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Summary

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Rechtliche und andere Instrumente für vermehrten Umweltschutz in der Landwirtschaft

Summary

by

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Kurzbeschreibung

Die Studie, die zeitlich parallel zu den Diskussionen um die Novellierung und weitere Ökologisierung der Gemeinsamen Europäischen Agrarpolitik entstand, möchte im Auftrag des Umweltbundesamtes aufzeigen, wie die Entwicklung zu einer nachhaltigen, umwelt- wie klimagerechten Landwirtschaft stärker als bisher durch das nationale Umwelt- oder Agrarrecht gesteuert werden könnte. Ihr liegt die Hypothese zu Grunde, dass die umweltrechtlichen Anforderungen an die Landwirtschaft bislang nicht ausreichen, um einen nachhaltigeren Umgang mit den natürlichen Ressourcen sicherzustellen. Die Studie arbeitet heraus, welche Umweltziele sich unsere Gesellschaft gestellt hat und inwieweit sie durch die Landwirtschaft und ihre Intensivierungstrends gefährdet sind. Darauf aufbauend analysiert sie existierende rechtliche Instrumente und zeigt Verbesserungsoptionen auf. Entsprechend dem Untersuchungsauftrag liegt dabei der Schwerpunkt auf der Ausgestaltung und dem Vollzug des nationalen Ordnungs- und Planungsrechts und hier v.a. auf dem agrarrelevanten Umweltrecht und dem umweltrelevanten Agrarrecht. Europarechtliche Vorgaben und Prämissen sind mit einbezogen. Da sich nur mit einer guten Kombination der verschiedenen Politikinstrumente eine nachhaltige Landwirtschaft erreichen lässt, stellt die Studie mit der Beratung und der Honorierung ökologischer Leistungen zwei weitere Instrumente vor, die ordnungs- und planungsrechtliche Mindestanforderungen unterstützen und ergänzen, ohne sie aber in der gleichen Tiefe zu untersuchen. Um den Untersuchungsaufwand zu begrenzen, klammerte der Auftrag steuer- und abgabenrechtliche Instrumente ganz aus. Auch die mit Hilfe einer Expertenbefragung durchgeführte instrumentelle Bewertung beschränkt sich daher auf die ausgearbeiteten ordnungs- und planungsrechtlichen Verbesserungsoptionen.

Abstract

Commissioned by the German Federal Environmental Agency, this study, which was conducted in parallel with debate about revising and greening the EU Common Agricultural Policy, is designed to show how national environmental and agricultural law could be used to a greater extent than thus far to steer development towards sustainable eco-and-climate-friendly agricultural practices. It is based on the hypothesis that the environmental requirements imposed on agriculture to date have been inadequate to ensure more sustainable use of natural resources. It investigates what environmental objectives our society has set itself and to what extent these are jeopardised by agriculture and the trend towards intensification. It then goes on to analyse existing legal instruments and indicate potential for their improvement. As required by the terms of reference, it focuses on the form and enforcement of national regulatory and planning law, particularly in the area of agriculturally relevant environmental law and environmentally relevant agricultural law, as well as looking at requirements and concepts of European law. Since sustainable agriculture can only be achieved through an effective combination of the various policy instruments, it also presents, albeit in less depth, advice and rewards for ecological achievements as two other instruments promoting and supplementing minimum regulatory and planning requirements. To limit the amount of work involved in the study, the terms of reference excluded taxation and duty instruments entirely and, accordingly, the evaluation of the available instruments, which was conducted with the help of an expert survey, is likewise confined to the identified potential for improving regulatory and planning schemes.

Synthesis

Terms of reference and procedure (Möckel)

This study was commissioned by the German Federal Environment Agency (UBA) and conducted by the Department of Environmental and Planning Law at the Helmholtz Centre for Environmental Research (UFZ) in Leipzig and the Institute for Rural Development and Research (IfLS) at the Johann Wolfgang Goethe University in Frankfurt am Main from December 2011 to October 2013. It investigated how national environmental and agricultural law could be used to a greater extent than thus far to steer development towards sustainable eco-and-climate-friendly agricultural practices. The aim was to analyse existing legal instruments and identify potential ways of improving them with a view to achieving society's environmental objectives and eliminating the environmental threats posed by agriculture in Germany today and those expected to arise in the future. As required by the UBA's terms of reference, the study focused on the form and enforcement of national regulatory and planning law, particularly in the area of agriculturally relevant environmental law and environmentally relevant agricultural law – jointly referred to in the study as "agri-environmental law". Requirements and premises under European law were also addressed. Whilst the study touched on other instruments such as European and national subsidy law and advice schemes, these were not analysed in the same depth. The UBA refrained from asking for an analysis of taxation and duty instruments, given that such analyses were already being conducted separately by the UFZ.[1] That this study was conducted at the same time as debate about revision and greening of the EU's Common Agricultural Policy was not simply a coincidence: the study report was in fact intended to set out the importance and potential of regulatory and planning law as an essential accompaniment to agricultural subsidies, as only through an effective combination of the various policy instruments can an eco-friendly system of agriculture be established and secured in the long term.

