compliance has increased farmers' awareness of

their obligations, although it has not contributed to a deeper understanding of these obligations nor of sustainable agriculture in general.

2. A pilot study on the success of the cross-compliance requirements when combined with asymmetric information, involving farmers in Bologna, shows that only a small percentage of farmers are willing to follow cross-compliance with the current system of rules and inspections. The effectiveness of cross-compliance depends largely on farmers' strategies to meet the requirements, as well as on the ability of authorities to design effective systems for spot-checks and aid deduction. In order to increase the effectiveness of cross-compliance it is necessary to adapt the requirements, the inspections, and the aid deductions to the different types of farms (Bartolini et al, 2008).

The Environmental Effectiveness of Cross-Compliance

3. A study on the effectiveness of cross-compliance carried out in Germany indicates that the requirements have contributed to a greater awareness of the legislation behind the SMRs. This is partly due to the risk of substantial aid deductions; however, it is also linked to the success of the advisory services and the information provided in connection with the introduction of cross-compliance system (Nitsch, H. and Osterburg, B., 2008).

The study further points out that the impact and effectiveness of cross-compliance depends on the level of the incentive to apply for SPS. This, in turn, depends on the size of the payment. If the future support level is reduced, the impact of cross-compliance is also likely to be reduced. The study further highlights the risk that, in cases where a specialized control system is already in place (*Sigill*, for instance), these could be replaced by the more systematic cross-compliance inspections, or that the same spot-check is essentially conducted twice.

Finally, the study considers the problem of fair control systems. A control system that is highly systematic in its integration but has a low inspection rate and substantial aid deductions is easily viewed as unfair. According to a survey completed by 184 German farmers, high-risk farms should be targeted with specialized spot-checks of the environmental impacts relevant to such farms. The farmers would prefer such a method to being overwhelmed with long checklists of irrelevant cross-compliance requirements.

4. An IEEP report from 2007 specially considers the environmental impact of cross-compliance across ten EU countries. To begin with, the report emphasizes the difficulty of coming to any conclusions regarding the effectiveness of cross-compliance at such an early stage. It further points out that, to date, cross-compliance has only applied to certain environmental goals (for example regarding biodiversity, water and soil protection) and cannot, therefore, be assessed in relation to wider environmental objectives, despite the system affecting further environmental issues (air pollution and greenhouse gasses, for instance). Ultimately, the question is whether a widening of the objectives and rules of cross-compliance is needed in order to maximize the environmental benefits and for the system to become more effective (Swales, V., 2007).

The report further highlights that it is difficult and rather ineffective to compare the requirements between different countries, since the circumstances vary greatly across the EU (for instance with regards to soil protection and the percentage of green cover or permanent pastures). Thus, the report concludes, there are certain requirements that are not equally effective in all Member States.

In order to identify the most effective requirements, the report suggests that Member States should need to explain and prove the environmental benefits for each requirement that is introduced. Some form of monitoring system of the environmental effects is further needed in order to prove that each introduced requirement actually has environmental effects.

5. The project CCAT (Cross Compliance Assessment Tool) has developed an assessment model in order to identify the joint impact of the different cross-compliance requirement upon specific geographical levels (EU-27, NUTS Regions) (CCAT 2010).

Effects that may be evaluated through the model include those on the agricultural market, profits within the agricultural sector, land use, soil, air, climate, biodiversity and cultural heritage. The model may also be utilized to evaluate how much cross-compliance has affected agricultural developments since 2005.

One of the aims of CCAT is to fill the gap in our knowledge with regards to the ways in which a system of cross-compliance may contribute to reaching wider EU objectives of an agriculture that is sustainable both in terms of its environmental and socio-economic development (see Chapter 6.9.1).

6. In 2007, Defra carried out an assessment of cross-compliance in England.

The effectiveness of cross-compliance as regards meeting the set objectives was viewed as high. There was a good level of compliance with the legislated SMRs and the awareness of current legislation had increased. In terms of the cross-compliance requirements lacking supportive legislation, the risk of aid deductions has led to improvements with regards to the level of compliance. The GAECs where farmers were resistant towards cross-compliance and where the requirements had vague rules and hard-to-define aims held the lowest level of compliance (Defra, 2008).

Farmers' costs to adhere to cross-compliance were considered low, particularly in relation to what they receive from the SPS. They considered the value-for-money (the joint benefits of cross-compliance minus the costs of meeting the requirements) to be good, even if it is difficult to attach a "real" value to the various public goods.

Unforeseen consequences related to the introduction of cross-compliance include a significant increase in the demand for advisory services and information. Furthermore, the awareness of the legislation increased. For smaller farms, the introduction of cross-compliance entailed a disproportionate increase in costs. Some farmers adopted excessive safety measures, hence unnecessary costs were incurred. For some farmers, the risk of having their aid reduced resulted in unnecessary anxiety. Confusing regulations and the increased risk of inspections and aid deductions resulted in a more negative view of cross-compliance among farmers.

The Options with regards to inspecting the Cross-Compliance Rules

7. A study conducted by the Agricultural Economics Research Institute (LEI) compares the cross-compliance system to various certification schemes. The study points to certain synergies between cross-compliance and certification schemes. Whilst cross-compliance applies to the entire agricultural sector, certification only applies to certain production areas and could at worst potentially lead to cartelization (Farmer, et al., 2007).

The additional costs of meeting certain cross-compliance requirements are often lower for farmers who participate in a certification scheme. This is due to them having been exposed to a similar system of inspections for a long time. However, there are differences in terms of the conditions to fulfil, which may lead to confusion in regards to the inspections; duplicate spot-checks, as well as certain checks being neglected by one of the inspection bodies, have been reported. Certification gives rise to higher and more specified costs of inspections, but it has provided those who participate in the system with competitive advantage. This may change, if the cross-compliance system develops and becomes significantly more extensive than the system of certification.

8. In 2008, the European Court of Auditors produced an audit of the cross-compliance policy within the Commission as well as within seven Member States regarded as representative for the agricultural variation across the EU (The European Court of Auditors, 2008).

In the report, the European Court of Auditors concludes that the objectives of the cross-compliance policy had not been defined in a specific, measurable, relevant, and realistic way. As a result, many requirements have remained a formality on farm level and are unlikely to lead to the expected results regarding an improved environment and animal welfare, reduced spread of disease and safer foods.

Generally, the European Court of Auditors maintains that cross-compliance is a very important part of the CAP, yet, they conclude, the way in which it is currently managed and executed is ineffective. Thus, the European Court of Auditors recommends that the current cross-compliance regulations need to be subject to simplification, clarification, and ranking.

Costs of Cross-Compliance

9. A French study (Ridier, et al, 2008) analyzed the increased transaction costs connected to cross-compliance. In addition to increased production costs, cross-compliance potentially results in increased administrative, informative, and organizational costs for farmers. On the basis of an interview survey among 39 farmers in the Pyrenees, a statistical analysis (Multiple Classification Analysis (MCA)) was produced associating different types of farms and farmers with different levels of transaction costs incurred as a direct result of cross-compliance.

The results point to three main transaction costs for the Pyrenees farmers: 1) time to gather information, 2) time to fill out forms, and 3) costs of compliance with the compulsory crop production plan.

The analysis shows that the profile and background of the farmers play an important role in determining the additional costs. Farmers who participate in a certification scheme or an environmental action programme generally incur lower additional costs, since they are already more or less familiar with the system. For the other group, often large crop production farms that have not previously participated in a programme, the additional costs of adapting to the 'new' cross-compliance system are significantly higher.

The report concludes that the increased demands with regards to administration and information are likely to result in farmers subcontracting these services to a larger extent in the future.

Suggestions with Regards to Cross-Compliance in the Future

The report 'Common Agricultural Policy: Cross-Compliance and the Effects on Biodiversity' shows that, to date, the cross-compliance rules have been ineffective in preserving biodiversity within German agriculture. In order to improve the situation, the report presents three suggestions with regards to changes to the CAP and the cross-compliance rules (IFAB 2009).

The first suggestion involves introducing a GAEC whereby 30 per cent of permanent grasslands (pastures) is not allowed to be mowed or grazed, and has to rotate on a yearly basis. Secondly, the report suggests that approval should be required in order for grassland or permanent pasture to be ploughed. Thirdly, it is suggested that, on farm level, at least ten per cent should be reserved for organic farming. Partly, this should be financed through AEPs within the RDP.

11. A study by the Cross Compliance Network (2007) identifies a number of possible directions for future development in order to achieve better cross-compliance evaluations and more effective amendments to rules. It becomes very important to consider the full environmental benefits of cross-compliance. Moreover, it will be necessary to find alternative solutions in order to increase the environmental benefits and the effectiveness of cross-compliance. This is likely to be essential in a future where the impact of aid deductions will diminish due to a reduced direct support.

12. A BirdLife International (2009) study points to certain structural weaknesses within the current system of cross-compliance rules as connected to the SPS. According to the study, these weaknesses hinder the system of cross-compliance from contributing to an improved environment and preserving biodiversity. These problems may be summarized as follows:

- Lack of clear objectives and aims for each individual environmental state
- Shortfalls in terms of reports, follow-ups, and evaluations of desired environmental states
- Poor guidelines to Member States on how to implement the regulations on farm level. The Commission does not accept any transpositions (amendments to priority and meaning) nationally of the cross-compliance rules
- Insufficient and ineffective inspections
- Inconsistent aid deductions that frequently are too low and disproportionate to the damage caused to the environment
- Failure to prevent those that seriously violate the environmental rules from receiving the Single Payment
- Disproportionately large costs and extensive action taken in relation to small, extensive farms that deliver public goods on a relatively high level

According to BirdLife International, most Member States have implemented the environment-related cross-compliance regulations in such a way as to primarily minimize the impact on agriculture and the costs to administrate the system.

13. In spring 2010, the European Environmental Bureau (EEB) submitted a proposal for a reform for the CAP to begin in 2013. According to EEB, the most important regulations to be added to current legislation are:

- Robust protection against conversion of permanent pastures over 15 years old, except where there is clear evidence that such a conversion will not be harmful to biodiversity or reduce Carbon stocks.
- Robust protection against deliberate damage of landscape features including, as a minimum, hedgerows, tree lines, pockets of native vegetation, ponds, ditches, streams and dry stream beds, terraces and stone walls.
- Establishment of unsprayed and unfertilized buffer strips of natural vegetation is necessary along water courses and water bodies. The width of the buffer should be determined by objective data in relation to soil type, slope, type of land use etc.
- Requirement for farms with a significant percentage of arable crops or those with a high livestock density to establish a plant nutrient plan.

Landscape features and permanent pastures over 15 years old are important to protect through legislation considering their significant environmental value. Thus, it is important that farms with a high proportion of such features are remunerated for the public goods that they provide, by means of the HNV payment.

The payment schemes should be established simultaneously with the legal protection. While farmers and land owners should not be compensated for respecting legislation, an exception should be made when spatial requirements in terms of management/measures impose restrictions on certain farmers or land owners within the same region/landscape.

5.2 Conclusions in Regards to Previous Studies

Following the **introduction** of cross-compliance, the GAEC requirements have been considered to have a positive impact on the environment. Most countries have established effective systems of information, rules and inspections. **The environmental effectiveness** has been relatively good despite the small environmental effect, due to the low costs of introduction, implementation and inspections. Rules, inspections and aid deductions need to be better adapted to the various farm types in order to increase the effectiveness. The cross-compliance requirements have contributed towards increasing the awareness of the legislation behind the SMRs. The effectiveness depends on the incentives for applying for SPS and how well-implemented the requirements have been within previous legislation. This, in turn, depends on the size of the payment. In terms of **the options regarding inspections**, there are potential synergies between cross-compliance and certification systems. The European Court of Auditors has established that the cross-compliance objectives have not been defined as specific, measureable, relevant, or realistic. Therefore, the European Court of Auditors recommends that the current cross-compliance rules need to be simplified, clarified, and ranked. With regards to the **costs**, farmers may experience an increase in administrative, informative, and organizational costs due to the introduction of cross-compliance, in addition to rising

production costs. The farmer's background plays a significant role in determining the additional costs; for farmers who already participate in a certification scheme or an environmental programme, the costs are generally lower. The increased demands with regards to administration and information are likely to result in farmers subcontracting these services to a greater extent. Suggestions for future developments include increasing the quota of permanent pasture, unsprayed and unfertilized buffer strips along water courses and water bodies and a robust protection against deliberate damage of landscape features. According to the authors of the studies, it is likely to be necessary to find ways of producing better evaluations of cross-compliance as well as more effective amendments to rules. In addition, a stronger framework of legal protection with regards to landscape features and permanent pastures is further viewed as important considering their significant environmental value.

6 Following Up Cross-Compliance and the Inspection Results

The model of analysis as detailed in Figure 2 has been used to evaluate cross-compliance in Sweden. The point of departure for the analysis has been the structure of the cross-compliance system. A set of rules, together with systems of inspections and sanctions (Columns (1), (2) and (3) in the Figure) have affected the farms and the production (5). As the circumstances differ between farms and farmers (4), the impact varies between areas and farm types. The feeling of uncertainty among farmers as to the implications of the rules and inspections is included in the system of sanctions (3). The change in production (Δ Production) has, in turn, had varying effect on the environmental impact of agriculture (6). The scale of this impact, including the measures that farmers have had to take, has been assessed through looking at inspection data from supervising authorities. On the basis of this assessment, then, we have produced an estimate of the environmental effects and, ultimately, the new environmental situation that may potentially arise. By asking farmers, we have further assessed the cost of compliance with the standards.

A Causal Model for Assessing Environmental Effects and Cost

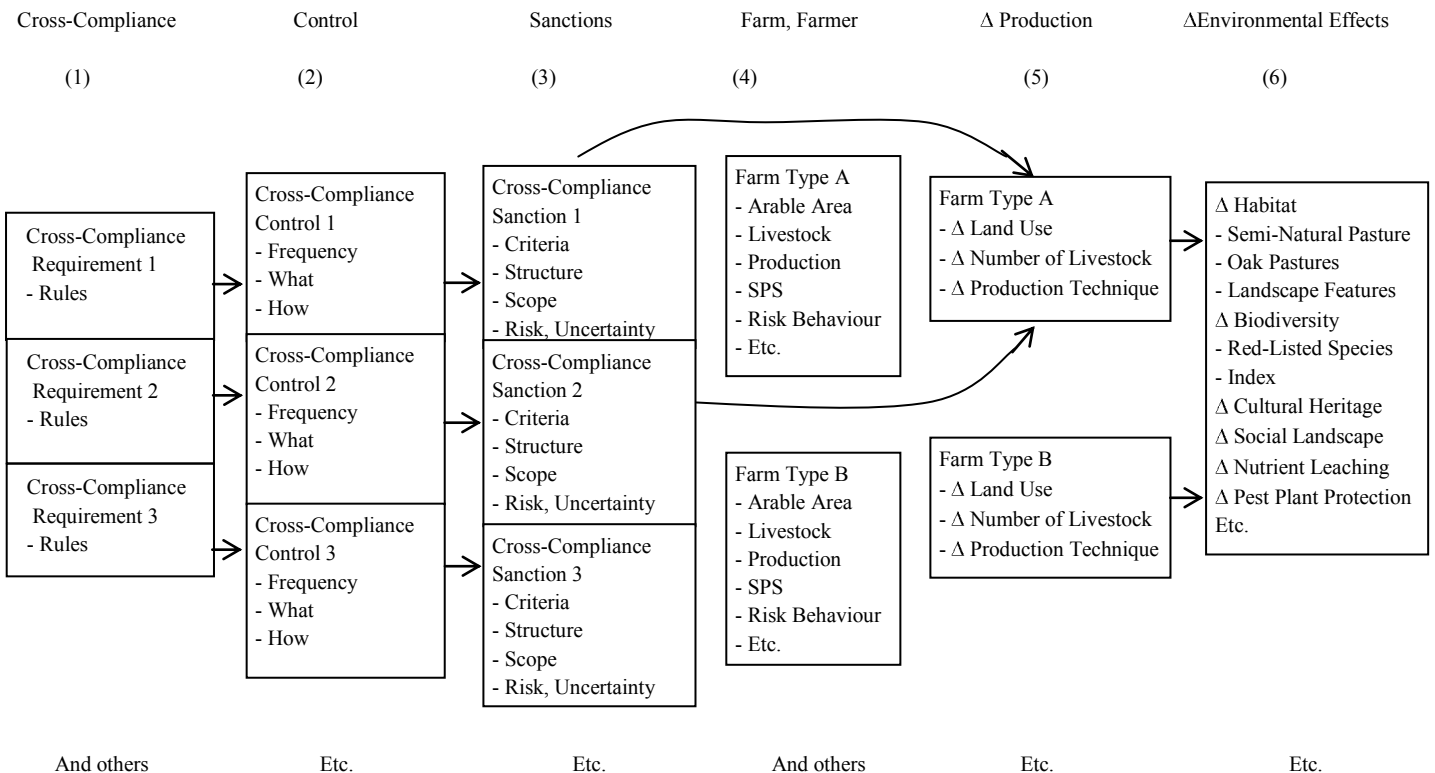


Figure 2 Cross-compliance analysis diagrams. This causal model shows the effects of cross-compliance on agricultural production and, thereby, the state of the environment.

6.1 How is the Cross-Compliance Inspections Conducted?

Prior to the introduction of cross-compliance, the Municipal Governments supervised a systematic control system regarding the handling of fertilizers and animal welfare. The requirements within the 'Good Agricultural Practice' (a predecessor to the GAECs) were also inspected at farms in receipt of agricultural aid. Up to 2008, the cross-compliance rules on the handling of fertilizers and those on animal welfare were supervised by the Municipal Governments. There was a varying level of supervision across the Municipalities. This was primarily due to the variation in agricultural practice as well as the extent to which the political leadership prioritized environmental supervision in relation to the agricultural sector. Since 2008, the County Administrative Boards have held the responsibility for the cross-compliance inspections.

6.1.1 The Procedure of Cross-Compliance Spot-Checks and Aid Deductions

According to *Council Regulation No 1122/2009 regarding the EU direct support schemes for farmers*, each Member State shall carry out yearly cross-compliance inspections. In Sweden, the County Administrative Boards check compliance for all requirements at a certain percentage of farmers applying for SPS. The farmer is not always given prior notice of the spot-check. In cases where a single farm hosts both crop production and animal husbandry, there may be more than one spot-check, conducted by different inspectors and at different occasions.

If, for instance, the National Food Administration, the SBA or the Municipal Government would find a farmer to be in non-compliance of a certain rule that is within their respective area of responsibility, the authority is obliged to report the non-compliance to the County Administrative Board.

6.1.2 The Selection of the Cross-Compliance Inspection Sample

Council Regulation No 1122/2009 regarding the EU direct support schemes for farmers contains rules for how the cross-compliance spot-checks are to be carried out in each respective Member State. The Regulation states, for instance, that a minimum of one per cent of all farmers yearly is to be subject to a full cross-compliance spot-check. It further instructs the Member States as to how to make the selection:

1. Select a minimum of five per cent of SPS applications that are to be subject to a spot-check, out of which 20-25 per cent should be selected randomly and the rest being based on a financial risk analysis with regards to the EU Fund.
2. Select a minimum of 20 per cent of the chosen farms to be subject to an cross-compliance spot-check, out of which 20-25 per cent should be selected randomly and the rest based on a risk analysis with regards to environmental, health or animal welfare risks intended to be minimized by cross-compliance.
3. Increase the inspection frequency next year if numerous non-compliances are revealed within this selection.

Example: 4000 Single Payment applications have been submitted within a County. Out of these, the County Administrative Board selects 200 farms for support checks, out of which 50 are randomly selected. The spot-check at each of these 200 farms involves, for instance, checking that the actual land areas match those on the support application. Out of these 200 farms, 40 are selected for a cross-compliance spot-check, out of which 10 are randomly chosen. All the cross-compliance requirements relevant to each respective farm that the respective supervising authority is responsible for should be checked at the 40 farms.

6.1.3 The Deduction Rate and the Decision to Deduct

Non-compliances of the Cross-Compliance Rules

If a spot-check finds a farmer to be in non-compliance of one or more of the cross-compliance rules, the County Administrative Board decides the percentage to be deducted from the farmer's agricultural aid.

The first time that the supervising authority finds a certain infringement at a farm, the deduction should normally be three per cent of the total amount of the support. The deduction may be reduced to one per cent or increased to five per cent, based on the supervising authority's assessment of the seriousness, scope and duration of the non-compliance. For certain very minor infringements of the GAECs, the deduction could be set to zero per cent.

There are centrally produced guidelines to ensure consistency across Sweden with regards to inspectors' assessments and the County Administrative Board's decision to deduct. Should the County Administrative Board find a farmer to be in non-compliance of a Swedish rule stricter than the corresponding EU regulation, the cross-compliance assessment is still conducted on the basis of the EU level. This may imply a farmer having to address certain shortcomings in order to meet the terms of the Swedish requirements, whilst still avoiding aid deductions.

Deductions for Single-Area Non-Compliance

The example below shows an infringement corresponding to an aid deduction of three per cent.

Example: The County Administrative Board notes at a livestock inspection that a farmer has not reported 30 bovine animals to the CDB (Central Database for Bovine Animals) on time. This is a non-compliance equivalent to an aid deduction of three per cent.

In cases of several non-compliances within the same area, for example environment protection or animal welfare, but within different acts, only the non-compliance that leads to the largest deduction is taken into consideration (Appendix 1).

