

Farming Profits and the Environment

The continuing tension between the productive objectives of farmers and the environmental objectives of governments arises because of the inevitability of these two sets of objectives coming into conflict. While maintaining a small proportion of farm area for environmental purposes may not greatly reduce farm output, eventually as the proportion of the area required for conservation increases, productive output decreases. Because of this inevitable tension, the more governments regulate to achieve environmental outcomes on private land, the more perverse incentives are created for farmers to minimise environmental features of their land. An area of native vegetation or the presence of a threatened species becomes a potential blight, rather than something to be valued. Alternative policy approaches appear likely to achieve better environmental outcomes at considerably less cost.

In response to increasing concerns about current and future damage to the environment arising from farm management practices, Australian governments have moved over recent years to impose increased regulatory controls over farm land. At a State level, controls have been imposed over the management of areas of native vegetation, and legislation has been strengthened to protect listed threatened species. At a Commonwealth level, the Environment Protection and Biodiversity Conservation Act is increasingly being used to protect species and ecological communities by regulating activities that are permissible on affected farm land.

While to some degree these “command-and-control” regulatory measures have been supplemented with incentive programs such as the National Heritage Trust and more recently the National Action Plan for Salinity and water quality, the predominant focus of governments – particularly at a State level – has been on the use of regulatory measures to improve environmental sustainability.

This has been occurring at a time when internationally, governments have been progressively moving away from reliance on command-and-control measures in response to environmental problems. This is occurring because it is increasingly recognised that such measures are often inefficient, ineffective and inequitable. As a recent OECD report noted, “in many OECD countries the reform of

Government (environmental) regulations is high on the political agenda. The objective is not necessarily to ‘deregulate’, but to make Government interventions more efficient, thereby reducing the cost imposed on the regulated sectors, and improving the environmental effectiveness of environmental policy”¹.

From a farmer’s perspective, lack of equity is a key reason regulatory measures are opposed. As was noted in the recent report released by the Wentworth Group of concerned scientists, “*Whilst we expect farmers to accept a duty of care to protect the environment, it is not fair to expect them to bear all the costs when the benefits of their actions accrue to others.*”²

The lack of equity inherent in the current regulatory approach taken by governments has frequently been confirmed in studies examining the economics of conservation management options on farm land. Recent examples include a study into the economic impact of the NSW Native Vegetation Conservation Act (1997) in the Moree Shire³. This study found that land values have been reduced by some 21% and annual incomes by 10% for the entire shire, with a projected decline in annual incomes of some 18% by 2005, as a direct result of the legislation. In a similar vein, a recent study into the impact of a ban on clearing of native vegetation in Queensland found that for the 3,750 landholders most affected, the result will be a total economic cost of around \$180 million, with the potential for this to increase if a proportion of the affected land was to be used for cropping.⁴

The situation was aptly summed up by Professor David Farrier who concluded that “*Biodiversity conservation, particularly in relation to core areas, places much greater demands on landholders than land conservation, while at the same time offering little, if anything, in terms of immediate market rewards.*”⁵

¹ OECD (2001) Environmentally related taxes in OECD countries. OECD

² Wentworth Group (2002) “Blueprint for a living continent”. www.wwf.org.au

³ Sinden (2002) “Who pays to protect native vegetation? Cost to farmers in Moree Plains Shire, NSW. Annual Conference of AARES, Canberra. 2002

⁴ AFFA(2003) Queensland land clearing proposal. Socio-economic impact. ABARE & BRS study, May 2003.

⁵ Farrier, D. “A role for private landholders in conserving biological diversity.” University of Wollongong, 1996

Some have argued that while these findings are true where significant proportions of farms are set aside, it may not be the case where smaller proportions of farm land are protected. However, studies reveal that even a relatively small proportion of farm land being managed for environmental outcomes will impose a direct cost on the landholder. A Charles Sturt University study conducted across eight farms in south-east Australia concluded that even setting aside as little as 2.5% of the farm land for conservation imposed significant cost impacts on the farm business⁶.