The study is divided into four parts: Part 1 gives a statistics-based description of the development of agriculture in Germany over the last few decades in order to highlight the ecologically relevant intensification trends. In Part 2, the UFZ provides an extensive analysis of existing national and European regulatory and planning law, including the cross-compliance requirements under the law on subsidies, in the light of society's environmental objectives and the environmental threats currently posed by agriculture. As law is only as good as its enforcement, it also evaluates the enforcement action taken by authorities, based on an analysis of evidence gathered from the literature and the case law in the JURIS database, and assesses the enforceability of the rules in the light of S.M.A.R.T. management criteria. It also examines the mechanisms for enforcement provided for in the legislation. Based on this analysis, Part 3 investigates the potential for optimising the scheme of instruments and enforceability with a view to enhancing environmental protection in the agricultural sector. This investigation focuses on three types of instrument: regulatory management standards, planning instruments and regulatory enforcement instruments. It also looks at whether the rules of agri-environmental law, which are currently dispersed over various different pieces of legislation, should be consolidated in a single agri-environmental statute. Finally, in

[1] Möckel 2006; Gawel et al. 2011, p. 222-260.

Part 4, the IfLS assesses, with the help of information gathered in an expert survey, the proposed improvements to the legal instruments. Since the respective advantages and disadvantages of each instrument can only be ascertained by comparing it with other instruments, two alternative instruments - advice and rewards for ecological achievements - are presented.

Part 1 Agricultural developments – intensification trends (Rutz/Schramek)

Since the 19th century, the agricultural sector in Germany has been subject to strong trends towards intensification, driven by new technological possibilities and changes in the economic framework conditions. Since 1950, it has been characterised by increasing specialisation and considerable growth in production intensity. Livestock and crop production have become increasingly separated, the former expanding significantly. Ten million hectares, that is, 60% of all agricultural land, is now used to produce animal feed, though large amounts are additionally imported from other countries.

Despite this intensification, agriculture's share in gross value added has fallen from 12% in 1950 to less than 1% today. There has been an even greater decline in the number of people employed in agriculture, which has fallen from 23% to 1.6%. Nevertheless, the amount of land used for agriculture has remained virtually the same and, at 16.7 million hectares, still covers 50% of Germany’s territory. Both of these developments have only been possible as a result of using machinery and synthetic fertilisers and pesticides. This has led to a sharp increase in the capital intensity of agriculture, which is now double as high as in manufacturing. At the same time, prices for agricultural producers, as adjusted for inflation, have been falling continuously and the agricultural sector has been very heavily subsidised by the EU, the German Federal Government and the German states since 1950. In 2010, German farmers received more than €10 billion in state aid. Despite this enormous public funding, more and more small farms have had to close: of the once almost 600 000, there are now fewer than 300 000, though the size of farms has increased to an average 56 hectares (236 hectares in East Germany).

Agriculture has once again been changing radically since 2000. The share of agricultural land used to grow raw materials for energy production or substance extraction has increased to 12%. At the same time, there has been an appreciable decrease in the share of permanent pastures as a result of conversion to arable land, which has been highly detrimental in terms of biodiversity and climate protection in particular. However, a positive development from an environmental point of view is the increase in the share of ecologically managed land to about 6% of agricultural land.

Part 2 Analysis of existing agri-environmental law in the light of society's environmental objectives and the environmental impact of agriculture (Möckel)

In an agricultural context, four important environmental objectives set by society can be identified:

- conservation and restoration of soil fertility and functions, including its function as a carbon sink
- conservation and restoration of natural countryside water resources
- reduction of substance discharges and greenhouse gas emissions

- protection and restoration of landscape structures, biotopes and populations of wild species.

For each of these environmental objectives, there are political declarations of intent, legal targets and sub-goals. Examples relevant to agriculture include the Federal Government's Sustainability and Biodiversity Strategies, the environmental quality objectives under European water and air-purity legislation (Water Framework and NEC Directives), direct payments legislation ("good agricultural and ecological condition") and conservation legislation (Habitats and Birds Directives) and national greenhouse-gas emission ceilings. German environmental law has transposed these environmental quality objectives and, in some cases, made them more specific, but no additional objectives have been set. The most stringent and detailed environmental quality objectives are to be found in water protection law, followed by air purity law. However, in conservation law, especially soil protection law, there are for the most part no objectives expressed in terms of specific quantitative and qualitative criteria. For example, there are no quantitative targets with regard to erosion, humus content, the minimum areas and species populations relevant for biodiversity or critical loads for substance discharges.

