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Multilateral Environmental Agreements and Agriculture: Commitments, Cooperation and Conflicts

William A. Kerr
Van Vliet Professor, Department of Agricultural Economics,
University of Saskatchewan

Shannon L. Hall
Student, Department of Agricultural Economics,
University of Saskatchewan

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The Issue

With regard to international organisations, agricultural economists have tended to focus their attention on the World Trade Organisation. There is a good reason for this – WTO negotiations determine, to a considerable degree, the international constraints on the imposition of barriers to market access, the subsidisation of exports and the subsidisation of domestic production. Most governments, however, have made a wide range of additional international commitments that have implications for trade and domestic policy making in agriculture through the negotiation of a large number of multilateral environmental agreements (MEAs) such as the Kyoto Protocol, the Convention on Biological Diversity (CBD) and the Biosafety Protocol (BSP). These have received much less attention from agricultural economists, yet may considerably influence the direction of agricultural policy development and, at times, fundamentally conflict with

WTO commitments. This article provides a brief examination of the current international commitments contained in MEAs, how this international cooperation will influence the development of agricultural policies and where conflicts with the WTO are likely to arise.

Implications and Conclusions

There are more than forty MEAs that have the potential to influence the direction of agricultural policy, directly or indirectly. In general, they are precautionary in approach, meaning that they presuppose that a market failure exists due to the existence of a negative environmental externality and, hence, prescribe some cooperative action by governments to redress the market failure. Often this action takes the form of cooperating to reduce transaction costs relating to information, but in many cases the commitments go beyond this to include positive policy initiatives or the imposition of trade measures. In an approach that differs fom that taken under the WTO, governments have been careful not to give MEAs either binding dispute mechanisms or the ability to sanction those that fail to live up to their commitments; instead, moral suasion must be relied upon to ensure compliance. The terms of some MEAs conflict with WTO commitments and these discrepancies lead to complex questions of international law relating to the primacy of treaties.

The Scope of MEA Commitments

Multilateral environmental agreements are not new – some have been around since the early part of the 20th century (see table 1, at the end of this article). The pace at which new MEAs have been negotiated has increased rapidly over the last thirty years as knowledge regarding potential environmental problems has improved and concern for the environment has risen in civil society. As many environmental problems are transboundary in nature and require a degree of international cooperation in order to be addressed effectively, governments have responded by initiating international negotiations over a wide range of environmental issues (see table 1). As agricultural production alters the natural environment in significant ways and, if mismanaged, can lead to degradation of environmental resources, international commitments aimed at ensuring environmental sustainability can affect both agricultural practices and the development of agricultural policy. Thus, it is important for agricultural economists to understand the nature of the international commitments made in MEAs and to include them in their analyses of agricultural policies.

Table 1 presents an extensive (but not exhaustive) list of MEAs that have the potential to affect agriculture. The range of environmental issues for which MEAs have been negotiated is extensive and includes the following:

- Biodiversity and habitats – for example, the CBD; the 1933 Convention Relating to the Preservation of Fauna and Flora in their Natural State; the Convention on

the Conservation of European Wildlife and Natural Habitats signed in 1979; the African Convention on the Conservation of Nature and Natural Resources of 1968; and the Convention Concerning Specially Protected Areas negotiated in 1990.