What is also becoming increasingly clear is that blunt regulatory measures such as bans on all new farm developments are economically inefficient. They impose a restraint on all farmers, irrespective of whether the same environmental outcome could have been achieved by landuse changes in less productive areas that would enable economic output to be maintained or increased.

This applies particularly when blanket regulations are imposed across an entire State because in aggregate, evidence is available to suggest that further agricultural development should be limited. The problem arises that in those catchments which are relatively undeveloped, the regulations have essentially removed most of the opportunity for further agricultural development, irrespective of whether or not agricultural development would have had a negative environmental impact.

On the other hand, in catchments where broad agreement exists that overdevelopment has already occurred and is creating environmental harm, the regulations will have little or no impact, and at worst act as a disincentive for farmers contemplating conservation activities on their land.

The ineffectiveness of regulations is also becoming more and more evident, given that the overall objective is to restore landscapes to environmental sustainability. This is especially so for issues such as the recovery of populations of threatened species. Because the main policy instruments currently utilised by the Commonwealth and State Governments are “command-and-control” regulatory measures, a significant perverse incentive exists for all landholders to either ensure any threatened species present remain undiscovered, or to not carry out any actions that might encourage the development of threatened species populations.

The complex issue of dryland salinity, with its indefinite temporal and spatial components, presents an even starker example of a case where command-and-control regulatory measures are ineffective in ameliorating the damage. The clearing of deep-rooted perennial vegetation in a specific area thirty years ago may be the reason dryland salinity is now evident in another area perhaps 100 kilometres away. It is not possible to design regulations that could reasonably be expected to assist in repairing this problem, especially

given the retrospective nature of its cause, and the fact that few of the benefits of action to reduce salinity can be confined to an individual property. This was highlighted in a study conducted in the Kyeamba Valley in southern NSW⁷, which found that only 4% of the impact of actions contributing to salinity (and presumably of actions to reduce it) occur on-farm.

Given the evident shortcomings of the current regulatory approach, coupled with the high administrative overheads that enforcement of these regulations is demanding, it is clear alternatives are required if governments are really serious about achieving long-term sustainability. The approach that the US Government has adopted to address similar issues (the Conservation Reserve Program) provides a model that could be adopted in Australia, and has the potential to produce much better outcomes.

The US Conservation Reserve Program (CRP)

The Conservation Reserve Program is a long-term voluntary land retirement program operated by the United States Department of Agriculture, which has its origins in land retirement policies which were first implemented in the USA during the 1930s. At that time the focus was on temporary land retirement to ease grain over-supply pressures, however the Food Security Act of 1985 signalled the re-orientation of the program towards achieving permanent cropland retirement to generate environmental benefits.⁸

The current CRP program was again reauthorised under the recent 2002 Farm Bill. Under the program, farmers can voluntarily offer to set aside areas of land and take actions such as replanting trees or perennial pastures. The US Government in return agrees to enter into 10-15 year contracts to pay an annual rental for the land, plus half the capital cost of infrastructure such as fencing.

The CRP program consists of two fundamental components. The first is a ranking system (the Environmental Benefits Index or EBI) which is utilised to assess the relative environmental benefits of each offer proposed by farmers. The second is a competitive tendering process, whereby farmers who are prepared to set aside areas of land also propose the rent they require.

The USDA proposes indicative rental rates for each soil type within a county, based on average dryland cash rents. Farmers can offer land that has previously been cropped (for at least 4 of the previous 6 years) at that rental rate, or request a lower annual rental rate to increase the likelihood that their offer will be accepted. In effect, decisions about which offers will be accepted are based on the relative cost of achieving the proposed environmental benefit. For two offers with the same EBI score, the offer requesting a lower annual rental return for the farmer will be more likely to be accepted.

⁷ Wilson (1993) “Formulating cost efficient salinity management plans : A case study in Kyeamba Valley”. National Conference of land management for Dryland Salinity Control. Bendigo, 1993

⁸ USDA (2000) Agricultural Resources and Environmental Indicators: Land Retirement.” Report No: AH722, December 2000.