At present, none of the environmental objectives has been even remotely achieved in the field of agriculture. Rather, official statistics and evaluated studies show that in precisely this sector there are still major shortcomings. This is essentially down to the fact that agricultural soil management is a feature of rural landscapes and so takes place in an open system. Agricultural facilities also generate a variety of substances which, for the most part, are subsequently discharged in agricultural areas or emitted into the atmosphere. Nevertheless, this cannot lead to abandonment of the environmental objectives for agricultural land but rather efforts must be stepped up to safeguard the foundations of life for future generations, as required by Article 20a of the Basic Law (GG). Although there are as yet no representative research results for Germany as a whole, it can be considered that the main problems with respect to soil are erosion, compaction and the loss of organic substance and soil organisms. Degradation of soil fertility can have serious long-term consequences for agriculture and food security. In Germany, with its rainy climate, countryside water resources have above all been altered by drainage measures and more than 30% of agricultural areas (especially in low-lying moorland and meadows) are drained. Besides lower water reserves, greater risks of flooding and nutrient loads, the drainage measures have an especially negative impact on the climate because they release the large CO_2 content in hydromorphic soils. Agriculture emits a wide variety of substances into the environment, ranging from fertilisers, pesticides and the heavy metals and veterinary medicines they contain to methane, laughing gas, ammoniac and fine particulate matter. The amounts discharged are enormous, for example 2.8 million tonnes of nitrogen and more than 43 800 tonnes of synthetic active ingredients of plant protection products. This affects all environmental media, including the local and global climate, as well as human health and biodiversity. Biotopes and wild species are not only affected by soil degradation, altered water and substance loads; they have been and still are often directly eliminated or displaced in order to cultivate land, expand already cultivated areas or intensify existing cultivation. Meanwhile, increased conversion of permanent pastures has given rise to a new wave of displacement.

A glance at the existing agri-environmental legislation and the large number of provisions applicable to or at least concerned by agriculture shows that the sector is by no

means unregulated for the purposes of environmental protection. This mirrors the complex inter-relationships and reciprocal impact between agriculture and the environment. However, the steering effect of the individual provisions is very varied. The decisive factor is not whether there is a statute or legislative provision but, above all, the level of its requirements, the extent to which it lays down specific quantitative and qualitative criteria and its legal clarity and enforceability. Legal requirements must be accompanied by enforcement mechanisms, e.g. the power to issue administrative orders in specific cases, reporting duties and reserved approval, as well as powers to impose penalties in the form of fines for administrative offences or reductions in subsidies. In this respect, agri-environmental law often lays down less stringent requirements and has a lesser regulatory effect than the law applicable in other economic sectors. The legislature often exempts agriculture from normal regulatory provisions and enacts special rules for the sector. In some cases of vague legal notions and conditions for applicability, lawyers dealing with legislative interpretation and the authorities find that they do not apply to agriculture. To date, the courts have contributed little to clarify the interpretation issues because agri-environmental disputes –especially those concerning soil management – are only rarely even brought before them.

In addition, there are problems with enforcement. These not only result from the authorities' limited capacity (under which environmental authorities especially suffer) and the practical difficulties entailed in supervising the environmental impact of individual management measures at almost 300 000 farms covering 50% of the land. Rather, many of the problems are already built into the law itself, e.g. where the legal requirements are too abstract and vague but also where the mechanisms whereby the authorities can obtain information and the supervision and implementation schemes are inadequate or so legally uncertain that the authorities scarcely use them. In many cases, however, the authorities simply lack information about farmers' actual land management because only a small number of their operations are subject to reporting duties or reserved approval.

The following conclusions and theories can be drawn from the legal study of existing agri-environmental laws (not listed in order of importance):

- There is no lack of general objectives and requirements for sustainable agriculture. Instead, there is a lack of specific and measurable requirements fit for enforcement and a lack of related enforcement mechanisms. This is true of both the specialised agricultural law and the law on direct payments, but it applies especially to general environmental law.
- As a regulatory minimum standard for agricultural soil management, agricultural and environmental law prescribe that farmers comply with the requirements of good agricultural practice as laid down in a variety of different pieces of legislation. The requisite level is compliance with accepted technical rules as applied by informed and experienced farmers. Agricultural facilities, however, like facilities in other industrial sectors, must comply with the state of the art, which means applying progressive methods and technologies.
- There are clear differences between the standards required for good practice under environmental and agricultural law. The Federal Soil Protection Act (BBodSchG) and the Federal Conservation Act (BNatSchG) impose on the agricultural sector a comprehensive obligation to ensure sustainability, but the

wording is very abstract and provides few specific instructions on how to act. Whilst agricultural law lays down more specific requirements, these are restricted to fertilisers and the use of plant protection products. Express powers to issue orders laying down more specific requirements as to good practice for specific operations and sites are conferred on the authorities only in relation to plant protection and special species protection (Sections 3(1) and 13(3) of the Plant Protection Act (PflSchG); Section 44(4) BNatSchG).

