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I N F O R M A T I O N A N D R E S E A R C H S E R V I C E S

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Multifunctionality and Agriculture—Why the Fuss?

Dr Els Wynen
Foreign Affairs, Defence and Trade Group
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Major Issues

Since the mid-1990s, several countries have engaged in making a case for the recognition of agriculture having functions other than the production of food and fibre, that is, agriculture has 'multiple functions'. The most commonly mentioned other functions, or goods, include food security, environmental protection and the viability of rural areas. The argument is that producers get no reward for the production of those 'joint' products, yet society values them (they are said to be 'public goods'). These countries argue that it is the government's responsibility to ascertain that these public goods are provided, or at least to reward their production. In other words, agriculture needs to be subsidised to ensure the production of not only food and fibre, but also other goods. Countries interested in having this concept accepted internationally have placed this on the negotiation table for the present WTO Round.

A closer look at the multifunctions of agriculture, however, shows that some of these public good aspects are not necessarily joint goods (such as environmental quality and viability of rural areas). Nor is the characteristic of joint product, for which the government is asked to provide a subsidy, peculiar to agriculture. The WTO does allow the provision of subsidies within the agricultural production process under several conditions. Countries that make a case for multifunctionality are generally industrialised countries with very high levels of agricultural support. For agricultural exporters such as Australia, the introduction of the concept of multifunctionality appears little more than a way to continue subsidies to domestic producers, to be resisted by Australian negotiators in the WTO negotiations.

Introduction

At the end of the Uruguay Round in late 1994, the World Trade Organization (WTO) was established. Members agreed on a number of measures designed to promote freer trade in agricultural products that were set out in the Agreement on Agriculture (AA). They concentrated on three main areas: market access, domestic support and export subsidies. The overall aim was to remove distortions in world agricultural markets, leading to a more optimal use of resources, greater trade and faster growth.

In November 2001, at the ministerial WTO meeting in Doha, Qatar, member countries agreed upon a new round of negotiations, to be concluded before 2005. Negotiations are ongoing, and should result in proposals of members' commitments before March 2003, and draft commitments at the fifth Ministerial Conference in Mexico, later that year.

Since the mid-1990s, several countries such as the EU and Japan have engaged in making a case for the recognition of agriculture having functions other than production of food and fibre, that is, agriculture has 'multiple functions'. The ones most commonly mentioned include food security, environmental protection and the viability of rural areas. Countries interested in having this concept, and its implications, accepted internationally have placed this on the negotiation table for the present WTO Round. If the concept is accepted in the negotiations, the logical corollary is that it is legitimate for individual countries to subsidise agriculture to provide these external benefits. The rationale for this way of thinking is that producers do not receive payment for providing these services (the public good argument), and should therefore be compensated. In other words, this is an argument for providing additional payments to farmers while avoiding the constraints on domestic support under WTO rules.

WTO rules do allow for non-trade concerns to be considered in trade negotiations. So what is the fuss about? First, we consider who the parties are in the debate; that is, who makes the fuss? Then, the essential underlying issues are summarised, after which the components of multifunctionality are discussed in more detail and analysed according to these issues. This is then put into the context of existing WTO rules. The paper concludes with some thoughts on the implications for Australia if multi-functionality is accepted as a basis for expansion of domestic subsidies in the WTO. That is, why should Australia be fussed?

Who are the Parties?

In general, it can be said that industrialised countries with very high levels of agricultural support of agricultural products are the major proponents of the concept of multifunctionality. Thus, the list includes the European Union (EU) and Japan, joined by some minor but not necessarily less active countries such as Norway, Switzerland and South Korea. In addition, some African, Caribbean and Pacific countries (ACP) with preferential access to the EU have shown their support, such as Mauritius and Fiji. Those who are against the concept of multifunctionality being included in WTO negotiations are the USA and many members of the Cairns Group,¹ of which Australia is a leading member. Many developing countries belong to this last group, and see the move towards acceptance of the concept as yet another attempt by the rich countries to keep out imports, including those from poor countries.

