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# The Trade and Trade Policy Implications of Different Policy Responses to Societal Concerns

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## **Abstract**

Societal concerns as they pertain to farming activities play an important role today in the development of national policies. How such concerns are perceived varies from one society to another as do the policy responses (economic instruments and regulations) that governments put in place. These policy responses have in turn implications for trade and international relations. This study examines a number of issues that are part of the current debate and how these are addressed at the domestic level as well as within the framework of applicable provisions of WTO agreements.

**Keywords :** agriculture, international trade, production methods, sanitary and phytosanitary measures

**JEL codes :** Q01, Q10, Q17, Q18, Q19, Q5

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### **Abbreviations**

AoA	Agreement on Agriculture (of the Uruguay Round)
GATS	General Agreement on Trade in Services
GATT	General Agreement on Trade and Tariffs
IPCC	Intergovernmental Panel on Climate Change
MEA	Multilateral Environmental Agreement
MFN	Most Favoured Nation
MRA	Mutual Recognition Agreements
OIE	World Organisation for Animal Health
PPM	Process and Production Methods
SCM	Subsidies and Countervailing Measures
SPS	Sanitary and Phytosanitary Measures
TBT	Technical Barriers to Trade
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
WTO	World Trade Organisation

## EXECUTIVE SUMMARY

This study attempts to describe and summarise the main issues in the debate concerning the interface between domestic policies that respond to societal concerns related to farming activities and their trade and trade policy implications.

Governments are increasingly called upon to respond to a variety of concerns raised by society in many areas. Societal concerns embody society's expectations concerning quantitative and qualitative aspects of production. While many concerns are shared across countries, specific concerns arise from natural conditions, historical paths of development, culture and traditions. Societal concerns originate from generally or broadly accepted values of society appealing to a broad range of its members. New concerns spring up in response to evolving views and developments in such areas as new technologies, environmental impacts of agriculture, and rural structural change. This study does not discuss how governments decide on the choice of societal concerns to be addressed, but rather focuses on policy responses and their trade and trade policy implications.

The scope of this study is limited to societal concerns created by farming activities. Societal concerns may develop with respect to non-commodity outputs or commodity outputs (following the terminology and framework developed for the work on multifunctionality [OECD 2001a and 2003f]). They can be further sub-divided based on their geographical incidence into those with localised effects, those with national effects, and those with international effects. Concerns dealing with non-commodity outputs associated with farming (or farming as an activity) include positive externalities (*e.g.* improved water quality), provision of public goods (*e.g.* landscape), and negative externalities (*e.g.* emissions of greenhouse gases). Concerns dealing with commodity outputs are concerns about the product itself (*e.g.* traces of allergens), concerns about the processes and production methods (PPMs) incorporated in the product (*e.g.* pesticide residues) and PPMs unincorporated in the final product (*e.g.* labour conditions, sustainability). It is acknowledged that the distinction between societal concerns related to non-commodity outputs and those related to non-incorporated PPMs is not always satisfactory<sup>1</sup>.

A corrective action is called for when markets either do not exist or fail and hence result in inefficient outcomes. If the market solution is not satisfactory, governments have a number of options available to intervene, ranging from economic instruments such as taxes or subsidies to direct regulation (also called command-and-control approach: standards, codes of conduct, and bans) and more general policies for regional or rural development research and development, and educational campaigns.

In the case of non-commodity outputs, taxes and subsidies aim to bridge the gap between social and private costs and benefits. Tackling such societal concerns via commodity policies is very unlikely to be the most efficient way of addressing them and such policies are potentially the most distorting in terms of production and trade. More decoupled policies such as area payments, while they are much less distorting than price or output subsidies and do not require specific trade policy instruments to be

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1. This issue is explained more fully in later sections.

in place to sustain them, nevertheless have some impacts on trade flows through their impacts on production. More importantly, they are often based on past patterns of support or factor ownership and do not, as such, specifically address societal concerns. More decoupled measures combined with cross-compliance may perform better but this is a very indirect way to address issues like environmental sustainability or animal welfare and such measures suffer from the same drawbacks in terms of their possible trade effects. Policies that are directly targeted at each of the objectives separately could be expected to be more effective and efficient (OECD 2008), although policy-related transactions costs also need to be taken into account in the decision.

The main emphasis is therefore on measures that are designed to tackle well-defined objectives related to societal concerns directly. Regulations, specific incentives and taxes can all be used. The most efficient incentive policies are likely to target specific positive externalities or public goods although the costs of implementing such policies need to be taken into account. Taxes are often a more cost-effective and practical way to meet societal concerns when the goal is to change certain types of behaviour (*e.g.* use of specific PPMs, limit negative externalities), but still allow market signals to determine the outcomes. Regulations may target certain kinds of production externalities and introduce process standards and can range from bans to ensuring market segregation and traceability. They are accompanied by economic sanctions for non-compliance.

PPMs, especially those unincorporated in the product, may be complicated from the trade point of view. PPMs unincorporated in the product are often closely related to provision of non-commodity outputs. Incentives (a subsidy per farm, investment aid) can be provided to adopt what the society perceives as the right PPMs. Similarly, PPMs that are perceived as inappropriate could be taxed.

Behind many of the societal concerns (non-commodity or commodity) lies an asymmetric information problem, which occurs when an agent (the consumer for example) is concerned about a production process or a hidden attribute of the product, the information is available only to one party, and the transaction costs of information gathering are high or even prohibitive. Policies to complete the information set (for example by labelling) are often in place. If attributes are hidden or unincorporated in the product as in the case of some PPMs, a labelling system ensuring segregation and traceability is often implemented. Traceability may be, but does not have to be, part of a labelling scheme. The cost of setting up such schemes can be passed on to consumers or be borne by producers. Incentives could be used to assist with the compliance cost. However, where, in addition to an asymmetric information problem, there is an ethical dimension to the issue, signalling mechanisms may not satisfy those for whom the issue is a concern.

If the product which is subject to domestic regulation responding to societal concerns is not tradable, there is no direct trade effect. If the product is tradable, every domestic regulation is likely to have some trade policy implications. In an environment of falling tariff barriers and where society in the exporting country may not share the same concerns as in the destination country, countries may regard trade and domestic policy actions to safeguard societal concerns with the suspicion that they are behind-the-border protective measures. Existing international trade arrangements and agreements try to safeguard against the use of measures with protectionist intent. WTO provisions directly relevant to trade related societal concerns include the non-discrimination principle of most-favoured-nation and national treatment, certain sections of GATT Article XX, the Agreement on Sanitary and Phytosanitary Measures (SPS), and the Agreement on Technical Barriers to Trade (TBT) Agreement.

Non-discrimination has two components: most-favoured-nation treatment (treating one's trading partners equally) and national treatment (equal treatment for foreign and domestic goods and services). The principle guards against the abuse of policies responding to societal concerns and their use as protectionism in disguise. GATT Article XX lays out a number of specific instances in which WTO

members may be excepted from GATT rules, including a number of circumstances that relate to protection of societal concerns. The TBT and SPS Agreements, although encouraging application of international recommendations, recognise countries' rights to adopt such measures to the extent they consider appropriate — for example, to protect human, animal or plant life or health, or the environment.

Relevant GATT and WTO disciplines allow considerable scope to countries to implement domestic regulations to achieve societal objectives corresponding to societal concerns. There is nevertheless, some uncertainty concerning the interpretation of some provisions, which in turn creates uncertainty in the formulation of domestic measures. Policies requiring that imports comply with the same set of regulations as domestic producers are often suspected of being an attempt to impose domestic policies and objectives extra-territorially. Standards, technical regulations, conformity assessment procedures and other regulations can legitimately differ across countries, but trade can still be facilitated if equivalency or mutual recognition agreements (MRA) for different methods are in place.

Trade and trade policy implications of different policy responses vary across categories. Policies responding to concerns related to non-commodity outputs (positive and negative externalities, provision of public goods) with localised effects – assuming they are not production distorting – have no effect on trade. Policies responding to concerns with international trans-boundary effects have to comply with international environmental agreements, but these do not always exist or not all countries are signatories, and this may lead to trade friction. International discussions on how to handle PPMs that are incorporated have had some success and, despite occasional trade frictions, mutual recognition agreements of standards and conformity assessment procedures have a trade facilitating effect. Discussion on PPMs unincorporated in the product is more divisive for a variety of reasons: lack of agreement on whether some PPMs are incorporated or unincorporated in the product, problems in actually detecting what production processes have been used, and necessary controls on the production sites abroad. Finally, trade friction can occur when scientific opinion about the risk associated with a particular product attribute, or with particular PPM's, are different from country to country and/or where society has expressed a higher degree of risk aversion leading to the adoption of a more cautious approach.

Increased societal concerns and expectations with respect to agricultural production and PPMs mean that governments must find ways to respond to these new sets of societal demands or objectives while at the same time continuing to fulfil their standard policy objectives such as competitiveness, income maintenance, and trade obligations in an increasingly complex policy environment. There is a wide arsenal of measures — regulatory, incentive or tax-based — that offer countries wide scope to do just that. Responding to some societal concerns is a purely local or national matter with little or no incidence on trade or trade policy. When the societal concern relates to a traded good, international agreements and associated harmonisation and mutual recognition efforts often enable countries to respond in ways that are as least trade restricting as possible. Signalling mechanisms potentially play an important role. Labelling, for example, can overcome information asymmetries that are at the heart of some societal concerns. Labelling can also be a solution when the issue can be dealt with by providing consumers with a choice rather than banning the product or process in question. Incompatibility between policy responses to societal concerns and trade obligations is most likely in situations where the concern relates to an aspect of the production process that is not incorporated in the product and/or where scientific opinion differs and/or where, for the many and complex reasons explored in this study, societies come to different views about what is important or exhibit different degrees of risk aversion. These cases remain problematical even if solutions can still emerge from the evolution of international jurisprudence arising from litigation and the continuing search for improved scientific evidence.

## THE TRADE AND TRADE POLICY IMPLICATIONS OF DIFFERENT POLICY RESPONSES TO SOCIETAL CONCERNS

### Box 1. Excerpt from the OECD Programme of Work and Budget of the OECDs Committee for Agriculture 2005-06

X. The trade and trade policy implications of differing policy responses to societal concerns.

39. Governments are increasingly imposing farming practice standards that relate to both product characteristics and production processes. Some aim to raise safety or quality standards, others to mitigate negative externalities, or to ensure provision of positive externalities. Different policy mechanisms, (taxes, payments, standards and regulations) are used. Inevitably, the policies adopted are different across countries (e.g. some may require higher standards than international norms). The aim is to identify policy responses that achieve domestic objectives efficiently, while respecting differing perspectives among countries and minimising trade distortions. The study relates inter alia to animal welfare, environmental, safety, and quality issues. The treatment will be conceptual and will be confined to policy initiatives whose incidence is at the farm level.

This study focuses on identifying efficient policy responses to concerns expressed by society that both satisfy domestic policy objectives and minimise trade distortions. The main contribution of the study relates to trade and trade policy responses. Domestic policy objectives are assumed to reflect prevailing societal concerns in each country. The process of problem statement is touched upon, but not elaborated in detail. The term “societal concerns” in agriculture needs some clarification as it is often used as a generic phrase covering consumer and public concerns relating to health and safety as well as ethical issues and these terms are used interchangeably.

This study is limited in scope to societal concerns which relate to activity at the farm level. These concerns can be divided into two groups: concerns about the farm’s impact in situ (such as provision of landscape, maintenance of biodiversity, etc.) and concerns related to activities on the farm (such as certain processes and production methods - PPMs). It is recognised that the farm is not the only point in the food production chain where societal concerns are likely to be focused. They are equally likely to relate to transportation (for example, conditions under which live animals are transported), processing distribution or retailing (e.g. increasing prevalence and concentration of supermarkets) stages. Some of these concerns have effects upstream and downstream in the food chain and cannot be isolated from the farm. For example, the prevalence of supermarkets might lead to the introduction of private standards and management practices which affect the primary producer. They can also result in the introduction of tools (for example, traceability<sup>2</sup>) with implications for farms.

Although many societal concerns are shared across countries, some are not, and even where they are, policy prescriptions often differ. The goal of this study is not to question the legitimacy of differing societal concerns, but rather to concentrate on defining the range of policy options available to deal with them (domestic and trade, including regulations) and their impacts particularly with respect to trade and trade policy. The current study prepares the ground for the discussion on evaluating the economic effects of non-tariff measures applied in the in agro-food sector begun under the Programme of work and budget of the Committee for Agriculture for the 2007/08 biennium and which will be further developed in the course of the 2009/10 Programme of Work. It will also assist in

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2. Traceability systems are recordkeeping systems for tracking the flow of product or product attributes through the production process or supply chain (OECD, 2004e).



defining the content of a workshop on the economic and trade implications of policy responses to societal concerns to take place in November 2009.

This study is divided into three parts. Part I sets up a framework defining and categorising societal concerns. Part II reviews the types of domestic measures available to policy makers to respond to the concerns identified in Part I, and draws on earlier OECD work and a large volume of related literature to sketch out their potential trade and trade policy impacts. Finally, Part III examines trade and trade policy consequences in the framework of applicable provisions of the GATT and WTO agreements.

Earlier OECD work (OECD, 2004b) on changing food lifestyles surveyed consumer organisations in OECD countries and identified specific concerns in four main areas: food safety, production processes, nutrition and health, and the role of government. Many concerns identified relate to farm activities. For example, the main food safety concerns included pesticide residues, advances in technology (*e.g.* genetic engineering), food composition, and meat safety (such as antibiotics residues in meat), veterinary drugs or animal disease. Concerns relating to processes and production methods dealt with environment, animal welfare and labour conditions.

A large body of earlier OECD work on environment and on multifunctionality (*e.g.* OECD, 2001a; OECD, 2001b; OECD 2003f, OECD, 2004a) has already analysed many aspects of societal concerns and relevant policy responses and this study also draws on those approaches. The current study goes beyond the multifunctionality work (OECD, 2001a; OECD, 2003f) which while establishing a working definition of “multifunctionality”, developing an analytical framework, and exploring policy implications, limited the analysis to issues that related to “jointness”, and concerns that could be characterised as externalities, positive or negative, of agricultural production (referred later in this study as concerns over non-commodity outputs). In addition to societal concerns about non-commodity outputs, this study explores attributes embodied in and confined to the product (such as attributes related to physical characteristics of the product and PPMs). In the language of multifunctionality this means that societal concerns may relate to the commodity itself and not only to the non-commodity outputs that are the focus of the multifunctionality debate. Of course, some societal concerns such as the use of pesticides in agricultural production could give rise to concerns that relate both to product attributes and to possible pollution at the place of production.