- The EU legislation on direct payments and bioenergy lay down further minimum standards for sustainable agriculture, while the German Regulation on obligations relating to direct payments (DirektZahlVerpflV) specifies in more detail the standard of a "good agriculture and ecological condition" required under the subsidies legislation. Additional sustainability requirements apply to fluid agricultural energy products. However, the problem for environmental protection is that farmers can avoid having to meet these requirements by waiving their entitlement to direct payments and energy subsidies.
- All in all, the regulatory requirements as to good agricultural practice and the subsidy requirements under the law on direct payments and bioenergy set three different levels of requirements which, although often applied in parallel in practice, have not been harmonised and co-ordinated. While the requirements of good farming practice are more extensive, the more limited requirements relating to cross compliance and bioenergy are sometimes more specific. This fragmentation leads to shortcomings in enforcement.
- There is now a similar fragmentation of the Federal and regional rules on the protection of permanent pastures. The numerous provisions have so far not halted the conversion of permanent pastures, which suggests that there is a problem with enforcement. In particular, the scheme under conservation law governing the approval of measures interfering with nature ("interference rule"), which is accompanied by a duty to prevent deterioration and take compensatory measures, appears, contrary to the legal requirement, hardly ever to be applied to conversions in administrative practice.
- Another major factor is the law on land reparcelling, which allows for reallocation and restructuring of parcels of land and can thus have both negative and positive environmental effects. The terminology used in the relevant statute needs to be modernised and the focus reset to enhance the protection and restoration of ecological functions and landscape components.
- The EU Organic Farming Regulation and the related implementing regulations directly regulate at European level an especially important agricultural area which stands apart in view of its minor environmental impact and greater sustainability. Thus, not only can organic farming set an example, but the related legislation can also serve as a model for the whole area of agri-environmental law.
- Overall and environmental planning instruments supplement the above instruments. In particular, the competent authorities can use their regional and local development plans to steer, above all, the kind, size and location of agricultural facilities. The scope for using planning instruments is more limited in the area of agricultural soil management because either the authorities' powers to

impose specifications are restricted by statute or the plans are not binding on third parties. The greatest scope for action is in the formal identification of protected areas under nature, water and soil conservation law, but the related powers are geographically limited to areas deserving or requiring protection.

The following can be concluded with regard to the individual environmental media, including biodiversity:

- Although soil is directly worked by agriculture, it is not adequately protected against improper practices, both in terms of erosion, compaction and humus reduction and in terms of substance discharges, in particular fertilisers and pesticides. Soil law in particular lacks specific, differentiated requirements and enforcement instruments. The law governing fertilisers and pesticides does not lay down effective thresholds for nutrient excesses or pesticide volumes, uniform standards for harmful substances and safety or effective instruments to ensure proper use.
- Regulation of harmful agricultural emissions into the atmosphere is inadequate under both agricultural law and the law on emissions and climate protection, while there are virtually no requirements for agricultural soil management. Subsidies law requires potential for reducing greenhouse gases only in relation to fluid bioenergy products. The reservations of approval and stricter operator duties applicable to agricultural facilities under emissions law are limited to large livestock holdings and biogas facilities and take no account of greenhouse gases.
- Extensive environmental quality objectives and protective requirements have been enacted by both the EU and Germany to protect water, although drainage ditches and small bodies of water are sometimes excluded from the scope of these schemes. However, when it comes to agricultural impact, water law allows for significant exemptions and suffers from deficits in applicability. For example, ordinary agricultural drainage is largely free of any approval requirement and the predominant opinion is that diffuse agricultural pollution is covered by the provisions on proper use only in the event of manifest breaches of specialised agricultural law. To date, the law on fertilisers and pesticides has been unable sufficiently to prevent discharges into water, as is shown by the still unsatisfactory pressure status. There are therefore considerable uncertainties in the practice as to applicability and enforceability.
- Conservation law comprehensively protects species, biotopes, natural resources and the landscape, and the protective scheme therefore covers soil, water and the atmosphere. It also offers a wide range of instruments in the form of the “interference rule”, rural development planning, protected areas and statutory protection of biotopes and species, but some of these instruments apply to agriculture only to a limited extent as the legislature has enacted extensive privileges and exemptions for agriculture (Sections 14(2) and (3), 15(3), 30(5), 39(5).1, 40(4).1, 44(4) BNatSchG). This problem is compounded by the fact that, in both practice and theory, the interference rule and the term project for Natura 2000 areas are interpreted in such a way that agriculture is largely exempt. These two problems significantly impede enforcement of conservation law. In

addition, the law on direct payments lays down diverging standards for the landscape features to be conserved.

All in all, it can be concluded that agri-environmental law often lacks specific and practically verifiable standards, that in many cases a lack of legal clarity and disagreement as to interpretation impede enforcement and that, in some cases, there are simply no legal enforcement mechanisms. In particular, there is a lack of reporting duties and reservations of approval and of clearly applicable powers to issue orders laying down and enforcing more specific requirements as to good agricultural practice in individual cases.

Part 3 Potential for improving agri-environmental instruments (Möckel)

Scheme of regulatory and planning instruments and structuring it to facilitate effective enforcement

The environmental problems caused by agriculture cannot be tackled by a single instrument. It must be part of a co-ordinated scheme comprising, among other things, regulatory and planning requirements and enforcement mechanisms, supportive subsidies and duties and taxes with steering effect, certification schemes, advice, assistance and professional training. The various instruments should be combined in a way that exploits their various advantages and cancels out their weaknesses as far as possible, so as ultimately to achieve the most effective and efficient environmental policy possible. Even now, agricultural policy uses the most instruments, although subsidies and regulatory provisions predominate and sometimes compete. Unfortunately, this study cannot present a comprehensive analysis of the various instruments and must focus on regulatory and planning instruments, which lend themselves especially to laying down generally binding minimum standards across the board because, through regulatory and planning law, the legislature can, in compliance with civil and human rights and the principle of proportionality, impose binding rights and obligations on citizens and businesses and require certain behaviour without having to make compensatory payments. As compared with a steering policy by means of subsidies, which also require comprehensive supervision, regulatory and planning rules are not just more effective but also very efficient instruments for the state.