In the past, a number of countries have protected their domestic agricultural producers significantly. The EU, USA and Japan have a history of subsidising farmers extensively. The EU and the USA originally provided subsidies on output, but more recently (since 1996) have tried to 'decouple' domestic support from production. This means that payments were designed to improve farmers' incomes without influencing the production levels, (which affects both supply and price on the world market). Typically, payments were made according to historical inputs used, for example, per hectare cropped (irrespective of the yield level on the area) or number of animals in a given year, so that producers had no direct incentive to increase output. An attempt was made not to discriminate between crops such that, with average yields, similar payments would be made per hectare for the different crops as without the subsidies.

The Issues

The underlying concept of multifunctionality is that agricultural producers do not only produce agricultural goods, but also other goods, such as food security, environmental protection and viability of rural areas. It is argued that these characteristics are inseparable from agricultural production (so-called 'joint production'). In addition, they are public goods, that is, goods from which it is difficult for producers to derive private income. Furthermore, those who enjoy the benefits of public goods can do so without contributing to their provision. This implies that the government has a role in ensuring the goods are provided in the appropriate quantity. The argument then concludes that the combination of these characteristics—joint production and public good—justifies the compensation of producers for providing these non-traded goods. The result is that, in the present WTO Round, some WTO members will try to change the rules towards allowing production-linked support to compensate producers for providing these goods—goods that the community wants but does not pay for directly.

The main questions in this debate are therefore:

- to what extent are these goods inseparable from the production aspect of agriculture?
- are these goods valued by society?
- are these goods indeed public goods, to be encouraged—and paid for—by the state?
- is this situation—of joint production—sufficiently different from other industries that special arrangements for agriculture are warranted?
- if special arrangements are warranted, what is the most efficient way to reach the goal?

Components of Multifunctionality

It is worthwhile discussing the main components of multifunctionality separately and analysing how the above criteria apply to them. After considering the measures available in the Agreement on Agriculture intended to handle these issues, it can then be determined whether agriculture deserves special consideration under the WTO rules.

Food Security

Food security covers the concept of a country being able to guarantee the availability of and access to sufficient food for its population. Apart from this requiring sufficient income for the population to pay for the goods, it requires there to be sufficient supply. This can occur through domestic production or imports. The argument of the multi-function protagonists is that this needs to happen through self-sufficiency, as imports are less secure than domestic production. Hence, subsidies are needed to encourage domestic production.

The counter-argument covers several fronts. On the consumer side, prices for agricultural products are higher with subsidies (in the form of import restrictions, domestic and export subsidies). The OECD² estimates one third of the consumer price in OECD countries to be attributable to their agricultural policies (as quoted in Anderson).³ In addition, insulation from the world market by many countries increases the volatility of world prices and quantities supplied. Japan, for example, in its submission on the WTO negotiations and elsewhere, has referred to the low-volume trade of rice as a reason for needing to maintain domestic production. However, world trade is particularly low because so many countries have prohibitive protection against rice. Linked to this is the concept that world production is more stable than production in any single country, so depending on trade is less likely to be adversely affected by production shortfalls than depending on domestic production.

A main worry about food security seems to be what would happen in case of war, for example if food transport were to be limited, either through problems in the exporting or importing country. However, there are strategies available to ameliorate some of the effects of such a situation, for example, a diet changing the consumption from animal to plant

proteins could solve some of the problems of food shortage. However, one cannot but wonder whether a country, which is intent on starving another country by blockading all its outside food supplies, would not have the capacity and political will to stage-manage a total destruction of agricultural production. For example, spraying the country with crop-destructing pesticides or crop and animal diseases is not unthinkable.

Even if none of these tactics were used, a blockade is likely to affect the importation of agricultural inputs as well as food, and domestic production would still suffer considerably. Does this mean that food security also incorporates the aim of producing inputs domestically? It is interesting to note that no mention has been made yet of the relevance of organic management methods in this debate. If counteracting starvation in time of war really is the issue, an emphasis on an organic management system—where bought inputs such as synthetic fertilisers and pesticides are not part of the production system—seems worthy of consideration.