⁶ Miles, Lockwood, Walpole and Buckley (1998). Report no:107, CSU, 1998

The EBI is based on the allocation of points for a range of different actions that will be taken on the farm to improve the environmental features of the land. The main categories for which points are awarded under the current EBI⁹ are:

- Wildlife habitat benefits (a maximum of 100 points)
- Water quality benefits from reduced erosion, runoff and leaching, (a maximum of 100 points)
- On-farm benefits from reduced erosion, (a maximum of 100 points)
- Benefits that will likely endure beyond the contract period, (a maximum of 50 points)
- Air quality benefits from reduced wind erosion, (a maximum of 45 points)and
- Cost.

There are a range of different sub-factors considered under each of these main headings. Farmers proposing to tender land for the program are able to take an action or series of actions in order to maximise the score generated by their particular proposal. The focus is on land that is either highly erodible, critical for water quality, or that provides important wildlife habitat. After tenders have closed, the USDA assesses the bids that have been received and establishes a minimum threshold for bid acceptance. Bids exceeding that threshold are then assessed competitively in terms of their cost. As the CRP program is always oversubscribed, maximising EBI scores and minimising cost is always important. Assessment of points for each bid is carried out by an authorised USDA official.

Successful landholders then enter into contractual agreements with the US government for periods ranging from ten to fifteen years. They sign a contract to carry out the proposed activities in return for annual rental payments, plus a payment for a share of any capital cost involved.

Prior to the signup currently underway, there were some 355,000 farms in the USA that have enrolled in the CRP program. The area of land involved is 34 million acres, which is equal to about 10% of the arable land in the USA. The average payment during 2002 was \$US 4,455 per farm, or \$US 46.68 per acre per year.

Several features of the design of the CRP program merit comment. The first is that the EBI used as the basis of tenders is a composite index which allows consideration of a range of different environmental factors, rather than one in isolation. This potentially means that proposals that are tendered by farmers will focus on environmental actions that generate the most “points” while sacrificing the least amount of productive output from the land. In effect, the system should ensure that those best able to deliver specific environmental services to the community do so.

A second feature of the CRP program that is noteworthy is that the EBI is a relative, rather than an absolute score of environmental benefits. While perhaps not satisfying scientific purists, a relative score allows a reasonably transparent and objective ranking of proposals to occur, but at the same time places some discipline on the “community” to allocate a weighting to the various features of the environment that it desires should be enhanced or preserved. By seeking proposals over a limited sign-up period, the US Government retains the flexibility to iteratively modify the EBI for subsequent signups, based on new technical information and also on the responses received from farmers. For example, if the supply of habitat-protection proposals appears excessive, they can be allocated a lower score in subsequent rounds of the program.

A third feature of the CRP that is significant is the timeframe over which the program extends, and the repeated opportunities that are provided for farmers to sign up. By allowing farmers to contract over a 10 to 15 year period, there is a strong reassurance that the income stream generated will be continuing, irrespective of seasonal and commodity price fluctuation. This obviously provides farmers with a higher level of confidence in making the decision to set land aside. Continuing signup opportunities also mean that farmers not in a position to be involved in a specific year are provided with subsequent opportunities, and no doubt can reduce their concerns about the program by talking to other participants.

Also related to acceptance of the program by farmers is the fact that the CRP program always has been, and remains purely voluntary. In effect, it provides an additional enterprise option – environmental services – to a farm business, and allows the farmer to select that mix of enterprises that best suits his or her needs. As such, the CRP program provides an opportunity for farmers, rather than a threat, as is reflected by the high degree of competition that exists for contracts.

A CRP Model for Australia

The US CRP program appears to provide an excellent model that could be utilised in Australia, as a voluntary program.. Coupled with a ‘light’ regulatory framework, the result could be the generation of significant environmental benefits – something which will not occur under the current command-and-control policy framework.

Two critical issues that need to be addressed in developing a CRP model are the development of an Environmental Benefits Index, and the provision of adequate, secure, long-term financial incentives to encourage participation in the program.