- Plant protection – the Agreement Concerning Cooperation in the Quarantine of Plants and Their Protection Against Pests and Diseases of 1959; the International Plant Protection Convention (IPPC) of 1951; the 1961 International Convention for the Protection of New Varieties of Plants; the Treaty on International Recognition of the Deposit of Microorganisms for the Purposes of Patent Procedure of 1977; and the 2001 International Treaty on Plant Genetic Resources for Food and Agriculture.
- Agriculture, forestry and landscape conservation – the 2000 European Landscape Convention; the European Convention on the Protection of Animals during International Transport (1968), the European Convention for the Protection of Animals for Slaughter (1979) and the European Convention for the Protection of Animals Kept for Farming Purposes (1976); the International Tropical Timber Agreement of 1989; and the 1962 Convention of the African Migratory Locust Organisation.
- Climate, ozone and hazardous chemicals – the United Nations Framework Convention on Climate Change of 1992; the Montreal Protocol on Substances that Deplete the Ozone Layer of 1995; the Convention on Persistent Organic Pollutants (POPs) of 2001; and the Rotterdam Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade of 1998.
- Environmental cooperation and protection – the North American Agreement on Environmental Cooperation of 1993; the Convention on the Protection of the Environment through Criminal Law of 1998; and the Convention on the Inter-American Institute for Agricultural Sciences of 1958.
- Water conservation – the Convention on the Protection of Use of Transboundary Water Courses and International Lakes of 1992 and the Convention on Wetlands of International Importance of 1987.
- Biodiversity – the CBD.

It is beyond the scope of this article to describe in detail the provisions of these agreements, but their range and scope can clearly have widespread implications for agriculture. Table 1 provides a summary of their important provisions.

At one end of the spectrum are MEAs whose primary function is to reduce the information costs associated with dealing with potential environmental issues. These agreements include commitments to monitor environmental indicators in a standardised

fashion, to process the information and then to share the information with other members of the MEA. They may also include provisions for cooperation in research and for improving the capacity of members, particularly developing countries. These MEAs do not prescribe any mitigation activities by governments but have instead the expectation that governments with better information will be more likely to respond appropriately to threats to their environment.

Many MEAs that do not have clauses that pertain directly to agricultural practices nevertheless have provisions that will indirectly affect agriculture. For example, the Convention on the Protection of the Environment Through Criminal Law regulates unlawful disposal, treatment and storage of hazardous wastes that threaten soil, water and air quality as well as bird, plant, animal and human health. The convention adopts measures to establish, under the contracting parties' domestic criminal law, liability for environmental offences. Individuals, including farmers, unlawfully disposing of agricultural chemicals or hazardous wastes (i.e., gasoline spills or dumping of excess pesticide in one location) could be imprisoned and/or assessed pecuniary sanctions. The Convention on Wetlands of International Importance protects natural wetlands from harm or permanent injury. Its provisions could put restrictions on agriculture by limiting access to water and/or setting wetland boundaries that prevent encroachment on the protected area by agricultural lands.

Other MEAs have provisions that directly affect agricultural practices. For example, the Montreal Protocol on Substances that Deplete the Ozone Layer restricts the trade, consumption and production of chemicals identified as having potential ozone-depleting properties. Methyl bromide, which is a fumigant used in agriculture, is on the list of banned substances because of its high ozone-depleting potential. The Convention on Persistent Organic Pollutants (POPs) calls for the minimisation of production, use and trade in POPs. The risk associated with these organic pollutants is that they do not readily break down in the environment and, hence, can build up in plants and the fatty tissues of animals and thereby enter the food chain. Substances in this category that are not recommended for agriculture include PCBs, dioxins, DDT, and HCB. The Biosafety Protocol will be used to regulate trade in genetically modified organisms, including both those to be released into the environment and products that have used the technology in their production (Isaac, Phillipson and Kerr, 2002). The degree of ability to trade the products of biotechnology will affect both the adoption of the technology by farmers and future investment in research and development (Boyd, Kerr and Perdikis, 2003), and thus it will affect also the long-run evolution of the agricultural sector. It seems clear that MEAs can affect the agricultural sector in a variety of ways and that agricultural economists need to be aware of their implications. To the present time, however, there has been little analysis undertaken of MEAs and, in fact, they are sometimes difficult to identify and to assess in terms of how they may affect the agricultural sector.

