

“A theoretical framework for analysis of the relationship between processes of globalization and environmental governance”*

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1. Introduction

Globalization can be defined as a process of increasingly widening and deepening of the integration of goods, services, ideas, culture, communication and problems on a worldwide scale. A wide range of environmental concerns have been altered or exacerbated as a result of this process, due particularly to the changing scale, structure, technological and resource base of economic activities. Since 1980, world trade, world investment and the number of non-equity technology transfers and/or cross-border associations have all increased at a faster rate than the world GNP (Dunning, 1997). Despite the debate about the concept of ‘globalization’ and what it refers to, this economic dimension can be seen as its most visible manifestation and perhaps, the one most likely to affect environmental resources and the way society manages those resources. For this reason, this paper will focus on the economic dimension of globalization.

The forces behind economic globalization are from two sides: the pressure of business and the adoption of market-oriented policies by governments around the world. Corporations are increasingly compelled to innovate, search for wider markets, focus on their core competencies and therefore obliged to combine these competencies with those of other firms (Dunning, 1997). At the same time, governments around the world are turning to, extending or deepening reforms towards market-oriented economies that facilitate and support the expansion of business, access to new markets, technologies and sources of finance. These two forces combined with the changing structure of markets, technological innovation and the information revolution are all leaning towards increased international competitiveness. Therefore, at the center of economic globalization are concerns over competition and competitiveness. The pressure of competition has put economic concerns at the forefront of government policies and business strategies, often at the expense of social and environmental considerations.

Finally, a borderless global economy provides the consumers markets with a wider range of choice and the production market with an ever-extended access to production factors across countries. As a direct consequence of industrialization and rising income, materialist concerns have been fuelled in growing cities and consumption among middle classes has been raised.

Looking at the forces behind globalization, there are no indications of reversibility of the process (a return to systematic regulation and restrictive policies), at least in the short and medium term. Governments, businesses and consumers alike are still committed to business expansion.

Economic globalization is driven by the pursuit of economic growth and environmental degradation is inherent in the pursuit of economic growth. As economic growth proceeds, environmental changes take place and new environmental problems are added (Douglas E Booth, 1998). However, economic growth is seen as profitable in the eyes of most segments of societies and the reduction of growth can certainly not be thought of in a capitalist

system, which has become the dominant form of economic organization. Even among the developing areas, globalization has fostered a process of rapid economic growth, which in the case of some Asian countries generated a doubling of per capita incomes almost every seven years.

This being so, there is a clear perception that the current scale of economic expansion will not lead to sustainable development. It is therefore necessary to think of how processes of economic globalization can be monitored in order to prevent and minimize negative environmental effects.

It is assumed that resistance to economic globalization, if any, will certainly not mean resistance to the forces of economic growth per se, but to their environmentally-negative impacts, in the form of public and private interventions to correct market and policy failures arising out of the process of globalization.

The perception different people and countries have about globalization will shape their responses. There are views that globalization will intensify resource depletion and risks of environmental degradation. Others have a more optimistic view that globalization will make possible a more efficient use of resources and generate new ideas, technologies and resources to address environmental problems.

The impact globalization will have on the environment and how societies respond to globalization-led environmental challenges is likely to differ depending on the capability of the various stakeholders to adopt the right strategies to combine business expansion with environmental quality. Such a capability is likely to be different across countries and regions.

From the perspective of environmental governance, a range of changes in the institutions, actors and instruments of governance are likely to be brought about as a result of economic globalization and its environmental consequences. This paper is an effort at setting a framework for analyzing processes of globalization and their relationship with environmental governance. For that purpose several questions are raised:

How economic globalization may create, exacerbate or otherwise contribute to the resolution of environment problems? What market and policy failures may result from globalization? How environmental governance systems have been affected or are likely to be affected as a result of globalization processes? How are environmental governance institutions and mechanisms responding to globalization processes?