More generally, this study aims to bring together schematically a large body of previous work addressed mainly to domestic policy aspects of societal concerns, with a view to highlighting trade and trade policy aspects. It takes as given policy conclusions that have already been developed relating to environmental policy, multifunctionality, and decoupling and cites them as appropriate in order not to re-examine issues previously thoroughly studied. It does not aim or propose to add new information or analysis, rather it attempts to determine the extent to which previous analysis is pertinent to/provides solutions to issues that are described as societal concerns looked at through the lens of trade and trade policy. A second objective is to begin to better understand and identify the characteristics of policy problems that are more difficult to resolve and which are more likely to lead to trade tensions or disputes. In a further phase of investigation, a workshop is planned for November 2009 which will study the characteristics of societal concerns that have already or are most likely to lead to differences or conflict among trading partners. In addition to identifying those characteristics it is intended to study the policy solutions actually put in place in a number of cases. The purpose is both to try to understand better the processes whereby policy responses have been developed and to examine the extent to which the solutions described are trade distorting or not.

## Part I.

### The Framework: Definitions and Fundamentals

Part I summarises a range of societal concerns about farm activities, describes the ethical dimensions associated with them, distinguishes between issues where society's views tend to be unanimous and where only some subset of society feels concern, explores the evolution of societal concerns and the producer's role in the process. The question as to why societal concerns should be discussed at this point in time is dealt with before the classification of societal concerns is introduced. The final section of Part I addresses the question when a corrective action is needed to address societal concerns.

#### *What are "societal concerns"?*

Agriculture as an activity is entrusted with fulfilling certain functions in a society (OECD, 2001a). As such, societies can have certain expectations concerning quantitative and qualitative aspects of both the commodity and non-commodity outputs. These expectations are often referred to as societal concerns.

As such, the term societal concerns embodies a multiplicity of expectations, so not surprisingly, an unambiguous definition of the term is not readily available. Although the term is often cited in the sociology, ethics, or medical literature dealing with human health, and genetics, it often means different things for different audiences, and working definitions that various authors use are tailored to their specific needs. Explanations using examples are also used when a suitable definition is missing.

For example, Ball and Boehmer-Christiansen (2002)<sup>4</sup> defined "societal concerns" as:

"... the risks or threats from hazards which impact on society and which, if realised, could have adverse repercussions for the institutions responsible for putting in place the provisions and arrangements for protecting people, *e.g.* Parliament or the Government of the day. This type of concern is often associated with hazards that give rise to risks which, were they to materialise, could provoke a socio-political response, *e.g.* risk of events causing widespread or large scale detriment or the occurrence of multiple fatalities in a single event. Typical examples relate to nuclear power generation, railway travel, or the genetic modification of organisms. Societal concerns due to the occurrence of multiple fatalities in a single event is known as 'societal risk.' Societal risk is therefore a subset of societal concerns."

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3. Webster Dictionary defines "concern" as: 1. marked interest or regard usually arising through a personal tie or relationship; or 2. an uneasy state of blended interest, uncertainty, and apprehension. The origin of the word society comes from the Latin *societas*, a "friendly association with others." *Societas* is derived from *socius* meaning "companion" and the meaning of society is closely related to what is social. Implicit in the meaning is that its members share some mutual concern or interest in a common objective. As such, society is often used as a synonym to a collective citizenry of a country as directed through national institutions concerned with civic welfare (Labour Law Talk Dictionary at <http://dictionary.laborlawtalk.com/Society>).

4. <http://www.hse.gov.uk/research/rrpdf/rr034.pdf>

An alternative definition (Pascal Lamy, September 2004) is as follows “Collective preferences refer to the totality of choices made by “collectivities” of human beings, acting as such. Any grouping of people with institutions that enable collective choices to emerge is a collectivity in this sense. It can be a country, but also a wider grouping such as is the case of Europe. Clearly collectivities will not all form the same views on the same subjects. Indeed the scope of what is called collective preferences is not the same everywhere: on a given subject (such as soft drug use) some groups favour free choice while others will apply a more constraining common standard. Preferences are related to values, and to the cultural and religious reference points to which the society adheres and where they have developed, but also to political experience, history and level of development.

Some of the values on which societal concerns are based are subscribed to across the world. Disapproval of cruelty against animals is an example. However, the principles might be shared only at the most general level. For example, most societies disapprove of cruelty against animals, but they may have very different views of what constitutes cruelty. This study does not assume that societies are homogenous, or that all members actually share identical societal concerns and relevant thresholds.

We have seen that some differences in societal values may originate from different natural conditions, historical paths of development, culture and traditions, and may vary across and within countries. As an example, different sets of priorities across countries could emerge in the area of society’s concerns about well-being and treatment of animals (generally referred to as animal welfare) depending on prevailing climatic conditions and consequently different animal husbandry traditions.

In addition, differing perceptions of risk and consequently differing approaches to risk assessment and risk management are often at the heart of different societal concerns and diverse policy responses related to them. Perceptions of risk also influence legislative and regulatory traditions within a country, as well as the role of civil society in the political process. In the area of human, animal and plant health, *e.g.* food safety or technological change, stated attitudes range from total reliance on available scientific evidence (which normally includes explicit consideration of uncertainty and variability in the risk analysis process), to a more precautionary approach that may reflect diverging views among scientists or the belief that some risks (such as those associated with new technologies) may not, as yet, be fully known and may take a much longer time to be uncovered, or which reflect a higher degree of risk aversion leading to a higher level of desired protection. These issues are discussed in more detail in Box 2.

For the purposes of this study, societal concerns are understood as concerns over aspects of agricultural production at the farm level which result in a direct utility or disutility to some groups of society.

### Box 2. Scientific justification versus precaution

In matters of environmental protection and food safety, plant and animal health, the debate often centres around the issue of the “scientific” versus the “precautionary” approach. This text, drawing mainly on definitions and explanations embodied in international agreements or other official documents, attempts to define these two approaches. In so doing, it also attempts to demonstrate that the two approaches are not as diametrically opposed as the intensity of the debate around them would tend to suggest.

The **Agreement on Sanitary and Phytosanitary Measures of the WTO** is one of the most widely quoted sources on the “scientific approach”. It says that “*members may introduce a higher level of protection than would be achieved by measures based on the relevant international standards, guidelines and recommendations if there is scientific justification, or as a consequence of the level of sanitary and phytosanitary protection a member deems to be appropriate in accordance with the relevant provisions of*”... (Article 3.3).

According to article 5.7 of the same agreement “*in cases where relevant scientific evidence is insufficient, a Member may provisionally adopt sanitary or phytosanitary measures on the basis of available pertinent information, including that from the relevant international organizations as well as from sanitary or phytosanitary measures applied by other Members. In such circumstances, Members shall seek to obtain the additional information necessary for a more objective assessment of risk and review the sanitary or phytosanitary measure accordingly within a reasonable period of time*”.

Principle 15 of the Rio Declaration on Environment and Development states that “In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, **lack of full scientific certainty** shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”.

In the European Union, a precautionary principle was enshrined in the Maastricht Treaty of 1992, as a fundamental tenet of environmental policy. In an effort to clarify its scope, meaning and application and to avoid unwarranted recourse to it as a disguised form of protectionism, a communication from the European Commission dating from 2000, offers the following:

From Point 4 - *Recourse to the precautionary principle presupposes that potentially dangerous effects deriving from a phenomenon, product or process, have been identified and that scientific evaluation does not allow the risk to be determined with sufficient certainty.*

*The implementation of an approach based on the precautionary principle should start with a scientific evaluation, as complete as possible, and where possible, identifying at each stage the degree of scientific uncertainty*

From Point 6 - *Where action is deemed necessary, measures based on the precautionary principle should be, inter alia:*

- *proportional to the chosen level of protection,*
- *non-discriminatory in their application,*
- *consistent with similar measures already taken,*
- *based on an examination of the potential benefits and costs of action or lack of action (including, where appropriate and feasible, an economic cost/benefit analysis)*
- *subject to review, in the light of new scientific data, and*
- *capable of assigning responsibility for producing the scientific evidence necessary for a more comprehensive risk assessment*

Further, in an elaboration of Point 5 (5.1) which deals with the identification of potentially negative effects

*“ The precautionary principle is relevant only in the event of a potential risk, even if this risk cannot be fully demonstrated or quantified or its effects determined because of the insufficiency or inconclusive nature of the scientific data. It should, however, be noted that the precautionary principle can under no circumstances be used to justify the adoption of arbitrary decisions”.*

The above extracts (and many other international and national texts) acknowledge that relevant scientific evidence may be insufficient in the context of application of a scientific approach. On the other hand, a central role is usually assigned to scientific input in the context of application of the precautionary approach. The two philosophies may therefore be less opposed than the tenor of the debate would suggest. As concluded by P. Saunders in J. Gueguinou and J. Quin, *Politique et la gestion des risques: vues françaises et vues britanniques*, “*all formulations (of the precautionary principle) have in common that the principle is to be applied when a) there is scientific evidence for a threat to the environment or to health, but b) the evidence while sound is not conclusive. This is crucial: there must be a prima facie scientific case for a threat before the precautionary principle can apply*”.

Just as in the SPS Agreement, the precautionary principle gives a key role to supporting scientific evaluation. The different uses to which these texts are put may result from different legal interpretations due to differences in the context and the legal institutions concerned.

Finally, the importance of the precautionary principle in the decision process varies across countries. These differences probably reflect different attitudes to scientific progress and to risk.

***Ethical dimensions***

Societal concerns frequently involve an ethical dimension, which may reflect values that differ across societies, resulting in non-comparable assessments of what is perceived as right or wrong. An example of an ethical obligation is a moral responsibility to leave the environment in acceptable shape for future generations.

If ethical concerns relate to product characteristics that are visible (or easily detectable), they could be partially addressed in the marketplace. For example, those believing that animal welfare rights are breached when geese or ducks are force fed, can refrain from consuming *foie gras*, but this will not satisfy everyone who objects to the production practices on ethical grounds. If these values are widely held, only banning the production practice in question will satisfy. Similar reasoning applies for fur apparel and accessories, and when animals are used for entertainment.

An ethical dimension can also be present with respect to production practices. For example, some consumers may or may not be directly concerned about the labour or other conditions under which a product was produced and signal their decision in the marketplace if given the information that enables them to do so. Again, however the consumer and the citizen may have different attitudes and market solutions such as labelling may not always be an adequate response.

Ethical dimensions are particularly challenging to regulate. The core ethical code accepted in each society is likely to be incorporated in law. Ethical issues outside the core are difficult to control formally since the borderline between “right” and “wrong” can be subjective and vary from person to person, making mandatory regulations difficult to design and enforce. A more practical alternative seems to be to complete the consumer’s information set by introducing guidelines, rules, decrees with voluntary compliance supplemented by policies to ensure traceability and market segregation. Responses to ethical issues are sometimes initiated by producers, and include codes of conduct, and corporate social responsibility schemes. There is a huge body of literature on ethics and ethical consumption, the exploration of which goes beyond the scope of this study. Nonetheless, ethical considerations are behind some of the societal concerns that are covered and a number of these societal concerns will be dealt with, as appropriate, in the following sections.

The above paragraphs suggest that it might be useful to distinguish formally between consumer concerns, citizen concerns and societal concerns, because the policy responses to them are likely to differ. The distinction could be defined as follows “a consumer concern is exclusively related to the consumption of the good in question by the individual. A vegetarian indicates his preference by abstaining from the purchase of meat. In the same way a consumer of animal protein who believes that the quality of the meat is altered by the way the animals are treated can also express his preference if the necessary information is made available to him. On the other hand, the issue can be considered as a citizen concern when the individual is also concerned about the consumption behaviour of others. Thus there may be an ethical dimension to the views of both the vegetarian and the meat eater related to the responsibility that human beings have to avoid cruelty to animals and to ensure that they enjoy some minimum standard of living conditions. It is hard to see how this concern can be met other than through banning a product that does not respect this ethical standard. In this case the question goes beyond a consumer concern that can easily be dealt with in the marketplace. Individuals feel concerned as citizens and not just as individual consumers. In this study, societal concerns is used to cover both consumer and citizen concerns.

***Emergence of societal concerns***

Societal concerns reflect widely accepted values held by a broad range of a society's members. New societal concerns develop when new developments in technologies, environmental degradation, newly available knowledge, re-explored knowledge, etc., appear to conflict with values of the society. Many societal concerns may start with private citizens or small groups around issues that are difficult to address via the marketplace before they develop into fully fledged societal concerns. Not every concern originating in a small group becomes a societal concern. Which concerns prevail as societal concerns and what policy instruments are used to tackle them are influenced by the political systems directing the functioning of societies (representative democracy, direct democracy, theocracy, etc).

The circumstances under which a private concern becomes a societal concern (a move from individual demand for an attribute to an aggregate demand) is essentially a political science question, as are issues about what voting process is used to identify the main concerns and how decisions are made that the concern should be addressed. In many countries non-governmental organisations campaign vigorously to make their specific cause heard. In some cases businesses – both upstream and downstream from the farm gate–take over and publicise specific concerns and thereby affect the policy making process. This study does not discuss these political science issues in any depth but rather takes as its point of departure that government has come to a decision that some action is required in response to a societal concern.

A private concern becomes a societal concern if a sufficient number of agents (consumers or others) associate themselves with the cause. Technological advances in communication, including the Internet (*e.g.* blogs), make it easier to mobilise for a cause, increasing the potential for groups to expand their concerns to a large enough public to influence policy debate. Concerns sometimes also fade from view as the attention of civil society groups or the media switches to other issues, or indeed because solutions have been found

If the size of the group interested in a concern is large, others may have an incentive to free ride as in any provision of a public good (Olson, 1965). Alternatively, smaller groups might be easier to organise, and thus more likely to achieve their goal and in fact sometimes succeed in getting policies enacted that negatively affect a large part of the population (“exploitation of the great by the small”).

Recent discussion of societal concerns has been driven largely by increasing public attention to environmental issues, the growing distance between primary producers and consumers that fuels concerns among the consuming public about how their food is being produced, and the increased attention to product attributes . Internationally, fears that societal concerns would be forgotten or damaged in the trade liberalisation and globalisation processes are important. Outbreaks of food-borne illnesses or animal disease problems that have been highly publicised also add to anxieties about the health and safety aspects of production practices. Finally, the on-going reform of agricultural policies has contributed to the discussion on societal concerns as stakeholders fear that responses to societal concerns that they perceive to be already embedded in the existing policies might be lost in the reform process.

With increasing incomes consumers tend to be less price- and income responsive in their food purchasing decisions and turn their attention to other product attributes. Attributes could be actual detectable attributes related to physical characteristics of the product, or attributes resulting from different processes and production methods (either incorporated or unincorporated in the product) and their environmental impacts. In response, governments institute regulations and policies to address these concerns.

The study refrains from discussing the processes by which societal concerns to be addressed by the government are chosen. Nor does it deal with how explicit objectives are formulated in response to the voicing of a societal concern, although it is acknowledged that these aspects of societal concerns are important. Problem definition (that is, choice of concerns to be addressed) should be the first step in the policy analysis. The problem is defined on the basis of the number of society members concerned, whether a concern is based on evidence or on perception/subjective probabilities, and other factors. The next step should be a decision on whether intervention is necessary. As already stated, this study refrains from questioning the rise and legitimacy of societal concerns addressed in individual countries, and starts at the choice of policy response.