In summary, several aspects of food security—price level, and price and quantity stability—are served better by an open economy, with multiple trading partners, than an economy that attempts self-sufficiency. Safeguarding against hunger in a situation of war is unlikely to be effective in those cases where starvation is an objective of the occupying force.

Is food security separable from agricultural production? The answer must be that it is, at least from one year to the next. For example, storage of non-perishable food could take the place of production of food in any particular year, and would be considerably less distorting to the world market than domestic subsidies.

Is this characteristic of 'jointness' of agriculture with food security different from other industries? Many would say that it is, as food is considered more essential than most, if not all, goods. Others would consider some additional goods in the category of essential goods, such as clothing (much of it can be made by artificial means), fuel and medical supplies.

Is food security a valued public good, to be looked after by governments? When food supply is under a certain level due to international events, there certainly is a role for national governments. However, it is not clear that subsidies to encourage domestic production are the best way to fulfil this role. A more efficient way would be to invest in storage and to diversify the sources of supply.

Environmental Protection

By its very nature, agriculture affects the environment. This can be positive—in terms of landscapes and habitat preservation—and negative—in terms of pollution and degradation of the resource.

Local changes in production, and therefore landscapes, can occur through a number of changes, such as a change in agricultural protection policies and a change in world prices.

Landscapes common at some point of time may be 'lost' and tastes may change. A valid question in the debate about landscape as a co-product of agriculture is which point to take as the basis of landscape preservation. Since the 1950s, for example, the age-old landscape of several kinds of grains interspersed with meadows in certain parts of the Netherlands altered in a short space of time. At present, maize is almost a monoculture, as farmers decided to grow feed for cattle which simultaneously provides them with a means to dispense of a maximum amount of animal manure—of which most farms produce so much that it has become a burden rather than a resource. Should the landscape to be protected be the more diverse one of the earlier part of the twentieth century, or that of the monoculture of later years? As the proposal to protect usually is in favour of the present landscape (with present, or higher, production levels), one could wonder whether this argument for inclusion in the multifunctionality debate is related to votes available from those who are 'saved' by its inclusion in trade agreements.

Within the WTO context, the argument to protect the environment—whatever the decision about the basis—is then translated into the right of a country to subsidise farmers for the protection of those landscapes, even when it distorts world production. But do all farmers need to be subsidised at present production levels for the landscape to be visible to tourists (that is, the efficiency principle)? A number of changes could be made that do not affect supplies—and prices—and would still supply the country with the desired landscapes. For example, agricultural activities could be carried out only near roads, with few inputs and less pollution (see below). Thus, agricultural landscapes are not nearly as much a joint-product with agriculture as proponents of multifunctionality suggest.

Although a landscape is a public good, many other industries also provide external benefits that can be enjoyed by all. A well-designed building can be a pleasure to behold, yet if used for business, its owners do not receive subsidies for their output or for the building. Neither do householders get compensated for providing a beautiful garden that is a pleasure to behold for all passers-by and that provides bio-diversity.

A complicating factor in the area of agriculture and the environment is that it often produces negative externalities (off-farm effects) in the form of pollution, at least within predominant farming systems. This pollution is often directly related to the level of inputs used and imposes costs on others, such as the taxpayers. Domestic subsidies often have the effect of increasing the use of those inputs, or farm area, and so is instrumental in increasing environmental pollution. An example is the deterioration of water quality by the use of pesticides and nutrients in many countries. Subsidies on the sugar industry in the USA affect the Everglades in Florida extensively so that subsidies are needed to keep the Everglades functioning, with more tax paid for the clean-up of pollution from the sugar fields.⁴

Viability of Rural Areas

With the progress of technology, fewer resources (including labour) are needed to produce the same quantity of product. This is reflected in the statistics in many countries, which show that the percentage of the population involved in agriculture has decreased over time to less than 5 per cent in many industrialised countries. This compares with a figure of 29 per cent in the UK in 1840, before the industrial revolution. This development is accompanied by a reduction of demand for goods and services in rural areas. In areas highly dependent on agriculture, this may be followed by the closing down of services such as shops, schools and hospitals. Some countries, notably Norway, have a long history of supporting the agricultural sector to keep rural areas settled, partly because this social policy was seen as being a strategic policy, for example near the Russian border.

