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Recommended Citation

Lyuba Zarsky, "APEC, Citizen Groups and the Environment", NAPSNet Special Reports, December 01, 1994, https://nautilus.org/napsnet/napsnet-special-reports/apec-citizen-groups-a-d-the-environment-2/

APEC, Citizen Groups and the Environment

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I. Introduction

The Asia-Pacific Economic Cooperation forum (APEC) has emerged as the overarching institution in the Asia-Pacific region. APEC's eighteen members span East Asia, Australasia and the Western Hemisphere and include the world's fastest growing economies.1

The heart of APEC's diplomatic agenda is the creation of a region-wide, liberal trade and investment regime. Although not all APEC members are equally enthusiastic, heads of state agreed in Bogor, Indonesia in November, 1994 to reduce trade and investment barriers by 2010 for the developed and 2020 for the developing countries. In November, 1995, APEC foreign ministers will meet in Osaka to discuss an "action agenda:" ways to implement the sweeping vision of the Bogor Agreement.

Many environmentalists and citizen groups throughout Asia- Pacific worry that APEC's "sweeping vision" portends something more akin to a clearcut, smoking forest than an efficient economic paradise. Despite some first steps to "green" APEC, free trade diplomacy has to date taken little consideration of the environment. Yet, economic openness generates new and specific pressures on environmental policymaking. With economic interdependence, the policies and norms of one country become deeply entangled with those of its trading partners. The scope for unilateral action is reduced, even as trade-induced economic growth increase pressures on resources and eco-systems.

The central argument of this paper is that regional economic integration necessitates the creation of regional frameworks for environmental governance--and that APEC is the place to build them. Mutual commitments to open borders to trade could be vehicles which also carry commitments to promote ecologically sustainable development. Beyond working to expand market access, APEC countries must cooperate in putting in place conditions and safeguards which provide incentives for

sustainable resource and ecosystem use. In this way, trade and environmental policies can be mutually reinforce, rather than undermine, each other.

APEC is a young and flexible institution. Over the next five years, an opportunity exists to build environmental concerns into APEC's very foundation. In one way or another, it is likely that environmental issues will be on the agenda. The crucial and unfolding issue is how deep and broad will be the integration of trade and environmental concerns. This paper suggests some guiding principles and innovative strategies.

The role of scientists, policy analysts, citizen groups and other non-governmental organizations will be pivotal in articulating and pressing for the deep and broad integration of trade and environment at APEC. To be effective, citizen groups will need to work across borders to define common interests which transcend narrow national interests.

II.Trade Liberalization, Economic Integration and the Environment

The relationship between trade liberalization, economic growth and the environment in Asia-Pacific has not yet been charted.2 Conceptual frameworks and evidence from other regions suggest first, that trade openness has both positive and negative impacts on the environment; and second, that economic integration constrains national environmental policymaking. When regions are highly integrated economically, they must develop common frameworks to govern the trade-environment interface.

Economic Integration in Asia-Pacific

APEC encompasses one of the most highly integrated economic regions in the world. Nearly 70 percent of total APEC trade is intra-regional, much of it between East Asia and North America and between Southeast Asia and Japan. The sub-region of East Asia, which excludes APEC's North and South American and Australasian members, is also highly integrated. About 45 percent of total East Asian trade is with other East Asian countries.

Total trade statistics mask the importance of economic size and do not measure a "bias factor," viz, the tendency for countries to favor particular trade partners. Another measure of trade interdependence, the gravity model, adjusts for size by dividing the share of two-way trade by the partner's share in world trade. Under a gravity model, the intensity of regional trade in East Asia outstrips the intensity of Pacific region trade by some twenty five percent. Indeed, the intensity of East Asian trade is the highest in the world.3

Economic integration within East Asia, as well as, on a trans-Pacific basis, is also evident in rising foreign direct investment. Between 1988-1992, the stock of FDI in East Asia grew by nearly 22 percent. Investors from North America and Japan, as well as Hong Kong, Taiwan and South Korea, have targeted Southeast Asia and China as growth poles.