### *A categorisation of societal concerns*

The issues triggering the expression of societal concerns are varied. Some deal with the “hard (or impossible) to detect” attributes of products and processes and production methods (pesticide residues in vegetables or labour conditions under which the product was produced). While hidden attributes resulting in market failure will require correcting mechanisms. Some societal concerns are related to non-commodity outputs as defined in the multifunctionality framework and may be characterised by some jointness with production. Others could be more narrowly defined as consumer concerns. The study does not consider concerns already dealt with by law, such as a ban on production of harmful substances and most SPS matters.

Crafting a universally applicable, comprehensive, and analytically tractable nomenclature of (ever evolving) societal concerns whose occurrence is at the farm level is a moving target. It should be stressed that just as defining societal concerns can be subject to subjective opinions, their classification suffers from the same shortcoming. Some societal concerns could belong to more than one category and thus the categorisation might be somewhat arbitrary. A variety of criteria, each suffering from its own ambiguities, can be used. Geographic incidence of societal concerns (local, national, and trans-boundary) offers a straightforward although partial classification, but it does not recognise economic characteristics of specific concerns. An alternative system can be based on the production stage in which societal concerns occur: inputs, production process, or output. However, some concerns (such as these related to genetic modification) can occur in multiple categories.

A starting point used in this study builds on the work on multifunctionality. Societal concerns can be divided into those relating to non-commodity and commodity outputs. Concerns dealing with non-commodity outputs associated with farming deal with farming as an activity or the impact of the farm *in situ* (landscape, pollution, biodiversity). Concerns regarding non-commodity outputs are further divided into two subsets depending on their geographical consequences: those with localised effects, and those with trans-boundary effects.

Concerns dealing with commodity outputs relate to physical attributes and production methods that confer some characteristic on the product (apparent or hidden). For the purposes of this study, this categorisation, presented in Table 1, although imperfect is retained. This allows the terminology and the results of the work on multifunctionality to be used. It is acknowledged however throughout the study that the distinction between societal concerns that relate to the farming activity *in situ* and a product attribute may be closely related in some cases.

**Categorisation” of societal concerns whose incidence is at the farm level**

<b>Category</b>	<b>Examples and notes</b>
<b><i>Concerns related to non-commodity outputs</i></b>	<b><i>Concerns about farming as an activity</i></b>
With localised effects	
Positive externalities	Improvement in water quality, flood control,
Provision of public goods	Land stewardships, landscapes. Provision of rural employment and food security are raised under this heading in some countries.
Negative externalities	Degradation of soil and water, salination, spread of animal diseases.
With trans-boundary effects	Depending on exact location, all non-commodity effects with localised effects can have trans-boundary implications.
Positive externalities	Maintenance and enrichment of biodiversity (as related to agriculture).
Provision of public goods	Birdwatching (destruction of seasonal habitats in case of migrating birds)
Negative externalities	Pollution of waterways, Increases in emissions of greenhouse gases, acid rain.
<b><i>Concerns related to commodity outputs</i></b>	<b><i>Concerns about farm products</i></b>
Product itself	Size, grade, attributes (visible or not) confined to the physical characteristics of the product (not related to PPMs), such as traces of allergens or pathogens, ,
PPMs incorporated in the product	Pesticide residues, antibiotics residues, choice of production capital and inputs (organic, conventional, GM), biotechnology, biofortification,
PPMs unincorporated in the product	Types of farm labour used and labour standards (child, prison, immigrant, or other disadvantaged groups), farm labour conditions (working in greenhouses, with dangerous chemicals, etc), fair trade, sustainability of the production, etc.
	<i>Note 1:</i> There is a lack of agreement on whether some PPMs result in product incorporated or product unincorporated PPMs, such as animal husbandry methods, some of the methods of modern biotechnology or nanotechnology. <i>Note 2:</i> Concerns related to some PPMs relate to both commodity outputs and non-commodity outputs. (discussed in detail in the text).

Issues over which societal concerns arise are broadly divided into concerns about non-commodity outputs, and commodity outputs. Categories and examples are presented in Table 1. It has to be stressed that the boundaries between the categories are not always clear-cut. For example, the



application of novel technologies and certain PPMs could provide desired non-commodity outputs or undesirable negative externalities, and at the same time result in commodity related concerns over PPMs. For example, for some, organic agriculture is a response to a concern about pollution (a non-commodity output) and for others about pesticide and other residues in food (an attribute of the commodity output). Nevertheless, grouping societal concerns together on the basis of their underlying characteristics allows governments to define policies and rules addressing economic inefficiencies resulting from market failures, which differ in each case, directly and more efficiently.

Whether a non-commodity output is localised or trans-boundary is not always clear-cut. Depending on the location and type, an otherwise localised non-commodity output can have trans-boundary effects (*e.g.* water pollution occurring close to national borders or from a shared river system). This does not influence the categorisation of the concern in Table 1 but may influence the choice of policy instruments. In the case of global environmental issues, governments need to cooperate, such as through international agreements, and legal bindings or targets have to comply with international treaties. If trans-boundary outcomes are tradable (for example international markets for emissions), there is a direct impact on international trade patterns. However, with very few exceptions, this is not the case and it is not necessary to develop this aspect further.

The categorisation proposed in Table 1 borrows terminology on PPMs from the 2005 World Trade Report (WTO, 2005). The difference between product and non-product related processes and production methods (PPMs) rests on whether the final product has different qualities resulting from different PPMs that would cause it to be treated differently in its use, handling, or disposal (UNEP, 2000). If products are the same in every observable or measurable sense, then the PPMs are referred to as non-product related or PPMs unincorporated in the product. If different PPMs make a difference to the final product (that is, the product does not perform the same in every sense and has to be handled differently), as is the case of organic and conventional horticultural production, they are treated as product-related PPMs or PPMs incorporated in the product.

There is sometimes lack of agreement across and within countries whether certain PPMs are incorporated or unincorporated in the product. While the outcome of the discussion has implications for international trade law (discussed in Part III), the present study strives to avoid this issue and does not arbitrate as to whether certain PPMs (such as those related to animal husbandry methods and animal welfare) are incorporated or unincorporated. However, using a product labelling scheme to allow consumers to distinguish between different PPMs (even in the case of a PPMs unincorporated in the product), can, to a certain extent, transform process characteristics into product characteristics (“labelled” or “non-labelled”) (WTO, 2005).

Food security and its public good aspect are often mentioned as societal concerns and as a non-commodity output in the context of multifunctionality. The World Food Summit in 1996 endorsed the idea that food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. Opinions differ as to whether or not domestic production is the most efficient way to ensure food security and the hypothesis should be tested in the specific context of the countries where food security is a societal concern (OECD, 2001a).

As already mentioned, it is recognised that the distinction between non-commodity outputs and attributes of commodity outputs is not always clear-cut. Put differently a given PPM may affect both commodity and non-commodity aspects of production. For example, choice of a production method (*e.g.* organic or conventional) might influence the amount of water pollution due to different levels of fertiliser usage. Some consumers undoubtedly choose to purchase products of organic agriculture due to their environmental friendliness while others may emphasise direct health, or taste benefits related

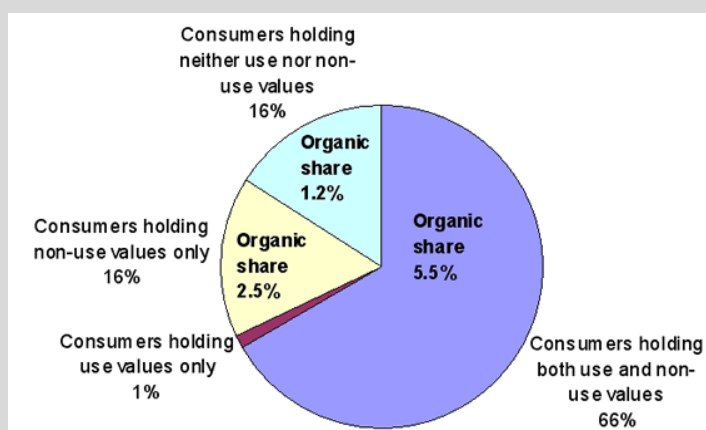
to consumption of the products. Box 3 describes a study from Denmark exploring use and non-use values influencing purchasing patterns of organic foods. Based on the study it could be argued that although consumers recognise the non-use values of organic products, use values also contribute to the purchasing decision.

**Box 3. Consumer demand for organic foods: attitudes, values and purchasing behaviour**

Mette Wier and Laura Mørch Andersen from AKF (Institute of Local Government Studies, Denmark) analysed consumer demand for organic foods in Denmark. They studied stated and actual purchasing behaviour (using panel data of 2000 households' daily purchases of a large number of organic as well as conventional foods during 1997-2001). A questionnaire surveyed households in the same panel (response rate 77%) for information on attitudes, stated values and food habits. Buyers were defined as consumers holding an organic budget share (all food types) higher than 2.5%, following the definition applied in other Danish studies. Organic buyers are more health conscious, more focused on residues, animal welfare, and environmental attributes, less focused on low prices, and more often prefer domestic products, compared to non-buyers of organics. Buyers are more often members of organisations protecting nature and animal welfare, and they recognize and notice the Nordic Swan Label (an environmental label) more often than non-buyers. In general, organic buyers also behave in a more environmentally friendly manner in other areas.

Consumers may hold use values, such as utility from taste, health or freshness, i.e. private good attributes which can only be enjoyed by actually consuming (eating) the product. Non-use values are public good values related to improved environment and animal welfare. According to consumers' own statements, non-use values are assigned around twice as much weight on the "importance scale" compared to use values. This result holds for specific product types, as well as for organic goods in general. Comparing specific use and non-use value types reveal that environmental and animal welfare attributes are equally important. For use values, health attributes are most important, taste second most important, and finally freshness the least important. Values stated in the questionnaires might indicate that people purchase organic foods for environmental and animal welfare reasons. To find out implications for actual willingness to pay on the real market, information on stated values for organic goods was combined with actual purchase behaviour. Households having both types of values also had the highest organic budget share on the real market. Consumers can be divided into four groups, as shown in figure below: The majority – two-thirds of all consumers – acknowledges and values organic goods for their non-use values (environmental or animal welfare), as well as for their use values (health, taste or freshness). The highest propensity to purchase organic is found in this group (average organic budget share 5.5%). The second group is households having non-use values only, constituting 16% and holding an average organic share of 2.5%. Households holding neither use nor non-use values constitute another 16% (with an average organic share of 1.2%). The fourth group, households having use values only, is negligible (1%).

**Distribution of consumers by stated values and organic budget shares**



*Continued*

These results suggest that non-use benefits are generally acknowledged, but only those having use values in addition, actually purchase organic to a high degree. Thus, households having both types of values purchase more than twice as much organic food as households having non-use values only. And again, these households (having non-use values only) purchase more than twice as much organic foods as households having neither use nor non-use values. The very same pattern can be observed when looking at specific product groups. A regression analysis using each household's stated importance of various use and non-use attributes for organic goods in general to explain the household's average annual share of organic in the budget for all food types indicated that the propensity to purchase organic increases significantly with the weight assigned to use values. The weight assigned to non-use values was much lower and not significant. That is, acknowledgement of non-use values cannot explain actual purchasing behaviour, but the contribution from use values can. Thus, we can conclude that even though households assign highest values to the non-use attributes, it is the use value attributes that pushed them to buy organic foods.

Adopted from <http://www.darcof.dk/enews/jun03/consum.html>.

Any of the categories in Table 1 could be subject to an asymmetric information problem. This occurs when an agent (consumer for example) is concerned about a hidden attribute of the product, the information is available only to one party, and the transaction costs of information gathering are high or even prohibitive. An asymmetric information problem differs from a missing information problem. In the case of the latter the information is simply not available or not known, such as impact of some veterinary drugs on human health. Perfect information cases can be addressed in the market place. For example, in the case of full information about the type of PPM, consumers can differentiate among "similar" products produced using different PPMs. In the case of asymmetric information resulting in market failure, specific policies have to be put in place to facilitate consumers' choice. Ethical dimensions are, in a sense, an asymmetric information problem. With the information set completed, agents can evaluate their options and choose products which are acceptable by their ethical standards. It is also possible that a market solution based on individual choice may be unsatisfactory to those whose concern has an ethical dimension. By definition, PPMs unincorporated in the product suffer from an asymmetric information problem. However, it is also quite conceivable that producers may voluntarily decide to reveal the missing information in order to develop a marketing strategy, for example by claiming higher animal welfare standards.

## **Part II.**

### **The Rationale for Policy Intervention**

Increased societal concerns and expectations with respect to agricultural production and PPMs mean that governments increasingly seek ways to respond to these new sets of societal demands or objectives. Governments also continue to have traditional policy objectives such as competitiveness and income support. Policy solutions including guidelines, regulations as well as taxes and subsidies or various combinations of these are being used according to the mix of objectives to create the right incentives and governance framework for the sector. Stakeholders in the sector may include a mix of consumers, other interest groups, government, NGOs, and producers, who have differing objectives and may prefer different methods of achieving them. Thus, the policy picture in general is becoming more complex.

Market based solutions and solutions facilitating consumer choice by allowing them to exercise personal liberty are sometimes possible. For example, there is growing concern about obesity. Governments could try to influence consumer choice by promotional and educational campaigns, by clearer labelling and other measures, aimed at helping people to make more healthy choices about what they eat, rather than trying to intervene directly to affect what is produced or to legislate for the amounts of fat or sugar that can be incorporated in processed foods. (For a more complete discussion, see *Policy Initiatives Concerning Diet, Health and Nutrition*, TAD/CA/APM/WP(2008)10/Final.)

A corrective action is called for when markets either do not exist or fail and hence result in inefficient outcomes. Non-existing markets are not necessary conditions for market failure. The term market failure is used to describe not only situations where markets do not exist but also refers to other situations where markets do not function properly, such as in the presence of externalities.

Market failure is the most evident rationale for government intervention. However, a market failure accompanying a societal concern might not justify implementing costly policies. Policies furthering the narrow interests of a particular lobby group or producer group, while costs are borne by the rest of domestic and foreign consumers and taxpayers, should be avoided.

Governments might choose to intervene in response to societal concerns that do not necessarily relate to market failures. For example, society can disagree whether the products resulting from certain PPMs are safe even before they are introduced into the marketplace and there is no market failure. In that case the government might intervene because the question whether or not these products are safe is a societal concern.

This section explores (some of) the possible policy approaches a government can adopt to address societal concerns in non-emergency conditions. Even with the mandate constrained to societal concerns occurring at the farm gate, the range of concerns is too broad to address them individually while taking into account country and concern specific circumstances. This section first gives a general outline of how the policy discussion is framed, and then proceeds to discuss individual groups of societal concerns.

### *A framework of possible domestic policy responses*

A framework describing the range of possible domestic regulations and policies is shown schematically in Figure 1. For the purposes of this study, regulations are binding, and establish requirements that can be enforced by law. Guidelines are not enforceable by law, and compliance with them is voluntary. Different courses of action are possible to address societal concerns: to facilitate the acceptance of non-binding guidelines, enforce mandatory regulations by imposing sanctions, or address the economic environment through taxes or incentives.