Economic Considerations

Given the plethora of both MEAs and the environmental issues they are meant to address, it is not possible to provide a generic economic model with which to analyse MEAs – this will have to be done on a case by case basis. It is fair to say, however, that MEAs have one underlying economic principle – precaution. There would be no need for an MEA unless there were a consensus that an actual or potential market failure arising from an environmental externality exists. Further, there is a consensus that the environmental externality will not be removed or mitigated without some form of international cooperation. MEAs are exercises in precaution because they, by and large, take a proactive approach to environmental management. This is the case whether the role of the MEA is simply to reduce information costs or alternatively is comprised of more proscriptive measures relating directly or indirectly to agricultural practices. This precautionary approach presumes that the market failure exists and that actions should be taken to correct the failure.

This expectation of market failure is a major difference between MEAs and the WTO. The WTO does not recognise that market failures pertaining to the environment exist, or, more correctly, does not hold that if such market failures exist it is within the WTO's competency to correct them. Of course, it is well known that trade measures are a second-best mechanism for correcting market failures, including environmental market failures (Kerr, 2001), and the members of the WTO have been reluctant to assume the role of environmental police force. The problem is that, unlike MEAs, the WTO has both a binding dispute settlement mechanism and the ability to permit countries to sanction those that fail to live up to their international commitments. Given these strong sanctioning powers, the WTO is seen by some non-governmental environmental organisations as a valuable prize to be captured (Kerr, 2001).

How precaution is to be exercised in MEAs, and for that matter the WTO, has become a major issue that will have considerable ramifications for the agricultural sector. What has become known as the "precautionary principle" has been incorporated into a number of important MEAs, including the CBD and the Biosafety Protocol. It has also been incorporated into the WTO's Agreement on Sanitary and Phyto-sanitary Measures (SPS), which deals with human, animal and plant health and, hence, indirectly may pertain to environmental issues. The intent of the precautionary principle is that when faced with scientific uncertainty policy makers should exercise caution. While the precautionary principle is incorporated in international agreements, there has been no agreement on how it should be operationalised for decision making. As a result of this lack of transparency, the use of the precautionary principle for decision making has become politicised.

Non-governmental organisations (NGOs), including environmental non-governmental organizations (ENGOs), environmentalists and others who are supporters of the proactive role of MEAs favour what has been called the "strong version" of the precautionary

principle (Van den Belt, 2003). This version would require scientific certainty before any environmental externality could be dismissed by policy makers. As science is a statistical process, scientific certainty is impossible to achieve. If the strong version of the precautionary principle were to be accepted for decision making in MEAs, given their premise that environmental externalities exist and that they should be dealt with proactively, MEAs would become pervasive in domestic agricultural policy making. Governments – even, for example, the European Union, which strongly supports the precautionary principle – have not gone so far as to accept its strong version for decision making. Some proposed versions of the precautionary principle do not accept that benefits as well as costs should be included when it is to be used for decision making – a rejection of the economist's approach to decision making. The "soft" version of the precautionary principle suggests that costs should be given greater weight in decision making than benefits. The United States has taken the position that decision making under the precautionary principle should be science-based while the European Union wants these decisions to be only informed by science but ultimately taken as political decisions (Isaac, 2002). It seems clear, given the contentious nature of the precautionary principle, that the opaqueness associated with its definition and use in decision making should be made clearer before the principle is incorporated into new MEAs and that this should be a priority for both existing MEAs and the WTO's Committee on the Environment.

MEAs and Domestic Agricultural Policy

As suggested above, governments have not given MEAs either binding dispute settlement powers or the ability to sanction those who do not live up to their commitments. When this was the case in the WTO's predecessor organisation, the General Agreement on Tariffs and Trade (GATT) prior to the Uruguay Round it led, in the case of agriculture, to widespread violation of the spirit of international cooperation on trade matters and a focus on narrow legal interpretations of the agreement's wording. This was a major spur for including agriculture under general GATT disciplines in the Uruguay Round and for the strengthening of the dispute settlement system (Gaisford and Kerr, 2001). One wonders if the same problems will arise in MEAs if governments are faced with hard choices between the welfare of agricultural producers and their commitments to MEAs. This is particularly the case when the scientific information pertaining to the environmental externality is somewhat speculative while the cost to agricultural producers is tangible. Of course, in the case of MEAs, governments will be faced with strong environmental lobbies, compared to weak consumer lobbies in the WTO case.

