

Has agricultural policy responded to the Rio challenge?¹

Alan Matthews

Department of Economics

Trinity College, Dublin 2, Ireland

Email address: Alan.Matthews@tcd.ie

JEL Classification: Q01, Q20, Q28

Keywords: agri-environmental policy, sustainable development, environmental management

Abstract

This paper examines recent changes in EU agricultural policy and its implementation in Ireland and asks whether the changes made encourage a more sustainable agriculture in Ireland in line with the objectives of the Rio UN Conference on the Environment and Development. It argues that the Agenda 2000 reforms of the CAP common market regimes will have only a modest environmental impact. The extension of horizontal environmental cross-compliance in determining eligibility to receive direct payments will have a potentially larger impact, but carries the danger that it may legitimise current compensatory payments as payments for environmental services provided by farmers, even though the standard of farming required is only good farming practice. The implementation of the EU's agri-environment scheme in Ireland is also evaluated, and it is argued that the focus of the scheme should be shifted more from avoiding pollution to habitat protection and creation.

¹ An earlier version of this paper was presented to the Conference "Achievement and Challenge - Rio+10 and Ireland", 10-14 September, University College Dublin. Comments received from the Department of Agriculture, Food and Rural Development are gratefully acknowledged, but the views expressed in the paper are entirely my own.

Introduction

The report of the World Commission on Environment and Development (WCED, 1987) and the 1992 Agenda 21 Declaration of the UN Conference on the Environment and Development both identified agriculture and rural development among the priority development issues to be addressed if sustainable development is to be realised. The National Strategy for Sustainable Development (DELG, 1997) also identified agriculture as a key sector and set down the following objectives:

- to provide high quality goods from a high quality environment;
- to maintain the character of the countryside;
- to secure an acceptable quality of life for rural communities.

As is often emphasised, agricultural production has the potential to enhance as well as to degrade the environment. While much is made of the multifunctionality of agriculture, emphasising the role of agriculture in maintaining valued landscapes and particular habitats, there is also evidence of considerable dysfunctionality in terms of the negative consequences generated for the rest of society by agricultural production.² It is the purpose of policy to encourage practices and outputs which contribute to environmental sustainability, and to discourage those practices and outputs which are environmentally damaging and unsustainable.

Government intervention and regulation of agricultural markets is particularly extensive, and thus has enormous scope for good or ill to influence the environmental outcomes of agricultural production. This intervention takes the form both of agricultural policy (interventions specifically directed at food production and rural development objectives which may have environmental consequences) and environmental policy (interventions specifically directed at environmental objectives which may have consequences for food production or rural development).

² A recent UK study conservatively estimated the environmental and health costs imposed on the rest of society by agricultural production in the UK in 1996 at around £2.343 billion sterling, or more than £200 sterling per hectare of arable land and permanent pasture. See Pretty, J. et al, 2000.

Furthermore, these two policy dimensions are overlaid by two decision-making dimensions, either EU or national. In the case of agricultural policy, the EU dimension is paramount arising from the operation of the EU's Common Agricultural Policy. Even here, though, there is scope for national discretion in how these rules are interpreted and implemented, for example, with respect to money saved by modulating direct aids and in the rural development pillar. In the case of environmental policy affecting agriculture, again much of the running has been made by EU legislation, though the scope for national action is greater, particularly in terms of planning laws. These two dimensions, with examples of policy legislation, are illustrated in Table 1. In this paper, we focus on the top row of this matrix dealing with agricultural policy, while recognising the increasing importance of environmental policies in influencing agricultural production.

Table 1. The agricultural-environment policy matrix

	EU	National
Agricultural policy	Common market organisations for individual commodities Direct payments Forestry policy	Modulation and national envelope payments* Accompanying measures and socio-structural measures under CAP Rural Development Programme*
Environmental policy	Drinking Water Directive Environmental Assessment Directive Nitrates Directive Habitats Directive	Regulatory examples include Air Pollution Act, Water Pollution Acts, Waste Management Act, National Monuments Acts, etc. Fiscal policy with environmental objectives

* Some scope for national flexibility and discretion exists within the broad framework of EU rules.

EU agricultural policy first explicitly addressed agriculture's impact on the environment in a Green Paper published in 1985 (Commission, 1985). The reform of EU

agri-structures policy in that year (Reg. 797/85 on improving agricultural structures) for the first time included a set of measures for environmental protection. Article 19 authorised Member States to pay national aid in environmentally sensitive areas (ESAs). A 1987 Regulation made ESA payment schemes eligible for a maximum 25% reimbursement from FEOGA. Agri-environment policy began to move towards centre stage with the MacSharry reform of the CAP in 1992. While the key element of this reform was the substitution of direct payments for market price support in the arable, beef and sheepmeat sectors, an agri-environment scheme was one of the accompanying measures.

In the reformulation of the objectives of the CAP in Agenda 2000, environmental sustainability which had not been mentioned in the original Treaty of Rome was now fully included. The Agenda 2000 reforms continued the MacSharry strategy of substituting direct payments for price supports although, for budgetary reasons, dairy reform (whose intensive production contributes to nitrate problems and farm waste pollution) was postponed to 2005. It also promoted rural development as a second pillar of the CAP. The Less Favoured Areas scheme was refocused on maintaining and promoting low output farming and combined with agri-environment policy and rural development measures into a new instrument to support integrated rural development across the EU. Most significantly, the reforms introduced a general orientation that farmers should observe a minimum level of environmental practice as part-and-parcel of the support regimes, but that any additional environmental service, beyond the basic level of good agricultural practice and respecting environmental law, should be paid for by society through the agri-environment programmes.³