However, to the question whether the viability of rural areas is inseparable from agricultural production, the answer must be 'no'. Governments can provide subsidies for rural dwellers without attaching this to agricultural production if it so wishes. In some countries, present agricultural subsidies are considerable, and would need to be raised little to be a viable living allowance. Subsidies for Denmark have been calculated at over \$33 000 per farm⁵ in 1995, which is more than the net financial returns per farm in that year.⁶ In other words, it would have been cheaper for the taxpayer to pay the farms the net returns than to subsidise the way they did. This is excluding expenses on pollution alleviation.

It is now well established that agricultural subsidies mainly go to the large farmers.⁷ Hence, a well-targeted subsidy for rural dwellers is likely to be a considerably more cost-effective way to keep more people in rural areas. Of course, less direct ways would be to increase those subsidies that are exempted under WTO rules (see next section under 'Green Box'). Such policies can be targeted to the specific areas that need assistance.

Another approach is the direct subsidisation of rural employment opportunities. Though often not an efficient way of allocating resources, governments can and do encourage the location of non-agricultural industries in particular rural areas through regulation, or the provision of infrastructure, or through direct subsidies. In other words, in order to keep people in rural areas it is not necessary to subsidise agricultural production.

Relevant WTO Rules

The general goal of WTO members is to liberalise trade through the abolition of import barriers (through converting non-financial barriers into tariffs and decreasing tariff levels), and the abolition of subsidies for export and domestic production. The aim is to come to a situation where domestic policies do not affect the quantity and price of agricultural products on the world market. It is recognised that this can not happen quickly, so rules have been drawn up to work towards this goal over time. WTO members have agreed to cut tariffs, export subsidies and domestic support. Non-trade concerns (NTC), such as food

security, environmental protection and social aspects of agriculture in rural areas, are recognised in the WTO rules as deserving special attention.

Domestic support is divided into three categories each grouped in different 'boxes': green, blue and amber. Support that is not directly related to agricultural production, and is unregulated under WTO rules is grouped in the Green Box. In other words, these are measures that have no or minimal effects on production and trade, such as general services (research, pest and disease controls, infra-structure), food security stocks, domestic food aid, de-coupled farm income support, income insurance, safety-net, environmental and regional assistance programs. Many of them are listed under NTC.

Blue Box measures are direct payments to farmers under production-limiting programs. Examples are payments based on fixed area or yield or number of livestock, or on 85 per cent of 1986–88 base level of production.

Amber Box measures are all other measures. These are trade distorting. Members undertook to reduce existing Amber Box measures by 20 per cent over the 6 years of the Uruguay Round (13 per cent over 10 years for developing countries). Countries were still allowed to subsidise industry to 5 per cent of the value of that industry. Non-product specific support can be subsidised to a value of 5 per cent of total production (10 per cent for developing countries). These subsidies are counted under a measure called the '*de minimis*' principle.

It is the subsidies in the Amber Box that are the target of reduction for the purposes of the WTO agreements. The aim is to reduce the possibility to affect quantity of product, and thereby world prices (production-specific subsidies). The subsidies in the Amber Box are counted as Aggregated Measurement of Support (AMS). Members undertake cuts in these measures within an agreed time frame.