2. Critical environmental issues in relation to globalization

Environmental problems vary across regions and countries, sectors and industries. Whatever impact globalization processes may have on the environment, it is not likely to be the same in countries under different ecological, economic and social conditions. Some of the current or future environmental problems may be caused or exacerbated as a result of globalization processes. Others are not directly related to globalization in its economic dimension, but find their cause in social systems and behavior, poverty, inefficient formulation and

implementation of government policies. It is important to clearly identify those environmental problems that may have their root cause in the expansion of international trade and investment to make it easier to understand the relationship between economic globalization and environmental quality and in order to design effective response strategies.

In Asia, for example, the environmental problems are the result of the combination of high population density and growth, rapid industrialization and urbanization and poverty (ESCAP, 1995). These factors have caused an overexploitation of the region's resource base, accelerated environmental degradation, and substantial increase in pollution.

The environmental issues that seem to be directly related to processes of economic globalization are likely to include air and water pollution, the depletion of natural and animal resources, deforestation, land degradation, the international movement and exchange of dangerous and hazardous goods, and international trade of endangered species. The issues are to varying extent direct results of the expansion of economic activities involving some cost to the environment.

3. The significance of globalization for environmental governance

The concern of environmental governance over globalization lies in the revealed or possible impact globalization is likely to have on the natural environment. The way in which globalization processes will impact the environment will determine the way society responds to environmental problems.

Factors that make globalization likely to impact the environment in a more significant way than any other thing lies in the widening of markets opened to globalization processes, the increasing number of firms involved in, and the expansion of the resource/product base of economic activities. The combination of these factors is no doubt increasing the pressure on natural resources and the stress on the environment from the global level to the lowest level of communities. International trade and investment are particularly being identified as having a strong potential for both environmental degradation and environmental quality improvement.

How trade and trade liberalization affect the environment depends on the product effects, the scale effects, the structural effects and the regulatory effects resulting therefrom. These effects have respectively both positive and negative contribution to environmental quality (OECD, 1994).

There is a perception that freer international trade and investment is associated with increased depletion of natural resources, greater potential for international movement and exchange of dangerous and hazardous goods and international trade of endangered species.

As globalization intensifies international competition, industries as well as countries are pushed to focus on the production and trade of specific goods, raw materials, and services. This leads to overexploitation or

unsustainable management of resources. In Asia, for example, excessive cutting of forest for timber and agriculture both for commercial reason, are two major causes of deforestation (ESCAP, 1995). Excessive specialization in agricultural production is reducing genetic diversity in producing countries. In Indonesia, some 1500 varieties of rice have been lost between 1975-1990, and by 2005, most of Indian rice is expected to be produced from just 10 varieties compared with 30000 varieties traditionally cultivated (ESCAP, 1995).

It has been pointed out that international competition (induced by globalization) encourages over-investment and over-capacity. These in turn lead to an obsession for economic expansion in areas where there was already an existing over-supply of producers and declining rates of profitability (Beeson M, 1999).

Industrialization is another factor of concern. As a result of export-oriented industrialization strategies, both the total volume of pollutants and the pollution intensity of industrial output in Asia are expected to increase at least for the short and medium term (Carter and Ramesh, 1993). The expansion of international trade has been associated with an increase in the production of environmentally sensitive goods in many emerging economies. The share of Southeast Asian exports of pollution-intensive industries rose from 3 percent in 1970 to 8% in 1990 (Low and Yeats, 1992). In particular, manufacturing accounted for a large share of these countries' exports to world markets. It is estimated that "manufactures" account for about half the environmentally-sensitive goods (Adams, J., 1999a).

As environmental standards are rising in line with income levels, there are fears that globalization may provide opportunities for the migration of polluting industries to areas with lower environmental standards. So far, there has been little evidence supporting the pollution haven hypothesis (Xing and Kolstad, 1996, about U.S. chemical industry); most studies suggesting that low environmental standards or pollution abatement costs do not significantly influence the firms' location decision (Low and Yeats, 1992; Dasgupta, Mody and Sinha, 1995; Mani and Wheeler, 1997).