Spurred by market opening in China, Russia and potentially North Korea, economic integration within the sub-region of Northeast Asia is likely to grow rapidly in the coming decade. Rent by ideological and military divides for fifty years, Northeast Asian trade has been skewed away from the high level of integration that has emerged in other regions where borders are friendly. With the end of the Cold War and increasing economic openness, trade and investment flows within the region are predicted to boom. According to one estimate, the value of trade flows within the Northeast Asian region will more than double by 2000 and triple by 2010.4

III.Environmental Costs of Rapid Growth

Rapid growth, fuelled largely by foreign investment and trade openness, has made East Asia the economic success story of the world. Economic success, however, has come at the expense of severe and rising ecological degradation, including the pollution of water and air systems, rapid depletion of resources such as forests, wetlands and fisheries, and loss of flora and fauna.5 Ecological degradation will impose large financial costs in Asia- Pacific and globally. Moreover, some losses in eco-system goods and services may be irreversible.

The costs of environmentally unconstrained, export-oriented economic growth are not limited to the rapidly industrializing and developing countries of APEC. In Canada, unsustainable management, including inappropriate pricing, undermines forest sustainability. In California, water subsidies promote water- intensive crops such as rice in

arid areas, with negative impacts on water salinity, soil microorganisms, and flora and fauna. In Australia, farming and grazing practices in some states generate soil erosion and decline of water tables.

High rates of environmental degradation are also evident throughout Southeast and Northeast Asia, as well as Mexico and Chile. Environmental groups in Indonesia, for example, predict that, at current rates of logging, Indonesian forests will be exhausted within ten years. In Thailand, the huge inflow of unregulated flows of foreign investment have made a nightmare of Bangkok and severely widened the gaps between urban and rural Thais.6

Some analysts consider environmental degradation to be the "cost of development" and suggest that "grow now, pay later" is the only way to overcome poverty and achieve industrialization. Attention to environmental concerns, they worry, will come at the cost of GNP growth, which will itself generate the resources for future clean up and restoration. However, the financial, let alone social and ecological, costs of environmental carelessness are likely to be large in terms of damage to human health, loss of resource productivity, and degradation of ecosystem services.

The lack of environmental care is already imposing costs on development. The Tumen River, for example, the site of a major Northeast Asian development project, is so polluted that cleanup and restoration must proceed site preparation. Not even treated water is useable for human consumption and agricultural lands irrigated by the Tumen have declined in productivity due to toxic contamination. Even industrial polluters along the Tumen have suffered declining productivity because their water input is below required standards.7

The way to calculate potential trade-offs between environment and development is not the absolute, additional cost of environmental investment but the net cost, that is, the additional cost minus the benefit. Additional costs are often easy to calculate. A recent study, for example, calculated that reducing acid rain-causing sulfur emissions in Asia by half over the next 25 years requires an annual investment of $432 per ton of sulfur dioxide emitted per year. For China, for example, this would mean an annual extra cost of $4-6 billion per year.8

So much for additional cost. But what is the benefit? In financial terms, the benefit amounts to the cost of not making the investment, that is, the cost of the environmental and health damage. According to a recent study, the annual damage of uncontrolled emissions of a single 600-MW coal-fired power plant in Northern China totaled over $39 billion per year.9

IV. The Trade-Environment Interface

Is trade openness itself responsible for environmental degradation? Or should the blame--and the solution--be put squarely with national governments? Put simply, is environmental degradation the result of market or government failures? Openness to trade and foreign investment has both positive and negative impacts on the environment.10 Positive impacts include:

ú the transfer of more efficient, cleaner production technologies and consumer goods via foreign direct investment and imports;

ú the learning and norm-building that occurs through crossborder exchange of goods, services, capital and ideas;

ú the transmission of higher environmental standards via import requirements by "large market" countries;

ú a more efficient allocation of production activity, with potential reductions in energy and materials use per unit of output.

If the goal of good environmental management is not simply ecosystem and resource conservation but sustainable human development, than the benefits of growth-inducing trade openness would also include rises in per capita income and consumption.11

On the negative side, trade openness subjects national economies to rising market demand and the pressures of international market prices, which rarely include any, let alone full, calculation of environmental damage. With environmental degradation simply outside the market equation, market signals do not give information about the true costs of production. As a result, global production and consumption patterns could be grossly inefficient, in both narrowly economic and ecological terms.

Moreover, trade openness subjects national policymaking to competitive pressures. A country which attempts to

internalize its own environmental costs will be priced out of markets. In this way, trade openness can be a transmission belt not for high and rising but for low and immoveable environmental standards. For example, the U.S. will not enact a tax on the carbon content of energy until the EC does--and vice versa. Indeed, the failure of studies to find any significant impact on competitiveness of environmental standards is most likely due to the fact that market pressures sit heavily on domestic standards.