International cooperation, however, need not be based on strong systems of dispute settlement and compliance. Most countries live up to their international commitments and realise the benefits of cooperation. In some cases, one gets the impression that potential conflicts between the provisions of MEAs and domestic agriculture could be avoided if

agricultural officials were more involved in the drafting of MEAs. Officials from environmental ministries may not be cognisant of agricultural practices or the likely effects on agriculture of what they are committing to. This would certainly appear to be the case in the Biosafety Protocol, where little regard was given to the needs of agricultural exporters (Isaac, Phillipson and Kerr, 2002). It is also important that the framers of MEAs be cognisant of WTO trade rules so that conflicts can be kept to a minimum. Once conflicting rules are accepted into agreements, complex issues of international law arise as to which international agreement takes precedence. Relying on precedent to sort out issues that are honest areas for negotiation is not likely to be of benefit to either the environment or the agricultural sector.

Table 1 Selected MEAs and Agriculture

Name of MEA	Date*	Purpose	# of ratifying countries	Potential effect on agriculture (direct or indirect)	Description of trade provisions (if any)	Dispute settlement (Y/N). Voluntary or binding?	Other
Convention Regarding the Organization of the Campaign against Locusts	2000 (1920)	Implement national policies and international co-operation for the control of the desert locust	Regional and International	Protect crops and agricultural lands from devastation of locusts in outbreak areas. Maintain levels of equipment and insecticide	Permits the duty-free import or export without hindrance of anti-locust equipment and insecticide	Yes. Voluntary	Only regional then became international
Convention on Wetlands of International Importance Especially as Waterfowl Habitat	1987 (1971)	Parties should formulate and implement plans to promote conservation of listed sites, and shall promote establishment of adequate wardening of nature reserves on the list	136 contracting parties, 80 parties	Curbing the development of agricultural land by protected sites	NA	No	
Constitution of the European Commission for the Control of Foot and Mouth Disease	1997 (1953)	Establish a commission to promote national and international action in preventive and control measures against the disease	33 member states	Commission will take appropriate measures to undertake eradication in light of any outbreak. Some methods include vaccinations, quarantines or complete destruction	NA	Yes. Voluntary	European
Agreement Concerning Cooperation in the Quarantine of Plants and their Protection Against Pests and Diseases	1959	Control and eradicate quarantinable pests, diseases and weeds that are detrimental to agricultural plants in importing and exporting countries	10 (Eastern Europe)	Facilitates trade and protects agricultural plants and food from unwanted pests, diseases and weeds transported from other countries	Apply uniform phytosanitary regulations for the import, export and transit of consignments	No	European
Convention Relative to the Preservation of Fauna and Flora in their Natural State	1933	Protecting flora and fauna from permanent injury and extinction by prohibiting certain actions	10	Prohibited actions against noxious flora or fauna if threatening crop	Establishing controls on the import and export of trophies regulated by that party	NA	Governments of the Union of South Africa, Belgium, United Kingdom, Egypt, Spain, France, Italy, Portugal, and the Anglo-Egyptian Sudan