The distinction between regulatory and planning law is blurred. While regulatory law is used to specify rights and obligations for the whole territory falling within the relevant jurisdiction, planning instruments relate to specific areas of that territory and generally allow the authorities to impose geographically defined objectives and standards for land use. Unlike regulatory law, planning law often lacks any formal legally binding effect on third parties, but on the other hand, it generally requires public consultation (especially on any strategic environmental impact assessment of plans), so there is greater participation of citizens, public interest groups and associations. All in all, planning is particularly suitable for dealing with complex localised cases involving various conflicting interests and cumulative effects, whereas regulatory law can be used to set generally binding minimum standards.

Because constitutional law requires a statutory legal basis for state action (Article 20(3) GG), authorities cannot enforce regulatory and planning requirements, or implement economic incentives, unless they are equipped with regulatory instruments allowing them to monitor and enforce compliance. Such instruments include administrative

powers to carry out checks and issue orders, administrative execution, reporting duties and reserved approval for certain projects and powers to penalise non-compliance as an administrative or even criminal offence. Without such legal instruments, the authorities' hands are largely tied. Research has shown, for instance, that there is a much greater level of compliance with environmental provisions where developments are subject to approval than where activities are exempt from permit requirements and reporting duties.

In many cases however, the legislation itself impedes enforcement. Imprecise legal notions, a lack of qualitative and quantitative specifications and the absence of any scope for administrative assessment and discretion often make enforcement more difficult because they cause legal uncertainty, frequently to the detriment of general public interests like environmental protection. For regulatory and planning requirements applicable to agriculture to be structured in a way that promotes their enforcement, they should as far as possible meet the following criteria:

- clearly binding and precise in terms of quality and quantity
- understandable and enforceable and verifiable in practice
- compliance with fundamental principles of environmental law, in particular the precautionary and "polluter pays" principles
- general minimum standards which can be specified in more detail for localised developments
- dynamically adaptable to scientific findings and technological progress.

Finally, in order to prevent inconsistencies and uncertainties as to interpretation, the terminology, underlying assumptions and consequences of the provisions in the various pieces of legislation must be harmonised.

Potential for improving regulatory requirements as to soil management

Regulatory requirements as to agricultural soil management are currently to be found in the law on fertilisers and pesticides and in nature conservation and soil protection law. They are primarily aimed at prevention and take good agricultural practice as the minimum standard. This good practice is based on the use of generally accepted technology and management methods, so the level is lower than that to be reached by agricultural facilities (e.g. livestock holdings or biogas plants), which, like other industrial installations, must use state-of-the-art technology, i.e. the best technology, methods and operating methods available for achieving a high level of environmental protection. Good agricultural practice therefore does not constitute the constitutional reasonability threshold. To achieve a high overall level of environmental protection, it is recommended that even the requirements of good practice be based on the technology, methods and management procedures which are most effective in protecting the environment.

The level of requirements must be raised under both environmental law and agricultural law. The details as to which technologies, measures and load and emission ceilings are necessary cannot be answered by lawyers and should be researched more thoroughly by environmental and agricultural specialists. Nevertheless, to ensure the requirements are structured so as to facilitate their enforcement, they should be as precise, verifiable and understandable as possible in terms of the prescribed quantity and quality. Since they

should be designed to create a framework for agricultural management, they must set binding thresholds (e.g. emissions ceilings) and lay down specific duties (e.g. to take biological-mechanical measures to protect plants).

The aim should also be to remedy the legal deficits in the regulation of soil management. The problems range from fragmentation within the scheme of regulatory legislation and a lack of co-ordinated interaction between regulatory and subsidy-related management requirements to special exemptions and a lack of enforcement instruments. The most serious shortcoming is probably the varying level of detail in the environmental and agricultural provisions. While the law on fertilisers and, more recently, that on pesticides set out relatively specific requirements, based on European provisions, as to the use of such products and confer powers to issue more specific orders in individual cases, the laws on soil protection and nature conservation are based on highly abstract principles. The BBodSchG rules out more specific implementation of these principles by the authorities in individual cases, while such action under the BNatSchG is controversial. Despite the agricultural emissions in bodies of water and the atmosphere, the current rules on water and emissions are either of limited application or entirely inapplicable to agricultural soil management and do not lay down any specific requirements as to good agricultural practice.

The most important recommendation is therefore that specific instructions as to the action to be taken to protect soil, water, air, biotopes and species be introduced throughout the field of environmental law, including the rules governing water and emissions. Implementing regulations, such as those adopted for fertilisers, are the most suitable form for this, as they can be adapted more quickly than parliamentary statutes, while the BBodSchG, BNatSchG, the Water Management Act (WHG) and the Federal Emissions Act (BImSchG) should not be overloaded with technical details. For example, the Soil Protection Regulation (BBodSchV) could be extended to include precautionary values for nitrogen, phosphate, pesticides and veterinary medicines. In the area of nature conservation law, a blanket duty of compensation in, for instance, the form of a large minimum portion of land could help to render the "interference rule" and the protection of special species more enforceable, while ensuring that agriculture is no longer largely exempted, as has been the case up to now, albeit contrary to the “polluter pays” principle. Urgently required for reasons of enforcement is, finally, a consolidation of the various rules on pasture protection, which are at present dispersed across several Federal and regional statutes. A conceivable alternative would be to bundle the requirements as to good agricultural practice in a single new agri-environmental statute or include them all in conservation legislation, which protects all environmental media, instead of having several medium-specific rules.