Deductions for Non-Compliance across Multiple Areas

Should infringements be detected across several of the four cross-compliance areas, the deduction percentages for the individual areas are to be added together, forming a single deduction percentage rate. However, there is a limit of five per cent.

Example: The Municipal Government environmental inspector has confirmed that the fertilizer storage area is too small. The inspector assesses the shortcoming to be of such a serious nature that it corresponds to a deduction of five per cent within Area 1 (Environment). In addition, the County Administrative Board inspector has discovered there to be scrubs and bushes growing on 1.40 hectares of the farm's arable land. This non-compliance is equivalent to a three per cent deduction within Area 4 (GAECs). Three plus five normally equals eight; however, since a limit is in place with regards to cross-compliance, the deduction can only reach a maximum of five per cent.

Deductions for Repeated Infringements

If a farmer repeats the same type of error within a three-year period the deduction percentage should be multiplied by three. Where repeated non-compliances have resulted in the deduction rate reaching 15 per cent, further cases of non-compliance shall automatically be regarded as an indication that the farmer is intentionally breaching the rules.

Example: In 2008, the County Administrative Board notes at a livestock spot-check that a farmer has failed to register 30 bovine animals to the CDB on time. This non-compliance is equivalent to an aid deduction of three per cent. However, the same farm had been inspected in 2006, where the same CDB registration error had been identified. Hence, the deduction for 2008 amounts to $3 \times 3 = 9$ per cent.

Intentional Non-Compliance Entails a Higher Deduction Percentage

If, upon investigation of a particularly serious case, the County Administrative Board assesses the non-compliance as intentional, the deduction shall amount to a minimum of 15 per cent. In extreme cases, the deduction may amount to 100 per cent; in addition, the farmer may be excluded from the SPS in the following year.

6.2 The Cross-Compliance Inspections

6.2.1 Statistics of Non-Compliances

The statistics from the cross-compliance inspections have been analysed on the basis of non-compliance leading to deductions of up to five per cent within the period 2005-2009 (Figure 3a and 3b). The data include all cross-compliance requirements that were inspected as well as all noted non-compliances. Thus, it comprises the total number of reported non-compliances, including those that have not resulted in aid deduction. The analysis begins by a consideration of the data in full, though the limits are then set at cross-compliance requirements that have an environmental impact and those backed by sufficient data.

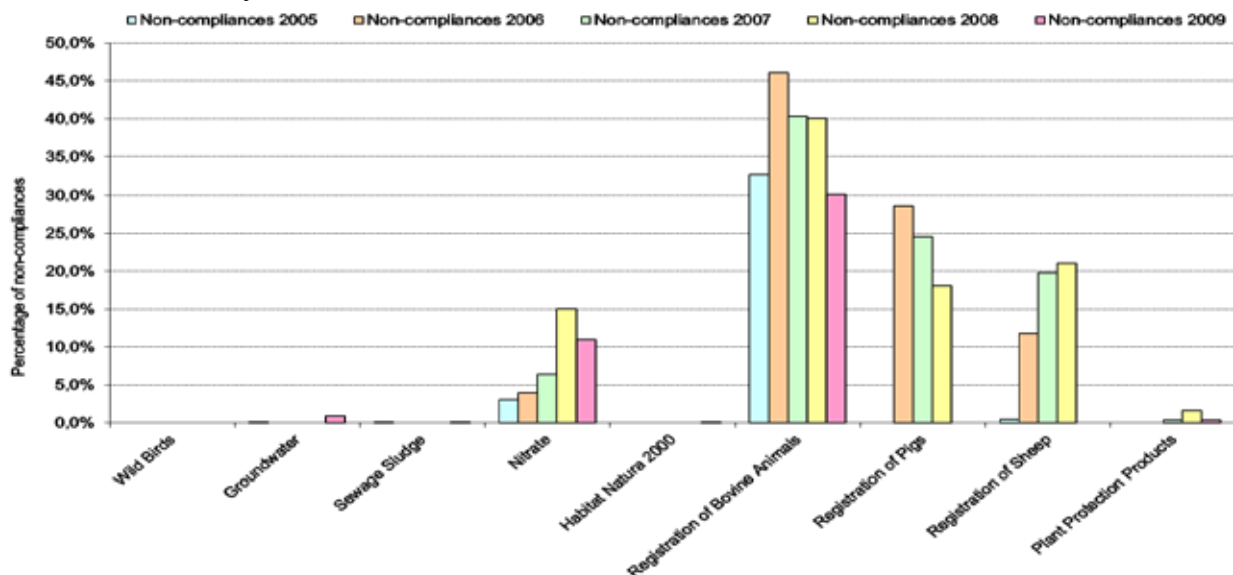


Figure 3a Infringements of the SMRs inspected between 2005 and 2009. Yearly percentage of non-compliances based on the total number of inspected farms.

No non-compliances have been reported with regards to three inspected SMRs: the standards of wild birds, sewage sludge and habitat/Natura 2000. Partly, this is due to the limited number of agricultural practices involving sewage sludge, and partly also due to the great difficulty of objectively assessing and inspecting the requirements around wild birds and habitat/Natura 2000. The SMRs involving groundwater and plant protection products have only had a small number of non-compliances. This is partly due to the fact that there are only minor problems with regards to groundwater in Sweden and partly because of the previously extensive level of legislation and control in relation to plant protection products. The number of non-compliances of the Nitrate Directive has been slightly higher, yet the level remains relatively low. Conversely, when it comes to the remaining SMRs, around the identification and registration of livestock, the level of non-compliance has been more extensive.

The GAECs

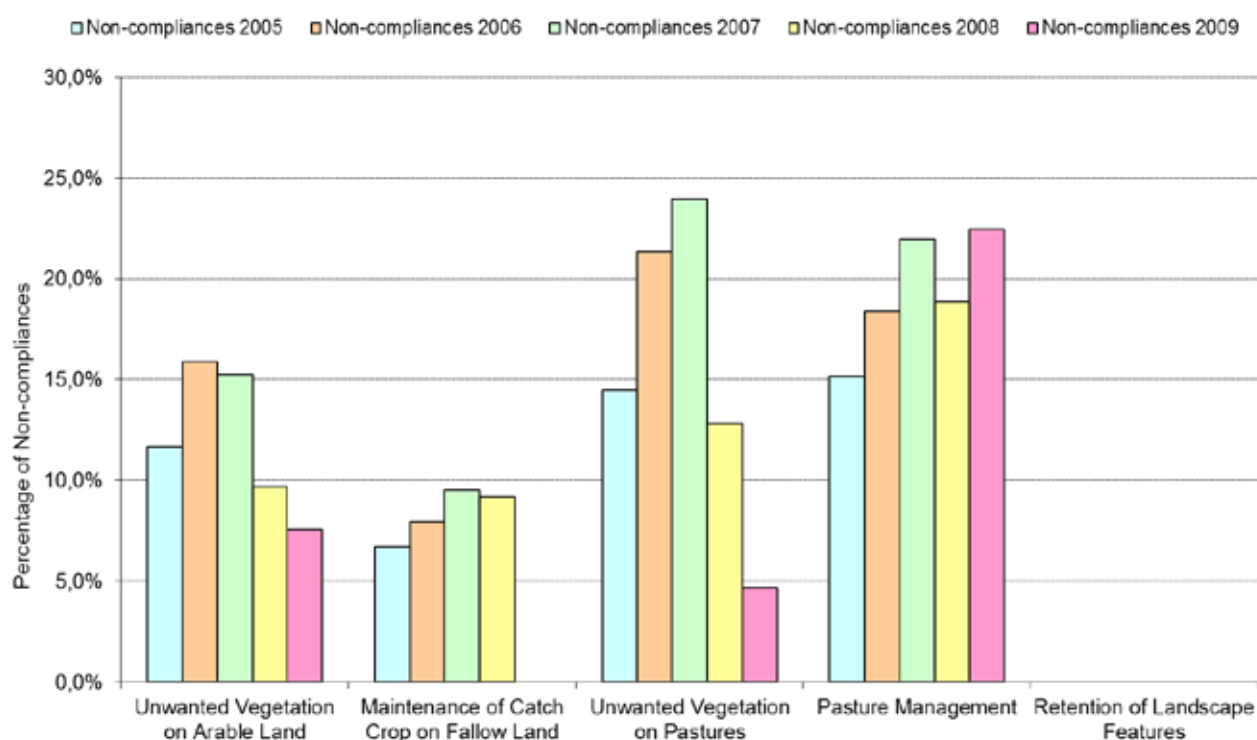


Figure 3b Non-compliance with the GAECs inspected between 2005 and 2009. Yearly non-compliance rate based on the total number of inspected farms.

Two of the GAECs were phased out during the control period 2005-2009. One rule (landscape features) was amended, whilst the other (fallow land/compulsory set-aside) was removed entirely. Hence, these requirements will not be further investigated.

Notably, no infringements have to date been identified in relation to landscape features. They were not inspected to a large enough extent during the initial years (see Chapter 4). However, for no growth of unwanted vegetation and pasture management numerous non-compliances have taken place during the same period. However, there has been a clear reduction in the number of non-compliances relating to the no growth of unwanted vegetation over the last years.

SMR and GAEC

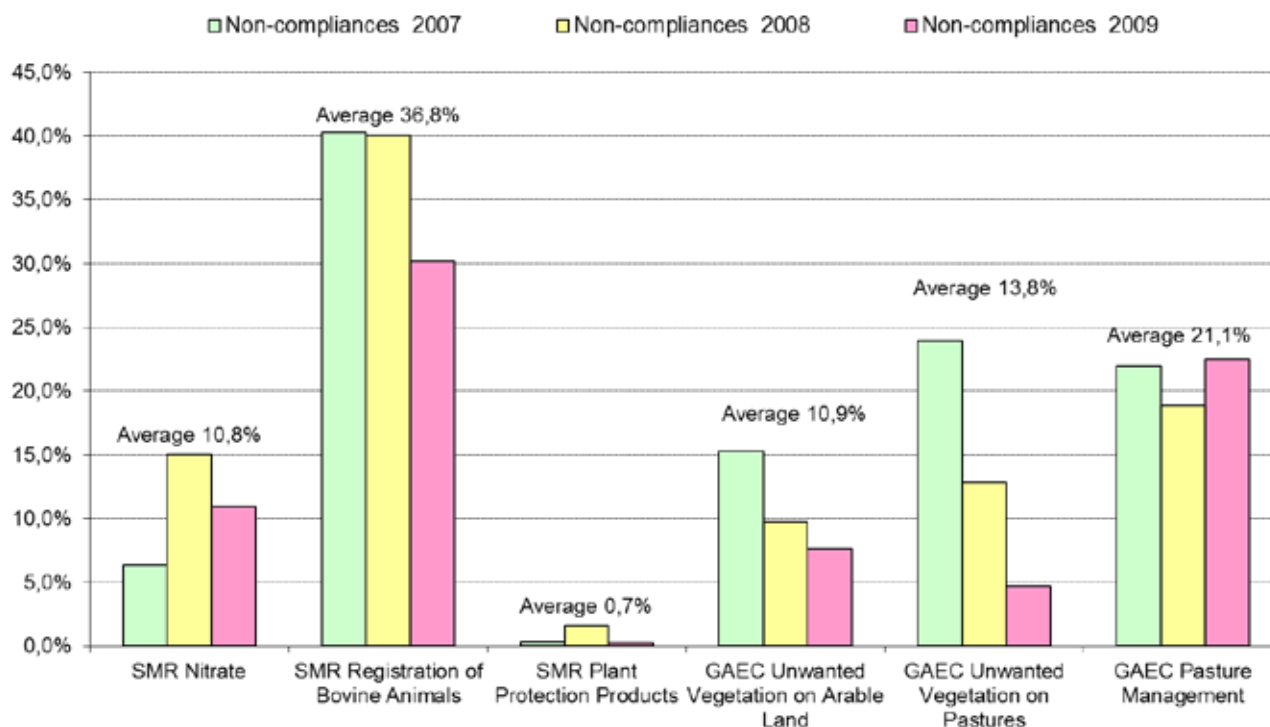


Figure 4 Level of non-compliance with the requirements inspected between 2007 and 2009. Only requirements with an environmental effect are included. A further criterion for inclusion is that there is a sufficient amount of evidence available for analysis. Yearly non-compliance rate based on the total number of inspected farms.

In total, 29 cross-compliance rules have been drawn up for Sweden. The above six have been selected both on the basis of their potential to generate environmental effects and there being enough evidence to support an analysis (Figure 4).

Figure 4 shows that, throughout the period, there have been few non-compliances of the rule on plant protection products. For most rules, the rate decreased in 2009. However, this does not apply to the requirement of pasture management, where the rate of non-compliance has continually been approximately 20 per cent. Figure 4 further shows a clear reduction in the non-compliances of the requirements of no growth of unwanted vegetation on arable land and pastures, respectively. Here, it may be assumed that the cross-compliance inspections and deductions have played a certain role.

The rate of non-compliance regarding the rule of identification and registration of bovine animals has been more than 40 per cent in 2007-2008. In 2009, the rate decreased to 30 per cent. The highest rate of non-compliance is for the requirement of CDB registration, which must take place within seven days after each incident. Also here may the cross-compliance system have had a certain effect.

Furthermore, the inspection data includes statistics on farmers who, over a three-year period, have repeated the same type of non-compliance. In 2008, there were 32 farmers who, following

inspections, received an aid deduction larger than five per cent. This is equivalent to around four per cent of the spot-checked farmers, whose non-compliances mainly involve livestock registration and animal welfare.

Figure 4 further highlights the average non-compliance rate for 2007-2009 with regards to rules that, according to previous assessment, may have environmental impact. Of the cross-compliance requirements, there are five that have had an average non-compliance rate of more than ten per cent. Considering the substantial level of non-compliance, as well as they having a potential impact on the state of the environment, the reasons behind these particular non-compliances will be subject to further examination in the coming chapters.

6.3 Conclusions on the Non-Compliances

No non-compliances have been reported for three of the SMRs: those regarding wild birds, sewage sludge and habitat/Natura 2000. There have been a low number of non-compliances of the SMRs regarding groundwater and plant protection products. When it comes to the Nitrate Directive, the level of non-compliance has been slightly higher, yet still relatively low. Conversely, the period in question has seen a substantial number of non-compliances of the GAECs on no growth of unwanted vegetation. In the most recent years, however, there has been a clear reduction in these infringements.

Two cross-compliance requirements in particular stand out with regards to non-compliances: registration of bovine animals and pasture management. Since both may affect the possibility of reaching the goals within 'A Varied Agricultural Landscape', these will be analysed further. Non-reports or late reports form the most common faults in relation to the SMR of the registration of bovine animals. This fault could be reduced through assisting farmers in establishing effective procedures for CDB reports. Non-compliance with the pasture management requirement is a clearly rising trend since the introduction of cross-compliance (Figure 3b). To some extent, this may be related to decreasing numbers of livestock. A further reason may be that, as a result of the introduction of SPS, a large number of new pastures have been established that farmers then have not been able to manage.

The non-compliance level regarding the no growth of unwanted vegetation on pastures has previously been high; however, between 2007 and 2009 this number decreased significantly. This is likely to be connected to the block inventory that was carried out during 2008 and 2009. As a result of the inventory, dense tree and shrubbery zones, which had previously been considered part of the blocks, are no longer included within the SPS. This means that precisely the areas within the blocks that had previously given rise to alerts regarding no growth of unwanted vegetation no longer classify as agricultural land and thus are no longer subject to the cross-compliance rules. In a similar way, the block inventory may explain the decrease in non-compliances of the requirement on *no growth of unwanted vegetation* on arable land. Therefore, it is not probable that there has been an actual decrease in unwanted vegetation, despite the statistics suggesting this.

7 Environmental Sanctions or Aid Deductions?

7.1 Statistics on Pronounced Environmental Sanctions

There are statistics on the environmental sanctions pronounced by the SEPA during 2002-2009. ESF were introduced on the 1 January 1999 through *Regulation No. 1998:950 regarding environmental sanction fees*. Since the 1 July 2002, the *SEPA rules (NFS 2002: 16) regarding the payment of environmental sanctions* has been in place. This regulation states that a fee should be paid to the Legal, Financial and Administrative Services Agency (LFASA) upon a special payment request.

The ESF is an administrative fee between SEK 1000 and 1 000 000 that goes to the Government. The Regulation regarding ESF further specifies for what type of infringement that an ESF is due and the amount of the fee.

The statistical survey forms part of the public data with regards to the implementation of the Swedish Environmental Code. It is a census that monitors decisions regarding ESFs. The supervising authorities are to send a copy of all decisions to the LFASA.

7.2 Methodology

The methodology involves identifying changes to the number of sanctions pronounced under Swedish legislation or alerts on the basis of aid regulations before and after the introduction of cross-compliance. More precisely, the analysis is made through examining whether there is a difference in terms of the relevant sanctions and alerts between the periods 2002-2004 and 2007-2009.

ESF under Environmental Legislation

By examining the statistics on pronounced ESFs, the outcome for a few closely related cross-compliance rules may be observed:

1. (Cross-compliance rule 1.1.4) *Application of fertilizers* – ESF, number of sanctioned farms.
2. (Cross-compliance rule 1.2.9) *Use of plant protection products* – ESF, number of sanctioned farms.

Infringements of Rules within Agricultural Aid Schemes

By examining the statistics for CDB, the outcome for yet another cross-compliance rule may be observed:

3. (Cross-compliance rule 1.2.6) *Registration of bovine animals* – livestock aids, number of farms with alerts.

7.3 Environmental Sanctions

Legislation on the Spreading of Fertilizers

During the examined period, 2002-2004, the *SBA rules (SJVFS 1998: 128)* were in place, setting the limits for the number of livestock at any one farm.

For the period of 2007-2009, this regulation was replaced by the *SBA rules (SJVFS 2004: 62)* on environmental protection with regards to plant nutrients through keeping a larger number of livestock per hectare spreading area than is allowed.

Table 1. Reported ESFs pronounced on the basis of insufficient area for spreading fertilizers. The total number of sanctions pronounced within a three-year period.

Period	Number of Sanctions Pronounced
2002-2004	25
*2007-2009	0

Source: SEPA, 2010.

During the examined period of 2002-2004, a total of 25 sanctions were pronounced; thereafter, the sanctions ceased completely in 2007-2009 (Table 1). The cause is likely to be a legislative change, as certain rules have been removed from the regulation on ESFs and are now regulated within the cross-compliance system. The rules that are currently regulated primarily through cross-compliance are those that previously had the largest number of ESFs pronounced.

Legislation on the Use of Plant Protection Products

The legislation in place for the examined period of 2002-2004 was the *Regulation (1998: 947)* on pesticides, which was concerned with the requirements and permission needed in order to use Class 2 pesticides.

For the period of 2007-2009, this regulation was replaced by the *Regulation (2006: 1010)* concerning the use of plant protection products without meeting the special requirements for the use of Class 2 products.

Table 2 Reported ESFs pronounced on the basis of unauthorized handling of plant protection products. The total number of sanctions pronounced within a three-year period.

Period	Number of Sanctions Pronounced
2002-2004	27
2007-2009	12

Source: SEPA, 2010.

Between the periods of 2002-2004 and 2007-2009, the number of ESFs pronounced has more than halved (Table 2). The cause is likely to be that the legislation has changed to some extent, as certain parts of the rules within the regulation on ESFs have been removed and are now regulated within the cross-compliance system, as well as the supervision being carried out as part of the cross-compliance systems of inspections and sanctions.

7.4 Alerts Concerning Livestock Registration and Non-Compliances of Aid Regulations

Requirement on the Registration of Bovine Animals

The legislation in place during the examined period of 2002-2004 was the *SBA rules (SJVFS 1994: 190)* on the labelling and registration of bovine animals. The rules involved a requirement for keeping an on-farm register as well as labelling and reporting all bovine animals.

For the period of 2007-2009, this regulation was replaced by the *SBA Rules (SJVFS 2007: 12)* on labelling and registration of bovine animals. These rules are rather similar and involve a requirement for keeping an on-farm register as well as labelling and reporting livestock.

Table 3 Inspected farms where alerts have been raised in regards to livestock registration. Only randomly selected farms are accounted for. Percentage of farms with alerts during the three-year period.

Period	Percentage of Farms
2002-2004	45
2007-2009	38

Source: The Department for Inspections, SBA, 2010.

Every year during the period of 2002 to 2009, approximately 400 farms with bovine animals have been randomly chosen for inspection. An alert implies a minimum of one error with regards to the animals; they may be incorrectly labelled, not registered within the on-farm register or information may be missing within the CDB.

Between the periods of 2002-2004 and 2007-2009 the percentage of farms with bovine animals with alerts decreased by seven percentage points, from just over 45 per cent to just below 38 per cent (Table 3). This reduction in noted discrepancies suggests that the cross-compliance inspections may have had some effect in improving farmers' livestock registration procedures. There is still, however, a long way to go. Considering the still high number of infringements and their potentially significant financial consequences, it is likely that the regulatory framework for inspections and sanctions is in the need of revision and simplification.

7.5 An Examination of the Problem: Aid Deductions or Environmental Sanction Fees?

To some extent, ESFs and aid deductions linked to the SMR are two measures for the same purpose. Yet, should it be possible to be penalized twice for the same error? In examining the rule amendments that have taken place within the environmental legislation of agriculture over the last years, a number of questions arise:

- Why did the ESFs decrease upon the introduction of cross-compliance?
- Have there been any environmental management improvements?
- Were the ESFs associated with any unnecessary difficulties?
- Is cross-compliance so effective that there is no longer any need for ESFs?

