

Process and Production Methods (PPMs) – Implications for Developing Countries

Executive Summary

In the context of trade and environment relationship, process and production methods (PPMs) have become one of the most debated sets of words in trade law history. The relationship has been made complex since the first Tuna-Dolphin panel declared that production method based distinctions were not allowed under the GATT. The panel held that a country cannot discriminate against imports on the basis of the way in which they are produced.

A PPM is the way in which a product is made and natural resources are harvested. Traditionally attention has been focused on the product standards issues, but now PPM standards are being addressed increasingly. From the environmental viewpoint both product standards as well as PPM standards are important because many a times environmental problems are associated with the production process than with the product itself.

PPMs as non-tariff trade barriers: However, many developing countries are worried about possibility of PPMs, becoming non-tariff trade barriers. Exporters of developing countries are apprehensive that their products may be denied access or they may have to incur high adjustment costs in order to maintain access to overseas markets. Allowing PPM based trade practices would give many countries greater opportunity to protect their industries unfairly against foreign competition. Under the pretext of environmental concerns some countries might penalise other countries which do not import certain goods from their domestic industry by enacting new regulations.

In this regard the US shrimp-turtle case is of great significance for internationally traded products, which like shrimp, might be subject to environmental standards. The WTO Appellate Body report in the case represents a significant advance in the WTO's examination of the interaction between WTO trade rules and domestic trade measures taken on environmental grounds. The implications of the case have been briefly discusses in this briefing paper.

Imposing environmental standards on other nations: Some countries could also take unilateral actions motivated mainly by economic considerations. Also there are concerns that one or several nations could use their superior commercial power to impose their environmental standards on other nations without their consent or participation in the development of such standards.

Similarly the argument of value based PPMs is also controversial, in which PPMs that conflict with strong values or moral preferences are targeted. In these cases frictions are bound to arise when PPM requirements are derived from values that may not be universally accepted. Powerful countries will be able to indulge their "values" but weaker ones are less likely to be able to do so.

This is not to say that environmental concerns are not important but environmentally based PPM measures can become helpful only if they are used as a means to set higher standards and are supplemented with financial and technical assistance to developing countries. However using PPM measures, as trade barriers could never become an effective or appropriate move in dealing with environmental problems.

Pros and cons of PPMs as a trade issue: This briefing paper examines the pros and cons of PPMs as a trade issue. In fact most of the environmental problems are intrinsically local and their effects do not get transferred to importing countries through products. Hence there is little justification for applying PPMs standards to imported products.

BRIEFING PAPER

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Introduction

Sustainable development is a larger issue which incorporates efficient allocation of world's resources, actions to protect environment, creation of additional wealth for environmental protection in developing countries, poverty alleviation, and so on. Relationship between trade and sustainable development largely depends on environmental and macro-economical policies.

Environmental policies are enacted to ensure that economic actors comply with international, regional or national environmental standards. In this regard, process and production method (PPM) based measures have been suggested as a possible tool to promote environmental sustainability. However, in many cases PPMs based environmental standards are used to create trade barriers and developing countries are denied market access.

Before getting into detailed discussion it is important to understand these environmental standards briefly. There are many types of environmental standards at the different stages of life cycle of products. These standards include:

- **Ambient standards**, which set allowable pollution levels for air, water and soil;
- **Emission standards**, which set maximum levels of pollution to be discharged;
- **Product standards** that specify the physical and chemical properties of a product, and;
- **Process and production method standards** that prescribe which production processes and technologies are allowed.

The two important standards relevant to our discussion are product standards, and process and production method (PPM) standards. Product standards specify the environmental characteristics of the product that are deemed necessary to avoid environmental harm from the use or disposal of products. These standards include packaging rules, sanitary requirements, energy efficiency, vehicle exhaust emission standards and recyclability etc.

For example, chlorofluorocarbons (CFCs) have been banned from use in aerosols because they destroy the stratospheric ozone layer. Similarly certain pesticides have been banned as their use poses serious environmental and health hazards. Product standards are frequently used to protect human health.