The purpose of this paper is to examine the way in which post-*Agenda 2000* agricultural policy has moved to encourage a more sustainable agriculture in Ireland in line with the *Rio* objectives. I have chosen three aspects for examination: changes in the common market organisations; the horizontal directive introducing environmental cross-compliance for direct support schemes; and the role of agri-environment schemes (in Ireland, the Rural Environment Protection Scheme REPS). In discussing the changes in common market organisations I focus on the role of direct payments and the extent to which progress has been made in decoupling them from production. I argue that only limited environmental gains can be expected from the market reforms introduced by *Agenda 2000*. However, the

environmental cross-compliance introduced by the horizontal directive could have very significant environmental impacts, depending on how it is implemented in Ireland. In discussing REPS, I am particularly interested in the question of equity, not in the sense of examining the distribution of payments between large and small, or rich and poor, farmers, but in the sense of the distribution of property rights implicit in the scheme. An equitable scheme, in this sense, is one where the polluter pays for the damage caused by pollution while public funding is used to encourage the creation and management of habitats and landscapes which would not necessarily arise from good farming practice alone. I argue that the polluter pays principle is not rigorously enforced in agri-environmental policy. As result, public funds generate less environmental improvement than they should.

Common market organisation: Direct payments and decoupling

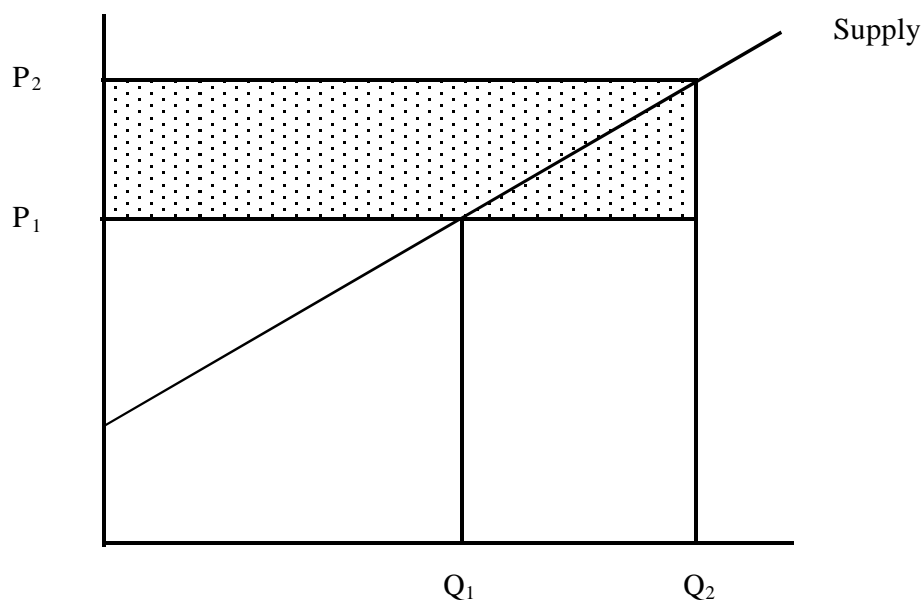
The EU traditionally pursued the objective of income transfers to farmers by means of price support. Domestic EU prices in the 1980s were often more than twice the level of world market prices, and this is still the case for commodities such as beef and sugar. High internal prices gave an incentive to farmers to increase production (thus giving rise to the budgetary problems associated with the disposal of food surpluses since the 1980s). It also accelerated the intensification and specialisation process in Europe. Higher farm prices under the CAP encourage farmers to produce more which, given the limited land base in Europe, implies greater intensification and use of nonland inputs. There is a clear correlation across countries between the degree of price support provided to farmers and their use of chemical inputs such as fertilisers and pesticides.

The MacSharry reform, by partially substituting direct payments for price support, created the opportunity to break this link between income transfers and intensive production. Payments which are fully coupled to production (in the sense that increased output leads *pro rata* to increased payments), or whose size is inversely linked to current prices, have exactly the same incentive effects as price support. However, it is possible to base payments on something other than output or, in the jargon in this area, to *decouple* payments from output. Payments made on a fixed area or based on historical payment levels are examples of decoupled payments.

³ Commission (1999) explains the environmental context for the Agenda 2000 proposals.

Decoupled payments provide less of an incentive for farmers to produce in order to be eligible for these payments, and thus should lead to lower use of chemical and nonland inputs. The mechanism is shown in Figure 1. Suppose the market price is originally supported at P_2 and support is lowered to P_1 and compensated by a direct payment equivalent to the difference $(P_2 - P_1)$ paid on the original quantity produced Q_2 . The total direct support is equal to the shaded area in the figure. If there is no production requirement to be eligible for the direct payment (i.e. the payment is decoupled), then production will be reduced to Q_1 where the new market price just covers marginal costs with a consequent reduction also in input use. If the payment is coupled to production, however, production levels will remain at Q_2 and only the composition of revenue will change. It is sometimes argued that farmers will react to lower prices by increasing production in order to maintain their market-based revenue. Although this might make sense on an individual farm (particularly if the farm is not operating on its production frontier), the idea of such a backward-bending supply curve does not make sense on an aggregate supply basis.

Figure 1. Production effects of direct payments



Interest in decoupled payments grew during the WTO Uruguay Round negotiations because they appeared to offer a solution to the dilemma of how to continue to provide income transfers to farmers but in a way which did not distort world markets and thus

damage the interests of other countries. In the final Uruguay Round Agreement on Agriculture, decoupled payments are put in a 'green box' and are exempt from any reduction commitments because of their negligible trade-distorting effects. In the 1996 Federal Agricultural Improvement and Reform (FAIR) Act, the US made a significant step to decouple its support programmes to farmers. It transformed its previous deficiency payments (which were explicitly coupled to production, although there were ceilings in place on the maximum amount payable per farm) to production flexibility contracts based on predetermined and declining annual payments which would continue for a seven year period regardless of the farmer's production decisions over that period.⁴

The key question is whether the MacSharry and Agenda 2000 payments are decoupled in this sense. For both the arable and livestock payments, there is a limited amount of decoupling but for most Irish farms the effect is very limited. Arable aid is paid on a per hectare basis which means that it is decoupled from yields. Farmers who strive to increase yields on a fixed eligible area, by increasing fertiliser or pesticide applications, for example, are not rewarded through increased direct payments. However, payments are still coupled to the area planted, and farmers are required to plant cropland to be eligible for these payments.