Has the amendment to the regulation on environmental sanctions led to the new rules applying primarily to large farms? On the other hand, what are the environmental benefits of penalizing small farms? Is the idea that ESF should apply to large farms and cross-compliance to small farms? Partly, this is determined by which farms are selected for the cross-compliance spot-check, out of the one per cent that is to be inspected yearly. Has there been a change in terms of the basis upon which this selection is made? Is it possible that the most recent legislative amendments have caused an ineffective separation between the regulation on environmental sanctions and the cross-compliance regulations?

The advantage of the *Regulation (2008: 1051) amending the animal welfare regulation* is that the Municipal Governments, no longer being in charge of animal welfare, now have more time to dedicate to environmental supervision. However, the possibly varying levels of ambition amongst the Municipal Governments with regards to environmental management may be a potential problem.

To pursue an environmental sanction case may take time (should it lead to appeal). However, with well-selected ESF (that are unambiguous, with a low “risk” for appeal) it has the potential to be a time-efficient tool. The Municipal Governments have, to an extent, learnt what battles are worth fighting. Environmental management (supervision, inspections) is faster and simpler with cross-compliance, but the system only applies to those farmers who have applied for aid. Furthermore, cross-compliance does not allow for environmental shortfalls to be rectified. This is, however, possible through Municipal Government environmental management and through ESFs.

ESF entail a high degree of bureaucratic difficulties. In this regard, cross-compliance is a more effective system, despite potentially entailing as many administrative difficulties as the ESF system. Cross-compliance infringements always lead to aid deductions, which may be conceived as a much bigger “threat” to farmers.

Processing environmental sanction cases may be very costly, thus “clear-cut” cases are given preference. It is most effective to focus primarily on the potentially serious environmental offenders. A very small percentage of alerts are pursued all the way to sanctions.

There has to be a consistency between the County Administrative Boards and the Municipal Governments in terms of assessment in cases where there is close correspondence between regulations and rules. The new systems of regulations further require the authorities to communicate with each other and complement one another. In terms of the County Administrative Boards, the inspection frequency is determined by the number of submitted centralized aid applications². For the Municipal Governments, the inspection frequency partly depends on political standpoints within the Municipalities. Moreover, Municipal Government policies with regards to the tariff system within environmental management play a significant role.

Small farms (often those that keep horses) also have to be inspected. Inspections through ESF do not apply in this context. In addition, many small horse-keeping farms cannot be “tracked down” through cross-compliance as they are not part of the SPS; here, it is solely the Environmental Code that is in place. For example, four small farms in Halmstad Municipality have recently been found to be without a manure pit. Previously, rules on manure pits were included within the regulation regarding environmental sanctions. Following the amendments to the regulation, however, neither ESF nor cross-compliance applies to such small farms. Halmstad Municipality has further started using risk-based tariff, which is a good instrument according to the Municipal Government.

Out of the 3613 farms that submitted centralized aid applications in Halland County in 2009, 276 were not part of the SPS. However, half of these farms received Environmental Aid, thus they could still be inspected. These 276 farms with no Single Payment are often very small, yet they should still run the risk of inspection. The rules on sanctions appear to mainly apply to large farms. Thus, in terms of the potential measures that the Municipal Governments may apply to shortcomings at these small farms, it is mainly a matter of injunctions under the Environmental Code.

When contacting the County Administrative Boards and Municipal Governments, the comments included: ‘It is important that the County Administrative Boards and the Municipal Governments look at things with the same eyes despite using different approaches’ and ‘we want to eliminate the necessity of subjective assessment’. These comments confirm that the most important thing in terms of collaboration within environmental management is that a common understanding is in place with regards to rules, interpretations and assessments.

7.6 Conclusions on Environmental Sanctions and Aid Deductions

25 sanctions were pronounced during 2002-2004; thereafter, in 2007-2009, they would decrease to zero. The cause is likely to be a legislative change, as certain rules have been removed from the regulation regarding environmental sanctions and are now regulated within the cross-compliance system.

Between the periods of 2002-2004 and 2007-2009 the percentage of farms with bovine animals with alerts decreased by seven percentage points. This reduction suggests that the cross-compliance inspections may have had some effect in terms of improving farmers’ livestock registration procedures.

² Note: From the original ‘SAM-ansökning’.

Environmental management (supervision, inspections) is faster and simpler with cross-compliance. There has to be consistency in terms of assessment between the County Administrative Boards and the Municipal Governments in cases where there is close correspondence between regulations and rules. The new regulatory systems further require the authorities to communicate with each other and complement one another.

The cross-compliance rules only reach the farmers participating in the SPS. In addition, cross-compliance does not allow for environmental shortfalls to be rectified. This is, however, possible through Municipal Government environmental management and through ESFs. The rules on sanctions appear to mainly apply to large farms. Thus, in terms of the potential measures that the Municipal Governments may apply to shortcomings at very small farms, it is mainly a matter of injunctions under the Environmental Code.

Upon implementation of the minimum requirements in the EU directives, the non-compliances of certain cross-compliance rules are fewer than if the stricter Swedish requirements had been implemented. This decreases the risk for aid deductions for farmers who are able to comply with the EU level yet are in non-compliance of the Swedish rules. Such an implementation contributes to a reduction in terms of the number of decisions that are appealed. At the same time, however, it entails the need to process a larger number of cases within Swedish legislation and the system of ESF.

8 The Variation between Different Farm Types

According to the statistics for the cross-compliance inspections, the infringement rate varies according to the farm production type. Hence, the risk of deduction to the Single Payment varies between different farm types. During 2007-2009, seven of the cross-compliance requirements had yearly infringement rates exceeding ten per cent (see Figure 3 a-b). Six of these requirements are animal-related, out of which four involve grazing livestock.

Table 4. Six farm types of varying production size. All figures in the table are calculated averages (SEK, ha, LU).

Type of Requirement		GAEC 2.1.1	SMR 1.2.6	SMR 1.2.6	SMR 1.2.6	SMR 1.1.4	GAEC 2.1.4	GAEC 2.1.5		
Infringements, Percentage (%) of Inspected Farms		10.9			36.8	10.8	13.8	21.1		
Requirements		No Growth of Unwanted Vegetation		Livestock Registration		Handling of Fertilizers		Management & No Growth		
	Percentage (%) of All Farms	Agricultural Aid, SEK*	Arable Land, ha	Sheep LU	Pig, LU	Bovine, LU	Dairy Cow, LU	Handling of Fertilizers LU	Grazing, ha	Deduction 3 (%) SEK*
Farm Types										
1 Cereals+Grazing	27	75 250	24	-	-	-	-	-	5	2 250
2 Cereals	42	59 950	25	-	-	-	-	-	-	1 800
3 Grazing Livestock, Small	20	121 200	30	1.2	< 0.3	7	-	8	9	3 650
4 Grazing Livestock, Large	1	761 150	157	4.7	< 0.3	82	-	87	57	22 850
5 Livestock, Small	7	261 200	58	< 0.3	3	12	22	37	10	7 800
6 Livestock, Large	3	652 450	152	< 0.3	103	33	74	211	23	19 600

* Rounded up/down to the nearest SEK 50.

Farm Types

Type 1 Cereals + grazing without animal husbandry (bovine, sheep, pig), with pastures

Type 2 Cereals without animal husbandry (bovine, sheep, pig), without pastures

Type 3 Grazing livestock, limited animal husbandry (suckler cows, heifers, steers, sheep) < 50 suckler cows, alt. < 150 sheep

Type 4 Grazing livestock, extensive animal husbandry (suckler cows, heifers, steers, sheep) > 50 suckler cows, alt. > 150 sheep

Type 5 Livestock, limited (dairy cows, bulls, pigs) < 50 dairy cows, alt. < 150 pig capacity

Type 6 Livestock, extensive (dairy cows, bulls, pigs) > 50 dairy cows, alt. > 150 pig capacity

Table 4 shows six categories of typical farms with average aid amounts, areas, and number of livestock units (hereafter referred to as LU). There are most farms within Farm Type 2 (small cereal farms), while the lowest number of farms belong to Farm Type 4 (large farms with grazing livestock). Farm Type 4 has the highest average aid amount and thus would be worst affected by an aid deduction. The highest number of cross-compliance spot-checks with accompanying risk for infringements occur at Farm Types 5 and 6. Farm Type 3 (small farms with grazing livestock), which is the most extensive in terms of cross-compliance requirements, runs the highest risk of potential aid deductions.

Table 5. The percentage distribution of the different Farm Types (of the 100 largest/smallest farms in terms of agricultural aid) and the average potential deduction amounts.

Farm Types	Percentage (%) of the 100 Largest	Percentage (%) of the 100 Smallest	The Largest Farms' Deductions in SEK*	The Smallest Farms' Deductions in SEK*
1. Cereals + Grazing	24	53	81 150	192
2. Cereals	17	44	90 200	38
3. Grazing Livestock, Small	8	2	63 150	105
4. Grazing Livestock, Large	16	0	90 500	-
5. Livestock, Small	1	1	115 500	30
6. Livestock, Large	34	0	79 700	-

* based on a 3 % deduction of the total aid amount, rounded to nearest SEK 50.

Farm Types 5 and 6 are primarily divided amongst pig and dairy farms. Pig farms have fewer cross-compliance rules to follow and non-compliance result in lower deduction amounts than dairy farms. Out of the total number of farms belonging to Type 5 and 6, over 82 per cent are dairy farms. Table 5 shows that the smallest farms principally belong to Farm Types 1 and 2, and they have fewer cross-compliance requirements to follow. Farm Types 4 and 6 primarily consist of large farms with the highest number of cross-compliance rules. The extremes in terms of deductions following of non-compliances are one small Type 1 cereal farm, and one large Type 6 dairy farm. This result may be considered plausible with regards to potential environmental effects. Furthermore, minor environmental offences may result in large aid deductions at large farms across all Farm Types. These deductions may then be considered as disproportionate.

Table 6 Expected aid deductions on the basis of reported shortcomings with regards to pasture management at farms that are in receipt of the 100 largest, respectively the 100 smallest, Single Payment amounts.

	Pasture, ha	Aid Deduction, 3%
The 100 Farms with the Largest Agricultural Aids	142	89 700*
The 100 Farms with the Smallest Agricultural Aids	1.3	36
Extreme Value	2.1	147 350*

* rounded to the nearest SEK 50

A large number of farmers' view the outcome of the cross-compliance spot-checks and deductions as unfair, perhaps quite rightly so; occasionally, the size of the aid deduction varies significantly between two non-compliances that are seemingly alike. Should the farmer fail to meet the requirement of pasture management, the deduction amount may vary between SEK 30 to extremes of SEK 71 000 per hectare of pasture, as seen in the above diagram.

Table 7. The total pasture area as well as the number of farmers in receipt of the Single Payment and the AEP for pastures³. Potential mean pasture area and mean Single Payment deduction as well as the median Single Payment Deduction.

Total Pasture Area, Hectare	408 305
Total Estimated Amount (3 %)	203 672 500*
Total Number of Farmers	41 331
Mean Pasture Area, Hectare	9.9
Mean Single Payment Deduction, SEK	4 950*
Median Single Payment Deduction, SEK	1 800*

* rounded to the nearest SEK 50

The total pasture area within the SPS is just over 408 000 hectare. This area is divided between just over 41 000 farmers. The potential mean Single Payment deduction may be estimated to approximately SEK 5000 for an average pasture area of 10 hectares (Table 7). Therefore, farmers risk an average deduction of SEK 500 per hectare of pasture, if they should non-compliance. In principle, then, they risk half of their yearly Single Payment on the basis of the pastures alone. The reason behind these large deduction sums is that the farmers have got additional land and environmental elements for which they receive aid, other than the pasture area related to the infringement. Moreover, they may face further AEP deductions on the basis of the *additional cross-compliance requirements* for pastures.

³ Note: From the original 'betesmarkersättning'.

Table 8 Expected aid deductions due to the absence of livestock registration or labelling at livestock farms in receipt of the 100 largest, respectively the 100 smallest, Single Payment amounts.

	Livestock Units, LU	Aid Deduction 3 %
The 100 Farms with the Largest Agricultural Aids	188	84 800*
The 100 Farms with the Smallest Agricultural Aids	2.1	62
Extreme Value	2.0	72 950*

* rounded to the nearest SEK 50

A comparable disproportionality, as in the example of pasture management, may arise where a farmer is subject to aid deductions due to an absence of labelling or registration of livestock. The sum of the deduction may amount to SEK 30 or in the extreme case just over SEK 36 000 per **livestock unit (LU)** (Table 8).

8.1 Strategies to Meet the Cross-Compliance Regulations

In 2009, a total number of 78 697 farms received the Single Payment and were thereby obliged to comply with the cross-compliance rules. Out of the farms (12 635) that were not part of the SPS, 91 per cent lacked arable land.

Farms in 2009	<u>Percentage (%) of all Farms</u>
Total number of farms	78 697
Total number of livestock farms (bovine, sheep)	22 688
Total number of farms with pasture, without livestock	24 804
Livestock Farms in 2009 (bovine, sheep)	<u>Percentage (%) of all Livestock Farms</u>
Livestock farms without pasture	18
Livestock farms without arable land	1
Change in Number of Farms during 2003 to 2009	<u>Change (%) in Percentage Points</u>
Livestock farms	- 15
Farms with pasture, without livestock	+8
Livestock farms without pasture	+1
Livestock farms without arable land	+1

The percentage of livestock farms (bovine, sheep) was just under 30 per cent in 2009. At the same time, the percentage of farms with pastures but no livestock was just over 30 per cent. Since the agricultural statistics further show that 18 per cent of all livestock farms (bovine, sheep) lack pastures, it is interesting to analyze farmers' behaviour in relation to cross-compliance. The statistics only show the situation as it was in 2009. Thus, in order to assess whether cross-compliance has affected farmers' behaviour, the changes ought to be analyzed. It is reasonable, in this case, to look at the period between 2003 (before cross-compliance was introduced) and 2009 (after four years of cross-compliance).

Between 2003 and 2009, the percentage of livestock farms decreased by 15 percentage points. During this period, the percentage of farms with pastures but without livestock increased by eight percentage points. The percentage of livestock farms without pastures has increased by merely one percentage point.

8.2 Conclusions on Farmers' Choices

According to the statistics for the cross-compliance inspections, the number of infringements varies in line with the production type of the farm. Hence, the risk of deduction to the Single Payment varies between different farm types.

A large number of farmers quite rightly view the outcome of the cross-compliance systems of inspections and deductions as unfair; for there may be large differences in the amounts of the aid deductions between two infringements seemingly alike. As the analyses indicate, if a farmer fails to meet the requirement of pasture management, the deduction amount may vary between just under SEK 30 to extremes of over SEK 71000 per hectare of pasture, depending on the farm's total aid amount.

This compilation shows a clear trend among farmers to separate animal husbandry from agricultural land and particularly from the pastures. The analysis further shows an increased concentration of animal husbandry within Swedish agriculture, whilst the pastures remain within the original properties. It is not possible to prove that these developments are an attempt by individual farmers to soften the impact of the cross-compliance aid deductions.

The analysis clearly shows that certain farmers would run a decreased risk of substantial aid deductions should they divide their practice between several units.

9 The Cross-Compliance Advisory Services

Farmers applying for SPS, AEPs or other aids within cross-compliance are offered advice on cross-compliance as well as health and safety. The EU requires each Member State to have cross-compliance advisory services in place. In Sweden, 30 per cent of the actual costs of the advisory services is paid by the farmer whilst the rest is financed through the RDP.

As part of the advisory services, an advisor pays a visit to the farm and informs the farmer about what cross-compliance and health and safety regulations that need to be adhered to. The information is adapted to each farm's individual circumstances. The advice is divided into one General Module for all farms and a Livestock Module for livestock farms.

The General Module comprises advice on GAECs, the protection of groundwater, storing and spreading of fertilizers, the use of plant protection products, and additional cross-compliance regulations linked to the AEP. The advice is required to include information on health and safety as regulated within Community Legislation.

The Livestock Module includes advice on good animal protection, reporting and preventing TSE disease, and labelling, record keeping and registration.

The cross-compliance advisory services offer an opportunity for support in interpreting and connecting the complicated GAECs and SMRs to one's own farming. A minor mistake with regards to these requirements may imply major financial consequences. Following the advisory visit, the farmer receives a letter summarizing the visit as well as concrete advice on what needs doing in order to comply with the regulatory framework. The letter is followed up by a telephone conversation.

9.1 How Successful are the Advisory Services?

In spring 2010, Statistics Sweden (SCB) on behalf of the SBA carried out a postal survey of the views of training programmes within the RDP in Sweden. The survey is based on a selection of 8000 individuals that have participated in any form of advisory services within the RDP. The report separately accounts for participation in the cross-compliance advisory services (SCB, 2010).

The individuals who have participated in the cross-compliance advisory services have exclusively been active farmers, and 85 per cent have been men. The areas that were most requested as part of the information were issues related to the environment and to animal husbandry.

The survey included the question:

Has the quality and usefulness of the cross-compliance advisory services been satisfactory?

Here, 90 per cent viewed the competence of the advisors as very good or quite good. Approximately two out of three participants benefited greatly or partly from the advisory letter put together by the advisor following the meeting. According to 67 per cent of the participants, the most useful area of the services is the information regarding the GAECs.

The areas within the cross-compliance advisory services that are viewed as most useful, in per cent

	Percentage (%) of Participants in the Services
GAEC Agricultural Land	67
Animal Protection	47
Crop Production Issues	44
Other Livestock-Related Issues	32
Food and Feedingstuff Safety	17

Another question asked was:

Have any measures been taken as a result of the advisory services?

Two out of three answered that they have taken measures following the advisory services.

Areas where measures have been taken, in per cent

	Percentage (%) of Participants in the Services
GAEC on Agricultural Land	52
Animal Protection	38
Crop Production Issues	36
Other Livestock-Related Issues	24
Food and Feedingstuff Safety	13

Most commonly, farmers had taken measures in regards to the GAECs, where 52 % had taken some measure following participation in the services.

A third question that was asked in the survey was:

Have the advisory services contributed to any operational changes?

Over half of farmers have indicated, if the reply “to some extent” is taken into account, that the advisory services have contributed to changing their way of working and, respectively, that they have become more environmentally friendly in their work.

The advisory services’ role in operational changes, in per cent

Contributed to Changes:	Percentage (%) of Participants in the Services	
	To a Large or Some Extent	Out of Which to Some Extent
Become more environmentally friendly in their work	58	43
Changed the way in which they work	55	47
Improved production method	37	32
Started using computer-based aids	19	15
Introduced new products, types of production	16	13

9.2 Conclusions on the Advisory Services

Farmers who have bought the cross-compliance advice are generally positive towards the quality and contents of the advisory services. The advisory services have contributed to a large percentage of farmers becoming more environmentally friendly in their work. This is assumed to have positive effects on the environment, even if it is not possible to state to what degree.

Two out of three answered that they have taken measures following the advice of the advisory services. The most common areas where measures have been taken are management of agricultural land, animal protection and various crop production issues. An expansion of the advisory services is likely to reduce the number of infringements within the above mentioned areas.

The advisory services are an important complement to the regulatory framework, with a potential to decrease the number of non-compliances. Another significant aspect is that an increased level of information and advice can contribute to reducing farmers’ feeling of uncertainty in relation to cross-compliance regulations.

10 How are Farmers Affected by Cross-Compliance?

In order to get an idea of how farmers have perceived the cross-compliance regulatory framework and its system of inspections and deductions, a preparatory study in the form of a postal survey was carried out. This was part of the investigation ‘Agriculture in Sweden 2010’⁴, produced by the company Landja. The survey is put to individuals managing agricultural buildings and more than ten hectare of arable land. The selection is made randomly, on the basis of Statistics Sweden’s agricultural registry.

‘Agriculture in Sweden 2010’ is a postal survey sent to 1000 farmers every spring and autumn since 1973. The survey, in which we participated with questions regarding cross-compliance, was conducted by mail and with telephone reminders in March – April 2010. The response rate was 58 %, representing 516 farms. The responses may still be regarded as reliable as the stability of the survey has been confirmed.

10.1 The GAECs and Livestock Registration Have Had the Largest Effect

Question: Which cross-compliance regulation(s) has/have affected the way in which you carry out your farming work since the introduction of cross-compliance?