Process and production method standards regulate how goods must be produced. These standards also prescribe norms for methods to be used in the production process based on what kinds of impact it may have on the environment. Standards based on process and production methods assume significance in international trade that they completely lack at the domestic level. Each country can set its own standards for acceptable levels of emission and pollution during the production of goods. Applied to traded goods, they amount to the regulating country setting standards on economic activities in the country of production. Process standards often spell out health, safety and cleanliness standards to be adopted during manufacturing of a product.

A product goes through a number of stages during its life cycle, and therefore a number of PPMs. Paper, for instance, can be produced by two methods, first by recycling processes using post-consumer waste. The

alternative route is to grow and harvest trees, followed by processing and bleaching of wood pulp and other processes. The processes are all together different and have different environmental impacts.

An important technical distinction, which is relevant for the discussion is the difference between a product related PPM and a non-product related PPM.

Product and non-product related PPMs

The distinction between product related PPMs and non-product related PPMs is important, since these two are given entirely different treatment under international trade law. The distinction between the two is based on PPM's affects on the characteristics of final product.

In *non product related* PPMs, different environmental impact is caused by the way a product is produced and not by the product itself. Take for example, two copies of a book. One is printed on recycled paper and the other on virgin paper. As explained above these two involve different PPMs. But the important factor is that, whether the final print of book has different qualities that may cause it to be treated differently in its use, handling or disposal. If the utility of book printed on recycled paper is same as that of the book on virgin paper and there is no difference in handling and disposal, then the process is a *non-product related PPM*. It has a negligible impact on the final product. Also in these type of cases one should accept the methodology of measuring environmental impacts during the full life cycle of a product, For example recycled newspaper uses a lot of energy and could be worse than virgin fibre.

In other cases, the way a product is produced affects its final characteristics and can cause harm to environment and human health in the importing country. These PPMs where, environmental damage is caused by the product itself or by its physical constituents are known as '*product related PPMs*'.

For example if we consider two mangoes, one produced organically and the other produced with the use of pesticides. Here, again we are with two very different PPMs, but the difference in PPMs will cause us to handle and use the products differently as the second mango may have remains of pesticides on its surface. These pesticides might also be hazardous to health as well as environment and hence authorities of importing countries would like to check the residue amounts of chemicals on the product to meet health regulations. Since different PPMs in the above case make a difference to the final product they would be treated as *product related PPMs*.

PPMs and international trading rules

According to GATT's most favoured nation (MFN) status, trade must be conducted on the basis of non-discrimination between countries. "Like products" must be taxed the same way and placed under similar entry conditions. The GATT used the concept of "Like products" to create an identity between imported and locally produced goods. The usual context in which environmental laws came to be questioned were GATT Articles I, III, XI and XX.

- Article I, which codifies MFN principle, *inter alia* states that "any advantage, favour, privilege or immunity granted by any contracting party to any other country shall be accorded immediately and unconditionally to the like product originating in or destined for the

territories of all other contracting parties”.

- Article III calls for national treatment on internal taxation and regulation between imported and domestic products so as not to afford protection to domestic production.
- Article XI calls for the “general elimination of quantitative restrictions”.
- Article XX entitled ‘General exceptions’ allows states, subject to certain conditions, to depart from GATT obligations to serve legitimate policy objectives, which includes *inter alia* measures necessary to protect human animal or plant life or health and the conservation of exhaustible natural resources.

The Tokyo Agreement (1979) on Technical Barriers to Trade (TBT) did not cover PPMs. However, technical standards and regulations in the Uruguay Round’s TBT Agreement do cover ‘product characteristics and their related processes and production methods’. But the term is limited to coverage of PPMs that are characterised in the final product.

The trade law does not question the right of countries to discriminate on the basis of product-related PPMs. WTO rules recognise the legitimacy of import restrictions to enforce product requirements related to characteristics of a product or related PPMs that affect the characteristics of the product (product related PPMs). Such PPMs requirements are covered by WTO agreements on TBT and on Sanitary and Phytosanitary (SPS) Measures.