To create greater legal certainty for authorities and farmers, it is, moreover, recommended that the relationship between regulatory and planning law and the subsidy-related cross compliance and bioenergy sustainability requirements be improved. In line with the spirit underlying the cross compliance scheme, minimum management requirements should be governed solely by regulatory law (and supporting provisions of planning law), while subsidy law concentrates on financial assistance and promotion functions. To ensure that unlawful conduct is not subsidised, it would be sufficient to refer to the regulatory requirements, as in Article 5 of the Direct Payments Regulation No. 73/2009 or Sections 4a, 5a and 5b DirektZahlVerpflV, and cut subsidies in the event of

infringements. This would have the significant advantage that, even in the case of a lower take-up of less attractive subsidies, the minimum standards would nevertheless apply to all farmers.

Potential for improving planning instruments

Planning instruments can be used to lay down localised environmental quality objectives and requirements and so resolve land-use conflicts locally with public involvement. However, there are considerable differences in the purposes, functions, areas of competence and legal implications of the existing planning instruments. Generally speaking, they can be divided into overall planning measures (regional zoning plans and land-use plans), general specialised planning (landscape planning, programmes of measures and management plans under water legislation, flood-risk management plans, air purification plans and integrated rural development plans) and specialised local planning (specific development plans, route and water plans under land reparcelling law and protected areas, floodplains and plans to improve waterways under conservation, soil protection and water law). As a rule, only specialised local plans, which are adopted as externally-binding legal acts, have directly binding legal effects. Other types of plan usually have only indirectly binding effect inasmuch as they must be taken into consideration when drawing up specialised local plans or taking approval decisions. In the context of agriculture, there are therefore considerable differences between agricultural facilities requiring a permit under building or emissions law and soil management activities which are generally exempt from approval requirements.

The existing planning instruments allow the authorities to specify the location, kind and size of agricultural facilities. At regional level, this can be done by way of zoning. The objectives specified in this process must be observed in local development plans and taken into account when approving facilities. Under the third sentence of Section 35(3) of the Building Code (BauGB), positive site specifications for commercial livestock holdings or biogas installations must be observed, but this duty should be extended to agricultural facilities. In view of the cumulative effects of several individual uses, a provision should be inserted into the Zoning Act (ROG) to expressly permit specification of thresholds for a region (e.g. precise total emission ceilings). At local level, municipalities and other local authorities can to a large extent steer potential agricultural use of land in their area in their specific local development plans (Sections 9 and 30 BauGB). First, certain livestock holdings and biogas installations which are not privileged under Section 35(1), items 1, 4 and 6, BauGB are subject to approval in such a plan if they are to be built in an outlying zone, but pursuant to Section 1(3) BauGB, there is right to such a plan. Secondly, local authorities can also use development plans to restrict or rule out the construction or alteration of privileged installations, as under Section 30 BauGB, the kind and size of potential development and use in the area covered by a development plan is determined solely in accordance with the content of the relevant plans. As far as the choice of location is concerned, the third sentence of Section 35(3) BauGB makes clear that specifications in the regional land-use plan are already sufficient. The local authority can only be deemed to be impermissibly preventing a development if there is no evidence of a desire to shape urban or rural development. All things considered, local authorities therefore have the planning power to decide whether a livestock holding or biogas installation is built in their area and, if so, where and to what extent. Accordingly, there appears to be no need to extend their planning options. However, it is recommended that

the privilege under Section 35(1).1 BauGB be restricted to ensure that even large livestock holdings always have to be covered by a development plan and are subject to the sites specified in regional zoning and land-use plans.

In the context of soil management measures, the overall plans and general specialised plans are ineffective because they are not externally binding, so that farmers need not adhere to them and they cannot be taken into account for the purposes of planning permission. The situation is better for landscape planning in North Rhine-Westphalia and Berlin and the specialised planning with externally binding effect, but the options vary in scope. Above all, local development plans are scarcely suitable because the local overall development plan in general and the catalogue of specifications under Section 9 BauGB in particular relate to construction and only allow specifications for non-construction uses to a very limited extent. There are also limits to the possibilities offered by route and water plans under the law on land reparcelling and waterway improvement plans under water law. Extensive specifications may be imposed for protected areas and floodplains under conservation, soil protection and water law, but only areas deserving or requiring protection can be considered for classification as such areas. However, when it comes to deterioration of water status as a result of agricultural use, the German states could be a lot more active in designating water protection zones under Section 51(1).3 WHG.