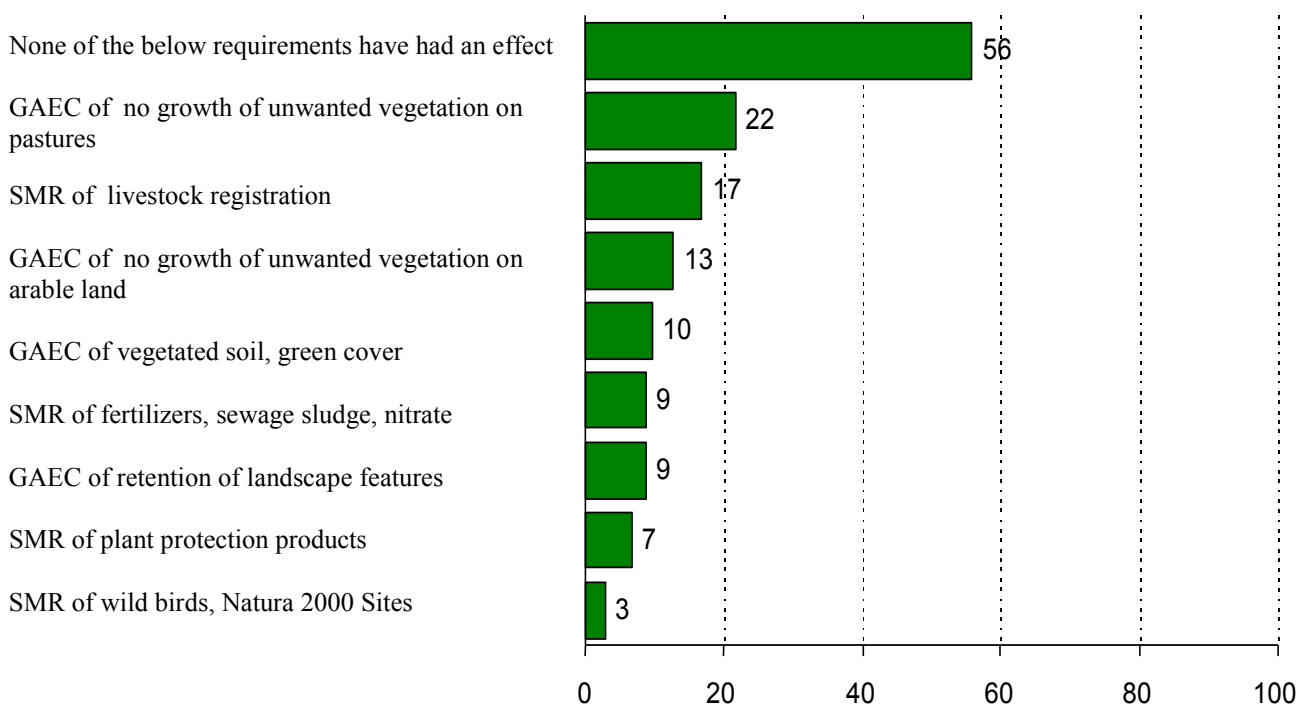


Figure 5. The extent to which different cross-compliance rules have affected the way in which farmers conduct their work. Effect in percentage, out of the farmers completing the survey. Source: ‘Agriculture in Sweden 2010’

⁴ Note: From the original: ‘Sveriges Lantbruk 2010’.

56 per cent of respondents stated that the introduced cross-compliance regulations have not affected their farming work (Figure 5). Hence, 44 per cent of farmers have had to adapt in order to comply with the regulations. The GAECs have had the largest impact on agricultural practice. Additionally, the registration of bovine animals has entailed an increased level of work.

10.2 Cross-Compliance Entails Additional Work

- for farmers who have stated that they are affected

Question: How many hours of work have been incurred yearly as a result of cross-compliance, since its introduction?

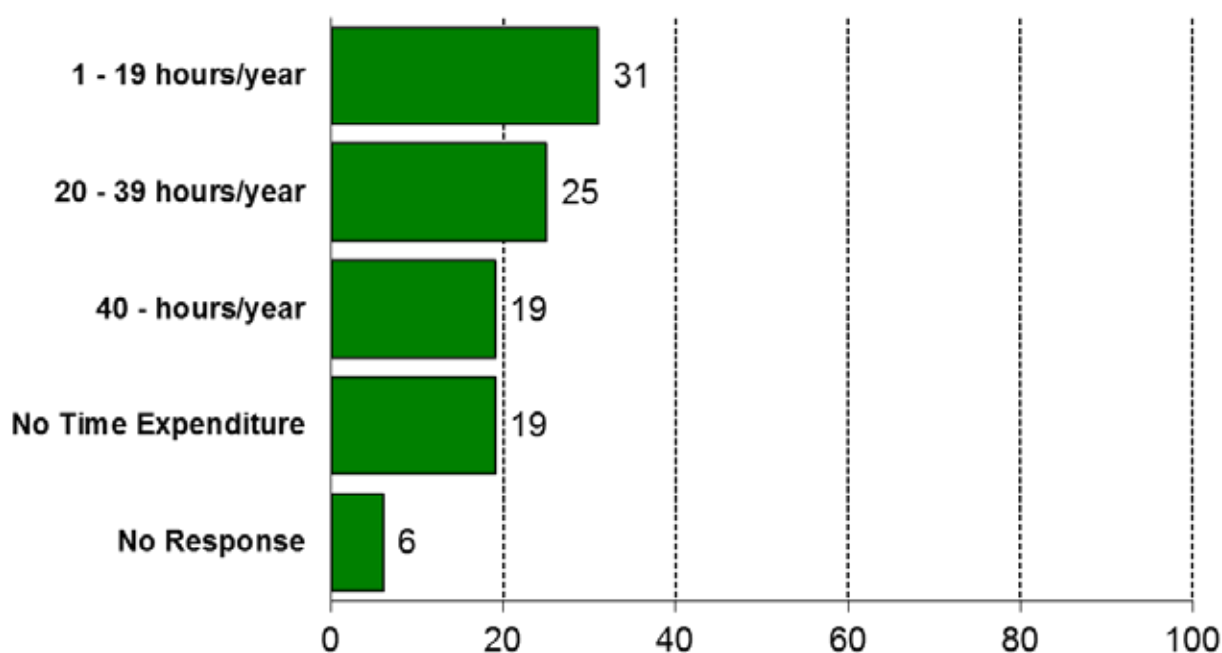


Figure 6 Number of hours invested by farmers who have been affected by cross-compliance. Source: ‘Agriculture in Sweden 2010’

Out of the farmers who have stated that they have been affected by cross-compliance, over 75 per cent have stated that they have had to spend extra working hours. 30 per cent have had to invest between one and 19 hours per year (Figure 6).

Estimated Average Time Expenditure

According to the Landja survey, each farmer has to invest an average of ten minutes per hectare in order to meet the cross-compliance requirements. There is a large variation as the small farms have to spend an average of ten times as much time per hectare than the large farms. Furthermore, livestock farms have to invest twice as much time per hectare than farms without livestock (Table 9). A more exhaustive account of the time expenditure and the increased costs that the introduction of cross-compliance has entailed will be presented in Chapters 10.6 and 10.7.

Table 9. Average time expenditure per hectare to meet the cross-compliance requirements. Source: 'Agriculture in Sweden 2010', revised by the SBA.

The Data is Comprised by 516 Farms in Sweden	Time Expenditure per ha Agricultural Land
All Farms	10 min
The Farms with the 50 Largest Arable Land Areas (150-2200 ha)	4 min
The Farms with the 50 Smallest Arable Land Areas (10-13 ha)	39 min
Farms with Livestock (65%)	13 min
Farms without Livestock (35%)	7 min

10.3 Cross-Compliance Causes One in Three Farmers to Feel Negatively About Farming

Question: Farmers feel differently towards cross-compliance. Some view cross-compliance as a good thing and that they therefore have started to feel more positive towards farming. Others view them as bad and that they therefore have become more negative towards farming. What is your opinion?

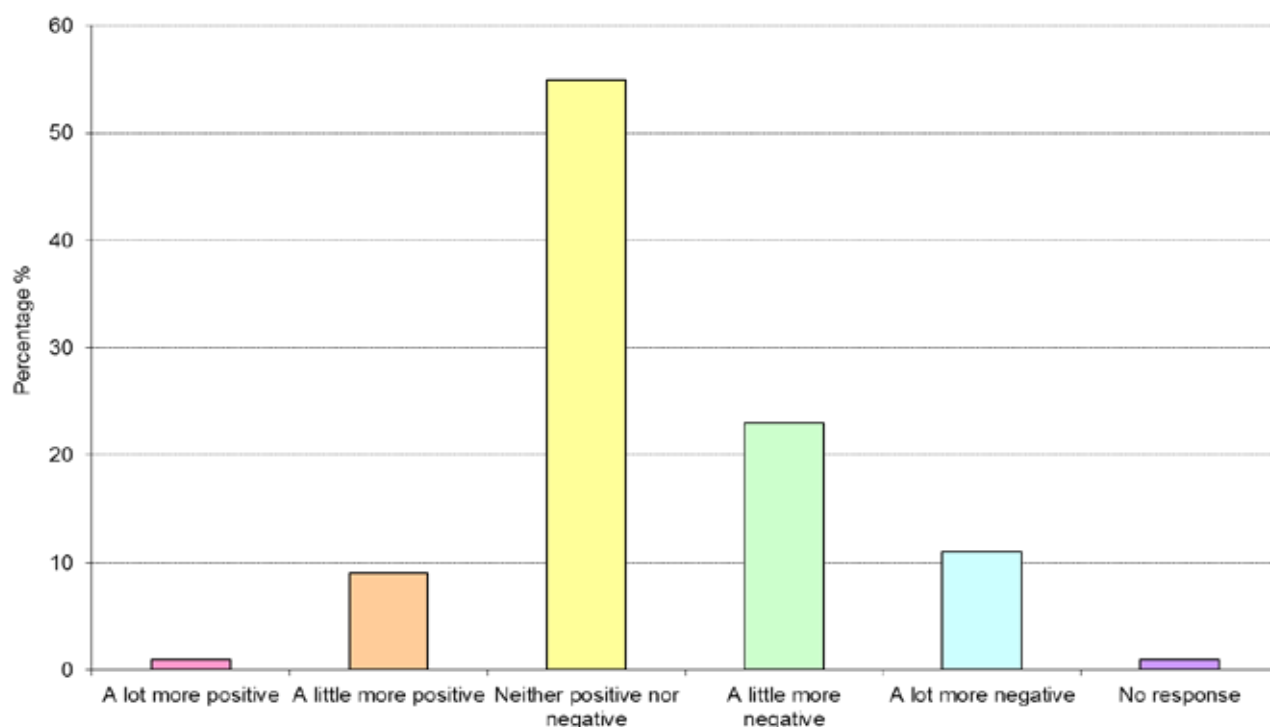


Figure 7 Farmers' views of the introduction of cross-compliance, in per cent out of respondents. Source: 'Agriculture in Sweden 2010'.

More than half of farmers are neither positive nor negative towards cross-compliance (Figure 7). Approximately ten per cent of farmers view cross-compliance as having a positive effect on agriculture whilst almost a third of farmers state that cross-compliance has made farming harder for them. The fact that so many farmers view cross-compliance as having had no effect on their agricultural practice is likely to be due to them actually not being that affected by the regulations, since many of them run cereal farms (Table 7).

10.4 Extended Survey: Time and Money

The extended survey within ‘Agriculture in Sweden 2010’, which was partly a telephone interview, investigated more closely the expenditure in time and money in connection with adhering to cross-compliance. The selection for the extended survey was based on the farmers stating that they had been affected by cross-compliance as well as those who had not been affected but who had expressed negative or positive views. In total, 312 farmers were selected for the survey, out of which 233 responded. Thus, the response rate was 75 per cent.

10.5 Which Cross-Compliance Requirements Are Most Time and Money Consuming?

The first question asked in the extended survey was concerned with which of the cross-compliance requirements that had cost the farmers the most in terms of time and money. Over 40 per cent of the farmers stated livestock registration and the GAECs for pastures as having taken up the most time and incurred the highest costs (Figure 8).

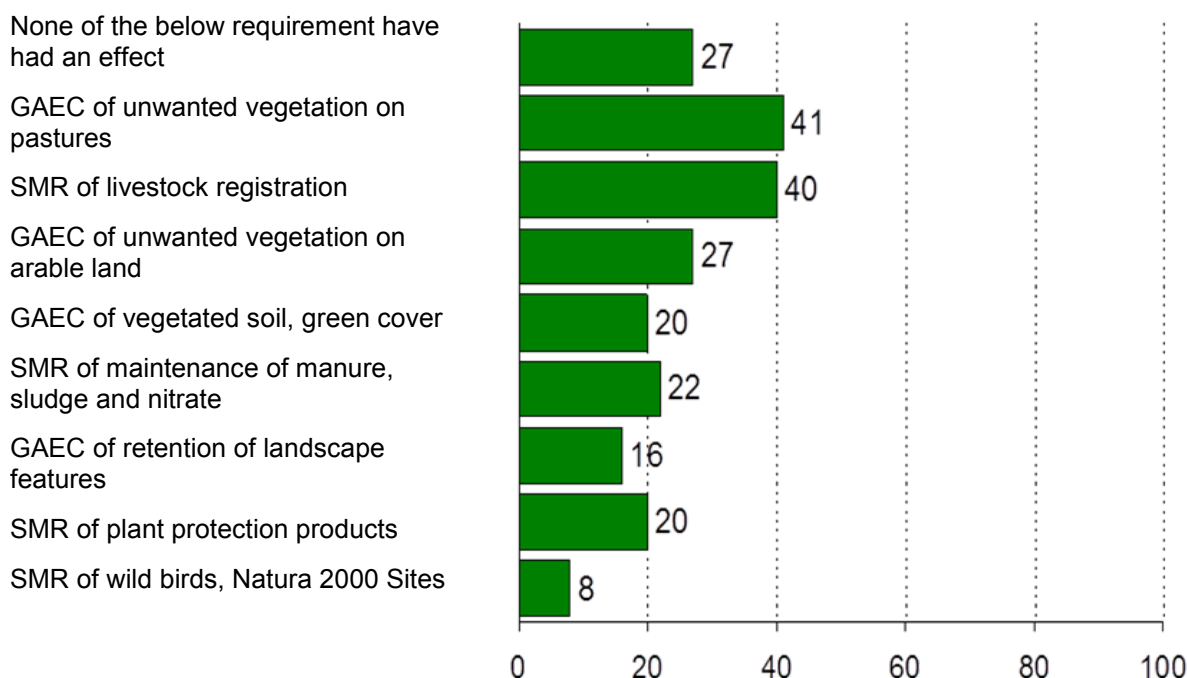


Figure 8 Cross-compliance regulations that have taken up the most time and incurred the highest costs. Percentage (%) of farmers who responded to the survey. Source: ‘Agriculture in Sweden 2010’, the extended survey.

Additionally, approximately 20 per cent of farmers had had to invest time and money in complying with a number of GAECs, vegetated soil, manure spreading, plant protection products etc. The SMRs on environmental protection, wild birds, etc. have had least effect on agricultural practice.

10.6 Additional Time Consumed by Cross-Compliance

Table 9 shows the total average amount of additional time (administration and production) that has been taken up, for different farm types and per hectare. In the extended survey, the farmers were asked how the additional time was distributed. Over 70 per cent of farmers responded that they had spent increased amounts of time on administration. In regards to production, approximately 45 per cent of farmers stated that their workload had increased as a result of cross-compliance.

Table 10 shows the distribution of the additional time spent on administration. In total, there were 118 farmers (72%) who stated that additional time had been spent on administration.

Table 10. The distribution of additional administration time in connection with cross-compliance. Source: Landja extended survey (response by a total of 118 farmers).

	Percentage (%) of Responding Farmers	Yearly Number of Additional Hours, Median
Office Work	87	8
Gathering of Information	81	8
EU Advisory Services	54	4
Inspection Visit	48	15
Contact with Authorities	26	4
Other (Appeal, Inspection Revisit)	4	2

The types of work activity in which most farmers have invested additional time in connection with cross-compliance are office work, at 87 per cent, and gathering of information about the regulations, at 81 per cent. In itself, the amount of time taken is not that significant, at eight hours per year for each respective activity. The most time-consuming activity for farmers has involved being available for inspections, at 15 hours per year. Just fewer than 50 per cent of the farmers stated that they were available during an inspection.

The way in which the additional time was distributed within production is shown in Table 11. In total, 73 farmers (45%) have stated that cross-compliance has increased their time spent on production. Most farmers, 84% of those responding, have invested 14 hours per year in changing their maintenance methods (pastures). Around 20 per cent of farmers have invested additional time, 8-10 hours per year, in changing their cultivation methods (arable land) or in changing production areas.

Table 11. The distribution of additional production time in connection with cross-compliance. Source: Landja extended survey (response by a total of 73 farmers).

	Percentage (%) of Responding Farmers	Yearly Number of Additional Hours, Median
Changed Maintenance Methods	84	14
Changed Cultivation Methods	23	10
Changed Production Areas	19	8

10.7 Additional Costs in Connection with Cross-Compliance

Within the extended survey, farmers responded among other things to the question of how their additional costs were distributed. Approximately 45 per cent of farmers responded that their administrative costs had increased. For 47 per cent of the farmers, production costs had increased as a result of cross-compliance.

The administrative measures that have incurred costs for most farmers in connection with cross-compliance are EU advisory services and office supplies, whereas the production measures that have incurred costs for most farmers are consultancy services, certification and control systems. The yearly costs have been relatively low, between SEK 4300 (for certification and control systems) and SEK 900 (for office supplies).

Table 12. The distribution of the increased administrative and production costs in connection with cross-compliance. Source: Landja extended survey (response by a total of 77 farmers).

	Percentage (%) of Responding Farmers	Yearly Cost in SEK, Median
Administration, EU Advisory Services	74	2300
Administration, Office Supplies	45	900
Production, Consultancy Services	36	1700
Production, Certification/Control Systems	31	4300

Estimated Average Cost

According to the Landja survey, it has cost each farmer an average of SEK 57 per hectare to meet the requirements of cross-compliance. There are large differences, for example in terms of livestock farms, which have on average 2.5 times as high costs per hectare as farms without livestock (Table 13). However, the difference in costs per hectare to meet cross-compliance is negligible between large and small cereal farms.

Table 13. Average cost per hectare to meet the cross-compliance requirements. Source: ‘Agriculture in Sweden 2010’, revised by the SBA.

Based on 516 farms in Sweden	Average Cost per Hectare Agricultural Land
All Farms	SEK 57
The Farms with the 50 Largest Arable Land Areas (150-2200 ha)	SEK 39
The Farms with the 50 Smallest Arable Land Areas (10-13 ha)	SEK 39
Farms with Livestock (65%)	SEK 74
Farms without Livestock (35%)	SEK 30

10.8 Farmers’ Views of Cross-Compliance

The participants of the extended survey were farmers who had stated that they had been affected by cross-compliance to any extent as well as those who had expressed negative or positive views on cross-compliance. Approximately 60 per cent of the participants of the first survey were selected for the extended survey. Out of the respondents to the extended survey, 45 per cent were negative towards cross-compliance and 41 per cent did not have a definite view of cross-compliance. Remarkably few farmers were positive towards cross-compliance.

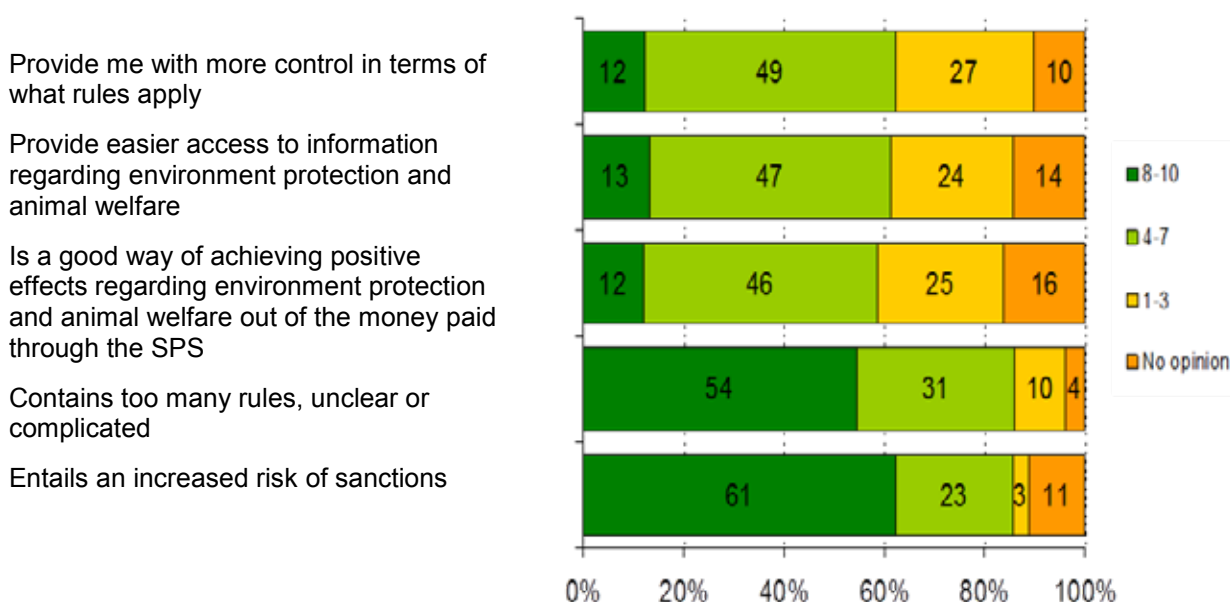


Figure 9a Farmers’ responses to how they view cross-compliance, on a scale 1-10 where 10 means the claim being fully true and 1 means not true at all. Source: Landja extended survey.