Economic integration means that firms compete across jurisdictional boundaries. Property rights and regulatory regimes in different countries specify different rights and obligations of resource users, including firms. Regulatory regimes, in turn, affect competitiveness. But firms compete in common markets. Through competitive markets, producers with the lowest private costs of production win the sale. Higher private cost producers go out of business. Yet the difference between high and low cost producers may reflect, at least in part, differences in the property rights regimes under which they operate. Low-cost producers, for example, may create social costs including pollution, resource depletion, and irreversible ecological losses.

International market competition, in other words, is not just between firms but also between systems of rules. The rules that generate the lowest private costs will dominate. Rules systems in other countries limit a government's control over its own national resources. Through economic integration, ecological resources within national boundaries acquire the characteristics of a crossborder, common property resource like the ocean or the ozone layer. Actions by one country to incur costs in order to sustainbly utilize a resource exposed to international trade will be irrational unless everyone else does so as well. On the other hand, each country's attempt to maximize its own advantage undermines the collective good by depleting the resource. This is the essence of the "prisoner's dilemma" problem in economics.

An example may illuminate the argument. The export-oriented shrimp aquaculture industry has grown rapidly in many Asian developing countries. Property rights to coastal resources are often inadequately specified and/or enforced. Traditional, local users are often expropriated in favor of companies or individuals with political clout. Their tenure, in tern, is insecure both politically and judicially, and their use of coastal resources is unregulated.

As a result, competitive pressures have promoted highly- polluting, intensive aquaculture methods, generating widespread destruction of coastal mangroves and boom-bust industry cycles.12

Sustainable use of coastal mangrove swamps requires semi- intensive and traditional harvesting methods. Companies, however, have no incentive to limit use; and a purely national regulatory structure would price national producers out of global markets. Competitive market forces, in short, mean that national coastal mangroves acquire common property characteristics. Long-term sustainable use of national mangrove resources requires the creation of a Common Property Regime, viz, cooperation among major producer and consumer governments to create and enforce a common property rights and regulatory framework.13

Finally, "growth" may be a poor measure of improvements in human welfare. Recent studies have established the relationship between growth-induced resource depletion and rural poverty throughout Asia.14 In many cases, women have been the most impoverished by market-oriented depletion of forests, watersheds, fisheries, etc, since they are traditionally the most directly dependent on natural resources for livelihood. In other words, the very same development process which is depleting resources to generate economic growth is also generating poverty by undermining livelihood resources.

What, then, is the path to sustainable trade and development? Clearly, neither old-fashioned protectionism and export-maximizing growth, nor environmentally unconstrained, "bulldozer" trade openness offers the route. A "third way" aims to channel markets toward eco-efficient and resource-conserving production and consumption. When countries are highly integrated in economic terms, they must build the channels together. Liberalize Now, Pay Later

While conceding short-term ecological degradation, some analysts argue that no formal governance of the trade-environment interface is needed because trade openness is good for the environment in the long term. This is because trade openness speeds growth and national income, which first, provides financial resources for environmental clean-up, restoration and management; and second, helps to replace inefficient, obsolete producer and consumer goods with newer, cleaner goods.

The seminal study shows an inverted-U relationship between economic growth and some air pollutants in Mexico City, with the "turn" pegged to a per capita income of about US$5000.15 The paper concludes that environmental quality first decreases as income rises until income hits around $5000, after which environmental quality rises with income.

The study suffers from three flaws. First, it derives general conclusions from very narrow indicators, viz, urban air pollutants. There is little doubt that higher incomes promote consumption of cleaner goods and services. In the case of Mexico City, where car exhaust is a major source of air pollution, higher incomes propelled new car purchases, primarily North American imports. However, the study did not assess the relationship between ecological "capital" as a whole and economic growth. The experience of the wealthy, industrialized countries suggests that economic growth is strongly and positively related to ecological degradation in the form of biodiversity loss through conversion of forests, wetlands, and other habitats, as well as to increasing emissions of greenhouse gas emissions. Secondly, even if the hypothesized U-curve relationship is correct, an evaluation of the net welfare result will depend on what is irreversibly lost during the rapid growth process. No matter how resilient, eco-systems have thresholds beyond which they cannot recover. To argue that we must destroy today so that we can save tomorrow is both a logical conundrum--something like the U.S. position in the Vietnam War:"we had to destroy the village in order to save it"--and potentially a bio-physical impossibility.