In fact the SPS Agreement also, requires members to ensure that any Sanitary or Phytosanitary Measure is applied only to the extent necessary to protect human, animal or plant life or health. It should also be based on

scientific principles and should not be maintained without scientific evidence.

The rule that imported and domestic ‘like products’ should be treated equally under national trade policy, regardless of how they were produced, is considered by many to be fundamental to the effective functioning of the trade system. Yet discriminating among products on the basis of how they were produced is at the heart of much domestic environmental regulations. A further problem is the accepted methodology for measuring all environmental impacts during the full life cycle

In 1992, Austria announced a mandatory label for tropical timber and tropical timber products, which was opposed by Association of South East Asian Countries (ASEAN). It was intended that all commercial timber would bear a label displaying the inscription ‘made from tropical timber’ or ‘contains tropical timber’. The ASEAN countries however, argued strongly that the label requirement were inconsistent with the provisions of GATT, as the regulations did not apply to other types of wood, which were ‘like products’.

Similarly the ‘like product’ issue was also very important to the decisions made in tuna-dolphin cases. The US ban on Mexican tuna caught with dolphin killing purse seine nets is a good example of process-based trade ban. Key questions, which were attempted in the case, are:

- Can one country tell another what its environmental regulations should be?
- Do trade rules permit action to be taken against the *method* used to produce goods (rather than the quality of the goods themselves)?

Box 1: The Tuna-Dolphin Dispute

This case was handled under the old GATT dispute settlement procedure, however it still attracts a lot of attention because of its implications for environmental disputes. In 1988, a California based environmental group, Earth Island Institute, sued to enforce the congressional mandate under US Mammal Protection Act (MMPA). The group was of the opinion that fishermen in violation of the law were killing the dolphins in the eastern tropical Pacific Ocean, where the tuna swim together with dolphins.

The MMPA, enacted in 1972, required the US government to curtail the incidental killing of marine mammals by commercial fishermen. In addition to imposing limits on US fishermen, the MMPA required the secretary of commerce either to certify that foreign governments were taking steps to prevent the killing of marine mammals or else to prohibit the importation of tuna products from the offending countries.

The federal court in the case agreed that the administration was not upholding the law and ordered

Mexican tuna imports banned from the United States. Interestingly, at the time the ban was imposed, the US tuna fleet had largely abandoned fishing in this part of the Pacific Ocean, so the dolphin protection provisions of the MMPA did not apply to them.

Mexico argued that its right to sell tuna in the US had been violated, and asked for a GATT dispute settlement panel to adjudicate the matter. In September 1991, the GATT panel concluded that the US was in violation of its GATT obligations. Specifically the panel found that:

- The US ban violated GATT Article III’s national treatment requirement, which preempts trade measures based on production practices.
- The US kill-ratio standard was inappropriate because it was retroactively determined based on the number of dolphins killed by American fishermen in any given year and thus uncertain until after the fact.
- The US ban could not be justified

under GATT Article XX(b) for action necessary to protect human or animal life or Article XX(g) for the conservation of exhaustible natural resources and that these exceptions could not be applied unilaterally or extrajurisdictionally.

- The US was justified in using its “dolphin safe” tuna labeling programme because the programme had no discriminatory effects.

However, Mexico decided not to pursue the case further and the panel report was never adopted even though some of the “intermediary” countries pressed for its adoption. Mexico and the United States decided to have bilateral consultations aimed at reaching agreement outside GATT. Hence technically the case has no value as a binding GATT precedent, but it is seen as indicative of GATT decision making priorities and has provoked heated debates over GATT resolution of trade and environmental conflicts.

Box 2: The Shrimp-Turtle Case

In January 1997, India, Malaysia, Thailand and Pakistan took the United States to the WTO's dispute settlement panel arguing that the US import ban of shrimp and shrimp products pursuant to Section 609 of US Public Law 101-162 was in violation of WTO obligations. The US, in 1996, had imposed a unilateral ban on shrimp and shrimp products from countries which did not meet the required criteria under its national law.