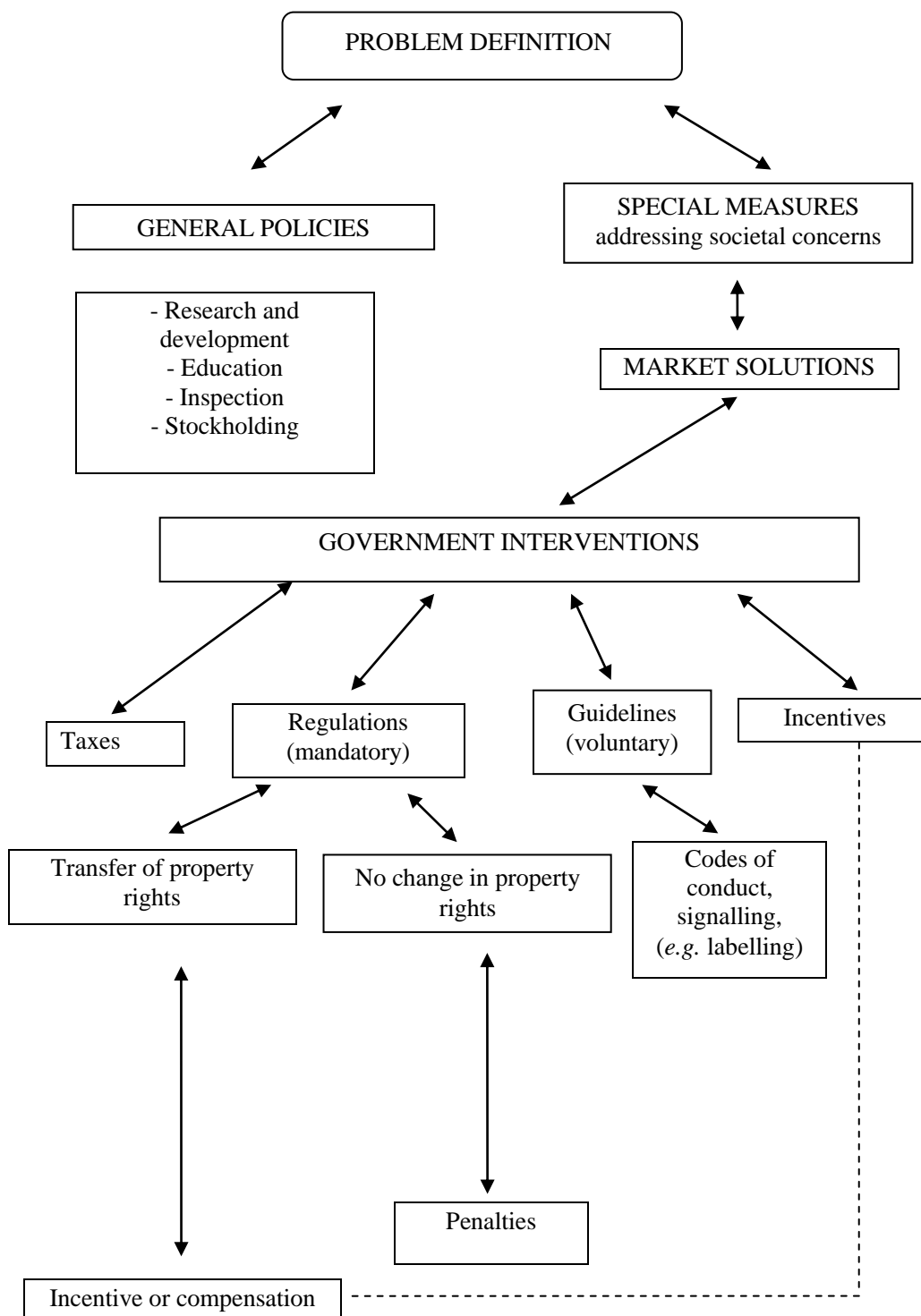
In addition to the specific courses of action listed above, Figure 1 indicates that there are some rather general interventions that both influence societal concerns, and are shaped by them.. These include research and development, inspection services, educational campaigns, and public stockholding. No further analysis of these types of measures is undertaken for the purposes of this study.

Provision of information in the form of communication and educational campaigns are likely to affect both consumer and producer behaviours. For example, a key part of responding to the concerns of individuals about pesticide residues is provision of facts and evidence about the actual levels of residues and their health effects. Risk communication is an important part of risk management.

The decision tree in Figure 1 starts with deliberations over which societal concerns a regulator should consider leading to decisions about which societal concerns warrant attention. It then seeks to determine whether there is a market failure. If a market failure occurs, the efficiency and welfare implications of a market based solution should be examined. If a market solution (such as market bargaining in a Coasian tradition, a voluntary or private initiative) is satisfactory, no intervention is necessary. The further implications for trade and trade policy will depend on the nature of the market or quasi-market mechanism that has been found. In many cases there will be no further implications, for example where a market mechanism is used to meet a concern about a “non-tradable” such as wildlife habitat.

If no satisfactory market solution is possible governments have a number of options available to intervene to modify the functioning of a market, ranging from economic instruments such as taxes, charges, or subsidies, to direct regulation (also called command-and-control approach) which includes production standards, process standards and bans. This study discusses regulations in detail in their broadest sense as a command and control mechanism. Incentives and taxes in their broadest sense are discussed as economic instruments implemented by governments, since the scope of this study outlined in the PoW (Box 1) directs its focus to governmental initiatives.

Figure 1. Domestic regulations and policies



*Regulations and non-binding measures*

This study differentiates between non-binding and binding regulations issued by the government. Non-binding measures – referred to here as guidelines – can come in the form of recommendations, voluntary agreements, good practices, social codes, voluntary standards and voluntary initiatives. They tend to be used to address “soft” societal concerns, for example those with relatively minor implications for the environment. Since regulations can be dealt with asymmetric information problems, policies to complete the information set (for example by labelling) are often in place. Voluntary guidelines are not discussed in detail, since they are adhered to on a voluntary basis in the home country, and compliance with them cannot be imposed on foreign suppliers.

Binding rules, referred to as regulations, are mandatory. Regulations are often called command and control mechanisms, and are most successfully used when the goal is to ban certain forms of behaviour. For a regulation to be effective, it needs a system of sanctions for lack of compliance and a regulatory agency. Regulations can set up quantitative targets, maximum quotas or minimum limits; prohibit certain acts or behaviour; make certain practices mandatory or otherwise modify behaviour.

Regulations might or might not include transfers of property rights (Box 4) and associated subsidies. To compensate for transfers of property rights built into a regulation, governments make use of property right buyouts. The compensation entitlement can be a one-time buyout or an annual payment based for example per animal in the case of an animal welfare regulation. Each measure has a different effect on production, prices, trade patterns and trade policies. Policies tied to and supporting production are more distortive than others, and provision of subsidies can lead to a principal agent problem (the government pays a subsidy but has no guarantee concerning the behaviour of the farmers). Subsidies are discussed under Incentives. The related trade and trade policy aspects will be discussed in Part III.

**Box 4. Transfers of property rights**

Well defined property rights are one of the principal elements of a functioning market economy. Property rights allow the owner to control and benefit from the property to which he has the right. Many of the societal concerns – non-commodity outputs, negative externalities, choice of technology and PPM, for example – can be interpreted as concerns related to specific property rights a farmer has with respect to his own private property. Therefore, if society does not approve of the way a private property is treated or used and wants to and is in a position to influence the choice of PPM, a farmer may be compensated for transfer of his property right in the form of a property right buyout. By exercising a property right buyout, the society is purchasing a valued non-commodity output or an attribute.

This reasoning could apply to a variety of concerns, including animal welfare. It also resembles the old discussion on the right to pollute, who has the property right to do what, and whether the polluter should be paid to stop polluting. Property right buyouts only apply to the extent they are not treated in the law. If there is legislation in place in a certain country ordering certain PPMs (no animal cruelty, for example), then any law abiding citizen is required to comply with such a law. If there is no such law, only informal codes of conduct might exist or conduct is left to be guided by individual approaches, then it might safe to assume the farmer has the right to treat his property the way he considers appropriate.

*Incentives*

Governments in many OECD countries already provide substantial support to farmers in the form of broad based measures that are based on commodity output, input use, current or non-current production parameters (area, animal numbers, receipts, or income) with or without production required. The emphasis in this study is not on these types of support measures for reasons explained in

the following paragraphs which summarise relevant findings from other projects relating both to their likely effectiveness and efficiency and to their production and trade effects. In the remainder of this section and the sub-sections that follow, only specific incentives that address the societal concern in question are dealt with in any depth.

There is a large body of evidence suggesting that measures delivered via prices of outputs or unconstrained inputs are very unlikely to be the most efficient way of addressing market failures or income problems of farm families.<sup>5</sup> Moreover, market price support requires border measures to be in place to be effective. The likely effects of such measures on production and trade have been explored in-depth in other projects, including the recently completed project on decoupling. Therefore when incentives or subsidies are dealt with throughout the following sections of this study, only incentives specifically targeting the societal concerns being discussed are included and not undifferentiated broad-based measures.

In recent years there have been significant moves in the direction of payments decoupled from production but linked to area or animal numbers (or other variables) which may be current or historical. Decoupling in itself does not aim to provide a response to societal concerns and is unlikely to do so. Decoupling combined with cross-compliance, making the support conditional on delivering a certain amount of positive externalities, public goods, or on using specific PPMs, is also used. While this may contribute to addressing societal concerns, it might not be doing so most efficiently since the payments remain tied to historic or current entitlements, often replicating earlier patterns of support that were based on output or factor ownership. In addition, this is a very indirect way to address issues like environmental sustainability or animal welfare. Finally, while these measures are much less distorting than price or output subsidies and do not require specific trade policy instruments to be in place to sustain them, to the extent that these measures continue to have some production effects they will also impact on trade flows.

The following sections take as the starting point that when an incentive (payment or subsidy) is needed to tackle a societal concern the most efficient approach is likely to involve a carefully targeted measure. Examples would be specific targeted payments for provision of landscape or wildlife habitat. Incentives are best used when the private sector is likely to address the societal concern efficiently, *e.g.* provision of certain public goods or positive externalities. In that case incentives are used to bridge the difference between social and private values which leads to underprovision. When incentive (subsidy) mechanisms are discussed in the following sections it is this kind of specific targeted incentive payment that is being considered. Because of their specific and targeted nature such measures should generally have little or no impact on production and trade and require no specific trade policy instruments to be put in place.

### *Taxes*

Taxes may be the most practical economic instrument to address societal concerns when the goal is to alter certain types of behaviour (*e.g.* use of specific PPMs, limit negative externalities), but still allow market signals to determine the outcomes (bans are mentioned in the previous section on regulation). At the same time taxes raise revenue. Taxes can be placed on products (a tax on fertiliser to reduce pollution from fertiliser) or resources (a tax on water to save water resources). Textbook analyses recommend taxes as the most efficient way of fixing negative externalities by internalising the social cost into private decision making. Taxes, such as a pollution tax, reduce negative externalities to the socially optimal level, without directly affecting trade and no trade policy

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5. For a full discussion see OECD 2001a and 2003f which discuss also the conditions concerning the degree of jointness and the level of transactions costs which could invalidate this conclusion.



accompanying measures are usually needed. It should be noted, however, that because of the problem of non-point source pollution that occurs often in agriculture, taxation may not be feasible or efficient for this kind of externality. In this case, in practice governments usually resort to a variety of measures that may include regulations or economic incentives aimed at changing farm practices with a view to reducing the negative externality in question.

### *Domestic policy responses by type of societal concern*

Table 1 classified societal concerns into two broad categories – concerns about non-commodity outputs (including public goods, positive and negative externalities), and concerns over aspects of commodity outputs. It was recognised that any of the concerns can be the result of an asymmetric information problem. A societal concern can belong to more than one category, such as the case of PPMs producing a negative externality and also giving rise to a concern about a product attribute. Policy options are discussed in more detail for each of the specific groups of concerns outlined in Table 1, following three broad possibilities: incentives, taxes, and regulations. Due to interrelations among the societal concerns it has not always been possible to avoid overlaps between different elements. Since many of the trade implications are common across incentives, taxes, and regulations for each category of societal concerns, they are discussed together at the end of each section.

#### *Non-commodity outputs<sup>6</sup>*

Borrowing from the multifunctionality terminology, the term “non-commodity outputs” includes both positive and negative externalities and public goods. The multifunctionality reports discussed non-commodity outputs in detail, included a theoretical analysis of degrees of jointness, cases when non-commodity outputs do not result in market failure and efficiency of non-agricultural provision. The following discussion is applicable to both localised and trans-boundary non-commodity outputs.

In economic theory externalities always involve an incomplete incorporation of costs (in case of negative externalities) or benefits (for positive externalities) into the decisions of at least one actor, and hence lead to market failures.

In theory, externalities can arise in production or consumption of the good. As this study is limited to concerns with the incidence at the farm level, examples of consumption externalities are rare (perhaps with the exception of harmful substances which are not treated here). Therefore, all non-commodity outputs discussed in this study are associated with production.

Market provision of public goods often results in a market failure due to a free rider problem. Rivalry in consumption and excludability divide goods into clusters with different provision characteristics and different mechanisms to correctly estimate people’s willingness to pay. On one side of the spectrum are non-rival and non-excludable public goods such as landscape or erosion control. On the opposite side of the spectrum are rival and excludable private goods, such as farmhouse holidays common pool resources — rival but non-excludable — such as water resources or biodiversity might result in a tragedy of the commons (a situation in which multiple individuals acting independently in their own self-interest can ultimately destroy a shared limited resource even when it is clear that it is not in anyone's long term interest to do so). Finally, club goods such as parks with entrance fees are non-rival but excludable. Public goods can be global (*e.g.* climate change mitigation) or localised, and each type requires different regulation.

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6. This part draws on the work done in the Multifunctionality reports (OECD, 2001a).

Where the production of commodity and non-commodity outputs is joint to some extent, changes in relative prices and policy incentives will alter the relative composition of the commodity and non-commodity outputs. If the production of commodity and non-commodity outputs is non-joint, there could be lower cost non-agricultural providers of non-commodity outputs. This study deals only with situations where non-agricultural provision of non-commodity outputs has been ruled out – and thus one of the textbook recommendations to correct market failures resulting in the underprovision of positive externalities and public goods via public (or governmental) provision is not practical.<sup>7</sup>

The Coase Theorem relates to the economic efficiency of an outcome in the presence of externalities and shows that if property rights are well defined, and transaction costs low or minimal, efficient solutions will be found through bargaining, irrespective of the initial allocation of the property rights. The role of the government would be restricted to making sure that property rights are clearly defined, to facilitating bargaining among the affected groups, and to generally providing the institutions (legal frameworks, etc.) to enable contract enforcement. In reality, however, transactions costs may rarely be absent or sufficiently low for Coasian bargains to be found. When bargaining does not take place between two economic actors but between a single actor on one side and a large number of economic agents on the other (as when a feedlot creates a negative externality in the form of bad smells affecting people in all the surrounding towns and villages) the transactions costs associated with bargaining may be very high. Additionally, some affected residents may have an incentive to free-ride, leaving the costs of organising and bargaining to others.