Similarly, premia payments for livestock are coupled to the number of animals, although they are decoupled with respect to the carcass weight per animal. A further element of decoupling arises because there are ceilings on the number of animals eligible for payments although, given Irish herd sizes, these ceilings are not really binding for most Irish farmers. More important is the negative coupling due to stocking density restrictions and extensification incentives associated with premia payments, and these are discussed further in the following section.⁵ The limited extent of decoupling means that these payments are not eligible for WTO 'green box' status although they are given a special 'blue box' status in the Uruguay Round Agreement on Agriculture which protects them from reduction requirements.

⁴ Subsequently, the US made emergency assistance payments to its farmers which dwarfed the production flexibility contract payments and which are not decoupled as they are clearly linked to current prices.

⁵ Keeney and Matthews (2000) found evidence that headage and arable payments in Ireland were largely coupled but that beef premia payments were decoupled. They attributed this to the existence of stocking density restrictions and the extensification top-up to these payments whereby higher payments are made to farmers who farm at lower stocking rates.

A clearer example of decoupling in the Agenda 2000 package was the decision to convert headage payments under the LFA scheme into Compensatory Allowances paid on an area basis from 2001 on. As before, payments will be differentiated by reference to whether land is designated More Severely Handicapped (lowland), Less Severely Handicapped (lowland) or mountain type land. To prevent undergrazing and to ensure that the land is being farmed, minimum stocking levels will apply. Transitional measures will be in force for those farmers for whom the new system will mean a drop in LFA payments to reduce the differences in 2001-2003.

Another step towards the decoupling of payments was the Agriculture Council's recent decision to introduce a simplified aid scheme for small farmers. Farmers who received less than €1,250 in direct aids in a reference period (either 2001 or the average of the three preceding years) will be able to make one single application when they enter the scheme instead of multiple applications under different schemes for small amounts of aid each year and receive one global payment per year. The yearly global payment will be based on the amount of the direct payments the farmer has received during the reference period and will be paid until the end of the scheme, once the farmer continues to fulfil the conditions for the simplified scheme. As it is not a condition of the scheme to continue production, the aid should fall under the green box requirements of the WTO. This voluntary scheme will be introduced over a trial period to run from 2002-2005 and, if successful, the Commission foresees the possibility that the threshold could be raised in the future. Although the scheme will be welcomed for its simplification of procedures for those farmers affected, the low threshold means that the area of land affected in Ireland will not be very great. Further, the environmental effects will be ambiguous as this land is unlikely to be intensively farmed and much will depend on the environmental cross-compliance required for this scheme.

Member States are also allowed to lay down conditions regarding labour input, income limits or ceilings on the amounts granted, provided that such reductions do not exceed 20% of the total amount of direct aid to which farmers would be otherwise entitled. Amounts not paid to farmers because they fail to comply with the environmental requirements and employment limits remain available to the Member States concerned for use as additional support for rural development (early retirement, less-favoured areas and

areas subject to environmental constraints, agri-environmental measures, re-forestation) in accordance with Regulation (EC) No 1257/1999 on rural development. The Commission also envisaged that the 'national envelopes' reserved in the case of the beef and, eventually, the dairy regimes to support identified special needs could be granted on an area basis which would reduce the incentive for farmers to over-stock land (Commission, 1999). There is no indication that the Irish government intends to make use either of these provisions in this way.

Our conclusion is that the compensation payments are decoupled only to a limited extent, and thus the CAP continues to reward intensive farming with potentially damaging environmental consequences. Furthermore, the agricultural ministers failed to grasp the nettle to make the compensation payments digressive in order to release funding to help build the rural development policy into a true second pillar of the CAP. In fact, agri-environment expenditure as a component of the rural development pillar is subject, in principle, to a freeze on spending until 2006 (Lowe and Brouwer, 2000). The huge bulk of CAP funding continues to be spent on market support arrangements which contribute little to the overall agricultural objectives set out in Agenda 2000. We may have to wait until the conclusion of the current, post-Uruguay Round WTO negotiations on agricultural trade liberalisation to see a real change in this situation.

The horizontal regulation: Conditionality and cross-compliance

Given the limited funding made available for the rural development pillar of the CAP, including agri-environment schemes, attention focused instead on trying to leverage the direct payment supports for environmental purposes. Whereas support through higher market prices was untraceable (these higher prices were paid by the thousands of purchasers of farm produce throughout the Union), direct payments were paid to individual farmers by a central government agency. It is thus, in principle, possible to attach conditions to the eligibility for, and receipt of, direct payments and to monitor compliance with these conditions in a way which is just not possible with support provided through market prices. These conditions could be partly administrative, for example, limiting the amount of support paid to individual farmers, or could be intended to achieve other policy objectives, such as environmental objectives – a characteristic known as *cross-compliance*. In other words, farmers would have

to demonstrate that they were, in fact, complying with the criteria to meet the specified environmental objectives in order to be eligible to receive the payments.