The US Congress passed section 609 in 1989 to prohibit the import of shrimp from countries, which were harvested in a way harmful to sea turtles. According to this law the US State Department was asked to certify nations that had a sea turtle protection programme comparable to that of the US. The certification process also demanded that turtle kills of exporting countries not exceed the turtle kills of the US fisherfolk, and recommended that fisherfolk use turtle excluder devices (TEDs) to minimise turtle kills.

The object of the US legislation was two-fold. First as declared by its sponsors, the legislation attempted to "level the playing field" between US shrimpers who were subject to the costs of complying with US environmental regulations and foreign shrimpers who were not. Second, for environmentalists the legislation pressures foreign governments to change their domestic regulations to protect endangered sea turtles from commercial shrimping practices if they wish to sell shrimp products in the US market.

The rulings of the WTO's dispute settlement panel in case were against the US but later on their intensity was diluted. In April 1998, the panel held that the US import ban on shrimp and shrimp products "were clearly a threat to the multilateral trading system" and consequently were "not within the scope of measures permitted under the chapeau of Article XX". On October 12, 1998 the WTO Appellate Body overruled the initial panel in its reasoning, but not in its result.

The Appellate body found seven flaws in the US's application of section 609:

1. The US requirement that all exporting members adopt essentially the same policy as that applied in the US had an unjustifiable "coercive effect" on policy decisions made by foreign governments.
2. The US did not assure that its policies were appropriate for the specific local and regional "conditions prevailing" in other countries.
3. Even where shrimps were caught using US-prescribed methods, the US still prohibited their importation if they were caught in countries not requiring the use of TEDs.
4. The US did not seriously attempt to reach a multilateral solution.
5. The US discriminated among WTO members by applying different "phase-in" periods during which they must require shrimp trawlers to use TEDs.
6. The US made far greater efforts to transfer the required TED technology to countries in the Caribbean/western Atlantic region

"than to other exporting countries, including the appellants".

7. The application of the US measure was "arbitrary" in that the certification process is not "transparent" or "predictable", and does not provide any "formal opportunity for an applicant country to be heard or to respond to any arguments that may be made against it."

Judicially the Appellate body did not criticise the US Congress but rather the US implementing agency, the Department of State, which drafted the applicable guidelines. The body held that the US ban was discriminatory only in the manner in which it had been imposed, and reversed the dispute panel's ruling that the action was not justified under article XX of the General Agreement on Tariffs and Trade (GATT).

The important implication of this case was however unexpressed in the Appellate body's report. The body in a way accepted that shrimps could be differentiated on the basis of the process in which they are caught. This differentiation between 'caught in aquaculture', 'caught in wild' and 'caught in boats equipped with TEDs' opened the doors to new trade disputes based on processes or production methods.

For the petitioners it is a pyrrhic victory. The final implication of the ruling in terms of its endorsement of unilateral, extra-jurisdictional action, which allows countries to differentiate on the basis of PPMs, is a bitter pill to swallow.

When the dispute came before a GATT panel, the panel ruled that the rules of GATT, which allow national product standards to be imposed on imported goods, did not apply in this case because it was the process by which the tuna was produced, rather than the tuna itself, which was being rejected (See box #1).

Setting high standards or acting as non-tariff barriers

The multilateral trading system is sometimes criticised because it does not distinguish between products produced in a sustainable manner and those produced in unsustainable manner. For environmentalists, production method is one of the three central questions: How a product is made, how is it used and how is it disposed of. From an environmental viewpoint, controlling the production process becomes an increasingly important element and it makes sense to discriminate at

the border between otherwise like goods that were produced in different ways.

In practice, however, enforcement by one country of its own PPM standards and regulations on products imported from another country, is an inappropriate and inequitable way of achieving sustainable development, particularly if the latter country is an economically weaker partner. Many countries, at times use PPMs standards as trade barriers and deny market access to products from developing countries.

The US shrimp-turtle case is of great significance for internationally traded products, which like shrimp, might be subject to environmental standards. The WTO Appellate Body report in the case represents a significant advance in the WTO's examination of the interaction between WTO trade rules and domestic trade measures taken on environmental grounds.