Thirdly, experience and empirical data increasingly show that the costs of environment-blind economic growth are likely to be higher than development paths that build in environmental protection. The experience of the Philippines and South Korea, for example, shows that "grow now, pay later" imposes high financial, social and ecological costs.16 Development strategies that promote income growth while preventing or minimizing pollution and ecosystem degradation could generate an entirely different relationship between economic growth and environmental quality. It could be less negative or even positive if strong environment protection policies promote product and process innovation and enhance investment in environmental infrastructure.

The point is that without explicit environmental disciplines and constraints, trade and investment liberalization will not unambiguously promote sustainable use of resources and ecosystems. A host of rules and disciplines has been erected to frame the architecture of the world's trading system. To protect the environment, countries must likewise develop norms and rules setting limits and guidelines--not through at-the-border trade restrictions--but through the creation of common, transnational, environment management frameworks.

Economic Integration and the Harmonization of Environmental Policy
If governments do not act together to develop common environmental frameworks, markets and unilateral state actions will do it for them. The problem is that neither markets not unilateral action are likely to deliver adequate and appropriate environmental protection.

Economic integration subjects states to two kind of external pressures on domestic policymaking: 1) competitive market pressures that create "prisoner's dilemma" problems for national resource and ecosystem management; and 2) regulatory pressures to adopt the environmental standards and policies of large-market countries.17 In the absence of supra-national governance, environmental standards governing trade-exposed sectors will gravitate either towards those of the most competitive producer or the largest market country.

Market pressures for harmonization in environmental standards are transmitted in a number of ways. The traditional way is via competition for export markets. As argued above, states are typically reluctant to (knowlingly) impose regulatory costs on domestic producers which dull their competitive edge. Competition for foreign investment is another gravitational pull toward similar practices and standards. Multinational corporations (MNCs) are themelves often a vehicle for convergence.

For large MNCs, which operate in dozens of countries, learning about and complying with standards which differ from country to country can be a high-cost strategy. Moreover, liability laws may make them vulnerable to being sued in their home countries even when the damage occurs overseas. For these reasons, many MNCs set company-wide standards which apply wherever they operate. Moreover, MNCs often support international standards and norms such as the International Standards Organization's 14,000 series on environmental management.

Beyond competitive market forces, harmonization among trade and investment partners is driven by national regulatory policies. Large-market countries set product requirements for imports, including environmental, health and safety requirements. Large-market states, which tend to be politically powerful, have also taken initiatives to institutionalize convergence in environmental policy in the context of negotiations over trade liberalization, including in the European Union and North America. Convergence lowers transactions costs of trade that stem from a patchwork of differing national environmental requirements. It also reduces the likelihood that environment policies will be used as a protectionist device.

Harmonization can be driven politically as well as through markets by large-market countries either through unilateral

action, especially threats of trade sanctions, or via bilateral, regional and global trade agreements. The best-known instance of unilateral action was the threat of the United States to restrict imports from Mexico of tuna caught with killrates which exceeded those of U.S. standards. The EC also threatened to ban imports of tropical timber from Southeast Asia. Indeed, free trade proponents consider the use of the threat to use unilateral trade sanctions in support of environmental objectives as the primary issue in the trade-environment interface.

Some analysts have concluded that market-driven economic integration is beneficial for the environment because large- market countries tend to have high standards. Markets acts as transmission belts, disseminating domestic standards and driving up the standards of trading partners.18 However, the studies are based primarily on Europe, where Germany is the large-market country. German environmental standards in manufacturing tend to be high. Moreover, a host of environmental institutions have been created in the process of European economic integration.

The "large-market" convergence process in APEC will be complicated by the fact that there are two large-market countries, the United States and Japan. With their very different industrial structures and resource endowments, the U.S. and Japan tend to have different environmental concerns and standards. Moreover, the ASEAN countries, combined with East Asian NIEs (South Korea, Taiwan, and Hong Kong) represent a significant economic force. Finally, China is already an important site for foreign investment and will emerge as a large- market country over the next decade. China is growing at the rate of about 12 per cent per year. By 2010, its GNP is expected to triple that of second-place Japan. Without environmental constraints, increasing integration with China would likely pull environment standards down as foreign companies compete for market share.