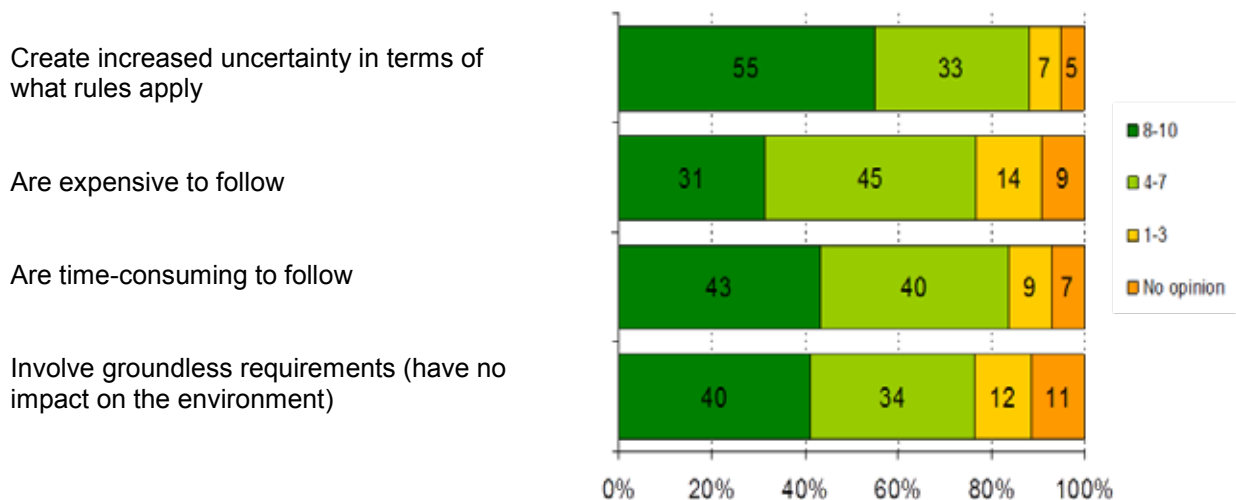


Figure 9b Farmers' responses to how they view cross-compliance, on a scale 1-10 where 10 means the claim being fully true and 1 means not true at all. Source: Landja extended survey.

Figure 9 shows farmers' views of cross-compliance. More than half of farmers agreed with the claims that *cross-compliance causes increased uncertainty, implies hard-to-understand rules and entail an increased risk of sanctions*. Only approximately ten per cent of farmers are of the opinion that claims such as *cross-compliance provides better control, information or positive environmental effects* corresponds well with their reality.

The following question was also put to the farmers in the extended survey:

If you have become more/much more negative towards running your farm following the introduction of cross-compliance, what has been the determining factor behind this?

Approximately 100 answers were submitted by farmers participating in the extended survey. Although they do not represent all farmers obliged to follow cross-compliance regulations, they represent a large group of farmers who feel that they have been affected by cross-compliance. Five answers that reflect, as far as possible, the views and opinions of these farmers are:

'Far too many inspections, I feel uncertain and anxious almost every day that I might be doing something wrong. It is difficult to be well-informed of all the rules as only further ones are introduced as well as numerous amendments'

'The freedom of being a farmer is disappearing continuously. One is punished for making mistakes in one's own business'

'Uncertainty with regards to what rules apply, is what I do correct? What are the implications of a potential inspection? Minor errors could have large effects'

'The rules change frequently, difficult to know what they really are. Inspectors or authorities are allowed to pass individual assessments. Too few clear rules'

'As a farmer you lose control in the end, having to employ four consultants in order to keep up with the running of the farm'

The survey shows that farmers in Sweden, to varying degrees, have been affected by cross-compliance. It is primarily those that run small farms and/or livestock farms that are negative towards cross-compliance. All in all, the survey provides a rather negative --view of cross-compliance.

However, since 55 % of farmers have not responded to the survey, which is likely to be because they are not affected by cross-compliance, the responses give an overly negative depiction of the cross-compliance systems of rules and spot-checks.

10.9 Conclusions on the Ways in Which Farmers are Affected by Cross-Compliance

The cross-compliance regulations that have had the greatest impact on farms are the SMRs regarding pastures and animal registration. However, the fact that over half of all farmers view cross-compliance as having no effect on their agricultural practice is likely to be due to the cross-compliance regulations applying to them only to a small extent. The reason for this is that many of these farmers run cereal farms.

The survey shows that farmers' costs in terms of time and money to comply with cross-compliance are relatively low in comparison with other costs and types of work necessary to run a hectare of agricultural land. There is a significant amount of variation between different farms. For farmers with small margins, the cost in time and money may be significant.

Each farmer has to invest an average of 10 minutes per hectare in order to meet the cross-compliance requirements. Altogether, farmers affected by cross-compliance are required to do an extra week of work yearly. The variation is significant considering that the smallest farms have to invest approximately ten times as much time as the large farms per hectare. Livestock farms have to invest twice as much time per hectare as farms without livestock.

According to the survey, 45 per cent of farmers in Sweden state that they have been affected by cross-compliance to varying degrees. The most common views that the farmers have in regards to cross-compliance is that it increases the level of uncertainty, contains unclear rules and creates unmotivated, high risks for aid deductions.

Furthermore, numerous farmers regard the cross-compliance regulations as time-consuming to comply with and that they provide few clear environmental effects. Primarily, it is farmers running small farms and/or livestock farms that are negative towards the system of cross-compliance.

11 What are the Costs of Cross-Compliance?

11.1 Costs for the SBA

In 2009, SBA paid the County Administrative Boards a total of SEK 6 million to fund their additional work of cross-compliance inspections. The amount was allocated on the basis of the percentage of inspections carried out by each County Administrative Board out of the total number of 804. The funding amount was the same as for 2008.

The costs for the SBA of cross-compliance administration and inspections are difficult to assess. It is difficult to separate out the work around implementing cross-compliance systems of regulations and inspections from the work around other aid rules within the SBA departments for aid and inspections.

The costs that may be calculated are those explicitly accounted for within the cross-compliance account. For 2010, these costs were just under SEK 6 million. Hence, in total, the yearly cross-compliance administration cost is SEK 10-15 million.

In order to reduce the administrative burden for farmers and to increase efficiency, the SBA has sought to coordinate the work with the County Administrative Boards as far as possible.

11.2 Costs for the County Administrative Boards and Municipal Governments

Costs for the County Administrative Boards

The additional costs for the County Administrative Boards to run the inspections of cross-compliance are primarily reflected in increased working hours in terms of effort and travel time. These costs are recorded within each County Administrative Board's standard procedures for time and administration. The problem lies in the fact that environmental management checks and cross-compliance spot-checks are conducted simultaneously during inspections. Thus, the estimated time is dependent on the way in which each individual inspector has recorded his/her time. There is a need, therefore, to improve the follow-up, for example through introducing new accounts.

Cross-compliance inspection costs are otherwise low for the County Administrative Boards as training programmes, computing power and work materials related to cross-compliance are largely provided by the SBA. Out of the total number of SPS applications submitted to each County Administrative Board, one per cent is normally to be inspected vis-à-vis the cross-compliance regulations. The work following a cross-compliance inspection is particularly time-consuming.

For example, in 2009, Halland County Administrative Board carried out approximately 220 spot-checks at livestock farms and 40 checks at crop production farms. In terms of the

livestock farms, the number of inspections of food and feedingstuff has increased compared with previous years. For 2009, Halland County Administrative Board accounted for cross-compliance inspections of approximately SEK 400 000 within their administrative system. The costs of the subsequent work of aid deductions within animal welfare and livestock registration were not included in the above costs. Approximately 0.2 person-hours are estimated to have been invested in this work.

In Halland, the additional costs for cross-compliance inspections with subsequent administrative and aid deduction work in 2009 was estimated to between SEK 500 000 and SEK 700 000. The additional cost of cross-compliance inspections and the administration of aid deductions are difficult to distinguish from other forms of environmental inspection work. A very small proportion of the additional cost has been invested in new equipment etc. The costs have been divided between environmental inspections, animal welfare and livestock registration inspections, since environmental regulations and inspections has become more extensive than before.

If the cost for the cross-compliance inspections at Halland County Administrative Board are multiplied by all cross-compliance inspections carried out by County Administrative Boards in 2009, the total cost amounts to over SEK 12 million.⁵

Costs for the Municipal Governments

The costs of the Municipal Government livestock inspections have largely been taken over by the County Administrative Boards, which should have freed money towards environmental management on a Municipal level provided there being willingness politically. New environmental management costs for the Municipal Governments involve administrative labour. The cost-efficiency of the control operations requires a good level of partnership between the County Administrative Boards and the Municipal Governments. The Municipal Governments and the County Administrative Boards should strive towards adopting the same frame of reference, cooperate in running training programmes, develop environmental management in general and clearly divide the responsibility between the parties.

Since 2008, the Municipal Governments have had practically no additional costs due to cross-compliance, though they may continue to assist the County Administrative Boards in making the cross-compliance spot-check more efficient. Good administrative tools are necessary in order to achieve a high level of cost-efficiency. Moreover, a strong sense of personal contact between the various agents in each region is most probably necessary.

11.3 Farmers' Costs

According to estimates based on the Landja survey 'Agriculture in Sweden 2010', the average cost for farmers to meet the cross-compliance requirements is approximately SEK 57 per hectare (Table 16). This amount includes increased costs with regards to administration and necessary production changes (Table 15). In addition, there is the

⁵ Estimated according to the following calculation: The cost per cross-compliance spot-check x the number of cross-compliance spot-checks (livestock registration) carried out in the country during 2009 (SEK 1364 x 2458 checks) + the cost per cross-compliance spot-check x the number of cross-compliance spot-checks (environmental requirements) during 2009 (SEK 10000 x 942 checks).

amount of time invested, which farmers have stated is approximately 10 minutes per hectare on average. Converted into Swedish Krona, this would be approximately SEK 29 per hectare on the basis of an hourly salary rate of SEK 171/hour. In total, the estimated cost for farmers in Sweden to meet the cross-compliance regulations would be approximately SEK 260 million.⁶

11.4 Conclusions on the Costs of Cross-Compliance

In total, the yearly costs for the farmers, the SBA and the County Administrative Boards is approximately SEK 280 million. By far the largest share of costs is paid by the farming community. In the context of the full SPS, the Compensatory Allowance and the AEPs, which is over SEK 9 billion, the cost corresponds to around three per cent of the total agricultural aid.

Farmers' cross-compliance costs of approximately SEK 57 per hectare include increased costs for administration and necessary production changes. In addition, the additional amount of time invested is approximately 10 minutes per hectare. Converted into Swedish Krona, this would be approximately SEK 29 per hectare. This leads to an average cost of SEK 86 per hectare agricultural land, though for some farms this cost is significantly higher.

In 2009, SBA paid the County Administrative Boards a total of SEK 6 million to fund their additional work of cross-compliance inspections. Additionally, the SBA had cross-compliance administrative costs of approximately SEK 6 million.

The additional costs for the County Administrative Boards to run the cross-compliance inspections are primarily reflected in increased working hours in terms of effort and travel time. The problem lies in the fact that environmental management checks and cross-compliance checks are carried out simultaneously during inspections. Thus, it is difficult to make an exact calculation of the actual costs of the County Administrative Boards cross-compliance inspections. As a rough estimate, this figure is somewhere near SEK 6 million, excluding the SBA contributions.

Since 2008, the Municipal Governments have only had low additional costs due to cross-compliance, though they may continue to assist the County Administrative Boards in making the cross-compliance spot-checks more efficient.

⁶ Estimated according to the following calculation: Aid Area of 3 051 000 hectare (2 636 000 arable lands + 415 000 pastures) x The farmer's cost of SEK 86 per hectare (SEK 57 direct cost + SEK 29 labour cost).

12 Environmental Effects of Cross-Compliance

This chapter discusses the individual cross-compliance rules and the positive environmental effects that they may contribute towards. Furthermore, the improved environmental benefits of these rules when compared to previous Swedish legislation will be considered.

12.1 Effects of the SMRs

Protection of Wild Birds

Agricultural practice may impact on birds and amphibians, in particular during spring and summer. For example, early trimming and cutting of forage crops may spoil bird nesting in the agricultural landscape, where several species have declining population trends. Whilst farmers are not required to carry out an inventory of their lands it is still a mutual responsibility to gather information, whereby an awareness of nesting birds is expected (SBA, 2010).

The disruption or killing of single birds within a bird species as a result of agriculture may be acceptable on the grounds of proportionality, since agriculture implies continuous land use. However, should a certain type of practice risk leading to a decline in populations in an area, such practices must be limited. In such cases, the fourth paragraph of the *Artsskyddsförordning (2007:845)*⁷ applies also to ongoing practices, such as agricultural practice.

The mowing of fields where there are corn crakes, curlews or other red-listed species that are nesting or have a negative population trend is one example of a practice that should be regulated due to the Birds Directive. A farmer who cuts lay despite awareness of disrupting or killing birds, particularly those of declining population trends, is committing an illegal offense and is further in non-compliance of the rule of *protection of wild birds*, which is based on the fifth paragraph of the Birds Directive.

It is difficult to execute inspections with regards to this cross-compliance regulation (wild birds) as part of a systematic system of spot-checks. Often, it is only possible to confirm infringements just as they take place. Even an ambitious and expensive system of inspections is unlikely to identify any large numbers of infringements.

Protection of groundwater

With regards to general farming activities, the cross-compliance rule regarding groundwater is only relevant to farms with more than 100 LU. The cross-compliance rules are based on Articles 4 and 5 of the *Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances*. The rules aim to prevent harmful and inappropriate substances from being released into the

⁷ Note: This is a Swedish regulation on protected species.

groundwater. If a farmer carrying out environmentally hazardous activities meets the groundwater-related requirements that are notifiable or require a permit within Swedish legislation, the risk of groundwater pollution is very low. Consequently, the cross-compliance regulation on *the protection of groundwater* has been of minor actual environmental benefit in Sweden.

Spreading of Sewage Sludge

The environmental objective that most strongly relates to sewage sludge is the interim target regarding the recirculation of phosphorus within 'A Good Built Environment'. Here, it is specified that a minimum of 60% of the phosphorus in sewage sludge is to be recirculated into productive soil by 2015. In order to reach this target, the sewage sludge must be of good quality in terms of the metal content. Stricter legislation may provide motivation to work to reduce the pollution brought by the sewerage system.

In addition, the EQO of 'A Non-Toxic Environment' involves the metal content in sewage sludge, although the chance that a changed application of cross-compliance would have any actual effect in terms of this objective being reached is assessed as small. Partly, this is due to the fact that Swedish legislation remains regardless of the cross-compliance regulations; partly also because the sludge suppliers are required not to provide sludge of high metal content. Thus, the actual environmental effect of the cross-compliance rules regarding the *spreading of sewage sludge* has been small in Sweden.

Spreading and Storing of Fertilizers

The aim of the cross-compliance rules on the spreading of manure is to reduce the leaching of nitrogen as a result of agriculture. The rules are primarily based on the *Council Directive (on Nitrate) 91/676/EEC*. In addition, several measures apply also to the leaching of phosphorus. Nitrogen and phosphorus leach may lead to eutrophication of the seas, lakes and water courses or to the pollution of drinking water.

The Nitrate Directive and the cross-compliance rules affect the EQO of 'Zero Eutrophication'. A large number of these rules, with large impact on the environment, draw on Swedish legislation: *Regulation (1998:915) regarding Environmental Consideration within Agriculture* as well as the *SBA Rules (SJVFS 2004:62) regarding Environmental Consideration as regards Plant Nutrients*. To a large extent, this legislation was already in place before Sweden joined the EU and therefore long before cross-compliance. Swedish legislation applies regardless of cross-compliance.

There are rules for the spreading of fertilizers in vulnerable zones, requirements to reach the proportions of winter vegetation on land in each respective area as well as conditions regarding a balanced application of manure based on crop needs and application time. In addition, there are rules on storage space in order to meet the requirements on storage capacity under the regulation on environmental consideration within agriculture. The aim of the current rules is to reduce the risks regarding the loss of plant nutrients to the air, soil and water.

Swedish legislation is continuously adapted to be consistent with the EU Nitrate Directive. This adjustment is not driven by cross-compliance, though as a result the rules on the spreading of fertilizers have become even stricter. Along with a more systematic system of

cross-compliance inspections, this is likely to have contributed towards further reductions in the loss of plant nutrients.

Use of Plant Protection Products

Farmers' use of plant protection products may pose risks to humans, animals and the environment. The SMRs regarding plant protection involve inspections of the use of plant protection products under the rules in the *Environmental Code, Chapter 4*, and the *Regulation (2006:1010) regarding plant protection products*. Primarily, the rules seek to reduce the health and environmental risks in connection with the use of plant protection products. In terms of the cross-compliance regulation, the *Council Directive 91/414/EEC* applies, which has also been incorporated into the *Swedish Regulation (2006:1010) regarding plant protection products*.

The use of plant protection products always requires documentation, and this must be available at the farm for a minimum of three years. Only approved plant protection products may be used, for the specific crops and to the specified maximum dosage shown on the label or on another form of information enclosed with the product.

A proposal has been adopted in the EU for a new common policy with regards to a sustainable use of plant protection products. According to the Directive, everyone who uses plant protection products professionally must have applied an integrated plant protection system by January 2014. It is probable that the cross-compliance regulation on the *use of plant protection products* has had little effect on the environment, as the rules until now have been focussed on handling and health risks.

Protection of Wild Animals and Plants

The cross-compliance rule regarding the protection of wild animals and plants is regulated under the *Council Directive 92/43/EEC on the conservation of natural habitats and of wild animals and plants* and has been incorporated into the *Environmental Code, Chapter 7* as well as the *Artsskyddsförordningen (2007:845)*. The objective of the rules is to prevent natural heritages, wild animals and plants from diminishing or becoming extinct.

In order to protect the environment, wild animals and plants, EU Member States have identified a large number of so-called Natura 2000 Sites. These precious natural areas are to be protected by the Member States for the future.

Certain small biotopes within the agricultural land may be generally difficult to recognize and distinguish. In order for these biotopes to be protected, the County Administrative Board is required to make a specific decision in regards to each individual such biotope.

A strong protection of animals and plants biotopes already existed in legislation prior to Sweden joining the EU; however, the introduction of Natura 2000 Sites has made the protection of wild fauna, flora and their habitats stronger and more visible.

Identification and Registration of Livestock

Labelling, record keeping and registration of bovine animals have no direct impact on the environment. The measures are preventive, primarily to help us track diseases and

guarantee the safety of humans and animals. The registration and inspections of the bovine animals have an effect on farmers' finances and time, hence also their ability to keep grazing livestock. According to the Landja survey, 40 per cent of farmers stated that the cross-compliance regulation on the registration of animals had affected them financially (Landja, 2010). Approximately 30 per cent of the inspected farms have been found to have infringements. According to the Landja survey, farmers have felt compelled for their animal husbandry to be reduced or come to an end, which may have indirect negative environmental effects due to a reduction in grazing livestock and pasture management.

Animal Welfare within Livestock Farming

The cross-compliance regulations regarding animal welfare are primarily concerned with livestock care and housing design. These rules hardly affect the external environment in general, but may be of significant financial impact to the farm. To an extent, the ability of keeping grazing livestock may be affected. Swedish animal welfare legislation is often more extensive than EU cross-compliance regulations. The actual effect of cross-compliance is therefore small.

12.2 The Condition of Permanent Pasture

Permanent Pasture

The Introduction to *Council Regulation (EC) No 1782/2003 establishing common rules for direct support schemes* states the following: 'Since permanent pasture has a positive environmental effect, it is appropriate to adopt measures to encourage the maintenance of existing permanent pasture to avoid a massive conversion into arable land'.

The condition set to Member States (and Sweden) for permanent pasture is: 'The area established as permanent pasture in 2003 shall be put in relation to the established total agricultural area eligible for aid in 2005.' This proportion of pasture, the *reference ratio*, must not decrease by more than 10% in relation to the ratio between permanent pasture in 2003 and the total agricultural area eligible for aid in 2005.

In cases where this reference ratio starts to decrease, the Member State shall introduce a requirement for farmers applying for direct support whereby permanent pasture may not without prior approval be converted. In practice, this prevents long-time pastures from being ploughed up. Within the EU, permanent pasture almost exclusively implies permanent pasture on arable land whilst in Sweden the term also includes large areas of semi-natural pasture in receipt of SPS.

Should the reference ratio decrease by more than 10 % the Member State shall introduce a requirement for those farmers applying for direct support, who have converted permanent pasture into land for other use from 2003, to restore the land to permanent pasture.

Upon the introduction of the cross-compliance requirement of permanent pasture in 2005, the Swedish reference ratio, between the area defined as permanent pasture and all agricultural land eligible for aid, was calculated to 0.177. Hence, this ratio would need to decrease to 0.159 before the obligation to restore permanent pasture was put into action. At

the most recent round of inspections in 2009 the ratio was 0.235, thus far above the minimum level.

As permanent pasture is regarded throughout the EU as having a positive environmental effect, the requirement to preserve a certain proportion is thus incorporated by all Member States. For Sweden, the requirement of a permanent pasture rota within cross-compliance has so far had an insignificant environmental effect.

12.3 Consequences of the GAECs

The aim of the GAECs is to conserve the agricultural landscape and the cultural heritage as well as to preserve the agricultural land in good condition and contribute towards an environmentally friendly way of management.

No Growth of Unwanted Vegetation on Arable Land

Arable land may be defined as land used for, or may be used for, crop production or grazing and that is suitable to plough. Arable land should be kept free of permanent shoots of sly, shrubbery or trees. Existing drainage must further be maintained to protect the arable land from waterlogging. Thanks to this GAEC and to the relatively high potential aid deductions, no growth of unwanted vegetation and waterlogging have been kept to a minimum, benefiting the agricultural landscape and the cultural heritage. During 2007-2009, the yearly proportion of infringements has been approximately ten per cent.