All things considered, there is, however, no comprehensive planning instrument which could be used everywhere to specify the kind and extent of agricultural soil use with binding effect for a particular location. Since 50% of land in Germany is used for agriculture and the ratio in local authority areas in agricultural regions can be more than 90%, there is much to support an extension of the local authorities' powers of self-administration to cover measures to steer non-construction land uses and so give the local citizens an instrument comparable to specific local development plans. Such a planning instrument would be optional for the local authority and could be used by it where it wished to influence development of the areas in question. What could be done here is, above all, to extend the overall local development plan and associated specific development plans to create a soil-use plan allowing for specifications as to the kind and extent of non-construction uses.

Potential for improving enforcement instruments

In terms of enforcement instruments, the study looked in depth at powers to issue orders, reporting duties and reservations of approval. Powers to issue orders enable the authorities to adopt legally binding administrative acts with a view to enforcing compliance with the legislation or laying down more specific requirements in individual cases. Several statutes relevant in the field of agri-environmental law provide for general powers to enforce their provisions or the implementing regulations enacted under them. In some cases, these general powers are accompanied by specific powers (e.g. second sentence of Section 3(1) PflSchG). However, the BBodSchG expressly rules out orders relating to good practice and only allows the authorities to offer advice. Under the law on land reparcelling too, there is a lack of general powers to issue orders to the participating group of land owners. The same goes for the national sewage sludge and organic waste regulations and the law applicable to organic farming and bioenergy. Since, as a result of the constitutional requirement of a legislative basis, the authorities have no legal capacity to act in the absence of powers established by statute, all agri-environmental statutes

should include a basis for such action. Moreover, specific powers to impose more detailed requirements and enforce good practice in individual cases should be inserted into all relevant statutes.

Reporting duties and reservations of approval are designed to help authorities obtain information. Reporting is usually simpler for both farmers and the authorities. However, as a result of, among other things, the assessment requirement for authorities, reserving approval guarantees better enforcement of agri-environmental law and greater legal certainty for farmers. Approval reservations and reporting duties with suspensive effect have a preventive function in that the proposed measures cannot start until a positive approval decision has been issued or a certain waiting period has elapsed. Several reporting duties and approval reservations can be found in the relevant agricultural and environmental legislation, but only a few are expressly applicable to agriculture. Agricultural facilities are generally subject to reserved approval under the law on emissions, water and construction. Planning requirements, permits under water or construction law or, as a subsidiary instrument, approval for interference under conservation law are likewise needed for measures fundamentally altering an area (waterway improvement, reparcelling, drainage, removal of landscape features or conversion of permanent pasture). Conversely, there are hardly any provisions on reserving approval for normal agricultural soil use (arable farming, pasture, special cultures), either because the predominant opinion is that general reservations (e.g. Section 8 WHG) are inapplicable or there are statutory exemptions (e.g. Section 14(2) BNatSchG), or else simply because no reservation has even been enacted (e.g. PflSchG). Two ways of improving the enforcement of agri-environmental law using these instruments can be considered.

First, the existing reporting duties and reservations of approval under environmental law could be worded more specifically and expressly declared applicable to agricultural soil management. New reporting duties and reservations of approval could be inserted into the legislation on fertilisers and pesticides to improve compliance with and enforcement of the stringent substantive requirements. In addition, it would be advisable to consolidate the Federal and regional reservations of approval for the conversion of permanent pastures in a single statute. Finally, the responsibilities for the various individual agri-environmental statutes should be standardised as far as possible laws to group information and expertise.

Second, a general operating permit covering a number agricultural operations, similar to that for commercial and industrial businesses, could be introduced. This would have the advantage of reducing the number of permit procedures and authorities conducting such procedures, whilst at the same time making it possible to carry out a comprehensive assessment of the operation’s management concept. In view of changes in circumstances arising from economic, technological and ecological developments, permits should be issued for a limited term to allow account to be taken of new research findings and technological developments and preserve the preventive supervisory function of reserved approval. The permit could include legally binding decisions as to the kind and extent of possible use (e.g. cultivation or permanent pasture), identify biotopes and lay down localised environmental quality objectives and specific environmental or conservation measures. The application of particular management measures or the use of particular equipment could be prescribed or forbidden depending on the operation or site

concerned (e.g. conserving soil management). The application for a permit could also be based on required data as to the condition of the land (e.g. humus and nutrient content of the soil or similar results; any environmental protection measures taken).

Summary assessment of legal potential for improvement

All things considered, the study concludes that, with respect to the legal potential for improvement, general and localised minimum requirements can best be achieved for both agricultural facilities and agriculture working of the soil by way of a combination of regulatory and planning instruments and mechanisms for enforcement in individual cases. Regulatory instruments can be used to lay down generally applicable minimum standards with, where appropriate, different requirements according to type of use or soil. Local plans can then be used to apply these minimum standards in more detailed form to specific sites and impose additional, localised environmental objectives and management requirements. Finally, the authorities could enforce the environmental quality objectives and requirements set in the regulatory and planning instruments in individual cases by issuing administrative orders and approval decisions implementing them in more precise form with legally-binding effect and, where appropriate, re-specifying them for the location in question. For improving the agri-environmental law, a separate act is neither required nor is it recommended.