Cross-compliance was introduced in a limited way in the MacSharry reforms. In the arable sector, set-aside was introduced as a supply control instrument. Not only was set-aside land, in itself, seen to have positive environmental benefits, but an element of environmental conditionality was introduced for set-aside payments. Set-aside land managed for conservation objectives can deliver a wide range of environmental benefits, but its environmental impact depends very much on its design. If it is targeted to areas with environmental problems, excludes short term rotational set-aside and includes a duty to maintain the land in sound environmental condition there can be substantial benefits to flora and fauna on such land. Payment for long-term set-aside is one of the supplementary measures in both REPS 1 and REPS 2. However, the EU arable scheme promotes rotational set-aside and allows leaving the land fallow thus increasing the risk of soil erosion and leaching of nutrients. At the same time, limiting the area under cultivation sets other production capacities free. This leads to a further intensification on the remaining land through the substitution of agricultural chemicals for the now-even-scarcer land. The potential benefits were further reduced by a lowering of the set-aside obligation (from 15% in 1993/94 to 5% in 1998/99) and compulsory set-aside was abandoned in the Agenda 2000 package (though it has been retained as a possible supply control instrument in the future). The potential benefits were even more limited in Ireland because most tillage farmers were able to opt for the simplified scheme of arable aids (where there is no set-aside requirement) rather than the generalised scheme which applied only to farmers producing more than 92 tonnes annually on the basis of the regional average yield.

Of more importance in Ireland were the conditions attached to beef and sheep payments. Here, farmers were compensated under the MacSharry reform by increases in premium payments. A maximum stocking density of 2 Livestock Units (LU) per hectare was applied to the basic Special Beef and Suckler Cow premia, with an additional extensification premium available for those farms whose stocking densities remained below 1.4 LU/ha. From 1997, a two-tier payment level of extensification premium was introduced. Farmers continued to qualify for payment at the 1.4 LU/ha but those who could remain below 1.0 LU/ha qualified for premium at a higher rate of payment. However, these limits only applied

to the number of animals for which premia were claimed and not to the actual number of bovines on the holding. The main point of extensification was to offer an incentive to farmers to limit their claims on the EU budget rather than to reduce stocking rates on the ground. The limits of 2 LU/ha, 1.4 LU/ha and 1.0 LU/ha have also been criticised for not reflecting the wide variation in carrying capacity of grazing land and for being set too high for environmentally beneficial management.

Agenda 2000 introduced a new extensification payment regime by changing, in particular, the way in which stocking densities are determined. From 2000, all bovine animals over the age of six months present on the holding must be included in the stocking density calculation. Second, herd owners must now explicitly opt to participate in the scheme if they are to be considered for payment. They must also choose whether they wish their stocking densities to be calculated using either the Simplified or the Census System.⁶ Rates of payment were increased substantially. From 2002, the higher rate of payment will apply to farms with less than 1.4 LU/ha, and the lower rate to farms between 1.4 and 2.0 LU/ha (transitional arrangements are in place in 2000 and 2001).

In June 2001, as part of a package of measures to rebalance the beef market after the BSE crisis, the stocking density limit for the standard beef premia will be decreased from 2 livestock units (LU) per hectare to 1.8 LU/ha in two steps (to 1.9 LU in 2002 and to 1.8 LU in 2003). Hence, in order to encourage extensive production the number of animals qualifying for the special premium and the suckler cow premium will be limited to a stocking density of 1.8 LU/ha from 2003. However, the main limitation of these reductions in Ireland is that dairy farmers who have much higher stocking densities than cattle and sheep farmers are not eligible and most cattle and sheep farmers have little difficulty in meeting these stocking density requirements.

In the MacSharry reform, Member States were given the power to introduce additional environmental cross-compliance for beef and sheep premia but the Irish Government (in common with most other Member States) did not avail of this opportunity. Also, changes to both the beef and sheep regimes and the Less Favoured Areas regulations

⁶ The details of these alternatives are explained on the DAFRD website <http://www.irlgov.ie/daff/Publicat/ag2000/agq5.htm>.

permitted Member States to withhold premia and headage payments in cases where damage to the environment was occurring. Not only did Ireland not implement this provision of the regulation, but payments were continued to farmers who were required to undertake destocking in some of the more heavily overgrazed areas in the Western hills.⁷

Under the Agenda 2000 proposals, there is now a formal obligation on Member States to specify appropriate environmental measures both for farmers in receipt of direct support measures and those receiving payments under the Rural Development Regulation – it is no longer an option. Moreover, they must do so with respect to all sectors, and not just livestock. This major extension of cross-compliance potentially creates the scope for a comprehensive environmental policy specifying appropriate regulations for all supported sectors. Under the horizontal regulation dealing with direct support schemes, Member States have three options at their disposal. In the first place, implementation of appropriate agri-environment measures applied under rural development programmes may be sufficient. Second, the Member State may make the market payments conditional on observance of generally applicable mandatory environmental requirements. Third, Member States may attach specific environmental conditions to the grant of payments under a market regime where the environmental situation requires additional efforts. The Irish Government has chosen the second of these options.

Pursuant to these requirements, DAFRD has drawn up a definition of Good Farming Practice (GFP) which is set out in the CAP Rural Development Plan. It covers 13 areas, including nutrient management, grassland management, wildlife habitats, farm boundaries, use of pesticides and chemicals, historical and archaeological features, visual appearance of the farmyard, tillage, animal welfare and hygiene, and as well requires farmers to become familiar with the details of Good Farming Practice and to maintain records as specified.

⁷ Despite the high uptake of REPS in the western counties there was little improvement in the condition of commonages where overgrazing of the upland and peatland resource was widespread during the first five years of REPS. Thus in 1998 the DAFRD and DAHGI agreed to jointly prepare an objective assessment of the condition of all commonages and to draw up Commonage Framework Plans for approximately 500,000 ha of commonages. The Framework Plans assess the damage caused by grazing, if any, and prescribe the amount of destocking required to restore the environmental value to the land. Individual farm plans will then be produced compatible with the strategy laid down in the Framework Plan. To date, no individual farm plans have yet been implemented. An interim National Framework Plan has been in place in the six western counties of Galway, Mayo, Donegal, Kerry, Sligo and Leitrim. Under this Ewe Supplementary Measure, a reduction of 30% was imposed on non-REPS participants to ensure that no further overgrazing was taking

Sanctions are to be imposed for breaches of the GFP Code and there was considerable resistance from farming organisations to the initial level of penalties proposed which could cumulate to over 100 per cent of payments received. On many farms these schemes make up 100 per cent or more of farm income. The Department subsequently scaled the level of penalties sharply downwards, although the IFA is still resisting penalties on premiums on the grounds that they are part of price compensation under CAP reform.⁸ A publication setting out this code in more detail has been circulated by DAFRD to all farmers.