Many non-commodity outputs are non-tradable, and benefits or costs are limited to a small geographical area and require economic instruments and regulations reflecting their local nature. Global non-commodity outputs and public goods are discussed below.

“Global” societal concerns are cross boundary by definition. If they are recognised and shared across countries, multilateral action (for example, in the form of a multilateral environmental agreement — MEA) might be the best solution. Some of the MEAs contain trade related measures.<sup>8</sup> Attempts to address trans-boundary environmental, labour and other concerns using trade measures have not been successful. In the absence of a harmonised approach, country policy responses differ. Extraterritorial application of domestic measures is often problematic in case of global non-commodity outputs or global negative externalities, such as sustainability, emissions of greenhouse gases and similar. Due to national sovereignty, pressure from outside to alter domestic policies might not be successful; therefore trade avenues and campaigns alerting buyers are sometimes used.

### *Regulatory measures*

Depending on the extent of market failure in the provision of non-commodity outputs, government interventions vary. Assuming market based solutions to provision of non-commodity outputs or to the prevention of negative externalities do not exist or are not sufficient, the least disrupting intervention is implementation of measures facilitating market creation. Markets are created by introducing excludability and rivalry into provision and consumption of public goods. Markets can be also created using market based economic instruments, such as marketable permits for negative

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7. If governmental provision was possible, taxation of possible users would be used to finance the provision. Governmental provision could include a subsidy to the providers of public goods when the provision of public goods is joint with the production of commodity outputs. If the provision of public goods is de-linked from commodity production, no major policy issue related to trade arises.
  8. Current round of trade negotiations discusses the relationship between WTO rules and the multilateral environmental agreements, particularly those that contain “specific trade obligations”.

externalities or vouchers for positive externalities. Another governmental intervention could be to create and enforce liability rules. Liability rules allow for violations of rights as long as compensation is paid.

Tradable (marketable) permits (quotas) are discussed under the heading of regulation, although some classify it under the heading of economic instruments. Tradable permits could determine a market price for a negative externality. Regulations are also used to address problems of global commons, such as grazing land or fisheries stocks.. In addition to marketable quotas, a regulation that limits entry raises private costs, while keeping the social cost at the same level and regulating the number of users.

Regulations could require cleaner PPMs or ban specific PPMs or inputs (in the case of negative externalities). The same could be achieved by taxing or subsidising specific PPMs and introducing technology standards.

### *Incentives*

Incentives (subsidies) are used to bridge the gap between social and private costs, thus internalise social benefits and mitigate the under-provision of positive externalities. They could be used as a separate economic instrument, or be based on a regulation which includes a transfer of a property right. The specific design of the incentive depends on the nature of the non-commodity output it tries to address. Broad based measures such as price support or generalised area payments were discussed earlier and will not be dealt with further in this section.

Incentives can also be used to mitigate the effects of negative externalities and are commonly used in agriculture, although to do so is to violate the polluter pays principle. For example, if a negative externality (such as noise of farm animals) is recognised to be beyond the farmer's control, an investment aid is sometimes provided to soundproof animal housing.

Incentives can take many forms - a one-time buyout or an investment aid, or an on-going annual payment conditional on the provision (reduction or elimination in the case of negative externalities) of the non-commodity output, or a payment tied to inputs. Investment aid can be targeted to assist a farmer with upgrading his facilities to increase provision of positive externalities, or defray the cost of adopting a new technology if the new technology delivers non-commodity outputs more efficiently or limits the negative externality. An on-going payment conditional on the provision of a minimum level of the non-commodity output is likely to be successful when the externalities are measurable (such as area of restored wetland), but is less likely to achieve its goals when the objectives could be judged as subjective (such as landscape). It can also be acreage based, for example, acreage cultivated in the case of landscape values or as a per farm payment. Payments tied to inputs or factors of production should target those inputs that are likely to support the socially desirable level of a positive externality or a public good.

Incentives targeted to the provision of specific positive externalities and public goods are likely to be more successful. Targeting might be performance based (an outcome) or involve targeting a production factor or a PPM, if that is a source of a positive externality. However, targeting might be more easily achievable in some cases (such as hedges, appearance of farm buildings, etc.), while more difficult in others (such as landscape). Transaction costs need to be taken into account in comparing the appropriateness and efficiency of alternative policy choices.

### *Taxes*

Just like incentives in the case of positive externalities, taxes are used to bridge the gap between social and private costs, thus internalise social costs and mitigate negative externalities. The amount of tax should reflect the cost of the negative externality, such as the cost of cleaning up the pollution. Taxing a negative externality may induce technological change without necessarily regulating technology adoption and choice of PPMs.

Tax can be designed as a broad measure, *e.g.* a levy collected per farm, or based on farm size, or per unit of negative externality such as pollution (although the difficulties with this approach in agriculture where pollution is not always traceable to a specific farm are recognised). Alternatively, it could target inputs. A tax on fertiliser will decrease the amount of fertiliser used, and lower water pollution. Regulations from the demand side include efforts to control consumer demand for products associated with the negative externality. They are often supplemented by taxes to make products associated with the negative externality more expensive. In the case of agricultural products there are also specific problems in implementing this type of measure, notably that any given product may be produced in many different ways or in many different locations, not all of which create a negative externality.

Taxes can be continuous or enter into a decision process after a certain threshold. In the case of negative externalities, they might be used once defined maximum targets (limits) for negative externalities were exceeded. For positive externalities and public goods, penalties (fines) could be applied if minimum provision targets were not met. Important economic instruments are marketable permits, discussed earlier under regulatory measures.

### *Trade and trade policy implications*

In general, it is quite likely that many non-commodity outputs are non-tradable and localised, and targeted incentives will have limited or no effects on trade. If the effect is national or trans-boundary, some members of the society might not want to consume goods that do not produce the desired non-commodity outputs or which generate significant negative externalities. In this case there may be pressure for a border measure to be put in place limiting imports of the goods in question.

As discussed previously the effects of broad based subsidy schemes on trade have been analysed elsewhere. Nonetheless, if the provision of a non-commodity output is linked to the commodity output because it is not possible to target the non-commodity output separately, any incentive granted for production of the NCO could have trade effects. Whether such subsidies are likely to create trade policy problems relates to the nature of the measure and whether it is permitted under the domestic support provisions of the URAA. Together, the amber, blue and green box provisions would seem to provide wide scope for incentive measures under this heading. Taxes, unless they are used to address trans-boundary concerns, are also not likely to create trade problems from the point of foreign producers. Concerns of domestic producers are discussed separately. If taxes are used on domestic resources, they only tax the domestic base. If they are levied on products, they can be levied in a non-discriminatory manner on both domestic and foreign products.

Domestic producers having to comply with regulations and taxes (for example those limiting negative externalities), can complain of higher costs of meeting those regulations (even if compensation mechanisms are in place), which in turn result in higher consumer prices. Facing a loss of competitiveness on domestic and international markets relative to foreign suppliers, domestic producers are likely to demand additional incentives to increase their competitiveness, or to demand

border measures (such as bans or tariffs) intended to restore a level playing field. Border measures are discussed in Part III.

It is believed that differences in regulations affect relative production costs, producer competitiveness, and trade patterns. However, OECD analyses have shown that the impact of variations in the stringency of environmental regulations on farm costs is not sufficient to explain differences in competitiveness between OECD countries (OECD, 2003c).

Foreign producers complain when regulations are applied extraterritorially, or when regulations are perceived as trade barriers. The question of regulations as trade barriers is analysed in Part III. If incentives are provided to domestic producers to meet certain regulations and not to foreign producers, some foreign producers could perceive being disadvantaged, even if the domestic actions are acceptable under the WTO disciplines.

A large body of literature exists on trade effects of environmental regulation. In the case of a local production externality (*e.g.* a case of smells or noise from a pig farm) it makes sense to apply a mandatory standard only on domestic producers. The issue is different in the case of global environmental externalities. Applying mandatory (process) standards on foreign producers raises two major concerns. First, imposing domestic process standards on foreign producers might not be efficient from a global point of view as the costs of production techniques differ across countries. Second, deciding who controls and enforces the standard applied in the production of an imported good, given that production takes place abroad is not obvious. It is clear, however, that international co-operation is desirable in these cases (WTO, 2005).

#### *Commodity outputs*

Table 1 under societal concerns about commodity outputs concerns about the product itself, PPMs incorporated in the product, and PPMs unincorporated in the product. Concerns originating from some physical attributes, are easily solvable in the marketplace (although not usually the ones that are the focus of societal concerns). PPMs, especially those unincorporated in the product, are more complicated from the trade point of view.

Choice and adoption of PPMs (including novel technologies) is sometimes related to perception of risk. Adoption of PPMs that result in traces in the final product and are not hidden attributes of final products can be addressed by market forces. However, choice of PPMs often results in asymmetric information calling for further intervention to ensure efficient outcomes. Asymmetric information is addressed separately in the next section.

#### *Regulations*

If market solutions or guidelines with voluntary compliance are not sufficient to achieve the desired outcome, regulations with mandatory compliance are likely to be put in place. Regulations can take the form of bans to ensure market segregation and traceability. Bans on certain practices (such as application of prohibited pesticides or animal cruelty) are accompanied by economic sanctions for non-compliance. Market segregation, traceability and labelling systems are also described under the asymmetric information heading. Depending on the distribution of property rights, regulations controlling the choice of PPMs may include compensation for the related property rights transfer, either in the form of a one-time buyout or an investment aid, or in the form of an annual payment.

It is possible to have a regulation in place that just prohibits certain novel technologies or PPMs even before they are introduced to the market (and have a chance to create a market failure) because a

society believes, based on its perception of risk, that adoption of certain PPMs is not desirable. However, if other countries do not share the same assessment or perception of risk and choose to implement a contested PPM, a novel technology for example, trade friction may well arise.

### *Incentives*

Incentives can be provided to encourage adoption of what a society perceives as the right PPM. They can take the form of a subsidy per farm, per unit of factor of production (land, animal, etc.), per unit of output, or can subsidise the cost of technology in the form of an investment aid.

### *Taxes*

Similarly, PPMs that are perceived as inappropriate, especially if the PPMs are associated with a negative externality, could be taxed (this is one of the situations in which a societal concern may relate both to a non-commodity output and an attribute of the commodity). The tax could relate to the input that is at the source of the negative externality, *e.g.* a tax on fertiliser or insecticides. It is also possible to tax the negative externality indirectly through the output but only if it relates to product incorporated PPMs.

### *Trade and trade policy implications*

Trade effects of domestic measures addressing novel technologies and PPMs are similar to those discussed under non-commodity outputs. The arguments of domestic producers demanding a border measure and foreign producers opposing it occur in the same way.

Domestic producers can complain – even when compensation for transfer of property rights is in place – that some PPMs might be more cost effective than others and consequently complain of loss of competitiveness, and would like to be protected by a border measure. The border measure, *e.g.* require the same PPMs from all trading partners, could stem from genuine societal concerns (protecting society from a prohibited PPMs that is believed to be harmful or inferior), or could stem from producers' lobbying to ensure their competitive position on the market. This is a regulatory difference and is discussed in Part III.

### *Asymmetric and missing information*

The asymmetric and missing information dilemma related to societal concerns at the farm gate occurs in multiple ways: it can relate to the product itself, PPMs incorporated in the product, PPMs unincorporated in the product, or non-commodity aspects of production. It occurs when one party in the market has access to more information about a product than the other party, and the information is costly or impossible to obtain. Addressing policy responses to the missing information problem, when the information does not exist, is beyond the scope of this study.

In the standard lemon market example (Akerlof, 1970), market equilibrium reflects the average quality. The source of market failure in the case of asymmetric information comes from the relative perception of quality or type on the market. The most efficient policy is to complete the consumers' information set. If attributes of the products are not hidden but it is costly to obtain the information, education and information campaigns might assist in completing the information.

Labelling serves as a communication tool to convey whether or not a product satisfies a certain standard (its application to PPMs unincorporated in the product was discussed in paragraph 47). Vertical standards affect goods whose performance and assessment differ on a continuum of options

where each standard performs differently. In case of performance standards (such as energy efficiency) when the information is costly or infeasible to obtain, minimum standards are set and enforced by the governments. The SPS and TBT Agreements recommend that countries adopt international recommendations, although they have the liberty to choose standards they deem appropriate (to be discussed in the trade section). In the case of quality attributes, market initiatives include signalling when the producer signals the “quality” of his product to the consumer voluntarily. Government initiatives require disclosing such information in a mandatory fashion. In both cases the information set is completed.

### *Regulations*

If attributes are hidden or unincorporated in the product, as in case of some PPMs, a labelling system reflecting the existence of secure procedures for segregation and traceability is often implemented. By adopting a labelling system when guidelines carry voluntary compliance, firms employ signalling to solve the asymmetric information problem and possibly gain a competitive advantage. When no labelling is in place regarding an attribute of universal concern to consumers, consumers may assume all products are of inferior quality, and the market collapses. If rules issued by the government are not mandatory and become guidelines with voluntary compliance, mechanisms to ensure market segregation will be needed. If regulations are mandatory, it could be assumed that all products on the market comply with it.

Regulations dealing with asymmetric information with high search cost for consumers can also involve bans if some potential choices are not acceptable as a result of a society’s perception of risk. This approach may result in elimination of some of the choices, such as in case of food safety.

Both horizontal and vertical differentiation requires several steps: standardisation, communication, and enforcement. Standardisation is a technical step involving consultations with the industry and international recommendations. Communication includes already mentioned labelling, educational campaigns and other ways to complete the information set. Finally, enforcement consists of systems ensuring standards and labels are truthful, and involves tracking and tracing mechanisms. The cost of labelling is often part of the production and retail cost, and is passed on to the final consumer.

A labelling strategy can be either positive or negative. A positive label highlights the content of the product, such as “This product contains GMOs”. A negative label highlights what is not in a product, such as “This product contains no GMOs”. The choice between positive and negative labelling is often based on marketing since consumers react differently to positive and negative statements. Labelling and its effects have been explored in the work of the OECD Working Party of the Trade Committee and the Joint Working Party on Trade and Environment (*e.g.* OECD, 2002a, 2002b, 2003d)

Traceability may be, but does not have to be part of a labelling scheme. It is a way to address an asymmetric information problem. It is one of the conditions for market segregation to ensure consumer choice. It also guarantees that a product can be traced back to the farm gate (or even a specific plot) in case of a crisis. Traceability systems can be government mandated, but are also part of private initiatives such as corporate social responsibility schemes.

Corporate Social Responsibility (CSR) initiatives are becoming increasingly common. They are in general private initiatives covering a broad range of issues including sustainability, community involvement, and responsible sourcing. As such, they indirectly deal with the societal concerns at the farm gate. Given their voluntary nature, CSR schemes would be more appropriately discussed under

market-based approaches as opposed to command and control, although the role for governments in designing CSR schemes varies in practise and is subject to debate. As private schemes, these are not further discussed in this study.