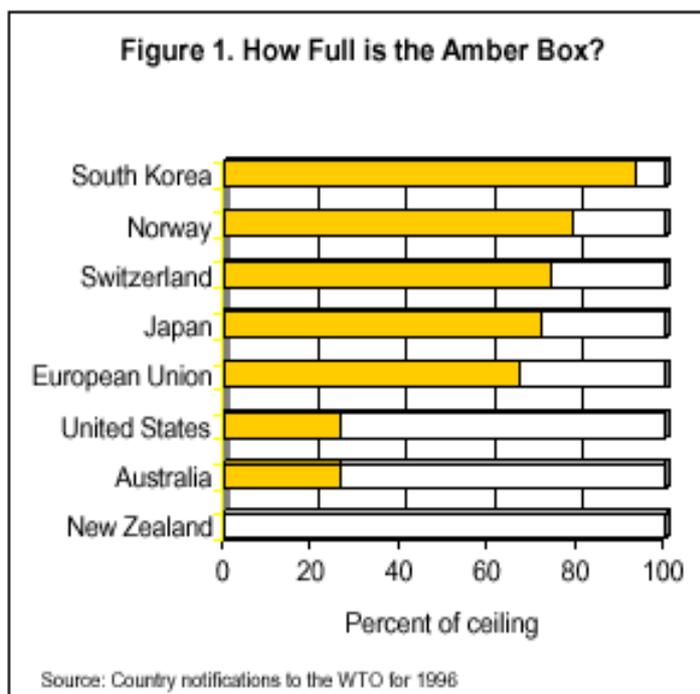
The environment is singled out for special treatment where the WTO rules allow its members to take measures to protect the environment.⁸ These measures are subject to general conditions of non-discrimination between nations and between imports and domestic goods, as applicable to all goods. Other conditions are invoked to safeguard against the use of environmental arguments as disguised trade barriers. These include conditions of:

- necessity, to achieve the specified level of protection
- transparency, in adoption and enforcement of the measures
- basis of scientific principles and risk assessment.

The relevant article states that nothing in the WTO Agreement may infringe upon the right of each country to adopt and enforce measures necessary for the protection of the

environment (specified as the life or health of humans, animals or plants and exhaustible natural resources).

As it happens, the protagonists of multi-functionality are those countries for which the Amber Box is filling up (see Figure 1). That is, they are close enough to their AMS limit that, if significant reductions were agreed during the current WTO negotiations, they would likely need to reduce their domestic support for agriculture. It is therefore hardly surprising that these countries are looking for reasons to have other issues included as legitimately warranting the status of 'exceptional' and therefore deserving of subsidies.



Source: reproduced from Bohman et al. (1999).⁹

Implications for Australia

If the argument of multi-functionality is accepted by the WTO as a legitimate reason for countries to support their agricultural producers, this will affect the quantities of produce on the world market. This will occur either through more exports from subsidising countries, or through less demand for imports in those countries.

Domestic support in the EU and Japan affects Australia on account of the scale on which it occurs. In 1995–96 the Aggregate Measure of Support in the EU amounted to US\$61 billion or 23 per cent of the gross value of agricultural production. The

corresponding figure for Japan in 1997 was US\$26 billion, over 30 per cent of the gross value of production.¹⁰

The acceptance of multifunctionality as a reason not to reduce, or even increase, domestic subsidies further in this coming round of negotiations would affect prices Australian farmers receive in the export market. For example, the Japanese market could be of greater importance to Australia under free-market conditions. Japan is a major market for Australian cereals, meat and dairy products. Japan maintains that domestic rice paddies are necessary for flood control. Australia is one of the few countries, along with the United States and northern China, that can grow the Japonica rice favoured in this market. Australia stands to gain substantially if the Japanese were not able to use the multifunctionality argument to justify continued support to their rice industry.

Australia competes with the EU as a dairy exporter. The EU dairy industry is controlled by production quotas, so it is not clear what the effects of removal of domestic support, which would presumably encompass both subsidy and quota reductions, would be. Roberts *et al.*¹¹ quoted some studies estimating the average price of the quota transfer and concluded that internal prices would need to fall between 20–30 per cent for production to fall. If reductions in domestic support would lead to such large decreases in internal prices and so to reduced EU dairy exports, this would permit Australia to export more dairy products to Japan and Brazil for skim milk powder, Brazil, Indonesia and Thailand for butter and Japan and perhaps the United States for cheese. Australia competes with the EU in these markets, more so in the Asian markets with their greater proximity.