The drafting of a Code of Good Farming Practice is important because, until now, it has been the REPS scheme which has been put forward as the solution to the water quality and pollution problem. However, as noted later, the REPS Scheme has not been effective in attracting the participation of intensive dairy farmers where there is significant pollution potential. Ironically, however, dairying is the sector where direct payments have made least headway and thus least likely to be affected by the GFP Code, although dairy farmers applying in future for aids under any EU scheme will be required to be bound by the Code.

The introduction of environmental cross-compliance is a major step in integrating agricultural and environmental policy. Both its attractions and drawbacks should be recognised. Withholding payments provides a more immediate, and possibly more effective, sanction against farmers who wilfully cause environmental damage than recourse to judicial sanctions. On the other hand, cross-compliance may legitimise current compensatory payments as payments for environmental services, although the environmental standard required is normal good farming practice and not some higher, target, level. As we will see, this ambiguity also appears in the administration of the REP Scheme which is next discussed.

Rural Environment Protection Scheme

One of the measures accompanying the MacSharry reform was an agri-environment scheme which is implemented in Ireland as the Rural Environment Protection Scheme (REPS). REPS 1 ran from 1994 through 1999 and comprised a set of basic and compulsory

place while the framework plans were being prepared. Farmers were compensated for this reduction in sheep numbers (Bleasdale, 2000).

⁸ See "Penalties reduced in good farming code", Paul Mooney, *Irish Farmers' Journal* 30 June 2001.

Measures for all Scheme beneficiaries. The eleven obligatory Measures could be grouped into the following:

- measures which required an agreed nutrient management plan to REPS specification, the protection and maintenance of watercourses and wells, limitation on the use of herbicides, pesticides and fertilisers and more extensive and environmentally appropriate cultivation of tillage crops.
- measures which collectively addressed issues relating to habitat, wildlife and landscape protection. They include the implementation of a grassland management plan for sensitive areas aimed at reducing poaching, overgrazing and soil erosion to protect habitats and grassland flora; the protection of distinct areas of natural and semi-natural wildlife habitats; the management and maintenance of field walls, hedgerows and boundaries for the benefit of inhabiting wildlife and the maintenance and improvement of the visual appearance of the farm and farmyard.
- a measure which aimed to protect features of historical and/or archaeological interest.
- measures which addressed the need to provide participants with information, knowledge and skills to implement their REPS plans and to require appropriate record-keeping.

An additional Supplementary Measure A was designed to address the specific needs of environmentally sensitive areas and was mandatory for participants where all or part of the lands farmed are in one or more of the following target areas: Natural Heritage Areas, Natura 2000 and commonages. Supplementary measures which are optional for farmers but which attract additional support include rearing animals of local breeds in danger of extinction, long term set-aside, organic farming and public access and leisure activities. Payments of 151 euro per hectare up to a maximum of 40 hectares applied in the Basic Scheme, while payments under the Supplementary Measures were set individually. While per hectare payments relate only to the first 40 hectares of the farm, the entire farm must be operated in accordance with the scheme to receive payment.

At the end of 1999, around 45,000 farmers had enrolled in REPS and the total hectareage enrolled amounted to 1.3 million ha or 31% of the total land area of the country. Of this, 0.84m ha were enrolled by 30,000 farmers in the Basic Scheme, while a further 0.5m hectares were enrolled by farmers who also took part in one or more of the Supplementary Measures (mostly farmers with NHAs on their land). Around 25% of REPS expenditure

funded supplementary measures while 75% went to farmers who complied with the basic measures only (DAFRD, 1999). The average size of REP Scheme farms is below the average size of all farms in the State, although both very large and very small farms are underrepresented. Geographically, a higher proportion of farms participated in the western and north-western counties. In Connacht, the proportion of agricultural land covered by the Scheme by March 1999 was 49% and for the 3 Ulster counties 40%, while the figures for Leinster were 23% and for Munster 26%. Scheme farms are strongly represented within the “mainly sheep” and “mainly tillage” systems, but represent a lower proportion of “dairying”, “dairying and other” and “cattle and other” systems.

The REPS 2 Scheme was approved as part of Ireland’s Rural Development Plan 2000-2006 and continued the same formula introduced in REPS 1. The main changes compared to the previous scheme are:

- the introduction of an additional 10% incentive for holdings of 20 ha or less;
- allowing non-REPS participants who have land in a target area to be paid on a maximum area of that land, while applying Good Farming Practice on the rest of the holding. Target areas include Natural Heritage Areas, NATURA 2000 sites, and commonages;
- incorporation of the Supplementary Measure A into the basic REPS, meaning that farmers with land in a target area must comply with any specific requirements for these lands (and receive the corresponding compensation).

A condition attached to the REP Scheme is that farmers receiving agri-environmental aid must demonstrate that their REPS Plan “shall involve more than usual good farming practice”. The basic principle of the agri-environment scheme is that farmers are compensated for the lost opportunities and additional costs involved in meeting stricter environmental targets than required by good farming practice, plus some incentive element. The way in which the compensation levels are determined is set out clearly for the 2000-2006 Scheme in the CAP Rural Development Plan where the differences between what is required of farmers under the Code of Good Farming Practice and REPS is spelled out (Government of Ireland, 2000).