While the "pollution haven" hypothesis has found little empirical and statistical evidence, the risk exists that trade and investment liberalization, by allowing relocation of production (industrial migration) particularly in the developing countries may be used as a vehicle for shifting part of pollution-intensive products to developing countries. There are indications that in the absence of effective regulation and community pressure for environmental performance, foreign firms tend to perform poorly. This is particularly true in the poor areas where communities have low income and education level and where regulation is less effective, leading to "pollution zones" (See Zarsky, L. Havens, 1999 for a review of the literature).

Against this negative perception, there are views that the positive contribution of trade and investment to environmental performance will overbalance their negative effects. Agenda 21 adopted at the United Nations Conference on Environment and Development, Rio 1992 recognizes that "an open, multilateral trading system makes possible a more efficient allocation and use of resources and thereby contributes to an increase in production and incomes and to lessening demands on the environment". A large part of economic analysis

assumes that trade and trade liberalization will facilitate a more efficient use of resources in production and allow the flow of environmentally-friendly products and technologies.

A free and integrated trade and investment system can provide new opportunities for strengthening environmental governance systems in three ways. First, international trade and investment are the channel for many countries to access the products and technologies needed to protect the environment. There are views that instead of relocating polluting industries or taking advantage of weak regulation to use dirty technologies, multinationals will employ similar technologies across countries and therefore induce environmentally-positive technological spillover effects on host country plants (Johnstone N, 1999).

Second, trade and investment-led growth can generate resources allowing governments to raise their environmental expenditure, consumers to have access to a wider range of environmentally-friendly products and services, and businesses to develop innovative environmental strategies in order to maintain their international competitiveness. A large number of emerging economies, especially in the Asia-Pacific region, have achieved high growth rate in the recent years through greater participation in international trade and investment, allowing them to increase public environmental expenditure. High growth rates have generated higher income levels and living standards and, in some cases alleviated poverty, all factors contributing to greater awareness and concerns about environmental quality.

Finally, trade and investment regimes provide a forum for international regulation to offset the negative effects of economic globalization that might be beyond the reach of national governments. Several trading agreements have integrated environmental consideration in their objectives. At the multilateral level, the World Trade Organization (WTO) is developing substantive and procedural linkages between trade and environment. Regional trading arrangements are increasingly trying to integrate trade, investment and environmental policies.

For example, the North American Free Trade Agreement (NAFTA) explicitly outlaws the use of measures relaxing domestic health, safety or environmental standards as a means of encouraging foreign investment. NAFTA (Article 1114) even provides for a procedure of consultation in case a party considers that another party has offered an encouragement to investors by relaxing domestic health, safety or environmental measures. The 1998 framework agreement for the establishment of an investment area among the member countries of the Association of Southeast Asian Nations (ASEAN), which aims at a complete liberalization of foreign investment within and into ASEAN incorporates, as general exceptions (Article 13), the right for member countries to enforce measures necessary to protect human, animal, or plant life or health and safety.

The realization of the full environmental benefits that can be reaped from trade and investment may however depend on the capability of governments to prevent and correct market and policy failures. The ways in which environmental governance mechanisms are able to foster right interventions play a crucial role in this process.

4. Globalization, market and policy failures and environmental governance

Because business activities as well as government policies supporting globalization both tend to enhance market forces, a key issue is whether the market is able to generate the means of protecting the environment from negative effects of economic expansion.

Despite its possible contribution to environmental quality, economic globalization may cause a greater depletion of natural resources, rising level of pollution and, in some areas, an increase in the production of environmentally-sensitive goods. One may think that the more a country is globally involved as source or host country for trade and investment, the greater its environmental problems would be. There is however no evidence of a symmetric correlation between the extent to which a country is globally involved and the level of environmental degradation. Rather, there seems to be indications that the more countries are open to globalization forces (e.g. through trade and investment), the cleaner the industrial sector becomes (Birdsall and Wheeler, 1992). In both developed and developing countries, globalization has been associated with improved environmental quality when adequate policies have been designed to offset risks to the environment.