### *Incentives*

Incentives could be put in place to encourage introduction of market segregation and traceability. Segregation and traceability, necessary conditions for completing information and generating trust in labelling schemes, may be costly to set up. The cost may be passed on to consumers or borne by the producers, but incentives could be used to assist with the cost. They can come in a form of an investment aid to help defray the cost associated with such a policy since the marginal costs of segregation and traceability systems are likely to be low.

The same applies for labelling. However, since the study is confined to societal concerns at the farm level, only few products are marketed directly without processing. Exceptions include fruits and vegetables which are increasingly marketed under contracts with producers and retailers.

### *Taxes*

There does not seem to be an obvious tax measure applicable to correct an asymmetric information problem. While fines for not complying with regulations (*e.g.* requiring labelling) share some similarities with taxes, they are not considered to be examples of market based economic instruments.

Trade and trade policy implications of policies addressing asymmetric and missing information problem are similar to those already discussed earlier.



### **Part III.**

## **Domestic Policy Responses in the Context of Relevant WTO provisions**

### *Societal concerns across countries*

Many societal concerns are similar in spirit across countries, although there are also significant variations. Explanations such as religious, historical, and other well-established traditions tend to be more easily accepted by trading partners as reasons for differences in regulatory measures (and consequently domestic and trade policies) compared to other explanations that stem from different perceptions of risk. A special subgroup of these concerns dealing with PPMs, both incorporated and unincorporated in the product and conditions under which the product was produced and treated in all stages of its life cycle, is often more controversial and appears to be positively correlated with income levels.

Increased awareness of societal concerns often also relates to trade liberalisation, growing trade, and globalisation. Exporting countries may regard trade and domestic policy actions to safeguard societal concerns valued by a trading partner with suspicion that they are behind-the-border protective measures, especially in an environment of falling, or minimal tariff barriers and where society in the exporting country does not share the same concerns.

The discussion of trade implications in the previous section implied that targeted taxes and subsidies are not likely to result in major problems, because of the scope that exists in the provisions of the URAA to design incentives that will comply with WTO disciplines. Thus, this section of the study focuses mainly on the trade policy implications of regulations including situations in which taxes or incentives may also be in place.

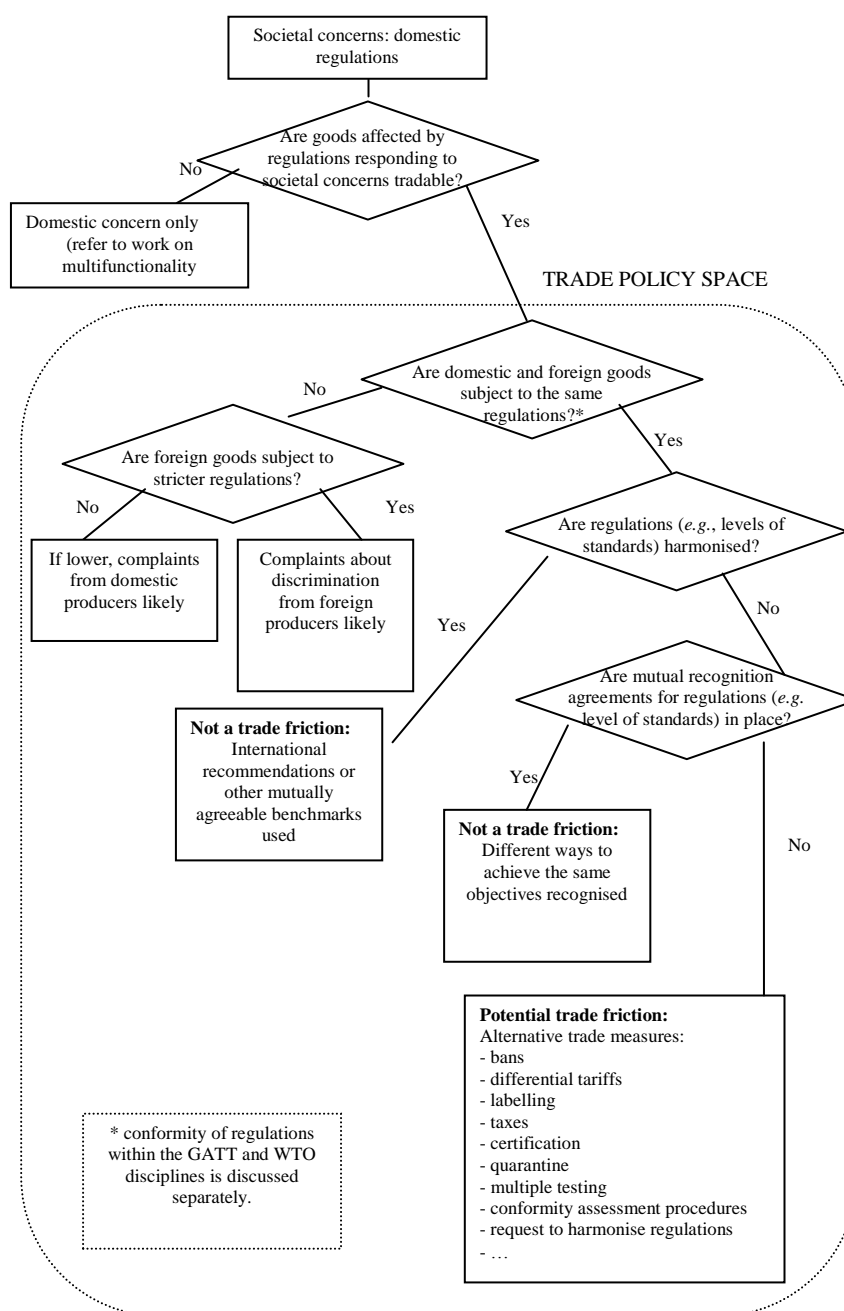
### *Trade policy implications of differing regulations across countries*

Trade policies are derived policies, necessary to implement domestic policies and to achieve domestic objectives, including consumer and market protection. Hence, domestic policies impact on trade policies and consequently on international trade flows. Some domestic regulations and policies will have no direct effect on trade, while effects of other domestic policies can be mitigated by additional steps such as mutual recognition agreements recognising equivalency of regulations between trading partners.

Within the GATT and WTO agreements, countries have the right to choose regulations and policies to address the domestic policy objectives they deem appropriate assuming they do not serve as barriers to trade. Consequently, policy approaches addressing societal concerns vary across countries. The study does not question the legitimacy of societal concerns or the legitimacy of domestic regulations and policies related to them, but rather it explores the implications of these instruments, and differences in the use of instruments across countries for trade and trade policy.

Figure 2 summarises the main elements of the trade discussion. If the product which is subject to domestic regulation responding to societal concerns is not tradable, there is no direct trade effect. Part of this stream of work was explored in Multifunctionality reports (OECD, 2001a, 2003f). If the product is tradable, every domestic regulation is likely to have some trade policy implications. The study reviews relevant GATT and WTO provisions concerning different domestic regulations, and analyses their implications for trade policy. The key decision questions determining whether domestic regulations are likely to be problematic for trade are: are domestic and foreign goods subject to the same regulations? Are regulations (e.g. standards) harmonised? and are mutual recognition agreements in place?

**Figure 2. Potential Trade Frictions from Domestic Regulations**



The section first looks at the institutional structure by reviewing relevant WTO provisions, followed by a discussion of possible trade policy strategies countries used to regulate imports of goods and services they believe do not comply with domestic policies reflecting societal concerns. The study does not evaluate welfare implications of possible domestic policies addressing each type of societal concern.

### ***Relevant WTO Provisions***<sup>9</sup>

This study reviews only WTO provisions relevant to societal concerns related to goods (more precisely, agricultural products). Provisions associated with services (General Agreement on Trade in Services – GATS) and intellectual property (Agreement on Trade-Related Aspects of Intellectual Property Rights – TRIPS) are not discussed, although services and intellectual property may also be subject to societal concerns.

Within the WTO, most attention has been given to trade and environment issues which are a substantial category of societal concerns. Treatment of environmental issues indicates how other societal concerns could be dealt with. A number of WTO provisions are directly relevant to trade related environmental issues. These include the non-discrimination principle of most-favoured-nation and national treatment, the Agreement on Sanitary and Phytosanitary Measures (SPS), the Agreement on Technical Barriers to Trade (TBT) Agreement, and certain sections of GATT Article XX which say that protecting human, animal or plant life or health, and conserving scarce natural resources, can be cited as reasons for bypassing normal trade rules (WTO, 2006)<sup>10</sup>.

Non-discrimination has two components in the WTO: most-favoured-nation treatment (MFN) and national treatment. MFN — treating one’s trading partners equally — is set out in Article I of the General Agreement on Tariffs and Trade (GATT) dealing with the rules for trade in goods. GATT Article I says a WTO member cannot treat a product of another country more favourably than the products of WTO members (except in certain circumstances such as under regional free-trade agreements or preferential treatment for developing countries’ exports). National treatment means equal treatment for foreign and domestic goods and services. Article III of GATT stipulates that once goods have entered a market, they must be treated no less favourably than the same domestically produced goods. The purpose of the non-discrimination principle is to prevent the abuse of environmental or other policies and their use as protectionism in disguise.

GATT Article XX on “General Exceptions” lays out a number of specific instances in which WTO members (originally GATT “contracting parties”), may be excepted from GATT rules including those described above and which maybe relevant to the protection of societal concerns. The opening paragraph of Article XX is designed to ensure that GATT-inconsistent measures do not result in arbitrary or unjustifiable discrimination and do not constitute disguised protectionism. Article XX is reproduced in Box 5.

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9. This part draws on a variety of WTO materials presented on the WTO website.

10. Other GATT and WTO disciplines allowing for possibly different regulatory approaches across countries are the Agreement on Preshipment Inspection, the Agreement on Rules of Origin, Agreement on Import Licensing Procedures, GATT Articles covering trade facilitation (V: Freedom of Transit, VIII: Fees and Formalities connected with Importation and Exportation, and X: Publication and Administration of Trade Regulations). These agreements and articles are not specifically related to farm related activities, and as such are not discussed in this report.

**Box 5. The general exceptions of GATT Article XX**

Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:

- (a) necessary to protect public morals;
- (b) necessary to protect human, animal or plant life or health;
- (c) relating to the importations or exportations of gold or silver;
- (d) necessary to secure compliance with laws or regulations which are not inconsistent with the provisions of this Agreement, including those relating to customs enforcement, the enforcement of monopolies operated under paragraph 4 of Article II and Article XVII, the protection of patents, trademarks and copyrights, and the prevention of deceptive practices;
- (e) relating to the products of prison labour;
- (f) imposed for the protection of national treasures of artistic, historic or archaeological value;
- (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption;
- (h) undertaken in pursuance of obligations under any intergovernmental commodity agreement which conforms to criteria submitted to the CONTRACTING PARTIES and not disapproved by them or which is itself so submitted and not so disapproved;\*
- (i) involving restrictions on exports of domestic materials necessary to ensure essential quantities of such materials to a domestic processing industry during periods when the domestic price of such materials is held below the world price as part of a governmental stabilization plan; Provided that such restrictions shall not operate to increase the exports of or the protection afforded to such domestic industry, and shall not depart from the provisions of this Agreement relating to non-discrimination;
- (j) essential to the acquisition or distribution of products in general or local short supply; Provided that any such measures shall be consistent with the principle that all contracting parties are entitled to an equitable share of the international supply of such products, and that any such measures, which are inconsistent with the other provisions of the Agreement shall be discontinued as soon as the conditions giving rise to them have ceased to exist. The CONTRACTING PARTIES shall review the need for this sub-paragraph not later than 30 June 1960.

The TBT Agreement seeks to ensure that technical regulations and standards, and associated testing and certification procedures, do not create unnecessary obstacles to trade. In its preamble, the agreement recognises countries' rights to adopt such measures to the extent they consider appropriate; for example, to protect human, animal or plant life or health, or the environment. Moreover, members are allowed to take measures to ensure that products comply with regulations (so-called "conformity assessment procedures"). Among the agreement's important features are: non-discrimination in the preparation, adoption and application of technical regulations, standards, and conformity assessment procedures; avoiding unnecessary obstacles to trade; adopting relevant international standards; ensuring transparency, prompt publication of those standards, and operation of national enquiry points.

The SPS Agreement (which brings greater precision to the use of Article XX b of the GATT) deals with food safety; human, animal and plant health; . It recognizes members' rights to adopt SPS measures but stipulates that they must be based on science, should not create unnecessary obstacles to trade, and should not arbitrarily or unjustifiably discriminate between members where identical or similar conditions prevail. Where relevant scientific information is insufficient Article 5.7 of the agreement allows countries to adopt provisional measures under strict conditions including an obligation to seek to complete the information within a reasonable period of time (Box 2). The

agreement encourages members to adapt their SPS measures to the areas (regions, countries or parts of countries) that supply their imports.

The WTO Agreement on Subsidies and Countervailing Measures (SCM) which disciplines the use of subsidies and regulates the actions countries can take to counter the effects of subsidies is also pertinent. A country can either use the WTO's dispute-settlement procedure to seek the withdrawal of the subsidy or the removal of its adverse effects. Alternatively, a country can launch its own investigation and ultimately charge extra duty ("countervailing duty") on subsidised imports that are found to be hurting domestic producers. Thus it is possible for one WTO member country to challenge another's measure taken in pursuit of a societal concern, if prejudice can be proven.

During the period of the "peace clause" which regulates the application of other WTO Agreements to agricultural products up to the end of 2003, special rules applied regarding both export subsidies and domestic support. No limits were imposed on domestic supports within the "green box" of the Agriculture Agreement (which contains a positive list of allowed measures) and such measures were not actionable multilaterally nor were they subject to countervailing measures (See Annex 1 for the full text describing these exemptions). Among them are expenditures under a large number of programmes created for environmental purposes, provided that they meet certain conditions. Some countries consider that the Green Box does not provide sufficient scope for some types of measures. For example, payments to farmers to raise animal welfare standards would generally not be allowed. Other domestic support measures in conformity with the Agreement on Agriculture of the Uruguay Round (AoA) were not actionable but could be subject to a countervail action, although countries were to exercise due restraint in initiating such investigations. Export subsidies conforming to the AoA were, to the extent relevant, covered by corresponding provisions. After expiry of the Peace Clause, the SCM Agreement shall apply to subsidies for agricultural products subject to the provisions of the Agreement on Agriculture, as set forth in its Article 21.

### ***Product and process related measures***

An important category of societal concerns deals with product attributes, novel technologies and PPMs in general. Some of the attributes of the products are covered by the SPS agreement or can be categorised under general exceptions of GATT Article XX. Others still present problems depending on whether they are PPMs incorporated or unincorporated in the product. Policy measures related to PPMs unincorporated in the product are generally considered to fall outside specific WTO agreements dealing with product standards, such as the SPS Agreement or the TBT Agreement, and thus potentially conflict with WTO principles even though many process-based standards are at the heart of private standards. Dealing with PPMs unincorporated in the product is therefore a challenge. The multilateral trading system has been hesitant to deal with PPMs unincorporated in the product as they involve controls on the production site of the exporting country, although practical solutions such as certification could be developed in some cases. More generally countries differ in their perception of the adequacy of WTO provisions in relation to measures taken in response to societal concerns, particularly in this area of non-incorporated PPMs.