Part 4 Supplementary instruments and agronomic assessment (Rutz/Schramek)

Informal and economic instruments

Ideally, the combination of different policy instruments, such as regulatory standards, negative and positive economic incentives or agricultural extension services, lead to a situation, in which the public goods demanded by society are provided and the targets for environmental quality are reached in the most efficient way possible. Which instruments are applied depends significantly on the setting of a reference level, above which the provision of socially desirable services must be remunerated and on the way property rights are allocated.

In this study the contribution of agricultural extension and the remuneration of ecological services provided by agriculture to achieving environmental objectives are presented complementing the analysis of regulatory and planning law.

Agricultural extension and advisory services can contribute to achieving environmental objectives related to agriculture by improving farmers' understanding for the necessity of environmental protection measures, by facilitating the implementation of holistic concepts (e.g. concerning the preservation and enhancement of biodiversity) above minimal standards and by contributing to the effective and efficient implementation of agri-environmental measures. Whole farm approaches, which also consider economic, social aspects as well as labour-management, and which are based on personal dialogue between the farmer and the extension officer, are especially promising. However, these kind of approaches are also especially tome and labour-intensive and therefore costly. Consequently, the aim should be to develop intelligent and sophisticated services, extension networks and forms of cooperation, e.g. with local disseminators, in order to implement such schemes. Considering that the state is seen to more and more withdraw from agricultural extension it is important to highlight that extension services aiming at the strengthening of environmental and nature protection will not develop on free

markets based solely on private interests, but that the state carries some responsibility for this kind of advisory service in order to safeguard public interests.

Training or further education obligations for farmers regarding environmental issues complementing extension services on a voluntary basis deserve further consideration and should be the subject of further research projects.

Since the Mac Sharry reform of 1992 agri-environmental measures are compulsory feature of the CAP and its implementation in the Member States. They are the most important instrument by which European farmers are rewarded for ecological services. The farmers, who participate voluntarily and commit themselves to a set of contractual requirements over a certain period of time, receive a compensatory payment. In Germany the Laender are responsible for designing the specific agri-environmental measures. It is generally acknowledged that agri-environmental measures are a sensible supplement to legal regulations, especially when farmers need to engage actively in nature- and resource protection. However, the effectiveness of the various measures is being discussed more and more critically. Key issues in that debate is the line of demarcation to good agricultural practice, the cross compliance, and in the future, the greening standards, the insufficient acceptance of agri-environmental measures by farmers in intensively farmed regions as well as the appropriate relation between so-called “entry-level-schemes” and more demanding as well as more effective measures. Output-oriented measures, which are considered to be especially efficient, are hardly being implemented due to the lack of practically applicable agri-environmental indicators. Important recommendations for the further development of agri-environmental programmes include amongst other things a regular adjustment of the premia to rising prices for agricultural products, a greater offer of so-called “dark-green” measures aiming directly at biodiversity, the expansion of accompanying extension services as well as the further development of practically applicable output-oriented measures.

Agronomic assessment of the suggestions for improvement of the legal instruments

The assessment of the suggestions for improvement for regulatory and planning law as well as enforcement instruments is based on the results of a multi-stage expert survey, selected research projects and the expert meeting as well as the authors’ own assessment. Guiding criteria are the expected effectiveness, efficiency and practicability of the suggestions. With regard to some of the issues the assessment based on agricultural sciences differs from the suggestions made in the legal part of the report.

The following results are to be highlighted:

The standards for good agricultural practice must be specified on the basis of scientific knowledge, adjusted regularly and enforced consequently in order to ensure that they represent an appropriate minimal standard. Applying the “state-of-the-art” principle on agriculture seems only to be possible within very narrow limits, e.g. in the case of technical appliances that can be replaced easily and without major investments.

Instead of introducing a blanket duty for compensation, which suggests that law-abiding agriculture is per se environmentally harmful, the standards of good agricultural practice should be designed and enforced in a way that justifies the exemptions currently in force.

It is sensible to harmonise the cross compliance standards with the German regulatory law, as the cross compliance requirements are minimal standards in the sense of good

agricultural practice and not ecological services going beyond good agricultural practice that would have to be rewarded. Therefore the current fragmentation is unreasonable.

It cannot be recommended to extent the overall local development plan to create a soil-use plan as the possible specifications to be made by local administrations are seen to represent a disproportionate interference with the property rights and the freedom to choose and practice a profession of the affected farmers. Overall, the expected gain from applying such an instrument seems to be too small in relation to the expected administrative burden and costs as well as the possible negative consequences for the affected farmers. This applies all the more as there are other instruments available to reach the desired objectives. More specific and better enforced standards of good agricultural practice, for example, are likely to have a much more positive effect on nature conservation and environmental protection. Instruments such as participatory landscape planning or regional development programmes are more suitable to strengthen the sense of responsibility of the local community regarding agricultural practices.

The lack of enforcement of the already existing law is a central problem regarding agri-environmental law. When setting up more specific and or more demanding standards of good agricultural practice high priority should be given to controllability. Reservations of approval are only reasonable in the case of relevant individual measures. The introduction of a general operating permit does not seem to be a realistic option. The optimal design of enforcement instruments and administrative structures for the enforcement of minimal standards should be the subject of further research.