This points to the conclusion that the process of expansion of international trade and investment may not be the root cause of environmental problems. Factors such as market and intervention failures are often greater sources of environmental problems. Market failures occur when markets do not properly value and allocate environmental assets with the result that market prices for goods and services do not reflect their full environmental costs. Intervention failures occur when public policies fail to correct for, create or exacerbate market failures (OECD, 1994).

Environmental degradation may be a result of market failures associated with processes of economic globalization per se, and the lack of effective policy intervention. The United Nations Economic and Social Commission for Asia and the Pacific considers that the environmental crisis in Asia may be mainly a result of market and policy failures, neglect and institutional weaknesses (ESCAP, 1995). Indeed, current environmental governance structures in the Asia-Pacific region suffer from the following inadequacies: the absence of appropriate property rights or regulations which allows people to shift the environmental costs of their actions onto others; the lack of adequate economic resources (although this problem is diminishing), and widespread lack of effective monitoring (Monash Group Report, 1996).

The undervaluation of environmental assets in national and international markets pricing systems may be one cause of inefficient use of environmental resources. Examples in Southeast Asia provide evidence that international markets' pricing systems have facilitated non-sustainable exploitation of the resources of the least politically and economically advanced countries (Parnwell M. J.G. and Bryant R. L., 1996).

Making the right policy interventions to correct market failures often depends on the order of priority and the linkage between the environment and other sectoral policies. The value given to environmental assets is a

determining factor in setting the order of priority across sectors and in fixing environmental standards. Such a value may be varying across countries according to development levels and priorities, income and education levels etc.

In most emerging economies with global linkages, economic globalization is seen as opening up new opportunities for access to international markets for goods, services and capital. How environmental governance systems manage to enforce an adequate linkage of environmental concerns with other sectoral policies on the broad macroeconomic agenda, alter the priority order of the various economic and social policies, and how environmental agencies can strengthen their position in this context is of critical importance.

The Asian economic crisis has revealed that rapid liberalization and deregulation of trade and capital movements have not been associated with adequate institutional strengthening and safeguards to manage economic and social risks. The consequences of this failure were negatively passed on to the environment. Consideration of existing market and policy failures and the role institutions and instruments of environmental governance could play in correcting them is therefore important to the analysis of the relationship between processes of globalization and environmental governance.

5. How globalization affects environmental governance systems?

Globalization is bringing new constraints to existing environmental governance systems, but also new opportunities for preventing, limiting and finding solutions to pollution and resource depletion. The changes in the instruments of involvement in governance by the various stakeholders reflect these constraints and opportunities.

The relationship between economic globalization and environmental governance can be considered from the perspective of changes in governance actors and institutions (formal and non-formal); the processes of environmental decision-making and the mechanisms/instruments of environmental governance. The key issue is to see how environmental governance systems have evolved as a result of environmental challenges arising from globalization processes, and how effective institutional and policy responses have been?

5.1. Environmental governance actors/institutions

Globalization processes are challenging the structure, role, and capability of institutions traditionally involved in environmental governance. The fact that the environmental effects of economic globalization are not only related to global environmental issues, but also to the regional, national and local levels implies that actors involved in environmental governance will need to include agents from across these different levels. Besides public actors, businesses and the civil society are playing a more active role.

5.1.1. The nation-state

Globalization has not affected the basic structure of the international society with respect to environmental governance. The nation-state still remains at the center of environmental policy formulation and implementation. While the ideology in favor of state retreat from economic activities is dominant, there is a growing consensus about the need for greater involvement in social issues to offset the negative social and environmental effects of economic non-interventionism. Governments around the world have been introducing, strengthening and extending environmental regulations.

What is changing, however, out of globalization processes is the relationship between the state and other social stakeholders. National governments are increasingly compelled to develop alliances with business communities, non-governmental organizations (NGOs), and among themselves. National public sectors are realizing the need to involve business for investing in environmental protection and developing clean technologies to reach better environmental standards. At the same time, there is a certain perception that transnational corporations (TNCs) are often beyond governments' control capabilities. However, when formal regulation is associated with NGOs' lobbying capacity and informal regulation (pressure by local communities), a governance structure able to foster industry environmental performance can be brought about.