Conclusions

The basic concept of multifunctionality *per se* is undeniable. That is, apart from food and fibre, agriculture produces other goods that are valued by the society, such as landscapes.

The basic disagreement between those who favour and those who reject this concept playing a role on the agenda of the present WTO round is related to the importance to be attached to such inclusion. Proponents want to establish the right to subsidise these joint products, if need be with production-distorting measures. Those who reject the inclusion are, on several grounds, not convinced that production-distorting measures are justified.

One argument is that some of the joint products are not necessarily inseparable from agricultural production (such as the food security, landscape, and rural settlement). That is, the 'joint products' are not always very 'joint', and can be obtained by other means than agricultural production (such as by food storage, diversification of trading partners, or subsidising rural employment opportunities). And if it can only be reached by agricultural production, the question may be which product is actually wanted (for example, which landscape). The issue of negative externalities that are joint products, such as pollution due to more intensive input use, is not often mentioned by proponents of multifunctionality.

A second argument is whether the joint production of a public good in agriculture is different from other industries. That is, why should agriculture have special treatment? Or should this issue be discussed in general WTO negotiations?

And thirdly, if it is decided that a good is a joint product with agriculture, and there is a case for government to subsidise it, what is the most cost-effective way to obtain the goal? For example, when the aim is to provide a farm landscape for tourists, why not facilitate the production of such a landscape in only those areas where tourists go? In addition, do domestic producers have more rights than those in other countries? Subsidies affect world prices, and therefore producers in other countries. This equity issue comes to the fore especially when poor trading partners are involved, such as developing countries in this case.

In summary, the push towards the acceptance of multifunctionality seems an attempt by some countries to find ways within the WTO to protect their agricultural industry. If successful, this would secure the right to preserve or increase domestic support for agricultural production, with detrimental consequences for exporting countries, such as Australia and a number of developing countries. Hence the fuss.

Endnotes

1. Countries include: Argentina, Australia, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Fiji, Guatemala, Indonesia, Malaysia, New Zealand, Paraguay, Philippines, South Africa, Thailand, Uruguay.
2. OECD (1998), 'Agricultural Policies in OECD Countries: Measurements of support and background information 1998', OECD, Paris.
3. K. Anderson, 2000, 'Agriculture's 'multifunctionality' and the WTO negotiations', *Australian Journal of Agricultural and Resource Economics* 44(3), pp. 475–94.
4. South Florida Sun-Sentinel (2001), 'Farm Bill comes due in Glades', 3 December.
5. Exchange rate of \$1 = DKr.4.50.
6. E. Wynen, (1998), 'Organic agriculture in Denmark—Economic impacts of a widespread adoption of organic management', Danish Institute of Agricultural and Fisheries Economics, Report No. 99, Copenhagen.
7. For the USA, see for example I. Roberts, and F. Jotzo, (2001), '2002 US Farm Bill: Support and agricultural trade', ABARE Research Report 01.13, Canberra, pp. 57–59.
8. Article 20.
9. Reproduced from M. Bohman, J. Cooper, D. Mullarkey, M. A. Normile, D. Skully, S. Vogel, and E. Young, (1999), 'The use and abuse of multifunctionality', Economics Research Service, USDA, November. Can be accessed through:
<http://www.ers.usda.gov/briefing/wto/PDF/multifunc1119.pdf>.

10. I. Roberts, T. Podbury, and M. Hinchy, (2001), 'Reforming Domestic Agricultural Support Policies Through the WTO', ABARE Research Report 01.2, RIRDC Publication No. 01/07, Canberra, p. 70.
11. I. Roberts, T. Podbury, F. Freeman, A. Tielu, D. Vanzetti, N. Andrews, J. Melanie, and M. Hinchy, (1999), 'Reforming World Agricultural Trade Policies', ABARE Research Report 99.12, Canberra.