No Growth of Unwanted Vegetation on Pastures and Mown Meadows

Pastures and mown meadows of significant natural, cultural or aesthetic values may provide attractive landscapes to live and stay in. These pastures and mown meadows in receipt of aid are to be maintained in order for them not to become encroached with unwanted vegetation. Having such zones would entail a deduction to the aid payment.

Open pastures have few or no trees. These lands, which have been open for a long time, should remain open in the future. Trees may be classified as heavy overgrowth if standing too close, though individual groves are allowed as protection for the animals. There should not be a larger number of young trees than is necessary to replace the old ones when they die.

Pastures with trees mainly contain trees indicating long-time management; it may be old trees with wide crowns or trees that have played a role in agriculture traditionally, for example through gathering of leaf fodder.

Pasture Management

Without grazing livestock maintaining the management of pastures, shrubbery or forests may start to appear across the landscape. As a result, valuable biological elements may disappear, as the flora and fauna in connection with managed pastures is substantial. Pastures in receipt of agricultural aid must be grazed yearly. However, grazing may occasionally be substituted by mowing or harvesting. In the Landja survey, more than 40 per cent of farmers stated that the cross-compliance regulations regarding pastures and

mown meadows have affected them financially and in terms of time-consumption. In addition, more than 20 per cent of farmers have been found with infringements at inspections. A rough estimate⁸ of the percentage of infringements times the total pasture area in receipt of aid shows that an area of up to 80 000-90 000 hectare may have been managed poorly or is about to become overgrown despite cross-compliance. However, it is likely to be a smaller number of hectares as the inspections are not entirely random. Should a farmer not comply with the requirement of pasture management, a deduction is made to the entire Single Payment amount, which may be a strong deterrent.

Retention of Landscape Features

Landscape features are protected under Chapter 12 of the Environmental Code (1998:808) and the Cultural Heritage Act⁹ (1988:950). This means that it is always and has always been prohibited to destroy or move landscape features.

Notably, between 2005 and 2008, there have been no infringements in relation to the cross-compliance requirement of *retention of landscape features*. However, the inspection of this requirement was insufficient during this period. Partly, this is due to shortfalls in the knowledge regarding both the location of these features and how they may be inspected.

Since 2010, the requirement of *retention of landscape features* has been amended to comprise solitary trees, ponds, stone walls and open ditches where these exist on arable land within distinct plain districts. In the EC Regulation on cross-compliance, *retention of landscape features* is stated as necessary in order to prevent negative environmental effects as a result of the previously compulsory set-aside no longer being a requirement. The environmental effect of the compulsory set-aside was most significant on arable land within distinct plain districts.

12.4 Conclusions on the Environmental Effects of Cross-Compliance

SMRs

The SMRs are largely an application of previous Swedish legislation. Thus, in most cases, the environmental improvements following the introduction of cross-compliance have been small. It is only as the inspections have been made more systematic that it has been possible to alter or perhaps improve the state of the environment.

It is difficult to conduct inspections of certain cross-compliance rules as part of a systematic control system, for example *protection of wild birds*. Often, it is only possible to confirm infringements just as they take place.

In cases where there are Swedish regulations forming the basis of proceedings under Swedish environmental, health or animal welfare legislation, a system whereby only the

⁸ Estimated according to the following calculation: Aid area 415000 ha (pasture) x Percentage of farmers with poor management 21.1 per cent (average percentage of farmers in breach of the pasture management requirement 2007-2009).

⁹ Note: From the original 'kulturminneslagen'.

EU level is referred to, as with cross-compliance, entails increased costs for Swedish authorities. Multiple levels complicate both the administration and the information regarding what rules apply.

If a farmer meets the requirements of Swedish environmental, health or animal welfare legislation, the risk of non-compliance is very small. Consequently, a large number of the set SMRs have had minor actual environmental benefit in Sweden.

The GAECs

The GAECs are partly an application of previous requirements within ‘Good Agricultural Practice’. In terms of the requirements not covered by Swedish legislation since previously, for example *no growth of unwanted vegetation on arable land*, and *no growth of unwanted vegetation on pastures and pasture management*, the risk of increased aid deductions has led to farmers being better at complying with these regulations. The introduction of EU advisory services has further been useful in reaching an improved compliance with the GAECs on agricultural land.

Since the cross-compliance regulation of *no growth of unwanted vegetation on arable land* applies to the farm’s entire arable area, this requirement has kept the growth of unwanted vegetation and waterlogging to a minimum. Thanks to the relatively high amounts of the SPS, the relatively low management costs and, additionally, cross-compliance aid deductions being based on the entire Single Payment, larger parts of the arable land are now maintained. On the basis of these factors, it is likely that the GAECs have had greater environmental benefits than the SMRs, which had been previously legislated and therefore largely already fulfilled.

The GAECs where the requirements have been unclear or changeable or the aims have been hard to define have the poorest level of compliance. One example where this applies is the requirements regarding pastures. In Sweden, where a large proportion of non-compliance is connected to the GAECs on semi-natural pastures, this is particularly unfortunate as it has resulted in pastures being removed from the support schemes. According to the farmers, the strict rules prevent them from continuing to manage all semi-natural pastures.

In conclusion, the systematic system of spot-checks and the level of the SPS have had positive effects on the environment, while the unclear and complicated regulations and certain hard-to-interpret definitions have had a negative effect with regards to achieving a satisfactory state of the environment.

13 Financial Impact Analyses of the Environmental Effects of Cross-Compliance

In order to assess the success of cross-compliance as a means of achieving environmental effects, a number of physical and financial effects have been identified and analyzed. This has been done using the projection models CCAT and SASM, which will now be presented further.

13.1 CCAT – Cross-Compliance Assessment Tool

Structure

The objective of CCAT is to develop an analytical tool for assessing, among other things, the environmental impact on a regional level¹⁰ of the SMRs and GAECs within the EU cross-compliance regulatory system (www.ccat.nl).

Moreover, CCAT is intended as a means of producing an integrated assessment of the effects of cross-compliance on the agricultural market, farmers' incomes, consumer benefits, land use, soil, air, water, climate, biodiversity, landscape as well as on animal health and public health.

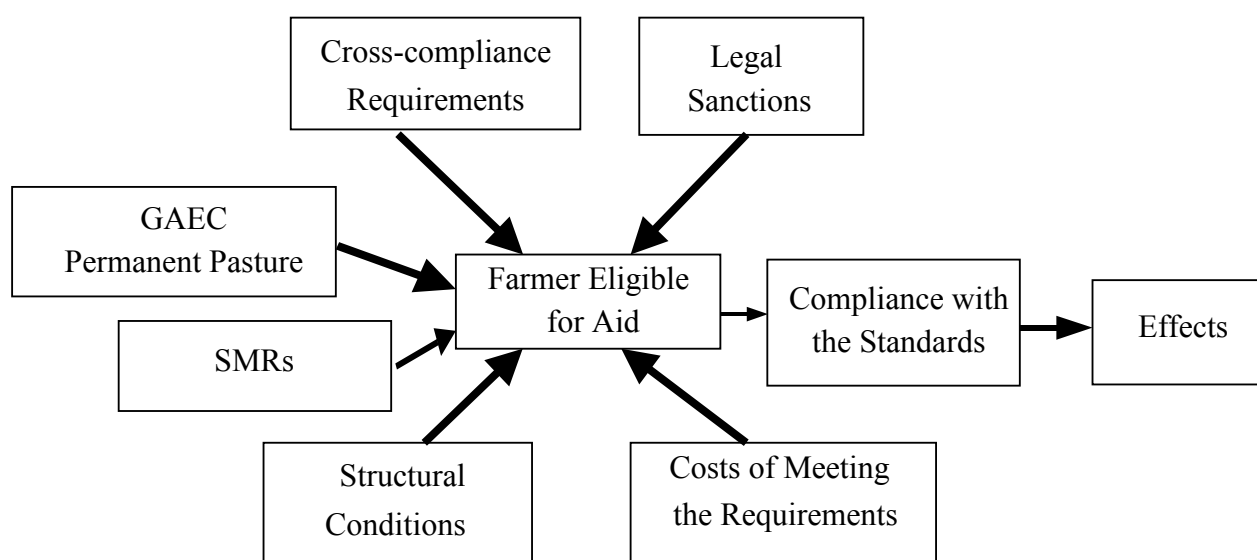


Figure 10 The constituents of the CCAT model are: cross-compliance requirements, compliance with the standards, environmental effects. The model is a tool for calculating costs/benefits. Source: www.ccat.nl.

¹⁰ CCAT focuses on the NUTS2 regions within the EU.

13.1.1 CCAT is based on CAPRI and MITERRA

CCAT fundamentally draws upon the assessment models CAPRI and MITERRA. These models, which are completely different in nature (economics versus environment), have been integrated into CCAT. The CAPRI model describes farmers' behaviour in terms of their financial decisions, based on market signals. The MITERRA model estimates plant nutrient levels and leaching on the basis of fertilization, animal husbandry, crop distribution, soil and water conditions etcetera (www.ccat.nl).

CAPRI provides the necessary financial data, thus no adjustments are necessary in CCAT. Rather, the challenge lies in utilizing CCAT to calculate the percentage change in costs generated by adhering to cross-compliance within agriculture multiplied by the percentage of farms, animals, crop areas etcetera that meet the cross-compliance requirements. Therefore, the links and connections between CAPRI and MITERRA are of vital importance.

Calculation Methodology

The costs of meeting the cross-compliance requirements correspond to farmers' yearly costs (mainly production costs) of compliance with the requirements within SPS. To some extent, these costs (the requirements already met) are included in the total expenses for the baseline year (Baseline 2005).

Farmers who are assessed as having potential difficulty in meeting the cross-compliance requirements, regardless of whether the farm's ability to reach compliance is classified as medium or high risk, are likely to incur additional costs as the overall compliance level improves. It is primarily such farms that are faced with costly adjustments as the requirements become stricter.

On the basis of different scenarios with cross-compliance requirements and a number of SMRs and GAECs (quantitative and qualitative), a calculation has been of the financial impact on farmers, the effects on land use, environment (air, water and soil), biodiversity and landscape.

The degree of compliance with the requirements, together with the costs involved in reaching this compliance, are vital to the CCAT model. In order to generate correct estimates of these costs and compliance levels, data has been submitted by experts from the Member States and on regional level (NUTS2). The final CCAT results for the NUTS2 level have been drawn from these expert assessments of the effects of cross-compliance based on various indicators of the state of the economy, environment and biodiversity.

In order to incorporate the expert assessments into the CCAT model projections, which was achieved through various scenarios such as *zero compliance*, *baseline* and *full compliance*, a division of the national expert assessments was necessary.

This was achieved through generating data for each NUTS2 region in regards to number of farms, number and types of livestock, crop area, as well as full compliance, zero compliance, and the costs related to achieving full compliance. This was a challenging task considering the multiple steps of allocating the national data regarding compliance to regional level as well as allocating the expert assessments to the NUTS2 level.

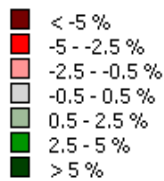
13.1.2 CCA Financial Consequences and Environmental Benefits

Financial Consequences of Cross-Compliance for the Agricultural Sector

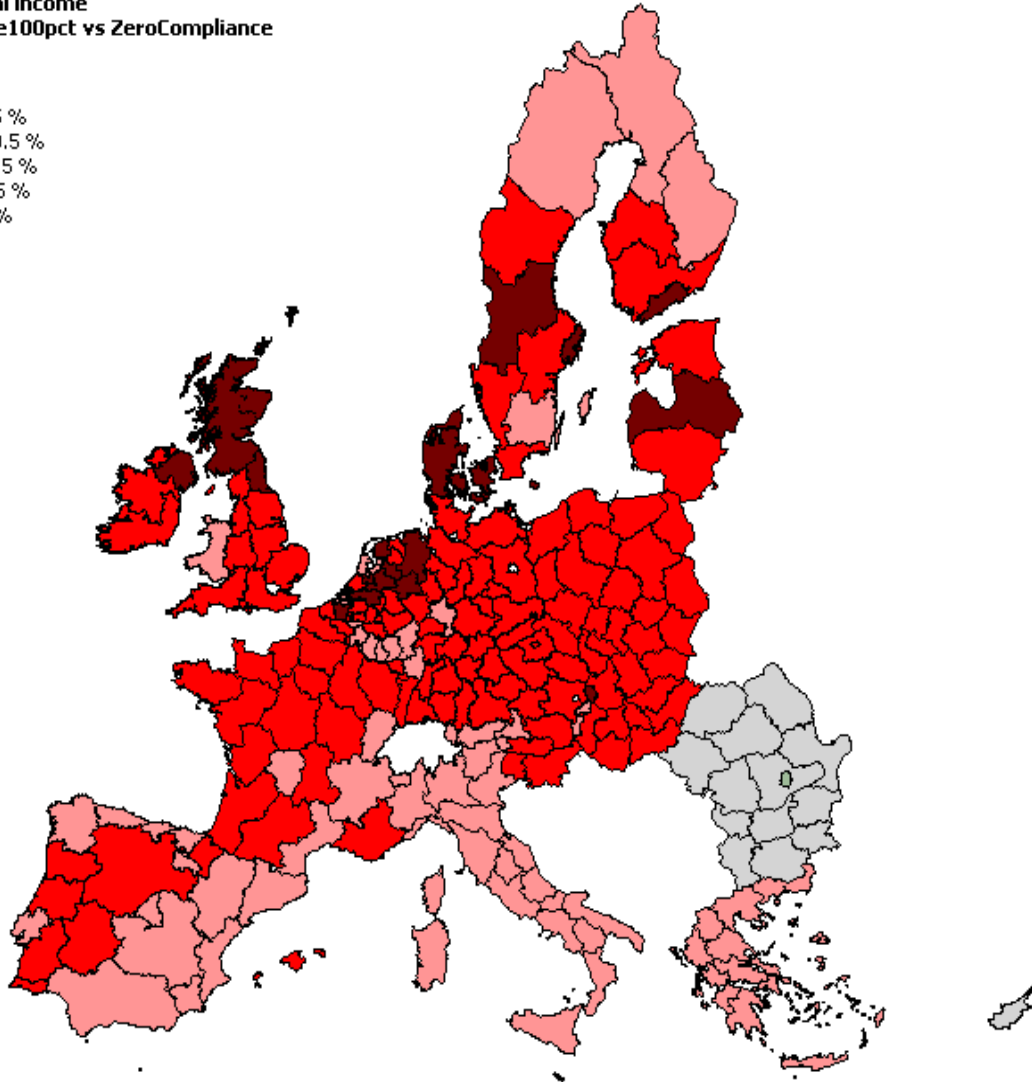
According to the CCAT calculations, full compliance implies an overall income reduction of approximately three per cent for the agricultural sector within EU 27, when compared to zero compliance (Map 1). However, when compared to the baseline (Baseline 2005), the agricultural welfare is reduced by 0.6 per cent upon full compliance being achieved.

ECONOMIC: Welfare
Agricultural income
Compliance 100pct vs Zero Compliance

INC03



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Map 1. Regional income effects (increased costs/income reductions) due to cross-compliance (EU 27). The result is calculated using the baseline zero compliance, showing the difference (%) between zero compliance and full compliance of the cross-compliance requirements. Source: www.ccat.nl.

Compliance with the Nitrate Directive

Within CCAT, the costs of compliance with the Nitrate Directive have been calculated according to:

- Fertilizer amount per type of livestock and per LU (tonnes/LUs)
- Costs of transport and handling (€/tonne/km)
- Transport distance (km)
- Additional spreading costs (+10%)
- Additional storing costs (yearly investment cost)
- Costs of buffer strips/protected zones (loss of area and crop)
- Costs of catch crops (sowing, crop reduction, etc.)

The amount of manure is dependent on the number and types of livestock as well as their rate at producing manure. The plant nutrient uptake depends on what crops are being cultivated. Information regarding changes to animal husbandry (livestock types and LUs) and crop distribution (type of crop and area) comes from CAPRI and is later transferred over to MITERRA.

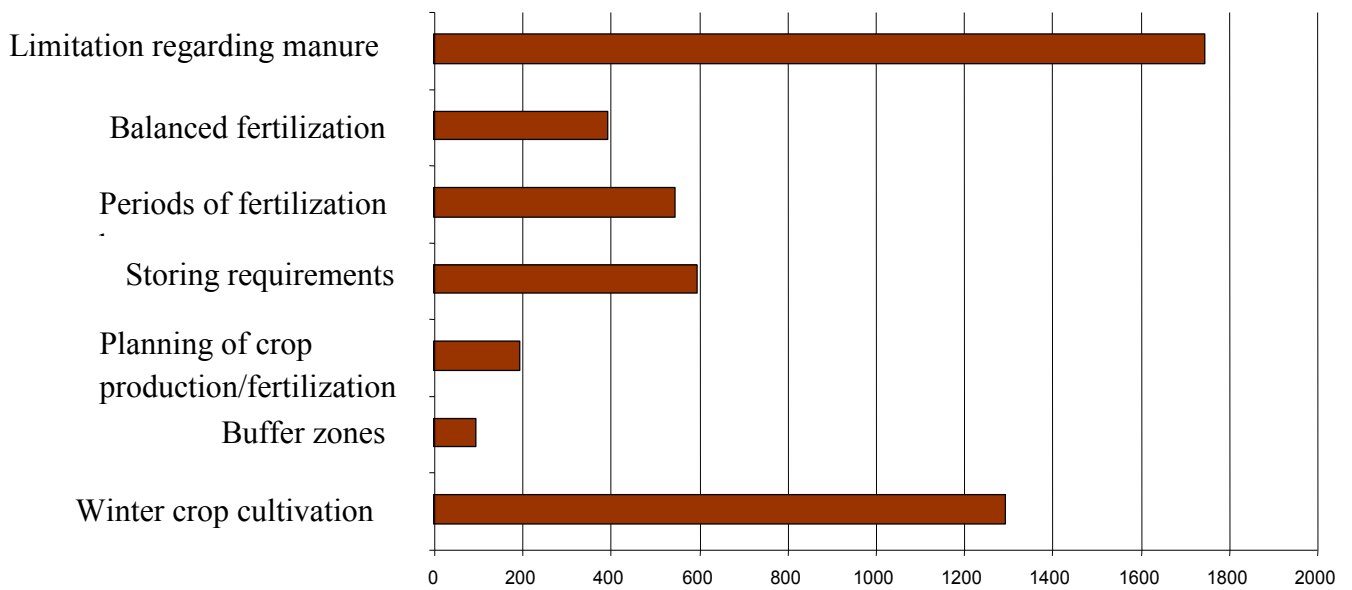


Figure 11. Total cost (EU 27) per requirement at full compliance.

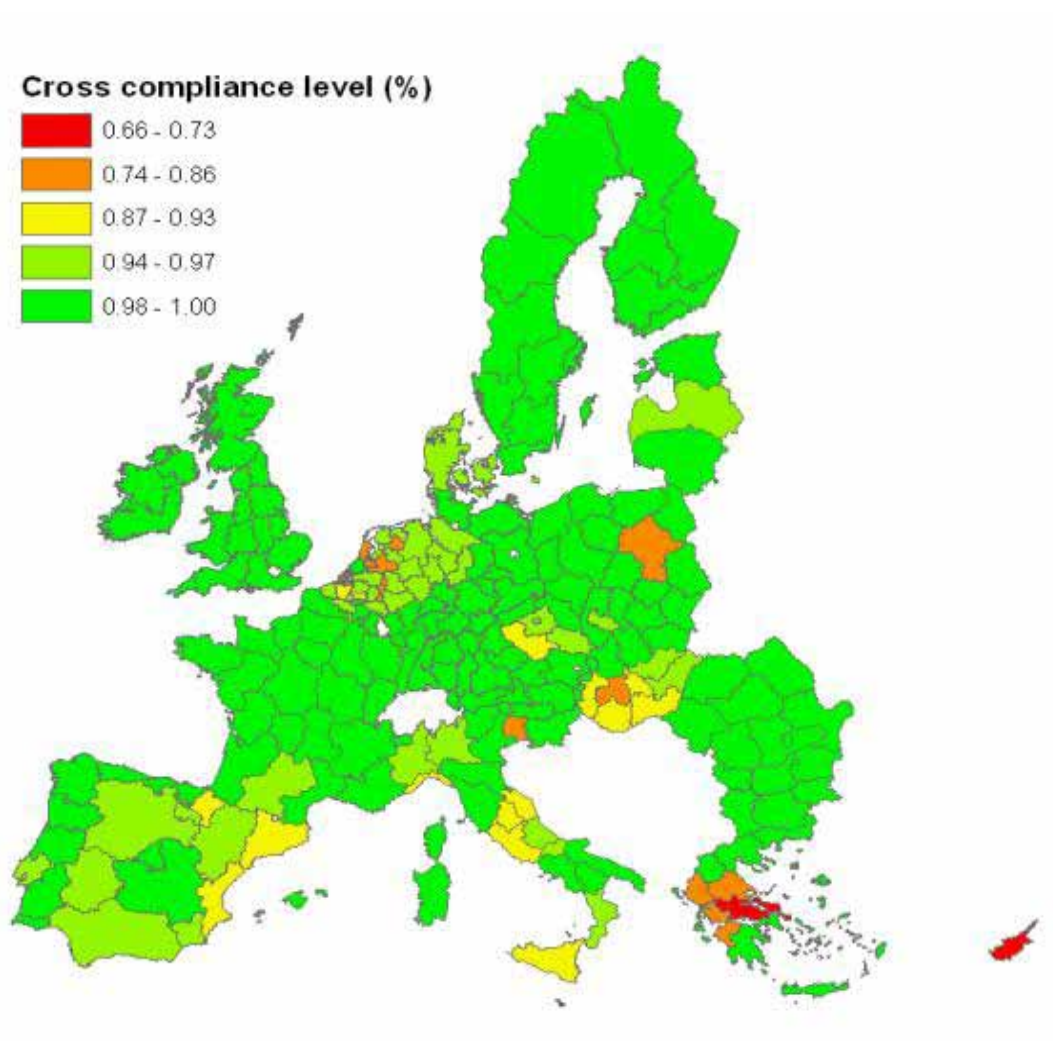
In total, the costs of full cross-compliance for all requirements under the Nitrate Directive amount to approximately 4900 million Euros (table 14). In terms of the baseline (Baseline 2005), the equivalent cost is approximately 3500 million Euros. Hence, the difference is approximately 1450 million Euros, which is the cost for the Member States to reach full cross-compliance under the Nitrate Directive. The baseline (Baseline 2005) for the Member States (EU 27) may act as a point of comparison.