5.1.2. Regional and international institutions

As several environmental issues raised by globalization have international implications, regional and international institutions have a greater role to play in governance. First, because regional and international institutions provide a forum for negotiating issues calling for solutions beyond the reach of national governments. In the absence of international negotiating forums, there is a high risk that states recourse to unilateral measures to solve their environmental problems.

Second, international institutions are often best positioned to initiate and implement environmental standards. There are clear indications that standards made by international bodies even private ones, are more likely to gain international acceptance within governments and business communities alike. The activities of the International Organization for Standardization (ISO) are illustrative in this regard.

As part of the ongoing institutional change towards global environmental mechanisms, there is an emerging attempt by international institutions to combine their efforts with that of other international actors. The establishment of the Global Environmental Facility (GEF) which brings together the World Bank, the UN Development Programme (UNDP) and the UN Environmental Programme is one such example. Another example can be found in attempts by the WTO to cooperate with and endorse the ISO standards (Finger and Tamiotti, 1999).

Third, because of the cross-cutting nature of environmental issues, international institutions may be able to tackle environmental problems in their relation with other socio-economic issues. While the mandate-specific structure

of international institutions may be an obstacle, the process of globalization will certainly require innovative arrangements that integrate the various ecological, social, economic and technological aspects of environmental governance within existing or new institutional mechanisms.

5.1.3. Corporations

Globalization has induced two directions in business behavior. At first, most corporations have tried to resist environmental regulation out of concerns for keeping production costs low and maintaining competitiveness. As governments in most countries have tightened environmental standards against the expectation of a race-to-the-bottom, corporations have been obliged to integrate environmental costs in their strategies. Two other factors have been crucial in the shift of business attitude toward environmental performance: the increasing importance of the market for environmental products and services and the rising preference of consumer markets for environmentally clean products.

It can now be observed that corporations are taking greater responsibility in addressing environmental problems. Corporations are being increasingly involved in bringing issues of environmental standard setting onto the public agenda of their own country first, and pressure their home government to negotiate with other countries in order to level up environmental standards applying to competing corporations.

Another area where corporate responsibility has grown is that of implementation and monitoring. States are increasingly making use of voluntary pollution-control agreements by which corporations commit themselves to follow certain environmental standards.

The fact that corporations are in most cases in possession of financial and technological resources needed to face environmental challenges is likely to enable them to act in the governance process both locally and internationally, and perhaps in a more prompt manner than public institutions.

5.1.4. Environmental NGOs and the civil society

Environmental NGOs and the civil society are becoming more active actors as monitors and indicators of environmental degradation. NGOs have been the most prominent opponents to the forces of economic globalization. NGOs and local communities are not themselves part of driving forces behind economic globalization. They are therefore less constrained by concerns over competitiveness than governments and business communities. This enables them to bring to public attention issues that governments are too involved in to objectively monitor. In various cases, local communities, sometimes with support from NGOs, have raised their voice to protect the local environment, when formal regulation failed to do so.

Community involvement in governance is taking various forms. In China, citizens' complaints against polluting corporations is helping in providing information to regulators and fostering community participation in environmental policy (Dasgupta S, and Wheeler D, 1997). There also is evidence of community-based pressure on plants to abate pollution, whether or not formal regulation exists (Pargal S, Hettige H, Singh M, and Wheeler

D, 1997). Community pressure has proved to be successful in inducing pollution abatement efforts by firms, particularly in rural areas. Hartman and Wheeler (1995) looking at the impact of informal regulation found that 9 out of 26 firms surveyed reported that they had experienced pressures and complaints from local citizen groups concerning plant pollution, and that they undertook significant abatement efforts afterwards.

Local communities are also being involved through voluntary agreements negotiated with firms operating in their locality. This has generated a process of consultation between local committees and TNCs whose activities bear impacts on the local environment.

While NGOs have gained larger connections that were made possible or facilitated by globalization, there still are limitations to their capabilities as environmental actors. A study on NGOs in Asia found that they suffer from structural and functional limitations of their capacity to alter the structure of environmental governance and in general, they have not been able to effectively challenge government's monopoly over environmental decision-making (Tsukasa T, 1999).