Participation levels are projected to increase to 70,000 and a public co-funded budget of €2.04bn (£1.61bn) has been agreed. This represents a three-fold increase on the

expenditure on the Scheme during 1994-99 period, during which £464m was paid to 45,000 REPS farmers. Thus, while the EU has been criticised for restricting the overall budget for agri-environment purposes, this restriction has not been apparent in Ireland. Given that the number of holdings, excluding micro holdings, will be about 125,000 by 2006 then the rate of participation of all farms in REPS will be about 55%. By that time also, REPS payments will be making a very significant contribution to the farm economy accounting for about 12% of aggregate farm income and 17 to 18% of total direct payments. It will account for more than double these proportions for the relevant aggregates of participating farmers (Kearney, 2000).

Nonetheless, the figures given in the CAP Rural Development Plan suggest that the average payment per farm will fall significantly. Between 2000 and 2006, the total number of participants is expected to increase from 49,500 to 70,000 (an increase of 41 per cent), the number of hectares enrolled is expected to increase from 2.066m to 2.589m (an increase of 25 per cent) and the annual level of public expenditure is expected to increase from €279.8m to €307.0m (an increase of only 10%) (DAFRD p. 53). No reason is given for this dramatic increase in the ability of the Scheme to leverage participation (although the higher incentive for smaller farms could explain this) or, more significantly, for the dramatic decline in the cost of enrolling a hectare in the Scheme (indeed, a higher proportion of smaller farms would increase the cost per hectare, *ceteris paribus*).

Money for old rope? - the deadweight issue

REPS, like any other government expenditure scheme, can be evaluated on the criteria of efficiency (or value for money) and equity. One of the criticisms of REPS is that it has attracted farmers into the Scheme who were required to make very limited adjustments to their farming practices to meet the REPS criteria and thus that there has been significant 'deadweight loss' associated with Scheme expenditure. An aspect of deadweight is that producers can extract 'rents' from the Scheme because payments are considerably greater than the actual costs of compliance. Evidence from the 1999 REPS Evaluation showed that family farm income per hectare on REP Scheme farms was 25% lower than extensive non-REP Scheme farms in 1997 before the payments were included and 12% higher afterwards. Family farm income also rose faster on REP Scheme farms over the 1994-97 period than elsewhere (DAFRD, 1999). The Evaluation concluded that this evidence supported the

socio-economic objective of the Scheme, but it might also point to evidence of significant deadweight losses.

The Evaluation was aware of this criticism but rejected it on two grounds. First, it pointed to survey data showing that the use of both nitrogen and phosphorus fertiliser on participating farms is below levels on extensive non-REPS farms and that both are below intensive non-REPS farms. The National Farm Survey evidence used for this purpose is based on simple tabulations, and does not take into account possible biases from self-selection and compositional effects, so is not in itself conclusive evidence of the absence of deadweight. On the other hand, it can be argued that the Scheme ‘locks in’ farmers to more extensive farming systems and prevents intensification which might otherwise have taken place.

Second, the net financial effects of Scheme obligations are calculated using a baseline of good farming practice. If the scheme attracts farmers whose compliance costs are lower than those calculated, an element of producer rent accrues to these farmers. However, the Evaluation Report argues that this element is small. It points out that, while “real” costs such as investment, fencing and materials are quite low relative to the payments, these costs do not include compensation for additional labour, a large component of the original costs estimated for the Scheme, and one for which considerable compensation is provided. A further element of Scheme compensation concerns opportunity costs – the income participants forego by joining the Scheme – although it admits that there is great uncertainty in establishing this element for participants. For a number of the measures, it is possible to compare the originally anticipated costs of compliance with those which have been incurred in practice. The Evaluation Report concludes that, in aggregate, the incurred costs probably amount to close to the anticipated costs, and thus account for much of the costs of compliance. However, the measures surveyed do not include Measure 1 dealing with better nutrient management. As the Evaluation itself noted with respect to Measure 1: “The REPS Scheme therefore provides an incentive to farmers to reduce applications without harming production. Indeed, there are potential benefits for incomes from the combined effect of conservation payments and fertiliser savings” (p. 30).

An alternative Scheme design which may yield greater value for money is to put more emphasis on cumulative and tiered payment systems for quality habitat, including options for habitat creation. The Evaluation Report recognised the ability of tiered and targeted schemes to minimise producer rents, but pointed out that there could be higher Scheme and administrative costs and that it could reduce the uptake of the Scheme amongst farmers (p. 110). It concluded that the scope for greater efficiency in achieving environmental gains was not proven in the evaluation. It argued that the experience with “deep and targeted” instruments in other Member States as compared to the basic REPS approach of “wide but limited” obligations did not demonstrate their superiority. This characterisation conflates two separate characteristics of agri-environmental schemes, i.e. geographical or area targeting, on the one hand, and a tiered or menu approach where specific payments are made in return for identified farm management practices designed to protect and create habitats, on the other hand. Although, in practice, schemes have tended to combine these elements (as in the Supplementary Measure A in REPS or the Countryside Management Scheme in the North of Ireland) this need not necessarily be the case.

The characteristics of REPS as an agri-environmental scheme can be highlighted by contrasting it with the Countryside Management Scheme introduced in the North of Ireland. The CMS applies to farms outside the North’s Environmentally Sensitive Areas with at least one or more targeted habitats or features, and in this way is similar to Supplementary Measure A in REPS. As with REPS and in line with EU guidelines, CMS payments are based on income foregone and costs incurred, while adherence to good agri-environment practices does not merit payment. There are two obvious contrasts in the design of the CMS compared to REPS. First, the CMS is a tiered scheme. A code of good farming practice is taken as Tier 0 of the scheme. It is a prerequisite for participation and merits no payments. Many of the requirements are similar to the basic REPS measures, with the exception of Measure 1 related to nutrient planning. However, while REPS pays participants 151 euro per hectare for adherence to these measures, they are a requirement for participation in the CMS and attract no remuneration. It is only as a farmer works up the ladder that payments kick in. Tier 1 of the scheme requires nutrient management planning, control of rushes and bracken, participation in environmental training while freezing stocking rates at the level of the previous 12 months. A maximum payment ceiling of £1,500 per year is fixed for these non-habitat payments which is considerably less than the REPS ceiling for the basic scheme.