Table 14. Total cost for the Member States (EU 27) to reach full cross-compliance under the Nitrate Directive, in million Euros.

Cross-Compliance Requirements within the Nitrate Directive	Non-Compliance	Baseline 2005	Full Compliance
Total Cost of Cross-Compliance	- 75	3485	4924

Map 2 below shows the level of cross-compliance on regional level across the EU Member States (EU 27) under the Nitrate Directive. The levels are established by national experts and show the degree of cross-compliance with the requirement (Nitrate Directive) per NUTS 2 area during the baseline years 2005-2009 (Baseline 2005). As the map illustrates, for the majority of the countries there is only a small difference between the current state and compliance with the requirement, in the case of Sweden this figure is 1-2 per cent. Hence, compliance with the requirement is largely being reached through current national legislation and the rule in itself provides minor effect.

Map 2 Level (%) of cross-compliance with the requirements of the Nitrate Directive during the baseline years 2005-2009 (Baseline 2005). Source: www.ccat.nl



Potential Effects on the Agricultural Landscape

The following analysis is made on the basis of the rules that lay as a ground for the introduction of cross-compliance. After the initial ranking, it is possible to use the analysis model to calculate a final aggregate scale for each individual requirement as well as in groups. Thereafter, the results can be presented in map format. The level of effectiveness of any one cross-compliance requirement may vary across the region (see Map 3).

The effectiveness of the rules in terms of retaining the cultural landscape of agriculture is estimated using expert rankings of the effects of full compliance with each of the SMRs and GAECs. This in-built potential effectiveness of the rules is ranked according to the following:

- +++: The rules explicitly benefit the retention of the cultural landscape.
- ++: The rules benefit elements related to the quality of the cultural landscape.
- +: Benefit the retention of the cultural landscape on a general level.
- 0: No predicted impact (there is no apparent connection)
- ? : Shows no sustaining factor/no clear connection

The structural rationalization of European agriculture is one of the most important factors behind the narrowing of the variety of small biotopes/habitats, biodiversity and the cultural landscape. As a result of this, CCAT utilizes an 'intensification indicator' to assess changes with regards to land use, the idea being that the greater the proportion of 'extensive' practices and animal husbandry systems enforced by cross-compliance, the more positive will the impact be on biodiversity and the cultural landscape. The indicator draws on a comparison of fertilization intensity and livestock density per ha between different areas.

The Effects of the GAECs on the Agricultural Landscape

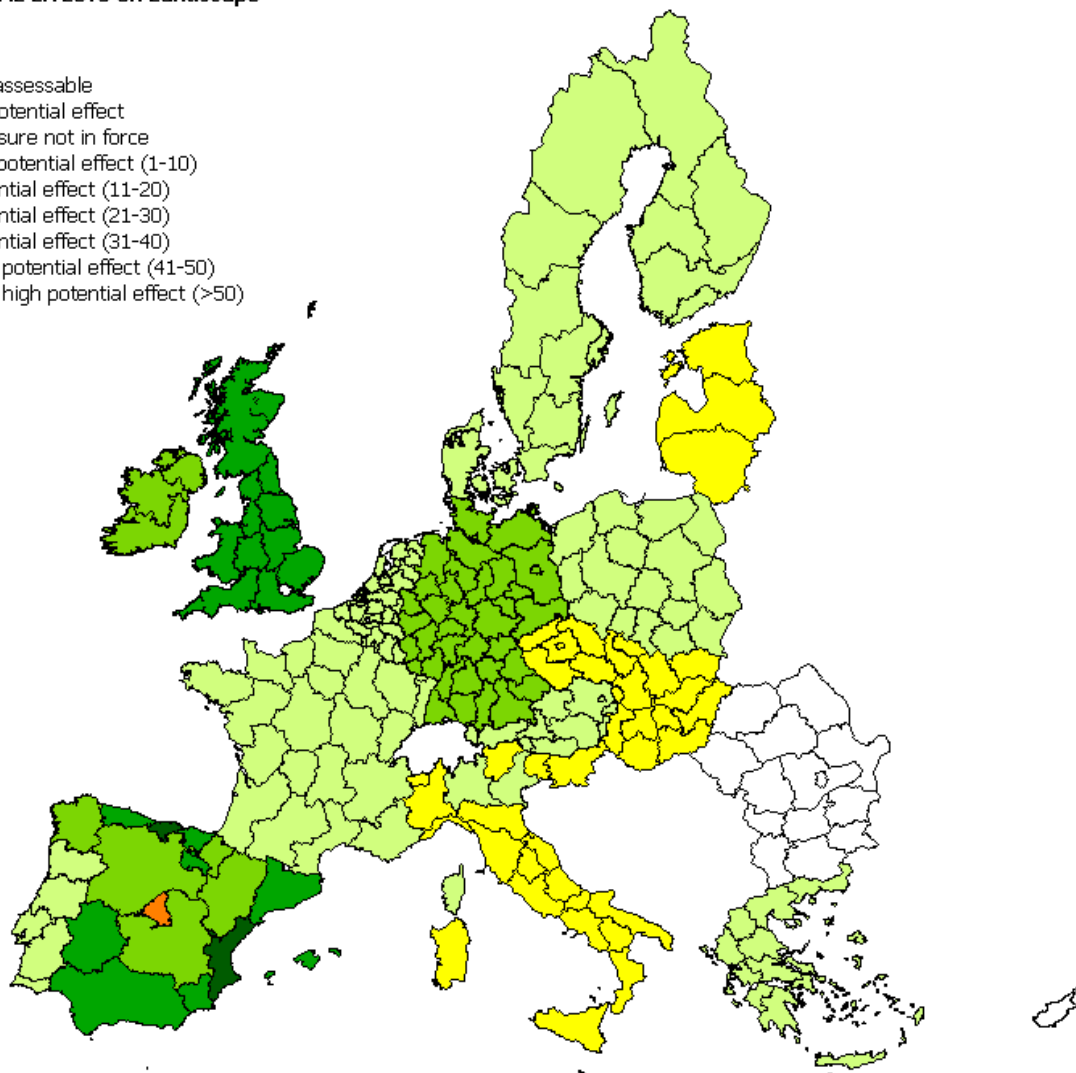
POTENTIAL EFFECTS on Landscape

GAECs

Value

- not assessable
- no potential effect
- measure not in force
- low potential effect (1-10)
- potential effect (11-20)
- potential effect (21-30)
- potential effect (31-40)
- high potential effect (41-50)
- very high potential effect (>50)

© WUR



Map 3: Potential effects on the agricultural landscape upon full cross-compliance with the GAECs.

Source: www.ccat.nl.

13.2 SASM: Swedish Agricultural Sector Model

The effects of cross-compliance on production and ultimately on the environment have further been analyzed through the data model SASM (Swedish Agricultural Sector Model). This model reflects the potential agricultural state at a future point in time based on different political and economic conditions, should all farmers act in line with what would most maximize their profits. In this case, the model projections reflect a certain stage in 2020.

In brief, the model method involves combining aid calculations regionally for different types of crops and livestock in order to attain the greatest possible total aid cover. The calculation prices are dependent on the amplitude of the crop or animal type in question, the profitability of other production branches, the product demand, agricultural policy, and on international prices.

The model is based on the assumption that farmers are fully informed about the profitability relations between different production branches and continuously look to optimize their profit. Experience shows, however, that the farming community does not fully act according to the conditions that have been set. Therefore, the model-generated result is not to be interpreted as a forecast but as an illustration of possible effects as financial driving forces change.

The 2020 situation projected by the SASM model is referred to as Baseline 2020 in the below Tables 15 and 16. Baseline 2020 indicates the total areas and livestock numbers expected in 2020 given that the Health Check of the CAP will remain in place during the period, involving the abolition of the milk quota, of the special beef premium, and of the compulsory set-aside.

13.2.1 The GAECs of Cross-Compliance

The cross-compliance requirements in Sweden are comprised by SMRs and GAECs. The SMR effects are difficult to analyze, since they are included in pre-existing legislation and it is often difficult to connect non-compliance with specific activities. In Sweden, it is primarily the GAECs that have an agricultural and environmental impact; hence, they will now be considered in further detail.

GAEC regarding Arable Land

Compliance with the GAEC regarding arable land is reached through maintaining the soil active for production. Thus, it primarily applies to fallow land, rather than land which are being cultivated. Table 15 illustrates the potential effects that abolishing the GAECs regarding arable land would have. In such a situation, the Single Payment would still go out, regardless of whether the land is kept in active production or becomes encroached.

Table 15. Baseline 2020 illustrates the estimated total area and livestock number for the supposed year 2020. Changes generated by the abolishment of the GAEC regarding arable land, concerning arable areas, pasture areas and livestock numbers, are shown for 9s (South Götaland plain districts), 9m (North Götaland plain districts and Svealand plain districts), LFA areas (the rest of Sweden) as well as for the whole of Sweden.

	Baseline 2020	LFA	9m	9s	Sweden (whole)	(1000s)
Grassland	708	-50.2	-82.2	0.0	-132.4	Hectare
Cereal	1077	-14.7	-73.4	0.0	-88.1	Hectare
Fallow Land /Energy/Industry	808	64.9	155.6	0.0	220.5	Hectare
Total Arable Land	2668	0.0	0.0	0.0	0.0	Hectare
Managed Pasture	393	-9.3	-2.3	-0.4	-12.0	Hectare
Dairy Cow	278	-3.2	-0.2	0.3	-3.2	LU
Suckler Cow	240	-29.5	-0.2	-0.8	-30.5	LU
Heifers and Bulls	725	-44.5	-21.1	-0.1	-65.6	LU

The effect of the GAEC being abolished is that 220 000 ha, or approximately eight per cent of the total arable area, would stop being cultivated or managed (Table 15); that is, areas where cultivation is border-line profitable and dependent on the cost of managing the fallow. Cultivation on such land would imply a financial loss but the amount would be less than the cost of managing the crop should the requirement still be in place (SEK 500 per hectare according to the model calculations).

Abolishing the GAEC would have the largest impact on 9m (North Götaland plain districts and Svealand plain districts) at approximately 155 000 ha, and in Northern Sweden (within LFA areas). Primarily, previous extensive grassland areas would be left uncultivated. Furthermore, without the GAEC there would be a reduction of the number of livestock, a total of approximately 100 000 animals. In addition, there would be a decrease with regards to managed pastures (Table 15).

As the SPS applies solely to agricultural land, the cultivated arable land and, effectively, the aid would disappear over time as the land becomes encroached. The above analysis illustrates both the effect of maintaining the agricultural land and of abolishing the GAEC.

GAEC regarding Pastures

The GAEC regarding pastures implies the need for the land to be grazed (pasture management) whilst remaining as agricultural land and must therefore not be encroached by unwanted vegetation. If a hectare of pasture no longer qualifies for aid, it no longer counts towards any of the benefits.

If the GAECs of ‘*Pasture Management*’ and ‘*No growth of unwanted vegetation*’ were abolished from the SPS, the land would no longer be required to be grazed, fenced or kept free of sly. Since the pasture would still qualify for the SPS, despite it not being grazed, it is allowed to become encroached. In the perhaps unlikely case of farmers trusting the permanence of such a system, it would be financially rational to stop managing 230000 hectares, or approximately 45% of the total pasture area (Table 16).

Table 16. Baseline 2020 illustrates the estimated total area and livestock number for the supposed year 2020. Changes generated by the abolishment of the GAECs regarding pasture, concerning arable areas, pasture areas and livestock numbers, are shown for 9s (South Götaland plain districts), 9m (North Götaland plain districts and Svealand plain districts), LFA areas (the rest of Sweden) as well as for the whole of Sweden.

	Baseline 2020	LFA	9m	9s	Sweden (whole)	(1000s)
Grassland	708	-62.6	-45.2	-5.4	-113.2	Hectare
Cereal	1077	14.9	3.8	5.4	24.0	Hectare
Fallow Land /Energy/Industry	808	47.7	41.5	0.0	89.2	Hectare
Total Arable Land	2668	0.0	0.0	0.0	0.0	Hectare
Managed Pasture	393	-162.9	-42.4	-26.5	-231.8	Hectare
Dairy Cow	278	-1.5	-0.6	0.0	-2.1	Livestock Number
Suckler Cow	240	-123.0	-42.0	-26.2	-191.2	Livestock Number
Heifers and Bulls	725	-135.6	-56.8	-47.6	-240.1	Livestock Number

As the table shows, the area of managed pasture would reduce significantly, with over 230000 ha, should the land qualify for SPS regardless of whether it becomes encroached with unwanted vegetation or not. The reason behind the reduction is that a large proportion of areas previously grazed on the basis of the SPS and the GAEC would no longer need to be managed, thus they would cease to be grazed.

According to the model, there would further be large reductions in pasture from the RDP upon the abolishment of the management requirement. This would apply to areas where the AEPs for pastures do not fully cover the costs of the management requirement. Hence, the model projections primarily indicate the land types for which the management costs are higher than the amount received for pastures through the SPS (SEK 1200/ha).

It is important to note here that the AEP within the RDP is adapted on the basis of there being a management requirement within the SPS. Should the management requirement be removed from the SPS, it is reasonable that this would be taken into account within AEP, which would then be increased to SEK 1200/ha to correspond to the Single Payment for pastures. A large part of the 230 000 ha pastures would then be managed again.

Animals that benefit from the management requirement include intensely grazing livestock, such as suckler cows and grazing young stock. Moreover, the requirement indirectly allows for grassland being utilized to a greater extent. Removing the management requirement would lead to reductions both in the number of grazing livestock and in grassland areas. The impacts would be most substantial for areas with compensatory allowance in forest districts and across Central Sweden (LFA). For instance, the number of bovine animals would decline by 260 000. For the plain districts in southern Sweden (9s) the reduction would be significantly smaller, at approximately 70 000 animals.

It is almost only pastures with the highest AEPs for pastures that would be profitable to manage. In addition to the 160 000 hectares that would continue to be managed and maintained, the Single Payment would further be paid to 336 000 hectares, i.e. the total pasture area, which would not be grazed and remain out of use entirely. The number of livestock would decrease significantly due to there no longer being an incentive (payment for the management requirement) to keep the grazing livestock, now unprofitable, on the pastures.

In line with the previous analysis of the GAEC requirement for arable land, it is only upon the abolishment of the requirement that agricultural aid only goes towards agricultural land (and not to encroached land) that the effects illustrated in Table 16 would be of relevance.

The Environmental Effects of the GAECs

The effects of the GAEC regarding arable land upon biodiversity are most likely positive. Abolishing the GAEC would result in parts of the previously fallow land becoming encroached. This primarily applies to forest districts, where most of the fallow land areas exist today and where the open agricultural land provides increased variety in the landscape. Furthermore, the somewhat reduced area of managed pasture, which is a result of the abolishment of the GAEC requirement for arable land, further reduces biodiversity.

According to the model projection, cereal cultivation proportionally increases somewhat at the expense of the grassland cultivation upon the abolishment of the pasture GAEC. Primarily, this would happen in forest districts, where leaching is less of a problem and the increase in cereal cultivation would in fact have a positive impact on biodiversity. However, the sharp reduction in managed pastures has a major negative impact upon biodiversity.

13.3 Conclusions on the Financial Impact Analyses

CCAT

One of the conclusions of the referenced CCAT analysis, which assesses the effects of introducing cross-compliance within the EU (27), is that the income reduction for the agricultural sector as a result of cross-compliance will only be marginal.

In terms of expenses, it is the cross-compliance requirements under the Nitrate Directive that incur the highest costs within the EU 27 area. Large-volume livestock farming systems (that are non-dependent on soil) will experience sharply increased costs, mainly in order to meet the increased demands on the handling of manure (storage and spreading).

As regards cultivation and other food production types, it appears that production levels are marginally decreased as a result of cross-compliance. While cereal crop areas remain the same, there is a reduction in the harvests. Speciality crops appear to be concentrated to the most fertile areas. There will be an increase in set aside and fallow areas. Neither the cultivation of permanent crops nor the dairy industry will be affected.

Compliance with the requirements according the Nitrate Directive is already largely reached in Sweden; hence, the additional costs incurred are low. Full compliance with the GAECs for agricultural land is assessed as having a high potential of benefitting biodiversity. The positive environmental effects of cross-compliance partly depend on the effectiveness of the legislation already in place upon the introduction of the system.

In terms of notable conclusions in regards to cultural heritage, the potential effectiveness of protecting the cultural heritage varies greatly both across the regions of the Member States and also between similar Member States.

SASM

If the GAEC for arable land was to be abolished whilst the SPS still would be paid, regardless of whether or not the land is encroached with unwanted vegetation, this would entail 220 000 hectares of arable land no longer being cultivated or managed. This concerns areas where cultivation is border-line profitable and dependent on the cost of managing the fallow. Cultivation on such land would imply a financial loss but the amount would be less than the cost of managing the crop should the requirement still be in place.

Removing the GAEC for pastures qualifying for SPS would, according to the model projections, entail a decrease in managed pastures by 230 000 hectares. The reason behind this reduction being that a large proportion of areas previously grazed on the basis of the SPS and the GAEC would no longer be profitable to manage as this is no longer a requirement. It is almost only pastures with the highest AEPs for pastures, approximately 160 000 hectares, that would remain profitable to manage.

The sharp reduction in managed pastures has a negative impact upon biodiversity. At the same time, cereal cultivation would increase somewhat, chiefly in forest districts. Here, leaching is less of a problem and the increase in cereal cultivation may have a positive impact on biodiversity.

14 Conclusions and Discussions

14.1 Conclusions Regarding the Impact and Effects of Cross-Compliance

This chapter presents the conclusions of the Report, through a number of statements followed by comments.

The Environmental Effectiveness of Cross-Compliance

- 1. The environmental effect of the SMRs in Sweden is possibly weak and further difficult to verify.**
- 2. The level of the environmental impact varies among different cross-compliance requirements and between the Member States.**
- 3. So far, there is a significant symbolic value attached to cross-compliance. It constitutes a form of legitimacy certification, despite lacking a detailed evaluation.**

1. An evaluation of some sort is necessary to verify the environmental effect of each cross-compliance requirement. In order to reach the most appropriate requirements, Member States need to provide clearer EQOs and, depending on whether the environmental benefit can be proved, each cross-compliance requirement needs to be re-evaluated or amended.

2. It is problematic and rather ineffective to compare the cross-compliance requirements of different countries, since the circumstances vary greatly between the countries. Hence, not all mandatory requirements are relevant or environmentally effective in all Member States. So far (in 2010), it is further difficult to establish conclusions with regards to the environmental effects/effectiveness of many of the requirements, both nationally and on EU level. A larger degree of effectiveness may be obtained if certain, local-scale environmental objectives are only addressed locally (for example soil erosion). In order to further increase the effectiveness of cross-compliance it is necessary to adapt the requirements, the inspections, and the aid deductions to the different farm types. The environmental effectiveness of cross-compliance depends on the level of the incentive to apply for SPS as well as how well-implemented the requirements have been within previous legislation. This, in turn, depends on the size of the payment. If the future aid level is reduced, the impact of cross-compliance is also likely to be reduced.

3. One tendency is that, primarily within environmental and climate policy, cross-compliance is regarded as an important implementation tool, despite the lack of an extended evaluation of the effectiveness of the system and the degree to which the objectives are met. Environmental and climate politicians both in Sweden and within the European Parliament assign a significant symbolic value to cross-compliance. Cross-compliance further constitutes a form of legitimacy certification for an aid system that is

questioned by non-farmers. In the WTO context, however, cross-compliance is not enough of a legitimization.

The Cross-Compliance Systems of Regulations and Inspections

- 1. The SMRs have had a small impact, since the legislation was largely already in place in Sweden.**
- 2. Cross-compliance has increased the awareness of the legislation.**
- 3. Farmers largely view the system of inspections and deductions as unfair.**
- 4. The system of inspections and deductions is relatively focussed on the rules being adhered to and less on environmental effects or animal health.**
- 5. The level of cross-compliance is often poorer for the GAECs than the SMRs.**

Most of the cross-compliance requirements are not new regulations but have existed within Swedish legislation for a long time. The SMRs are largely an application of previous Swedish legislation. Thus, in most cases, the environmental improvements following the introduction of cross-compliance have been small. The rule in itself therefore provides limited environmental effect. The impacts of cross-compliance depend on the effectiveness of the legislation already in place upon the introduction of the system.