5.2. Environmental decision-making

As actors in environmental governance are increasing, so are those involved in decision-making. The business community is a crucial agent in the globalization process, but it is also likely to be at the heart of environmental responses to economic globalization. Environmental decision-making ignorant of or fundamentally contrary to business environmental strategies is not likely to be supported by business communities. Firms have even been using technological innovation or other comparative advantage over an industry to influence legislation (Fauchaux S, O'Connor M, and Nicolai I, 1999). Public-private partnerships involving the business community together with governments not only at the stage of policy implementation, but also in the actual process of decision-making is likely to be an important feature of environmental governance in a global economy.

NGOs and local communities have been able to make a breakthrough in the decision-making process, particularly regarding the approval of projects with high environmental risks. An increasing number of NGOs are now going beyond approaches based on lobbying and awareness raising to make use of objectively verifiable instruments such as environmental impact assessment to influence decision-making on issues affecting the environment.

In the Philippines, the pressure by an NGO based on its own environmental assessment led the Philippine government to suspend the construction of a coal-fired power plant in Quezon, a suburb city located north-east of Manila, in October 1997 (Tsukasa T, 1999). Similar trends can be observed from NGOs involvement at the international level. The opposition and criticism by NGOs have been among factors that impeded the adoption of the multilateral investment agreement (MAI) negotiated among the OECD countries.

Another factor likely to alter decision-making processes is the issue of environmental problems with transboundary effects. Particularly in the area of transboundary air and marine pollution, and transboundary

transport of hazardous waste, national regulatory measures in one country have implications for several others. Effective environmental regulation requires that environmental decision-making processes be sensitive to issues of concerns in other jurisdictions.

5.3. Environmental governance instruments

A third perspective to consider is that of environmental governance instruments. Globalization is affecting the instruments of environmental governance in several ways: the limitation of government's capacity or willingness to impose stricter environmental regulations; the need for regulatory harmonization (standard setting) and the introduction of market-based instruments. Most of these changes are driven by globalization-led concerns over maintaining international competitiveness.

5.3.1. Command-and-control type of regulation

A command-and-control approach relying on the establishment of environmental standards through regulations and enforced via sanctions or penalties has been a traditional instrument of environmental governance. One possible analysis of the impact of globalization on environmental regulation is that the pressure of competitiveness in attracting investment and extending market access would lead countries to ignore environmental risks. Another is that the perception of possible high environmental risks would rather stimulate precautionary approaches and thus enhance regulatory stringency.

Trends in regulatory changes in various countries show that in fact, environmental legislation has tried to catch up with environmental risks associated with international trade and investment expansion. The rising level of awareness among government, industry and the public of the adverse effects of pollution, deforestation and the depletion of resources has generated a wave of green regulation, especially in the 1990s. In Cambodia, Thailand, Vietnam and the People's Democratic Republic of Lao, the introduction of commercial logging bans have slowed, though not entirely halted deforestation (ESCAP, 1995).

While awareness raising about social and environmental risks associated with international trade and investment-led growth has played a role in this process, there are indications that internal processes inside the various countries were also important factors (Kato, 1996).

Besides environmental legislation, another feature of regulatory change in recent years is the introduction of environmental measures in trade and investment regulations. These include requirements for environmental impact assessment in the case of investment projects as well as various testing and safety requirements prior to import or export of goods. Despite technical difficulties in implementation in some countries, such requirements have become part of a preventive environmental management process in most countries.

5.3.2. The use of market-based instruments

A third trend observed in recent years is that concerns over competitiveness are pushing for the search of ways to reconcile regulatory enforcement with maximum competitiveness. Command-and-control approaches are being

complemented by the use of market-based instruments (MBIs) such as eco-labeling, environmental charges/taxation (the polluter pays principle) and incentives, environmental auditing, etc., which do not compromise the forces of economic expansion but rather use them to foster resource generation and technological innovation benefiting the environment. Globalization processes are likely to foster this trend.