Work on trade and environment at OECD (1997a) developed a conceptual framework classifying PPMs according to the scope of their environmental impact and analysed possible measures for enforcing PPM-related requirements while focusing in particular on the impact of PPM-based trade measures on trade and trade policy. Tables summarising the conceptual framework used and analysis of PPM-based trade measures are reproduced in Annex III.

***Trade policy strategies related to specific regulations***

It has been shown that relevant GATT and WTO disciplines allow considerable scope to countries to implement domestic regulations to achieve societal objectives corresponding to societal concerns, but that questions of legal interpretation are crucial. Some countries would like to see the scope of some of these WTO provisions widened to accommodate their measures, but others disagree.

Only binding regulations with mandatory compliance are covered here. If there are non-binding domestic standards with voluntary compliance in place it is likely that foreign producers wanting to sell on this export market, will choose to comply. Nevertheless, voluntary standards may reduce market access for foreign producers and exclude foreign producers from markets if compliance costs with those voluntary measures are too high.

To determine in which situations a domestic regulation may give rise to trade friction, the discussion follows the decision tree in Figure 2, answering questions as to whether domestic and foreign goods are subject to the same regulations, whether regulations are harmonised, and whether there are mutual recognition agreements in place.

*Are domestic and foreign goods subject to the same regulations?*

Policies requiring that imports comply with the same set of regulations as domestic producers are often suspect as the extraterritorial application of domestic policies and objectives. However, if both domestic and foreign producers are subject to the same rules, the action is justified under national treatment (at least in so far as PPMs incorporated to the product are concerned) and therefore in conformity with WTO. If foreign producers are subject to stricter regulations, the non-discrimination principle is violated, although as mentioned earlier the question of what constitutes like or the same goods may be controversial.

Figure 1 contains a decision tree for domestic policy makers faced with different societal concerns. Design of policies in place when property rights need to be transferred (subsidies) might appear problematic in the view of the Agreement on Agriculture and SCM Agreement<sup>11</sup>. Although the actual effect of a subsidy depends on the degree of jointness between commodity and non-commodity outputs, the Agreement on Agriculture provides significant scope to conceive compliant and efficient policies. However, if the compliance costs of domestic regulations applicable to both domestic and imported products and imports are very high and domestic producers receive compensation for property right transfers associated with the regulation, foreign producers might be disadvantaged.

If the regulation in a country addressing a negative externality or PPMs is strict enough to effectively stop local production but does not involve an outright sales ban, producers in countries with less strict regulations or using different production methods will benefit until local producers change their production methods to meet the domestic regulation, *i.e.* assuming they can do so and still retain competitiveness.

*Are regulations harmonised?*

Numerous societal concerns are not directly measurable (such as quality of landscape) and appear to have a country-specific quality dimension; some can be quantified and certain minimum or maximum tolerance levels reflecting a country's risk tolerance level can be established. Regulations

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11. Specific policy designs (such as bidding mechanisms, etc.) are not discussed in this study.

using international recommendations or other mutually agreed benchmarks avoid potential trade friction.

While WTO agreements (TBT, SPS) provide for Members to base measures on international standards, guidelines and recommendations (such as those set by the OIE, Codex and the IPCC), countries also have the right to choose the standards (and policies) which they deem appropriate to protect human, animal and plant health provided these do not act as unnecessary barriers to trade (or breach the domestic support provisions of the Agreement on Agriculture). While international recommendations exist for both hidden (such as maximum pesticide residues) and open (such as grades and standards) attributes, they may not respond adequately to levels of tolerance prevailing in different countries.

Provided there is reasonable scientific justification (SPS) or if fundamental climate or geographical differences exist (TBT), countries can impose higher standards than are recommended by international guidelines, although different interpretations render application of this provision problematical sometimes.

*Are mutual recognition agreements for regulations in place?*

Standards, technical regulations, conformity assessment procedures and other regulations can legitimately differ across countries, but trade can still be facilitated if equivalency or mutual recognition agreements (MRA) are concluded that recognise that similar or even different testing methods in different countries can provide the same reliable conformity check or that different standards and PPMs can guarantee the same result.

*Potential trade friction*

Potential trade friction arises when domestic and foreign producers are subject to the same regulations in the domestic market but the regulations in question are not harmonised across countries and equivalency agreements or MRAs are not in place.

If products are “non-readily-compliant” with the importing country regulations for example in the SPS and TBT area, the importing country may choose to penalise at the border products determined not to conform to the regulations in the importing country. The most drastic measure is to prohibit imports of such products, which is usually done and acceptable in emergencies. Another traditional trade policy tool is to apply tariffs to non-conforming products (although of course this is not effective if the importing country wishes to protect itself from a risk). Due to already described challenges associated with PPMs unincorporated in the final product, current multilateral trade law is finding dealing with those PPMs demanding.

Eaton et al (2005, 2006) examined the possibility of giving preferential treatment in the EU to imports of meat products that meet improved standards in terms of animal welfare in production. Animal welfare was treated as a PPM. Three specific forms of preferential treatment, all considered by the authors as likely to be admissible under the WTO rules (Article XX of the GATT and the TBT Agreement), were considered as possible measures for increasing levels of animal welfare in meat production in the EU and its exporting partners: labelling of products (either voluntary or compulsory), differentiated import tariffs and differentiated consumer taxes. Their findings are summarised in Annex II.

An alternative strategy is to require additional testing to show compliance with domestic standards and regulations, impose testing or quarantine, inspections, conformity assessment

procedures, certification, labelling schemes, etc. even when the trading partners subscribe to similar, but not identical, rules. These additional requirements could increase confidence in the imported product but may also reduce transparency and increase the cost of doing business.

If a labelling requirement is introduced with the aim of enhancing the information available to consumers, the TBT agreement applies. For example, some elements of food safety are SPS issues with an asymmetric information element which could be solved by labelling. If there is a MRA between countries or if food safety regulation relies on international guidelines or recommendations, different labelling requirements can still result in potential trade friction since food safety and labelling are treated as two distinct regulations.

If one major trading partner enforces a domestic regulation, for example in the form of a stricter standard, such action can initially have negative effects on its trading partners. But, it is also possible that an export industry subject to a higher standard might benefit from such an action through an upgrading effort. This would be facilitated by investment aids and other forms of support from either or both the importing and exporting country, or it could be achieved entirely through market responses. These dynamic effects, including industry upgrading and moving to a higher standard are not considered further.



## **Part IV.**

### **Conclusions**

This study has attempted to expand the debate concerning the interface between domestic objectives and policies and their trade and trade policy implications to include policy responses to deal with societal concerns. The listing of societal concerns is not exhaustive and no judgement is made about their legitimacy. Rather an attempt is made to classify them according to some basic economic characteristics that are useful in trying to define policy responses. As with much of the work analysing support measures, the focus is on determining the extent to which it is possible to devise policy responses that minimise trade distortions while safeguarding the capacity of governments to provide adequate responses to their citizens.

The scope of the study is limited to societal concerns focusing on activity at the farm level. These are concerns, voiced by certain groups of stakeholders, about aspects of agricultural production at the farm level perceived to be under- or overprovided in the marketplace. Societal concerns differ across countries and income levels and originate from different natural conditions, historical paths of development, cultures and traditions. While ethical considerations often form the foundation on which societal priorities are developed, these are not analysed further by this study.

Which group of a society subscribes to a certain societal concern depends on whether members of a subset are “users” (perceived beneficiaries or bearing a direct effect) or “non-users” of something over which a societal concern has developed. Societal concerns originate from accepted values of the society appealing to a broad range of its members but are also shaped by new developments in technologies, environmental degradation, newly available or re-explored knowledge.

Interest in societal concerns related to farm activities reflects a growing general interest in the environment, and increased attention to product attributes and safety. Fears that certain societal values and concerns are not sufficiently taken into account or may even be undermined by ongoing processes of trade liberalisation and globalisation also play an important role.

Issues over which societal concerns arise are broadly divided into concerns related to non-commodity outputs, and commodity outputs. Grouping societal concerns on the basis of their underlying characteristics allows governments to define responses addressing economic inefficiencies resulting in market failures, which differ in each case, directly and more efficiently. Market failure is the most evident rationale for government intervention. Governments might choose to intervene in response to societal concerns that do not necessarily relate to market failures, but the interest in addressing a certain concern is strong. Most commonly, the issue relates to perception of risk associated with particular production methods or to ethical aspects and may arise even before the product is produced or marketed.

Incentives, taxes, regulations and non-binding guidelines are the main broad categories of instruments that governments use to achieve societal objectives. Guidelines include recommendations, voluntary agreements, good practices, social codes, voluntary standards. While trade issues may arise even in this area of non-binding instruments, they normally are less significant than in the case of

mandatory regulation, because non-binding measures are adhered to on a voluntary basis and compliance cannot be imposed on domestic or foreign suppliers. Regulations that are mandatory may or may not include transfers of property rights and associated buyouts. For a regulation to be effective, sanctions for lack of compliance and a regulatory agency are necessary. Regulations can establish quantitative targets, maximum quotas or minimum limits; or otherwise modify behaviour.

The most efficient incentive policies for addressing societal concerns are likely to be targeted to the provision of specific outcomes. Generally, such measures should have little or no impact on production and trade and require no specific trade policy instruments to be put in place.

Taxes can be used to address societal concerns when the goal is to modify certain types of behaviour, but still allow market signals to determine the outcomes. Taxes, unless they are used to address concerns of a trans-boundary nature, have trade consequences because they impose additional costs that modify prices, output and trade. However, the difficulties associated with the efficient use of taxes where the source of the problem cannot be readily identified (non-point source pollution) is acknowledged.

The GATT and WTO Agreements provide fundamental rules of trade. However, international trade law gives wide scope to countries to implement domestic measures to achieve national objectives corresponding to societal concerns. Governments may choose their own rules and regulations based on differing regulatory approaches in the domestic arena assuming they are justified, science based, and do not unnecessarily restrict trade. In the process of agricultural policy reform, the WTO Agreement on Agriculture provides wide scope for the design of policies which are in compliance with the domestic support provisions of the Agreement, including Annex II. Thus, trade policy problems are more likely to originate from different societal preferences across countries and different domestic rules and regulations addressing these concerns. Some countries might have the tendency to examine trade and domestic policy actions to safeguard societal concerns valued by a trading partner with suspicion as behind-the-border protective measures, especially in an environment of falling, minimal (or non-existent) tariff barriers. Others consider nevertheless that the scope available to them in GATT/WTO provisions is too narrow to fully cover policy responses to issues that may have an ethical dimension that is not necessarily shared among different trading partners, where there is uncertainty or disagreement about related science, or where attitudes to risk vary.

Differing regulations can raise concerns from both domestic and foreign producers. Domestic producers having to comply with regulations, can complain of higher costs of meeting those regulations (even if compensation mechanisms are in place), which in turn result in higher consumer prices. Loss of competitiveness can trigger demands by domestic producers for special government support, including tariffs and other border measures restricting imports. Foreign producers complain when regulations are applied extraterritorially, or when regulations are perceived as trade barriers. Further, complaints are made when incentives are provided to domestic producers to meet certain regulations and not to foreign producers even if domestic actions are acceptable under WTO rules.

Standards, technical regulations, conformity assessment procedures and other regulations can legitimately differ across countries, but trade can still be facilitated through the conclusion of equivalency and mutual recognition agreements (MRA) covering these regulations. Potential trade friction arises in a variety of situations, for example where new or changing regulations entail important compliance costs that some (foreign) firms may not be able to bear.

Trade and trade policy implications of different policy responses vary across categories. Policies responding to concerns related to non-commodity outputs (positive externalities, provision of public goods, and negative externalities) with localised effects – assuming they are not production distorting

– will have minimal effect on trade. Policies responding to concerns related to non-commodity outputs with trans-boundary effects have to comply with international environmental agreements. If such agreements do not exist or not all countries are their signatories, other solutions must be sought. These could range from an outright ban to the use of labelling to signal compliance with a voluntary standard.

The treatment of societal concerns related to commodity outputs depends on whether they relate to physical characteristics of the product itself or to production processes. Procedures to deal with the trade effects of attributes related to the product itself and PPMs incorporated in the product are already quite well established. Despite occasional trade frictions, mutual recognition agreements of standards and conformity assessment procedures have a trade facilitating effect. Discussion on PPMs unincorporated in the product is more divisive for a variety of reasons: lack of agreement as to whether some PPMs are incorporated or unincorporated in the product, problems detecting some processes on the product, and need for controls on production sites abroad.

The discussion presented in this study applies to both developed and developing countries. However, developing countries in particular might find compliance with domestic regulations in importing countries challenging and would benefit from continuing capacity building and trade facilitation measures.

## Annex I.

### The Basis for Exemption from the Reduction Commitments

#### Domestic Support – The Basis for Exemption from The Reduction Commitments

(Annex 2 of the Agreement on Agriculture of the Uruguay Round)

1. Domestic support measures for which exemption from the reduction commitments is claimed shall meet the fundamental requirement that they have no, or at most minimal, trade-distorting effects or effects on production. Accordingly, all measures for which exemption is claimed shall conform to the following basic criteria:
- (a) the support in question shall be provided through a publicly-funded government programme (including government revenue foregone) not involving transfers from consumers; and,
  - (b) the support in question shall not have the effect of providing price support to producers;
- plus policy-specific criteria and conditions as set out below.

#### *Government Service Programmes*

2. *General services* - Policies in this category involve expenditures (or revenue foregone) in relation to programmes which provide services or benefits to agriculture or the rural community. They shall not involve direct payments to producers or processors. Such programmes, which include but are not restricted to the following list, shall meet the general criteria in paragraph 1 above and policy-specific conditions where set out below:

- (a) research, including general research, research in connection with environmental programmes, and research programmes relating to particular products;
- (b) pest and disease control, including general and product-specific pest and disease control measures, such as early-warning systems, quarantine and eradication;
- (c) training services, including both general and specialist training facilities;
- (d) extension and advisory services, including the provision of means to facilitate the transfer of information and the results of research to producers and consumers;
- (e) inspection services, including general inspection services and the inspection of particular products for health, safety, grading or standardization purposes;
- (f) marketing and promotion services, including market information, advice and promotion relating to particular products but excluding expenditure for unspecified purposes that could be used by sellers to reduce their selling price or confer a direct economic benefit to purchasers; and
- (g) infrastructural services, including: electricity reticulation, roads and other means of transport, market and port facilities, water supply facilities, dams and drainage schemes, and infrastructural works associated with environmental programmes. In all cases the expenditure shall be directed to the provision or construction of capital works only, and shall exclude the subsidized provision of on-farm facilities other than for the reticulation of generally available public utilities. It shall not include subsidies to inputs or operating costs, or preferential user charges.