The Appellate Body found the US measures unjustifiable and stressed the need for WTO members to seek multilateral solutions to environmental challenges before resorting to unilateral actions (See box #2).

Unilateral trade measures aimed at changing the environmental policies and practices of other countries are in fact, in many cases motivated by the perception that high domestic environmental requirements put domestic industry at a competitive disadvantage in international markets. This is despite the fact that most economic studies suggests that there is no specific link between the level of environmental regulation adopted by a country and its economic performance in terms of competitiveness of its industry. Hence it makes little sense to implement trade measures in form of bans or eco-duties in an attempt to equalise production costs across borders.

One of the propositions made in Agenda 21 of UNCED is "Countries should not use trade measures to offset differences in costs which arise from differences in environmental standards and regulations". In fact as the other proposition says the developed countries should consider the limited capabilities of developing countries to apply standards that exist in developed countries.

Effectiveness of the use of PPM based trade measures, as a tool to achieve environmental objectives can be questioned on many grounds. Some of the practical difficulties are:

1. *Trade protectionism*: These practices would give many countries greater opportunity to protect their industries unfairly against foreign competition. Under the pretext of environmental concerns some countries might penalise other countries which do not import certain goods from their domestic industry by enacting new regulations. Many countries would take unilateral actions mainly motivated by economic considerations.
2. There is concern that one or several nations could use their superior commercial power to impose their environmental standards on other nations without their consent or participation in the development of such standards. For instance, compared to what harm the US, as a nation is doing to another global shared resource, the climate and atmosphere, what nations like India, Pakistan or Thailand are doing to the marine turtle is a contemptuously small problem. The important thing to be noted is that of course it is important to save sea turtles, but can the countries like Bangladesh and Maldives, which are likely to be most affected by global warming, impose trade sanction on the US and expect it to be effective?
3. Similar is the argument of value based PPMs, in which PPMs that conflict with strong values or moral preferences are targeted. In these cases frictions are bound to arise when PPM requirements are derived from values that may not be universally accepted. Powerful countries will be able to indulge their "values" but weaker ones are less likely to be able to do so.
4. The technical impracticability of identifying and monitoring the processes used to produce traded products is a major obstacle to the use of PPM based trade restrictions. It is particularly important in non product related PPMs, wherein PPMs do not affect physical characteristics of a product. It is practically impossible to detect most of the PPMs in the product itself, with the available technologies. This may lead implementing countries to impose restrictions on

broader categories of products, then those affected by the regulated PPM.

5. i) Developing country enterprises lack the skills and technology, required for exploiting the positive trading opportunities generated by environmental measures.
ii) Also their exports are more vulnerable to market access barriers on account of their scale and sectoral composition. For example India's tea exports have been affected due to pesticide concerns of developed countries. In spite of Indian exporters adhering to maximum pesticide residue standards as per US Environment Protection Agency's (EPA) recommendations, some European countries impose stricter limits.
6. Even if in certain industries, environmental conditions improve because of process standards requirements there are two sets of concern:
 - i) The standards thus imposed might be environmentally inappropriate for other countries with different geographic locations. A country where, for instance, water scarcity is a major issue might enact laws discriminating against products produced in ways that consume more water or waste it. This action would force exporters in water-rich countries to follow standards that are not relevant to their local environmental conditions.
 - ii) The other concern is based on a related argument from some developing countries that argue that their social priorities differ from those of developed countries. Some of them, for instance, might be more concerned about clean water as an environmental issue than with global warming. Or they may be more concerned about education, health care and infrastructure than about any environmental issue.
7. Some of the developing countries also argue that the developed countries became rich by exploiting natural resources in unsustainable manner in the past. Now since they have become wealthy, they are capable of maintaining high environmental standards and so are talking in the tune. It is sanctimonious to forbid developing countries to follow the path, which they themselves have followed. And in fact if they are really sincere in their efforts, they should provide technical and financial assistance to the developing countries to bring about environmental improvements, before creating any restrictions.
8. On the contrary, some trade experts have raised the point that in the name of clean production processes many developed countries are trying to sell their equipments (to control pollution) or technology which is available with them and for which the domestic markets are saturated. They are trying to create new markets in developing countries for these technologies by means of trade restrictions
9. There are some concern about PPM-based criteria in the context of voluntary mechanisms such as international standards for environmental management systems (EMS) and eco-labelling. Cost and lack of awareness generally hobble small companies from developing countries, and they find it very difficult to install an EMS and obtain certification. Some developed countries are also enacting laws and regulations on packaging, recycled content provisions, and deposit refund provisions. For example if an empty beer bottle cannot be recycled, then the product must be sent back.