An increasing number of countries are now turning to market-based instruments for that purpose. MBIs have a great potential for increasing the capacity of environmental governance towards internalizing the environmental cost of economic activities. On the side of governments as well as businesses, MBIs have an advantage over more legalistic approaches as instruments entailing the least cost of compliance (Adams J, OECD, 1999a). There are however fears that corporations will avoid internalizing the environmental cost of production in order to remain competitive unless internalizing such cost becomes ordinary business practice in the market place.

Another cause of concern is the pollution haven issue which assumes that polluting corporations might be tempted to relocate pollution-intensive industries in those areas with less stringent environmental standards. Therefore, globalization may require some form of convergence in the use of MBIs to prevent the distortion of competition among firms and the relocation of polluting industries.

6. Globalization and environmental standards

While there is little indication that globalization is inducing regulatory laxity to foster competitiveness, there are emerging views that maintaining industrial competitiveness will decrease the willingness of governments to impose stricter environmental regulations unless other countries adopt similarly stringent environmental standards. The “race to the bottom” scenario suggests that globalization will lower environmental standards. There are opinions suggesting that to overcome this “prisoner’s dilemma”, global competitiveness requires multilateral approaches to develop some extent of harmonization of environmental standards.

Another risk is that countries may recourse to unilateral measures such as product standards to impose trade restrictions. The Uruguay Round Agreement contains safeguards against the use of environmentally related product standards as barriers to trade. There however remains a risk that diverging interpretations lead to conflicts in the implementation of such provisions.

Responding to globalization-led environmental challenges thus calls for collective approaches at the international level, while at the same time empowering local communities to respond locally. In the absence of some harmonization of instruments of environmental governance (both command-and-control and market-based instruments), globalization will tend to exacerbate market and government intervention failures.

A first question that comes up is the level at which harmonization is needed and can be done. In other words, should and can harmonization of standards be done at the regional or global level? Another related question is whether the objectives that environmental standard setting is to serve (guaranteeing environmental quality) can

be more efficiently achieved at the local, national, regional or global level?

Certainly, since economic transactions are taking place on a global scale, the global level would appear to be the “optimum” area for harmonization. However, in large and diverse forums such as UN agencies, the formulation of environmental standards may reveal a difficult task due to differences in economic development, technological capabilities, the value attached to environmental assets, etc. It is more likely, as some have observed (Finger and Tamiotti, 1999), that standards adopted by independent bodies such as ISO (e.g. ISO 9000 and 1400 standards) be approved as international standards.

Harmonization has proved more easily achievable among a group of relatively similar countries. OECD governments have been able to adopt the principle of, and procedural mechanisms and criteria for reviewing the environmental effects of trade liberalization.

In parallel with collective action, it is also important to ensure that standards duly take into account local and national circumstances.

Conclusion

Globalization entails a potential for both environmental degradation and environmental quality improvement. The negative impacts could be minimized or exacerbated and positive impacts optimized or reduced, as a result of market and policy failures associated with globalization processes and the response society brings to those failures.

Globalization could bring new and additional resources, technologies and instruments to strengthen environmental governance systems. However, the effective use of these opportunities depend on the capabilities of those involved in environmental governance to take proactive measures to prevent possible negative effects that global business expansion may have on the environment. It also depends on their ability to develop forms of intervention that would provide incentives capable of inducing the integration of environmental concerns into the same economic forces that represent a threat to the environment.

These require changes in the institutions, decision-making process and the instruments of environmental governance. Some of these changes have already been taking place at the national, regional and global level. However, because globalization is itself an evolving process, changes in environmental governance systems will also need to evolve alongside new challenges and opportunities the expansion of economic activities creates. These might greatly vary across countries, regions and localities.

The mix of regulatory and institutional changes needed in the process of adjustment is likely to vary across countries and regions. There are however indications of a certain similarity in the direction of regulatory and institutional changes in many countries, which can contribute to the emergence of an effective global environmental governance mechanism.

Acknowledgement

The author is grateful to Professor Kazu Kato for comments and discussion and to John Koga and the members of the Environmental Governance Project team for their collaboration.

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