3. *Public stockholding for food security purposes* - Expenditures (or revenue foregone) in relation to the accumulation and holding of stocks of products which form an integral part of a food security programme identified in national legislation. This may include government aid to private storage of products as part of such a programme. The volume and accumulation of such stocks shall correspond to predetermined targets related solely to food security. The process of stock accumulation and disposal shall be financially transparent. Food purchases by the government shall be made at current market prices and sales from food security stocks shall be made at no less than the current domestic market price for the product and quality in question.

4. *Domestic food aid* - Expenditures (or revenue foregone) in relation to the provision of domestic food aid to sections of the population in need. Eligibility to receive the food aid shall be subject to clearly-defined criteria related to nutritional objectives. Such aid shall be in the form of direct provision of food to those concerned or the provision of means to allow eligible recipients to buy food either at market or at subsidized prices. Food purchases by the government shall be made at current market prices and the financing and administration of the aid shall be transparent.

5. Direct payments to producers - Support provided through direct payments (or revenue foregone, including payments in kind) to producers for which exemption from reduction commitments is claimed shall meet the basic criteria set out in paragraph 1 above, plus specific criteria applying to individual types of direct payment as set out in paragraphs 6 through 13 below. Where exemption from reduction is claimed for any existing or new type of direct payment other than those specified in paragraphs 6 through 13, it shall conform to criteria (b) through (e) in paragraph 6, in addition to the general criteria set out in paragraph 1.
6. Decoupled income support
- (a) Eligibility for such payments shall be determined by clearly-defined criteria such as income, status as a producer or landowner, factor use or production level in a defined and fixed base period.
- (b) The amount of such payments in any given year shall not be related to, or based on, the type or volume of production (including livestock units) undertaken by the producer in any year after the base period.
- (c) The amount of such payments in any given year shall not be related to, or based on, the prices, domestic or international, applying to any production undertaken in any year after the base period.
- (d) The amount of such payments in any given year shall not be related to, or based on, the factors of production employed in any year after the base period.
- (e) No production shall be required in order to receive such payments.
7. Government financial participation in income insurance and income safety-net programmes
- (a) Eligibility for such payments shall be determined by an income loss, taking into account only income derived from agriculture, which exceeds 30 per cent of average gross income or the equivalent in net income terms (excluding any payments from the same or similar schemes) in the preceding three-year period or a three-year average based on the preceding five-year period, excluding the highest and the lowest entry. Any producer meeting this condition shall be eligible to receive the payments.
- (b) The amount of such payments shall compensate for less than 70 per cent of the producer's income loss in the year the producer becomes eligible to receive this assistance.
- (c) The amount of any such payments shall relate solely to income; it shall not relate to the type or volume of production (including livestock units) undertaken by the producer; or to the prices, domestic or international, applying to such production; or to the factors of production employed.
- (d) Where a producer receives in the same year payments under this paragraph and under paragraph 8 (relief from natural disasters), the total of such payments shall be less than 100 per cent of the producer's total loss.
8. Payments (made either directly or by way of government financial participation in crop insurance schemes) for relief from natural disasters
- (a) Eligibility for such payments shall arise only following a formal recognition by government authorities that a natural or like disaster (including disease outbreaks, pest infestations, nuclear accidents, and war on the territory of the Member concerned) has occurred or is occurring; and shall be determined by a production loss which exceeds 30 per cent of the average of production in the preceding three-year period or a three-year average based on the preceding five-year period, excluding the highest and the lowest entry.
- (b) Payments made following a disaster shall be applied only in respect of losses of income, livestock (including payments in connection with the veterinary treatment of animals), land or other production factors due to the natural disaster in question.
- (c) Payments shall compensate for not more than the total cost of replacing such losses and shall not require or specify the type or quantity of future production.
- (d) Payments made during a disaster shall not exceed the level required to prevent or alleviate further loss as defined in criterion (b) above.
- (e) Where a producer receives in the same year payments under this paragraph and under paragraph 7 (income insurance and income safety-net programmes), the total of such payments shall be less than 100 per cent of the producer's total loss.
9. Structural adjustment assistance provided through producer retirement programmes
- (a) Eligibility for such payments shall be determined by reference to clearly defined criteria in programmes designed to facilitate the retirement of persons engaged in marketable agricultural production, or their movement to non-agricultural activities.
- (b) Payments shall be conditional upon the total and permanent retirement of the recipients from marketable agricultural production.
10. Structural adjustment assistance provided through resource retirement programmes
- (a) Eligibility for such payments shall be determined by reference to clearly defined criteria in programmes designed to remove land or other resources, including livestock, from marketable agricultural production.

- (b) Payments shall be conditional upon the retirement of land from marketable agricultural production for a minimum of three years, and in the case of livestock on its slaughter or definitive permanent disposal.
- (c) Payments shall not require or specify any alternative use for such land or other resources which involves the production of marketable agricultural products.
- (d) Payments shall not be related to either the type or quantity of production or to the prices, domestic or international, applying to production undertaken using the land or other resources remaining in production.
11. Structural adjustment assistance provided through investment aids
- (a) Eligibility for such payments shall be determined by reference to clearly-defined criteria in government programmes designed to assist the financial or physical restructuring of a producer's operations in response to objectively demonstrated structural disadvantages. Eligibility for such programmes may also be based on a clearly-defined government programme for the reprivatization of agricultural land.
- (b) The amount of such payments in any given year shall not be related to, or based on, the type or volume of production (including livestock units) undertaken by the producer in any year after the base period other than as provided for under criterion (e) below.
- (c) The amount of such payments in any given year shall not be related to, or based on, the prices, domestic or international, applying to any production undertaken in any year after the base period.
- (d) The payments shall be given only for the period of time necessary for the realization of the investment in respect of which they are provided.
- (e) The payments shall not mandate or in any way designate the agricultural products to be produced by the recipients except to require them not to produce a particular product.
- (f) The payments shall be limited to the amount required to compensate for the structural disadvantage.
12. Payments under environmental programmes
- (a) Eligibility for such payments shall be determined as part of a clearly-defined government environmental or conservation programme and be dependent on the fulfilment of specific conditions under the government programme, including conditions related to production methods or inputs.
- (b) The amount of payment shall be limited to the extra costs or loss of income involved in complying with the government programme.
13. Payments under regional assistance programmes
- (a) Eligibility for such payments shall be limited to producers in disadvantaged regions. Each such region must be a clearly designated contiguous geographical area with a definable economic and administrative identity, considered as disadvantaged on the basis of neutral and objective criteria clearly spelt out in law or regulation and indicating that the region's difficulties arise out of more than temporary circumstances.
- (b) The amount of such payments in any given year shall not be related to, or based on, the type or volume of production (including livestock units) undertaken by the producer in any year after the base period other than to reduce that production.
- (c) The amount of such payments in any given year shall not be related to, or based on, the prices, domestic or international, applying to any production undertaken in any year after the base period.
- (d) Payments shall be available only to producers in eligible regions, but generally available to all producers within such regions.
- (e) Where related to production factors, payments shall be made at a degressive rate above a threshold level of the factor concerned.
- (f) The payments shall be limited to the extra costs or loss of income involved in undertaking agricultural production in the prescribed area.

**Annex II.****Comparisons of Various Measures: Animal Welfare**

<b>Measure</b>	<b>Domestic production</b>	<b>Imports</b>	<b>Prices</b>	<b>Average PPM Standard (Domestic vs Foreign)</b>	<b>Implementation issues</b>
<b>Labelling</b>					
for products meeting EU minimum standards	Little effect	Likely to be little effect	At most small increase	D: no change F: moderate or considerable improvement	Assessing conformity of standards in exporting countries  Rules for labelling of processed products
for higher standards (e.g. point system)	Little effect	Likely to be little effect	At most small increase	D: little or moderate improvement F: moderate or considerable improvement	Same as above
<b>Tariffs</b>					
Higher tariffs for products not meeting EU standards	Small increase	Small decrease	Small increase	D: no change F: Considerable improvement	Determining level  Collection measures (at border)  Need to negotiate unbinding of rates
Lower tariffs for products meeting EU standards	Small decrease	Small increase	Small decrease	D: little or no change F: Considerable improvement	Determining level  Collection measures (at border)
<b>Taxes</b>					
Tax increases of larger amounts for products with lower standards	Decrease	Decrease	Increase	D: Considerable improvement F: Considerable improvement	Need new special excise tax  Preferably for all of EU  Designing consistent incentives for all segments including foreign and organic
Tax decreases or rebates of larger amounts for products with higher standards	Increase	Increase	Decrease	Same	As above plus  - increase in public spending of undetermined duration (subsidy)

Source: Eaton *et al.*, 2005.

**Annex III.**

**A Conceptual Framework for the Analysis of PPMs,  
Environmental Impacts, PPM-Based Trade Measures**



**Annex Table III.1. Conceptual framework**  
(based on a classification of PPMs according to their environmental effect)

	Category A	Category B			
		B-1	B-2	B-3	B-4
<b>Environmental externality</b>	<b>Consumption externality*</b>	<b>Production externality**</b>			
<b>PPM requirement</b>	<i>Product-related</i> - PPM which affects product characteristics - TBT and SPS Agreements cover this category	<i>Non-product related</i> - PPM which does not affect product characteristics Outside the scope of TBT and SPS			
<b>Environmental effect</b>	National***	Trans-boundary pollution	Migratory species and shared living resources	Global concerns	National
	Imported products pollute or affect domestic human and animal health and the environment. (e.g. plant pests, hazardous wastes and chemicals, pine nematode infested timber)	The environmental effect is transmitted to other jurisdictions or areas beyond national jurisdiction (e.g. transmitted air, water or land pollution)	The environmental effect involves more than one jurisdiction or areas beyond national jurisdiction. (e.g. conservation and management of migratory animals, birds and fish and other shared living resources)	The environmental effect has global consequences (e.g. depletion of the ozone layer, climate change, harm to biodiversity, effects on threatened or endangered species)	The environmental effect is limited to the country using the PPM.
<b>Harmonisation of PPM requirement</b>	<i>National</i> -International requirements are desirable. Countries may deviate, under certain conditions, from such requirements. <i>Trans-boundary and global</i> -Harmonisation is desirable to the extent possible.	<i>Trans-boundary and global</i> -Harmonisation could be relevant.			<i>National</i> -Harmonisation is highly problematic and may be undesirable.
<b>Trade policy aspects</b>	-The trade-restrictive measures would represent enforcement of national product requirements. -GATT rules require equal (non-discriminatory) treatment and transparency.	-Trade measures designed to impose PPM requirements used in importing country on exporting country may have extra-jurisdictional effects. -Multilateral environmental agreements may identify trade measures as an appropriate tool under certain circumstances.			A country can take the primary responsibility for setting any PPM requirement within its jurisdiction through non-trade policy measures
<b>- Like-product issue</b>	Product differentiation based on product requirements is allowed within multilateral trading rules.	Objective methods for product differentiation based on criteria which are not physically embodied in the products have yet to be developed. Method might include examination of whether implemented or proposed measures/requirements are transparent, predictable, feasible or are disguised restrictions on trade.			

\* Consumption externality: environmental impact is transmitted by traded products \*\* Production externality: environmental impact is not transmitted by traded products

\*\*\* This may sometimes link to trans-boundary or global environmental issues.

Source: OECD, 1997a.

**Annex Table III.2. Analysis of PPM-based trade measures**  
(motivation, feasibility, effectiveness, efficiency and alternatives)

	CATEGORY A PPMs whose environmental impact is transmitted by traded products	CATEGORY B PPMs whose environmental impact is not transmitted by traded products			
		B-1 Trans-boundary pollution*	B-2 Migratory species and shared living resources	B-3 Global concerns	B-4 Environmental and other effects limited to the territory of the country applying the PPM requirements
<b>Motivation**</b>	-Environmental: protection of domestic environment -Health considerations -Competitiveness	-Environmental -Competitiveness	-Environmental -Value-based	-Environmental -Competitiveness	- Environmental and value-based motivations often closely interconnected - Competitiveness
<b>Feasibility</b> Consideration should be given to technical, economic and legal feasibility of differentiating products on PPM requirements	Product differentiation based on physical characteristics is allowed within multi-lateral trading rules	Objective methods for product differentiation based on characteristics that are not embodied in the products are difficult technically and economically. Differentiation should not result in trade protection. Such methods have not yet been developed. Certification is necessary.			
<b>Effectiveness</b>	PPM-based trade measures can be needed for the effective enforcement of national product requirements	PPM-based trade measures not effective: trade is not a root cause of the environmental damage	-MEAs particularly effective for these categories -PPM-based trade measures effective when trade itself impedes the agreement's effectiveness in achieving the environmental goal (e.g. CITES, Montreal Protocol)	From an environmental point of view, PPM-based trade measures are not required	
<b>Efficiency</b> The relative efficiency of the PPM-based measures will depend on the costs of their use compared with the costs of other policy options considered to be equally feasible and effective	GATT rules require transparency and non-discriminatory treatment	No trade related measures of this type have been used or proposed	-Trade measures implemented to impose domestic PPM requirements on another country may have extra-jurisdictional effects -MEAs may identify trade measures as an appropriate tool under certain circumstances -The treatment of non-parties of an MEA is an issue to be examined further with respect to achieving the objectives of the MEA	A country can take the primary responsibility for setting any PPM requirements within its jurisdiction through non-trade policy measures. Trade measures are difficult to justify to address competitiveness concerns	

THE TRADE AND TRADE POLICY IMPLICATIONS OF DIFFERENT POLICY RESPONSES TO SOCIETAL CONCERNS

	<b>CATEGORY A</b> <b>PPMs whose environmental impact is transmitted by traded products</b>	<b>CATEGORY B</b> <b>PPMs whose environmental impact is not transmitted by traded products</b>			
		<b>B-1</b> <b>Trans-boundary pollution*</b>	<b>B-2</b> <b>Migratory species and shared living resources</b>	<b>B-3</b> <b>Global concerns</b>	<b>B-4</b> <b>Environmental and other effects limited to the territory of the country applying the PPM requirements</b>
<b>Alternatives</b>  - should be explored in light of the possible drawbacks of PPM-based trade measures under the feasibility, effectiveness and efficiency criteria  - Could include harmonisation/mutual recognition of PPMs, economic instruments, financial and technical assistance, labelling, trade incentives and reliance on domestic measures	- Harmonisation is desirable to the extent possible - Countries may deviate, under certain conditions, from international requirements	-Harmonisation or mutual recognition could be relevant			- Harmonisation is highly problematic and may be undesirable
	- Economic instruments - Labelling - Financial and technical assistance - Environmental trade preferences	- Assist through clean-up funds or technology for the prevention of environmental damage at source - Liability and compensation mechanism ***	- Certification and labelling (giving due consideration to foreign country circumstances and interests)	- Financial and technical assistance - Economic instruments - Labelling	- Financial and technical assistance - Voluntary eco-labels - Phased-in regulations - Environmental subsidies - Environmental trade preferences

\* *There is no experience with PPM-based trade measures in this category.*

\*\* *Differing approach as to risk acceptance or environmental precaution may lead to differing perceptions of motivation.*

\*\*\* *See Principles 2 and 13 of the Rio Declaration.*

Source: OECD, 1997a

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