2. Cross-compliance has contributed to an increased awareness of the legislation behind the SMRs. This is partly due to the risk of aid deductions, but also thanks to the cross-compliance advisory services and the extensive information provided in connection with the introduction of cross-compliance system. Through the SMRs, cross-compliance may be a way of getting Member States to faster implement various shared environmental Directives. A discussion is needed around how Member States should be regarded by the EU in cases where legislation behind the cross-compliance requirements has not been implemented or where there have been failings in the control system.

3. A control system with a complicated structure but low inspection frequency and high sanction fees is easily regarded as unfair. Farmers experience high anxiety regarding, as they see it, the unpredictable risk of non-compliance and aid deductions. Such anxiety could be decreased if the farmer was given a warning rather than a reduction the first time (a certain form of) non-compliance is discovered. The Swedish agricultural sector has questioned whether the cross-compliance aid deductions are appropriate as the deductions can be disproportionate to the environmental damage caused. Another problem is that two similar cases of non-compliance, but for two different types of farmers, essentially results in two different deduction amounts (since the deduction is a percentage based on the total amount of the direct support received). Hence, there may be a large financial difference between two farmers' 'penalties' for a similar form of negative environmental impact (non-compliance).

4. The requirement of livestock registration and identification is functioning badly within the cross-compliance system. Evidence points to the non-compliancees being

overrepresented. Apparently, the system does not function as a strong enough incentive for farmers to comply with the legal rules forming the basis of the livestock registration and identification requirements. It suggests there being an underlying problem with the regulatory framework, which would be difficult to solve through the cross-compliance system. As a consequence, the cross-compliance deduction system hits farmers with animal husbandry inappropriately hard, especially when considering that the repetition of non-compliance is penalized; should an error be discovered in the on-farm journal three inspections in a row, for example, this may result in a deduction of 15 % rather than 3 %, as it would have been at the first inspection. The system is structured so that there is a focus on registration at the expense of the other cross-compliance areas.

Within the cross-compliance system of spot-checks and deductions, discrepancies with regards to various registration and documentation requirements are overrepresented as a basis for aid deductions. Checking and objectively verifying such requirements at an inspection is straightforward. A documentation inaccuracy, which does not necessarily imply that an error with actual consequences has been made, is classed as serious as a non-compliance with actual consequences, for example for the environment. A documentation requirement is ascribed equal importance statistically and when calculating aid deductions as a confirmed case of negative environmental impact.

One of the conclusions in the 2008 report by the European Court of Auditors stated: ‘The objectives of the cross-compliance policy have not been defined in a specific, measurable, relevant, and realistic way, and that at farm level many obligations are still only for form’s sake and therefore have little chance of leading to the expected changes.’ The European Court of Auditors recommends, therefore, that the current cross-compliance rules are simplified, clarified, and ranked. This has not yet been done.

5. For the GAECs, that is the cross-compliance requirements that are not backed through legislation, the risk of SPS deductions has led to an increased degree of compliance compared to when the rules were only part of the AEPs or ‘Good Agricultural Practice’. At the same time, however, the poorest level of cross-compliance is to be found for the GAECs with particularly unclear rules and hard-to-define objectives (for example, the requirements regarding pasture management and no growth of unwanted vegetation).

The Cost-Effectiveness of Cross-Compliance

- 1. The costs of meeting the requirements of cross-compliance are relatively low, especially regarding the SMRs.**
- 2. The cost-effectiveness is poor for most of the cross-compliance requirements.**

1. Farmers’ additional costs of cross-compliance with the SMRs and the GAECs are low when compared to their SPS aids. The costs are approximately SEK 86 per hectare.

The SMRs in particular entail low costs. Additional costs of compliance with the SMRs in Sweden are mainly administrative, informational and organizational costs.

2. The increased environmental benefits of the SMRs are also low. Since most of the legislation was already in place in Sweden, the requirements and thereby also the costs have already largely been handled. The variation between different farms may, however, be significant.

As farmers reach cross-compliance with the GAECs, the positive environmental impacts for society are greater. However, it is difficult to determine the ‘real’ value of these various public goods.

The effectiveness is generally dependent on the degree of the incentive to apply for SPS and the level to which previous legislation has been implemented.

The Future of Cross-Compliance

- 1. The cross-compliance rules are, in many cases, far too general.**
- 2. To increase the effectiveness a more thorough ranking of the requirements is necessary, not least due to the large number of them.**
- 3. Cross-compliance may give rise to indirect environmental effects that are negative.**

1. The rules regarding good agricultural management and good environmental conditions (*Council Regulation 73/2009, Appendix III*) should, to a larger extent, be optional to implement for the Member States. The chance that the rules introduced in each respective Member State are accepted among farmers and supervising authorities is increased if the rules are seen as relevant in relation to concrete national environmental issues.

In a European perspective, the rules of cross-compliance have had a minor impact on biodiversity within agriculture. On this basis, several international environmental organizations have suggested introducing a more specific GAEC, whereby 30 per cent of permanent grasslands (pastures) is not allowed to be mowed or grazed, and has to rotate on a yearly basis.

2. The aid deduction percentage rates need to be differentiated according to, on the one hand, non-compliance resulting in environmental, health or animal welfare problems, and on the other hand, discrepancies with regards to documentation. So far, a large percentage of non-compliance has concerned labeling, livestock registration, or various forms of documentation. Such rules are largely preventive measures and only have indirect impact on the environment, health and animal welfare. Farmers often view these requirements as nothing but an administrative burden.

Thus, there are motives to increase the aid deductions for non-compliance that has resulted in great risks to, or actually entailed, physical damage to the environment, humans or animals, as compared to cases of documentation errors only.

3. Regarding cross-compliance in the future, it is of vital importance that the environmental benefits are identified in full (including the indirect impacts). Moreover, it will be necessary to find new ways of increasing the effectiveness and environmental benefits of cross-compliance. This will especially be needed in the future if the threat of aid deduction diminishes in significance as a result of a reduced SPS payment per hectare, which is a likely outcome.

In Sweden, where a large proportion of non-compliance is connected to the GAECs for semi-natural pastures and the requirement of bovine animal registration, the semi-natural areas are affected negatively. One of the EQOs in Sweden is to maintain 'A Varied Agricultural Landscape' and one of the interim goals is to preserve 550 000 hectares of semi-natural pastures, which requires a continued management of pastures.

There is an evident risk that the structure of the cross-compliance control system deters farmers from taking the disproportionately increased risk for aid deductions in connection with keeping grazing livestock. This may be regarded as an *indirect* negative environmental effect of cross-compliance, as the demands and deduction risk may discourage farmers from keeping the number of grazing livestock that is required for future pasture management.

14.2 Questions for Discussion

CAP 2014

In a parallel study, SBA has investigated possible developments for the cross-compliance system after 2013 (SBA, 2011). Here, one of the conclusions is cross-compliance needs to be simplified through providing farmers and authorities with a simpler and more comprehensive regulatory framework without having a diluting effect on the cross-compliance system. Finally, the analysis resulted in a proposal whereby the requirements are ranked within three groups in respect of, for example, the extent to which it is possible to conduct inspections. The proposal further implies that the cross-compliance system of inspections and deductions should only apply to the SPS and not the AEPs.

Cross-Compliance in the Future

In order to create a better functioning cross-compliance system from 2014, Sweden should together with other Member States aim to reach common viewpoints preceding the upcoming CAP reform. Examples of important questions to discuss include:

- Should rules that apply to a very limited percentage of farmers be included in the cross-compliance system?

One example is the rules regarding the spreading of sewage sludge, which is practiced by approximately one per cent of farmers, according to estimations by the EU Commission in 2008. Unquestionably, activities that are potentially harmful to the environment, humans or animals require accurate regulation. Rather, what needs to be addressed is whether the environmental benefits achieved by connecting the rules to the administration of aids outweigh the additional administrative costs incurred by this connection.

- Should rules that are of great importance to one or a limited number of Member States be obligatory cross-compliance rules for all?

In connection with the Health Check, a first step was taken towards a differentiation on the basis of the individual needs of each Member State. The method entailed making the implementation of certain GAEC standards optional for the Member States. What are the pros and cons, for Sweden, of applying a similar method to some SMRs from 2014?

- Should the system of cross-compliance apply to rules where non-compliances are rare in normal agricultural practice, alternatively where it is extremely difficult to confirm compliance or non-compliance through inspections?

For example, this applies to the cross-compliance requirements that are based on the Directives on birds and Nitrate. Very few non-compliances have been confirmed at the tens of thousands of systematic inspections carried out since 2005 across the Member States. It is difficult to achieve objectivity in the inspections, as significant local and biological knowledge is required in the inspector whilst the limited possible non-compliances take place within a short period of time.

- Should cross-compliance constitute a tool for making Member States implement common environmental Directives faster?

If this is the case, then perhaps the sanction system should apply to the Member States, rather than the farmers, for not having implemented the legislation or for failings in the control system.

- Should cross-compliance apply to the AEPs and should Sweden strive to maintain this after 2015?

The new SPS is likely to acquire an even clearer role of income supports within the proposal for the new CAP after 2013. The current limit of the legally binding level of cross-compliance is also likely to be raised and thereby have an affect with regards to the terms of the payment level within the AEP. Together with the viewpoint that cross-compliance should constitute a service in return for the income support, it transpires that cross-compliance should be removed from the AEPs. This is because the AEPs are constituted by their own conditions and it would be inappropriate if non-compliance within the basic income support also would result in payment deductions for measures transcending the legally binding level.

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16 Appendices

Appendix 1: Outline of Cross-Compliance

Outline of the Statutory Management Requirements (SMRs), the standards of Good Agricultural Environmental Condition (GAECs), and the additional cross-compliance requirements, applicable only to the Agri-Environmental Payments (AEPs).

Cross-Compliance 2009/2010	
1. SMRs	2. Good Agricultural and Environmental Condition
Legislation – EU Directives and Regulations	EU Aid Regulation
<p>Area 1.1 There are 18 SMRs in Sweden</p> <p style="text-align: center;">Requirements</p> <p>Environment - Wild birds (SMR 1) - Groundwater (SMR 2) - Sewage sludge (SMR 3) - NVZs (SMR 4) - Wild fauna, flora and habitats (SMR 5)</p> <p>Plus 5 additional requirements connected to AEPs</p>	<p>Area 2.1 There are 11 GAECs in Sweden</p> <p style="text-align: center;">Standards</p> <p>Management - No growth of unwanted vegetation on arable land - Permanent pasture - No growth of unwanted vegetation on pastures - Management of pastures and mown meadows - Retention of landscape features - Vegetated, sloping arable land - Straw burning - Winter vegetation on land - Extraction of irrigation water</p>
<p>Area 1.2</p> <p style="text-align: center;">Requirements</p> <p>Public Health - On-farm register (SMR 6-8) - Livestock labelling - Reports to CDB</p> <p>(SMR 10-11) - Plus 6 additional requirements</p> <p>Plant Protection - Use of approved plant protection products (SMR 9) - Correct usage of plant protection products</p> <p>Animal Health - 7 requirements for animal health (SMR 12-15)</p> <p>Plus 4 additional requirements connected to AEPs</p>	
<p>Area 1.3</p> <p style="text-align: center;">Requirements</p> <p>Animal Welfare - 6 requirements for calves (SMR 16-18) - 8 requirements for pigs - 6 requirements for bovine animals, sheep, goats</p>	

This Appendix provides a presentation of the SMRs (SMRs) and the standards of Good Agricultural and Environmental Condition (GAECs), assessed in this study as having a connection to the environmental impact of agriculture and the national EQOs. Cross-compliance requirements *marked in italics* are not directly connected to the environmental impact of agriculture or lack data for a detailed evaluation. The additional cross-compliance rules for the AEPs do not affect the SPS payment.

1. The SMRs

The SMRs are divided into three areas and are governed by rules that are based in 14 EU Directives and four EU Regulations. The SMRs apply to all farmers and the set requirements have to be met by each agricultural practice. The aim of the SMRs is to improve the external environment and animal welfare, reduce the spread of disease and contribute to safer foods. The 18 SMRs are divided into three areas, which will now be presented in order by area and SMR 1-18:

- | | |
|------------------------------------|---|
| 1. Environment | Five separate EU Directives |
| 2. Public, animal and plant health | Six EU Directives and four EU Regulations |
| 3. Animal welfare | Three separate EU Directives |

SMRs that correspond to the Swedish Environmental Code

Area 1.1 Environment

Supervision of Environmental Protection

- | | |
|--|---|
| 1. Protection of wild birds | Consideration for birds, nesting
<i>catch methods</i> |
| 2. Protection of groundwater
New rules introduced in 2009 | Ban on releasing certain substances, legislation |
| 3. Spreading of sewage sludge | Plant nutrients via sludge, treatment, <i>metal content</i> |
| 4. Spreading and storing of fertilizer | Storing of manure, livestock density, application of fertilizers, winter vegetation on land |
| 5. Protection of wild animals, plants | Impact on Natura 2000 Sites
<i>picking plants, methods for catching animals</i> |

Area 1.2 Public, Animal and Plant Health

- | | |
|------------------------------|--|
| 6-8. Livestock registration | On-farm register, labelling of livestock, reporting to the CDB |
| 9. Plant protection products | Use of approved products, correct usage of products |

10. Hormones

11. Food and feedingstuff

12. TSE prevention

13-15. Other animal diseases

Area 1.3 Animal Welfare

Supervision of Animal Welfare

16. Calves

17. Pig farming

18. Livestock farming

SMRs regarding the Environment

The SMRs regarding the environment comprise groundwater protection, nitrate, sewage sludge, as well as natural and cultural heritage, in accordance with the Swedish Environmental Code. For 2010, there have been rule changes regarding winter vegetated land and manure handling periods.

SMRs on the Protection of Wild Birds

The EU Commission Guidance Document (on the strict protection of animal species of Community interest under the Habitats Directive, 2007) supports the viewpoint that an unintentional loss of single birds can be accepted within the agricultural industry, as long as it does not incur a decrease in the species population at the location in question. The endangered species are often the most sensitive during the breeding season. In order to give a young brood the chance of leaving the grassland, the mowing should be postponed or modified.

SMRs on the Protection of Groundwater

The requirements aim to prevent harmful and inappropriate substances from being released into the groundwater. The rules apply to those with more than 100 LUs or those handling environmentally hazardous substances in way whereby more than negligible amounts of the substances risk being released into the groundwater. The term groundwater refers to water that normally only exists beneath the ground surface.

If farmers adhere to the set guidelines, permissions and take general precautions when handling manure, plant protection products, liquid fuels, engine oils, paints and other substances common in agriculture, there is a very good chance that they meet the requirements for protection of groundwater.

SMRs on Handling of Plant Nutrients (Rules on Nitrate and Sewage Sludge)

These requirements aim to reduce the leaching of nitrogen as a result of agriculture. In addition, several of the measures have an effect on the leaching of phosphorus. The leaching of nitrogen and phosphorus may lead to eutrophication of seas, lakes and

watercourses or to drinking water pollution. The rules apply to all farmers that handle manure across Sweden and farmers with more than five hectares of arable land in Götaland. The amount of manure and other organic fertilizers that farmers are allowed to apply to the ground depends on the level of phosphorus in the fertilizer.

The rules applying to farmers that handle manure include the requirement for storage space, and that manure applied in the winter must be incorporated into the soil. Furthermore, there are rules regarding when, where and how farmers are allowed to spread fertilizers in vulnerable zones as well as for Götaland farms regarding the required percentage of vegetation on arable land during the winter.

Farmers who use fertilizers must distribute manure and other organic fertilizers over the farm spreading area as well as spread the manure so that it is applied to the arable land only. It is not allowed to spread manure on meadows or pastures should this endanger natural and cultural values.

In Götaland and parts of Svealand farmers must cover urine and liquid fertilizer pits, and farmers who spread manure in the Provinces of Skåne, Halland, or Blekinge must aim to reduce the loss of ammonia.

SMRs on the Protection of Natural Habitats (Nature, Animals and Plants)

The cross-compliance requirement regarding the conservation of natural habitats, wild animals and plants applies on, or in direct connection with, agricultural land. For example, farmers must not deliberately disturb birds and their breeding spots/nests or harm protected plants by picking, ploughing or in any other way damage the plant or its location.

SMRs regarding health and protection

The SMRs on public health, animal health, animal protection and plant protection

SMR on the use of hormones

SMR on food and feedingstuff safety

SMR on the prevention of animal disease

SMR on the Identification and Registration of Livestock

The SMRs regarding animal health comprise the supervision of labelling and registration of bovine animals, pigs, sheep and goats under the SBA regulations 2007: 12-14.

SMR on the Use of Plant Protection Products

The SMRs regarding plant protection comprise the supervision of use of plant protection products under the Swedish Environmental Code, Chapter 14 and *Regulation (2006:1010) regarding plant protection products*.

Farmers' use of plant protection products may pose risks to humans, animals and the environment. If a farmer in receipt of SPS uses plant protection products, the failure to comply with the handling requirements may result in aid deductions. A farmer in receipt of

AEPs who fails to comply with the handling requirements for Class 1L and 2L plant protection products may incur additional AEP deductions. For example, the rules involve using approved plant protection products, following the label for correct usage as well as having permission to use plant protection products as a certified user.

Farmers must maintain a safe distance during application, cleaning and handling of plant protection products, use application equipment that is in good condition as well as document every control measure. Farmers producing food or feedingstuff are required to provide further information. The general rules state that permission is required for application within water protection zones, it is prohibited to spread on semi-natural pastures and meadows and that safety measures must be taken when storing and handling plant protection products.

SMR regarding animal welfare

The SMR regarding animal welfare comprises the supervision of animal welfare under the rules of three separate EU Directives.

2. The GAECs

Cross-compliance further comprises the GAEC standards for arable land, which must be met in order for the farmer to receive the SPS payment in full. The GAECs are concerned with the way in which farmers should manage their agricultural land (arable land, pastures and mown meadows). The aim is to preserve the agricultural land in good condition and contribute towards an environmentally friendly way of management. In 2010, there were a total of ten GAECs.

GAECs that Correspond to SBA Regulations

Area 2.1 GAECs on Agricultural Land

GAEC/Norm	1. No growth of unwanted vegetation on arable land
	3. Certain percentage of permanent pasture areas
	4-5. No growth of unwanted vegetation on pastures and mown meadows
Introduced in 2010	6. <i>Retention of landscape features, landscape features on arable land</i>
Introduced in 2009	7-8. <i>Vegetated steep slopes, ban on straw burning</i>
	9. Winter vegetation on land
Introduced in 2010	10. Extraction of irrigation water

GAEC on Preserving the Agricultural Land in Good Condition

The aim of the GAECs is to preserve the agricultural land in good condition and contribute towards an environmentally friendly way of management. In 2010, farmers in receipt of SPS for any part of their agricultural land were obliged to comply with nine GAECs. In

addition, Sweden as a Member State has to meet the rules of one GAEC requirement, which concerns maintaining a certain percentage of permanent pasture.

GAEC on Pastures and Mown Meadows

The land has to be maintained through grazing or mowing and is not allowed to become encroached with unwanted vegetation, as stated within the SBA Regulations (SJVFS 2010:4) regarding Direct Support.

GAEC on Arable Land

Arable land should be kept free of sly, shrubbery and waterlogging. Further three GAECs for arable land were added in 2009. These require: a certain percentage of the arable area in Götaland to be vegetated during the winter; land that is steeply sloping to be vegetated between 15 of September to 15 of February; and straw burning on arable land is no longer permitted. These requirements are regulated under the SBA Regulations (SJVFS 2010:4) regarding Direct Support.

GAEC for Landscape Features

A farmer is not permitted to damage or move landscape features on his/her agricultural land. This requirement is regulated under the SBA Regulations (SJVFS 2010:4) regarding Direct Support.

GAEC for Permanent Pastures

Each Member State is contracted to maintain a certain amount of permanent pasture, according to *Commission Regulation (EC) No 1122/2009 regarding the EU Direct Support Scheme for farmers*. This rule is also regulated under the SBA Regulations (SJVFS 2010:4) regarding Direct Support.

New GAEC standards from 2010

In connection with the so-called Health Check of the CAP, it was decided that new GAECs for protecting landscape features and water should be introduced by Member States from 2010.

Since the 1 January 2010, the destruction of certain landscape features, those that are already protected under Swedish legislation, will further be penalized through agricultural aid deductions. Furthermore, farmers who do not comply with the Swedish rules regarding irrigation of agricultural crops under the Environmental Code will have their aids reduced. This is further covered by the SBA Regulations (SJVFS 2010:4) regarding Direct Support.

Additional cross-compliance requirements connected to AEPs

Further cross-compliance standards apply for farmers who have commitments within the AEPs. There are a total of eight requirements, concerning the use of fertilizers and plant protection products. From 2007, non-compliance with these additional requirements may lead to deductions to the AEPs.

Additional Cross-Compliance Requirements (only applicable to the AEPs)

*Additional Cross-Compliance
Requirements*

Storing of manure, livestock density

Spreading of fertilization, winter-vegetated land

*Reduce ammonia, knowledge about plant protection
products*

*Documentation of application, storage of plant
protection products*

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