International Convention for the Protection of New Varieties of Plants	1991 (1961)	Recognizes the need to ensure the rights of plant breeders by a special title of protection or of a patent	52 members	Allows further research and development in agriculture by protecting the rights of plant breeders	NA	Yes. Binding	
Convention on the Conservation of European Wildlife and Natural Habitats	1995 (1979)	Promoting cooperation between several states to establish legislative and administrative positions for the protection of wildlife and natural habitats	24	Prohibited actions against noxious flora or fauna if threatening a crop	NA	Yes. Binding	European
Convention on the Conservation of Migratory Species of Wild Animals	1994 (1979)	Protection of migratory species that migrate out of transnational boundaries, especially endangered ones, through provisions that prohibit certain actions and provide governing bodies	42	Prohibited actions against noxious migratory species if threatening a crop	NA	Yes. Voluntary unless arbitration is used	
European Landscape Convention	2000	Goal is to achieve sustainable development based on a balanced and harmonious relationship between social needs, economic activity and the environment	20 signatures; 7 ratifications	Agriculture accelerates the transformation of landscapes. To integrate landscape into agricultural policies	NA	No	Council of Europe
Convention on Birds Useful to Agriculture	1950 (1902)	Protects birds in their natural state (both for agriculture and all others) by prohibiting certain actions detrimental to their survival	10	Allows exemptions to protection if birds threaten agricultural endeavours	Prohibits certain import and export actions of birds during season of protection	No	Global but only practised in Europe
Convention on the Protection of Use of Transboundary Watercourses and International Lakes	1999 (1992)	To protect all waters from transboundary impact, pollution and any other harmful effect	57	Reduce pollution loads from both point sources (e.g., municipal and industrial sources) and diffuse sources (particularly from agriculture)	NA	Yes. Voluntary	
African Convention on the Conservation of Nature and Natural Resources	1968	Adopt measures of conservation, utilization and development of natural resources that show the best scientific use and in the interest of all people	27 (regional)	Implement agricultural practices and agrarian reforms to improve soil conservation and introduce improved farming methods, which ensure long-term productivity of the land. Control land clearing and bush fires for cultivation. Overgrazing by domesticated animals	Controls trade in specimens regarded as captured illegally	Yes. Voluntary	African

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal	1989	Prohibit the movement of hazardous wastes and other wastes between states	155	NA	Sovereign rights to prohibit the import of wastes and specific procedures for export/import	Yes. Voluntary	
International Plant Protection Convention	1997 (1951)	Prevent the introduction and spread of pests and diseases among plants	81	Inspection of plants growing under cultivation, nursery or greenhouse	Inspection and regulation of plants in shipments of export/import	Yes. Voluntary	Parties cooperate to form regional plant protection organizations; result is agreements such as i.e. N. American Convention on Plant Protection etc.
International Treaty on Plant Genetic Resources for Food and Agriculture	2001	Conservation and sustainable use of plant genetic resources for food and agriculture and the fair and equitable sharing of the benefits arising out of their use	87	Exchange of benefits and information related to agriculture	NA	Yes. Voluntary	Links objectives of UN's FAO and the CBD
European Convention on the Protection of Animals During International Transport	1968	Outlines actions allowed and prohibited when transporting animals both domesticated and wild when crossing frontiers	European Council	Rules to abide by when transporting cattle, sheep etc.	Crossing borders and the need to conform to provisions set out by convention	Yes. Binding	Europe
European Convention on the Protection of Animals for Slaughter	1979	Outlines actions allowed and prohibited when slaughtering domestic animals	European Council	Rules to abide by when slaughtering cattle, sheep etc.	NA	No	Europe
European Convention on the Protection of Animals Kept for Farming Purposes	1976	Outlines actions allowed and prohibited in intensive livestock operation (technical installations and automatic processes) for domesticated animals	European Council	Rules to abide by when operating an intensive livestock operation	NA	No	Europe
Protocol Concerning Specially Protected Areas and Wildlife	1990	Establish specially protected areas for wildlife that are threatened by certain activities	29	NA	NA	No	Developed under Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region