Additional money is targeted at Tier 2 payments which relate to priority habitats and features. Farmers are required to manage these habitats to prescription in order to qualify for the extra payments.⁹

The Evaluation Report identified the potential benefits of a more targeted approach as threefold:

- it might allow a greater relevance to specific areas, where pollution may be of greater concern than elsewhere
- it may allow a greater focusing on specific environmental issues, such as nitrification or soil erosion
- it may reduce the danger of “deadweight” which can occur when Scheme beneficiaries already operate within the requirements and are likely to continue to do so.

As against these benefits, it saw a number of drawbacks:

- a more targeted approach can have an adverse effect on incentives and thus scheme participation. It argued that agri-environmental schemes are necessarily voluntary, and this deliberately reflects the desire to place environmental accountability and responsibility on society as a whole (sic). More targeted Measures may heighten feelings of imposition of policy rather than engagement with it.
- Targeted schemes applied in specific areas will not necessarily provide the same environmental benefits as those applied more generally and over a greater area.
- The current REP Scheme addresses a widespread and diverse set of environmental issues and more targeted approaches may undermine this attribute.
- Finally, even where the environmental benefits appear similar, the costs of applying a more targeted approach could be substantially greater. This is because the incentive costs to attract those at whom deeper Measures are targeted would be greater and administrative costs can also be greater.

Despite these criticisms, the Evaluation Report saw a potential role for a targeted approach by way of a “menu” system (i.e. what we define as a tiered approach above) specifically as a way of attracting larger and more intensive farms.

⁹ This description of the Countryside Management Scheme is based on the article by Angela Nugent, “New agri-environmental scheme in N.I.”, *Irish Farmers’ Journal* 5 June 1999.

Does the polluter pay? -the equity issue

It is sometimes argued that anyone who improves the environment should be paid for contributing to this public good. On this argument, we would finance shopkeepers who paint their store fronts, we would give extra pocket money to school children who did not drop their burger bags in the street, and we would subsidise farmers who did not pollute their local waterway with slurry effluent. The counter argument is that society has the right to expect certain norms of behaviour. People who fail to meet or behave according to these norms can be held to account. Thus, people who drop litter, and farmers who pollute waterways, are prosecuted. On this view, society should only compensate those who contribute to environmental protection and improvement in ways which go beyond the socially-sanctioned norm. The crucial question, of course, is what the social norm is in any particular situation and how it gets determined. It is this distribution of rights which is set down in the Code of Good Farming Practice. This determines the extent to which farmers are justified in seeking compensation for restrictions on farming practices, and the extent to which society is justified in imposing restrictions as part of the normal cost or expectation of running a food production business.

We now examine the distribution of rights implicit in the REP Scheme. The Evaluation Report states :”The Scheme is principally directed at promoting management practices that have minimal negative environmental externalities. It appears to be meeting this objective” (p. 59). But is this an objective that the public should provide compensation for? Why should farming be granted this dispensation from the polluter pays principle? The public interest in agri-environmental measures is in the protection and creation of habitats, to contribute to the diversity of flora and fauna in rural areas, to conserve landscapes and to permit public access to these facilities. The REP Scheme should focus more on these areas.

Indeed, Michael Starrett, Chief Executive of the Heritage Council, believes that this is already happening. In his contribution to a Teagasc seminar on REPS 2000 in November 2000, he quotes the DAFRD Head of REPS as saying that “...*it is the maintenance of habitats that distinguishes farms in the REPS scheme from others. It will be the measured improvement in habitat protection and development and the consequential improvement in*

the biodiversity in terms of flora and fauna that will determine whether REPS has been a success.” However, evidence for this in Scheme implementation is lacking. As noted earlier, some 75% of REPS expenditure goes towards the basic scheme which is primarily (though not wholly) aimed at avoiding pollution and environmental damage, while only 25% goes into positive nature conservation under the supplementary measures. The CAP Rural Development Plan does not contain the figures to check whether this is expected to change in REPS 2.

The possibility that the emphasis in REPS could shift, from avoiding pollution to habitat protection and creation, is foreseen. As noted in the CAP Rural Development Plan, “In the light of the increasing awareness and importance of the relationship between agriculture and the environment, and in the light of on-going environmental research, standards for good farming practice may change over the period 2000-2006. Such changes as may occur will supersede the standards existing previously and shall be binding on all participants in the relevant measures” (p. 168). Specifically, where the baseline of Good Farming Practice is subsequently increased by the introduction of additional legislation, REPS payments will be adjusted where necessary for applicants subject to this new legislation (p. 103).

There are signs that legislative developments could already push REPS in this direction. A number of County Councils have now implemented bye-laws which impose restrictions on farming practices in particular catchment areas where there is evidence of nitrate or phosphorous problems. The restrictions are generally in line with the Code of Good Agricultural Practice to Protect Waters from Pollution by Nitrates and with the nutrient management guidelines required in REPS plans. An unexpected consequence is that, where preparing and following nutrient management plans and farming under nitrogen and phosphorus limits are measures which are obligatory under the new bye-laws, farmers are not entitled to REPS compensation under EU rules. Cavan County Council dealt with this problem by promptly excluding REPS farmers in Cavan from the county’s new pollution bye-laws in a move to ensure that there is no threat to EU funding of the scheme and other councils are expected to follow suit.¹⁰ Similar obligatory management practices will be required in the nitrate sensitive zones which will bring controls on fertiliser and slurry use as

well as stock rate restrictions. Here, in keeping with polluter pays principle, there is no provision for compensation. While REPS farmers are already complying with the likely requirements, the designation of these zones calls into question why we are paying compensation to avoid pollution.