The first requirement - developing an EBI - has already been the subject of consideration in several States, but has not progressed beyond pilot trials. Part of the reason for this has been the need to have financial resources available to fund an incentive program, but there has also been a desire by bureaucrats and scientists to develop and refine a “perfect” model, which entails endless modelling and academic

⁹ USDA (2003) Conservation Reserve Program Sign-up 26 Environmental Benefits Index. www.usda.com

consideration, but little in terms of practical output. As the US example demonstrates, an EBI does not need to be highly refined. It is simply a transparent and objective system used to rank the relative environmental merits of proposed actions. It is also something that can be refined with experience and depending on the response received.

A further lesson derived from the US program is the need for the EBI to focus on a small number of high-priority issues, rather than attempting to encompass every conceivable feature of the environment. Soil and water quality protection, dryland salinity amelioration and threatened species conservation seem the logical issues that an Australian EBI would need to encompass.

The US EBI is focussed on actions that can be undertaken on specific areas of what was cropland to achieve environmental benefits, and it is not used to estimate the overall environmental benefits generated by management of the entire farm. If an Australian EBI was proposed as a mechanism both to provide incentives for positive actions by farmers, but also as a means of assessing the impact of a land development proposal, then it may need to encompass actions such as grazing and cropping rotations. If developed to encompass those issues, the EBI could become an objective expression of a farmer's duty of care, as well as a mechanism to assess the merits of proposed actions to improve environmental sustainability. Farmers whose overall land management generated an EBI in excess of 50%, for example, may be deemed to be generating positive environmental benefits, and thereby eligible for incentives. Similarly, a farmer with a relatively undeveloped farm would be assessed as having a high EBI, and may be allowed to develop areas as long as the result was not an EBI of less than 50%, or could access incentives that would reward maintaining the high EBI score.

The challenge for governments to providing an adequate level of funding to implement a large-scale environmental incentive program is considerable. The relative sizes of the US and Australian economies and the relative scale of agriculture in both economies means that the US is much better equipped to provide adequate funding on a continual basis.

Australian governments have tended to provide a limited pool of funding over a number of years for environmental programs such as the National Heritage Trust or the National Action Plan for Salinity, with these funds generated from large-scale privatisations. An arrangement such as this is not adequate for the stable, long-term program that would be required. A special, hypothecated tax levy has been proposed, but there does not appear to be a high degree of enthusiasm on behalf of the Commonwealth (the only Government with income taxing powers) to adopt this proposal.

A better alternative that would be more stable in the longer term would be for both State and Commonwealth

Governments to provide discounts or tax credits for those farmers who voluntarily undertake an EBI assessment and maintain their EBI score above a certain minimum threshold.

At a State level, the proposal could work in a similar manner to Seniors Cards that are available in NSW for citizens older than 60 who are not in full-time employment. Farmers who voluntarily were assessed as having an EBI of 60%, for example, could obtain a "Green Card" which would make them eligible for discounts on a range of state government fees and charges, including vehicle registration and stamp duties. This could also be extended to include electricity charges and Local Government rates, with the State Government rebating the cost of these discounts to the relevant bodies.

At a Commonwealth level, those farmers voluntarily assessed as exceeding threshold EBI levels could become eligible for a graduated scale of income tax credits, which increase as the EBI score increases. This would provide willing farmers with a stable, long-term incentive to improve the environmental sustainability of their farm, reward those who already have positive environmental features, and at the same time limit the reward to those who actually pay tax.

A scheme such as this would be transparent and administratively efficient, and at the same time avoid the need to either raise an additional tax, or to allocate annual appropriations from government budgets. Having such incentives enshrined in legislation at both a State and Commonwealth level would also provide farmers with the necessary reassurance that the scheme would be available on a long-term basis. There may still need to be additional incentive funding for those required to maintain highly valued environmental features on their land, but the total cost of this should be much less than a scheme based solely on financial incentives.

When the stage is reached where farmers are just as interested in talking about how to increase EBI scores as crop yields, it will be a clear signal that the system is working!

COMMENTS CONTAINED IN THIS DOCUMENT ARE BASED ON INFORMATION AVAILABLE AT TIME OF PUBLICATION.

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