United Nations Framework Convention on Climate Change	1992	Stabilize the release of greenhouse gases over a time period to ensure food production is not threatened	188	Agriculture as a sink and source of greenhouse gases	NA	Yes. Voluntary	
Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment	1993	Aims at ensuring adequate compensation for damage resulting from activities dangerous to the environment and also provides for means of prevention and reinstatement	22	NA	NA	No	Europe
Convention on the Inter-American Institute for Agricultural Sciences	1958 (1944)	Enhance the dialogue between Canada and the rest of the Americas on the subject of agriculture	20	Deals with innovation, environment and rural life. Research and development	NA	NA	
North American Agreement on Environmental Cooperation	1994	Foster the protection and improvement of the environment for future generations	Canada, Mexico and US	Monoculture, slash and burn, intensive livestock operations	Consideration of prohibition of hazardous chemicals etc.	Yes. Voluntary	
Treaty on the International Recognition of the Deposit of Micro-organisms for the Purposes of Patent Procedure	1977	Uniform procedures for the deposit of micro-organisms in patent procedures	NA	Ensures patent rights with the deposit of micro-organisms allowing incentives in research, development and innovation	NA	NA	
Biosafety Protocol	2000	Establishes advance informed agreement when importing/ exporting living modified organisms that may pose risks to biological diversity under the precautionary principle	49	Import bans on living modified organisms, resulting from a precautionary principle	Advance informed agreement for importing/exporting living modified organisms	Yes. Voluntary	Protocol to the CBD
Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade	1998	Provides a prior informed consent for importing countries on pesticides and chemicals, especially for developing countries	NA	Regulates the introduction of stronger pesticides in importing countries	Trade in pesticides	Yes. Voluntary	Convention may soon be legally binding

Convention on the Protection of the Environment through Criminal Law	1998	Under domestic law appropriate measures will be taken to establish certain actions harmful to the environment under criminal law either intentional or negligent	European Council	Unlawful disposal, treatment, storage of hazardous wastes that cause substantial damage to the quality of air, soil, water, animals and plants, i.e. dumping chemicals or gasoline etc.	Unlawful export/import of hazardous chemicals	Yes. Binding	
Agreement for Establishing the Arab Organization for Agricultural Development	1970	Improving agriculture on a scientific basis and increasing self-sufficiency	NA	Improves agricultural policy and procedure	NA	No	Arab states and countries
Benelux Convention Concerning Hunting and the Protection of Birds	1987 (1970)	Uniform legislation over Belgium, Luxembourg, and the Netherlands regarding hunting and the protection of birds	Belgium, Luxembourg, and Netherlands	Protects birds unless threatening damage to agriculture	Allows the transport of birds etc. in open season	No	
International Tropical Timber Agreement	1989 (1991)	Deals with the economics, marketing, production and consumption of timber and timber products from rainforests	50	Production and consumption of timber from rainforests	Improved marketing and distribution for timber producing members	Yes. Binding	Producing members have and produce from rainforests; consumers are non-rainforest members that consume rainforest timber products
Convention on International Trade in Endangered Species of Wild Fauna and Flora	1983 (1973)	Prevents illegal trade in species listed that are threatened by extinction	120	NA	Prevents trade in species on list	Yes. Voluntary	Binding only if arbitrated
Convention on Persistent Organic Pollutants	2001	Minimize the production, use, import/export and disposal of POPs	NA	Many of the POPs are/were used in pesticides for agricultural use	Prevents import/export of POPs	Yes. Binding	
Protocol Concerning Pollution from Land-Sources and Activities	1999	Take action to reduce and control the pollution from land-based sources and activities	NA	Pollution from agriculture (diffuse sources)	NA	No	Protocol to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region

Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters	1998	Facilitate the reporting of and access to information about pollution for the public	40 signatures; 24 parties	Report farmers who are not performing sound environmental practices	NA	Yes. Voluntary	
Convention on Biological Diversity	1992	Conserve biodiversity through the sustainable use of its components	187	Appropriate access to genetics and technologies	NA	Yes. Voluntary	
Vienna Convention for the Protection of the Ozone Layer	1987 (1985)	Control export and import of substances that have high potential to deplete the ozone layer	185	Some chemicals are used in agriculture, i.e. methyl bromide	Restricts import and export of listed substances	Yes. Voluntary	Allows for exemptions/ methyl bromide

* Dates are recorded from the most relevant protocol and/or amendment. Dates in brackets are the initial convention adoptions.

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