Conclusions

This paper has evaluated the extent to which the EU's agricultural policy post-Agenda 2000 as implemented in Ireland has helped to encourage more sustainable and environmentally-aware agricultural production. Agenda 2000 means that there are now two parallel direct payment schemes for agriculture. One, and still the much more important one, comprises income support payments to which are now attached environmental conditions through cross-compliance. The other is a stream of agri-environment payments which, in practice, also contributes to income support. Agenda 2000 greatly increased expenditure on the first stream of payments while freezing expenditure on the second. Whether this is a stable formula in the longer term remains to be seen.

Our focus was on how successful this combination was likely to be in steering agricultural production in a more sustainable direction. As an economist, my interests are in the efficiency of policy and in its distributional or equity effects. Equity is here defined as a situation where the polluter pays for the damage caused by pollution while public funding is used to encourage the creation and management of habitats and landscapes which would not necessarily arise from good farming practice.

Given that price supports directly encourage more intensive farming, direct payments have the potential to reduce environmental stress (including greenhouse gas emissions) if they are decoupled from production in the sense that eligibility for payments is not linked to how much a farmer produces. The Agenda 2000 compensation premia are only slightly decoupled in this sense, and the postponement of the dairy reform element to 2005 means that one of the more intensive sectors with a significant potential to contribute to nitrate problems and farm waste pollution is not yet included. On the other hand, the decoupling of payments to low-intensity farmers may well have adverse environmental consequences unless

¹⁰ "REPS farmers excluded from Cavan bye-laws", Angela Nugent, *Irish Farmers' Journal* 29 July 2001.

appropriate recommendations for environmental management are attached. Nor has the Irish government made use of the flexibility in the EU legislation to modulate payments under the income support schemes to transfer money to agri-environmental measures.

The important breakthrough following the Agenda 2000 package has been the introduction for all farmers in receipt of EU farm aids of any kind of the requirement for environmental cross-compliance. DAFRD has drawn up a Code of Good Farming Practice which sets out the norms which society expects farmers to comply with. Importantly, it is explicitly recognised that these norms can change over time with the introduction of mandatory legislation. Both attractions and drawbacks of cross-compliance were recognised. Cross-compliance may legitimise current compensatory payments as payments for environmental services, although the environmental standard required is normal good farming practice and not some higher, target, level. On the other hand, withholding payments provides a more immediate, and possibly more effective, sanction against farmers who wilfully cause environmental damage than recourse to judicial sanctions. Given this leverage, this may lead environmentalists to support the continuation of these payments. However, it is a vastly more costly way of securing environmental benefits than targeted payments under the agri-environmental scheme.

The REP Scheme was also examined under the headings of efficiency and equity. The external evaluation of REPS 1 concluded that it had generated significant environmental improvement. It also listed as an important benefit of the Scheme the higher awareness amongst farmers of environmental issues, including on-farm habitats, management of nutrients, historical and archaeological sites. It found no evidence that the “wide and shallow” approach led to deadweight losses and the possibility of producer rents, and it concluded that the improvement of incomes on REPS farms contributed to the socio-economic objective of the Scheme. It argued that the potential advantages of a more tiered approach would be outweighed by the lower incentive to farmers to participate and higher Scheme and administrative costs.

An alternative view is that the REP Scheme should be much more focused on the maintenance and creation of habitats and that this could be most efficiently achieved by tiered payments related to the objectives sought. The inclusion of Supplementary Measure A which

provides higher compensation for target land, the provisions for long-term set-aside and for the encouragement of organic farming do follow the tiered approach but it is argued that this could be extended. It was argued that the current REPS basic Measures are overly concerned with compensating farmers for avoiding pollution and environmental damage which, properly, should be part of the Code of Good Farming Practice. The extension of local authority bye-laws and the introduction of nitrate sensitive zones may well be the catalyst for a re-think in this area. One justification for the measures in the current Scheme is that they are useful as a transition measure in order to enhance environmental awareness among farmers. Certainly, no environmental scheme can be successful in the long-run without the active and committed support of the farming community. For this reason, training and education schemes provided under REPS deserve the maximum support.

References

Bleasdale, A. (2000) Towards a partnership in the management of target areas. Paper presented to the National REPS Conference, Wexford, November 28, 2000.

Commission of the European Communities (1985) *Perspectives for the Common Agricultural Policy* (Brussels, COM (85) 333).

Commission of the European Communities (1999) *Directions towards Sustainable Agriculture*. Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions (Brussels, COM(1999)22).

Department of Agriculture and Food (1999) *Evaluation of the Rural Environment Protection Scheme* (Dublin, DAFRD).

Department of the Environment and Local Government (1997) *Sustainable Development: A Strategy for Ireland* (Dublin, Stationery Office).

Government of Ireland (2000) *CAP Rural Development Plan 2000-2006* (Dublin, Stationery Office).

Kearney, B. (2000) Agricultural policy scenario and focus on the environment. Paper presented to the National REPS Conference, Wexford, November 28, 2000.

Keeney, M. and Matthews, A. (2000) Examining the role of direct payments in explaining participation in off-farm employment, labour demand and labour supply of Irish farm households, *mimeo*, (Dublin, Department of Economics, Trinity College Dublin).

Lowe, P. and Brouwer, F. (2000) Agenda 2000: a wasted opportunity? In Brouwer, F. and Lowe, P. (Ed.) *CAP Regimes and the European Countryside* (Wallingford, CABI Publishing).

Pretty, J. N., Brett, C., Gee, D., Hine, R.E., Mason, C.F., Morison J.I.L., Raven, H., Rayment, M.D. and Van der Bijl, G., (2000) An assessment of the total external costs of UK agriculture, *Agricultural Systems* 65, 2, pp. 113-136.

Starrett, M. (2000) Helping our heritage. Paper presented to the National REPS Conference, Wexford, November 28, 2000.

World Commission on Environment and Development (1987) *Our Common Future* (Oxford, Oxford University Press).