These policies are clearly advantageous to local producers.

10. Many developing countries worry that if special criteria are developed to allow discrimination on the basis of PPMs, it could be viewed as a precedent that would result in call for the WTO to also establish similar criteria for social programmes, labour standards, human rights etc., all of which might be said to be consistent with the concept of sustainable development.
11. Then there is the sovereignty argument. If the environmental externalities are limited to the exporting countries, with their effect not being transferred to the importing country via the product, then it is really in the purview of the exporting, not the importing country. However, this argument weakens if the environmental damage in question has transboundary effects.

Conclusions

We all support that environmental degradation should be avoided at all stages in the life cycle of a product. For this purpose environmentally based PPM measures can become helpful provided they are used as a means to set high standards and are supplemented with financial and technical assistance to developing countries. However using PPM measures, as trade barriers would never be an effective or appropriate move in dealing with environmental problems.

Moreover, in most of the cases, PPM based restrictions are intended to control environmental effects caused during production. The importing country will in no way be affected by PPMs used in exporting country as long as there are no transboundary pollution effects. It makes little sense for importing countries to implement process standards, as it would not help in protecting domestic environment.

While dealing with intrinsically domestic environmental problems each country should be allowed to set standards according to its own priorities and,

environmental and developmental conditions. It is unfair for developed countries to discriminate against developing countries' exports based on environmental issues that are not high on their agendas, forcing them to either adopt rich country environmental priorities or suffer a loss of lucrative exports. Also as mentioned in Agenda 21, developed countries should consider the limited capabilities of developing countries to apply standards that exist in developed countries. In fact transfer of environmentally sound technologies should be encouraged to developing countries in order to build capacities.

Even if in certain multilateral environmental agreements where global environmental objectives are being promoted, and where there are transboundary or global environmental impacts, PPM related measures in practice may not be feasible to implement. In the Montreal Protocol, for instance, it has not been considered practical to include products that are made with but do not contain CFCs.

The ruling in the shrimp-turtle dispute also raises difficult questions concerning the application of trade rules to product and process related standards. The Appellate Body appeared to suggest that it was not the extraterritorial application of US environmental standards that violated WTO rules in this case, but the arbitrary manner in which the US law was applied.

Some environmentalists are of the view that it is entirely appropriate to extend WTO rules beyond product characteristics and into production processes. But then many issues will be raised including those of labour standards, human rights and social programs. Hence trade restrictions are not going to help to solve the problem. Emphasis is to be given on building institutional capacity to integrate trade and environment policies within the framework of national policies for sustainable development. Rio Declaration and Agenda 21 can guide the international cooperation aiming at accelerating development, improving market access and open trading system.

Recommendations

- **PPM based measures should be used to set higher standards and should not be allowed to act as trade barriers.**
- **International cooperation for striking a balance between environmental and trade concerns should be encouraged as per the statements made in Rio Declaration and Agenda 21.**
- **Financial and technical assistance should be provided to developing countries, and transfer of environmentally sound technology should be ensured.**
- **Developed countries should not give undue protection to domestic industry and should encourage import of environmentally friendly products, from developing countries by giving special incentives.**
- **Rich countries should pay for consuming the environmental space, reduce their over-consumption and encourage, without compulsion, evolution of higher environmental standards in developing countries.**

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