Some APEC governments and citizen groups have condemned the use of unilateral environment-related trade restrictions as "eco- imperialism". They charge that the environmental issue is a mask for old-fashioned protectionism by the rich countries and a means of retarding industrialization. By the same logic, some countries have condemned any environment-related trade disciplines and argue that "national sovereignty" alone should prevail over environment and resource policy.

Such an argument misses the point. Economic integration sets in train both market and political pressures to move toward the same environmental standards and management practices--at least within industry sectors. There is little doubt that rich and powerful countries promote their own interests in international trade fora; and that, in some cases at least, trade sanctions have seemed to protect domestic producers at least as much as the environment. Nonetheless, the heart of the issue is that market- driven economic integration itself erodes "national sovereignty." By the same token, economic interdependence erodes the effectiveness of unilateral sanctions by rich and powerful countries.

From an ecological standpoint, the problem with harmonization is two-fold. First, nowhere in the world are environmental standards "good enough." Market-driven and government-driven harmonization could lock countries into a relatively low ceiling on environmental commitment. Second, whether driven by markets or diplomacy, whether standards rise or fall, the same standards cannot be ecologically appropriate everywhere.

Ecosystems (and social priorities) differ enormously by specific locale--even within, let alone across, borders. Standards imported from elsewhere may be too low, too high, or simply irrelevant to the sustainable functioning of a local ecosystem or the sustainable harvesting of local resources. Moreover, the use of scarce local resources to meet standards developed elsewhere may mean that more pressing local priorities are neglected. Even within countries, like the United States, there is increasing dissatisfaction with rigid, national standards and search for more flexible, locale-specific regulatory approaches.19

The central problematique in the trade-environment interface in APEC is the need to create common regional frameworks to govern resource and eco-system use--while at the same time promoting locale-diversity and rising environmental commitments. This will require navigating between the tendency by poweRful, developed countries to simply impose their own standards and concerns; and the tendency of newly industrializing countries to resist environmental constraints on fast-track growth.

It also suggests an approach which aims toward convergence in principles and policy guidelines, rather than harmonization of standards. Most important, it suggests that the need for formal and informal institutions and processes which maximize opportunities for learning, incorporating new information, resolving disputes, and generating solutions.

V.Towards an Environmental Agenda for APEC

Most APEC countries have taken steps in the last decade to improve environmental management and reduce the ecological costs of rapid growth.20 At a regional level, however, joint environmental discussion and action is in its infancy.

In November, 1993, Prime Minister Chretien of Canada made a promise to "green" APEC and called for a meeting of Environment Ministers. The meeting took place in Vancouver, Canada in March 1994. The Ministers issued a set of "Principles for Sustainable Development." Calling for the "integration of economy and environment in all sectors and all levels," the Ministerial statement developed nine principles, including a commitment to sustainable development, the embrace of cost internalization, the fostering of science and research, and the encouragement of capacity-building through technology transfer. They also exhorted APEC members to "support multilateral efforts to make trade and environment policies mutually supportive."21

In August, 1994, environmental experts meeting in Chinese Taipei drafted recommendations for APEC's Work Program. The recommendations focused largely on the use of market instruments in environmental management. Both the Principles and recommendations were endorsed by APEC's Ministerial Meeting in Bogor, Indonesia in November, 1994.22 In February, 1995, the Senior Officials Meeting (SOM) accepted the recommendation that all of APEC's Committees and Working Groups include environmental issues as part of their reporting requirements. Some Working Groups, such as Marine Resource Conservation, had already extended their purview to environmental concerns.

The initiatives taken to date are far from comprehensive or even adequate. Nonetheless, they represent a solid and important opening for discussion and debate. Over the next two years, the Philippines followed by Canada will be the chairs of APEC. There is considerable interest within both governments to make the environment a "key theme." The United States has also identified environment as one of fifteen "broad" issues to be included in the action agenda.

The role of analysts and activists could be pivotal in the next five years. The environmental agenda is very much in the development stage and the political will to discuss environmental issues at APEC is just emerging. Without external pressure, governments are likely to focus on narrow environmental concerns, such as the harmonization of product standards, which are heavily influenced by their national economic interests. It is up to citizen groups, scientists, analysts and other non-governmental stakeholders to articulate regional common interests and to press for a broader environmental agenda.23

Trade-Environment Principles
The first step is to develop common principles to guide the governance of the trade-environment interface. Key first principles might be:

1. Integration of Trade and Environment: The very first principle is the recognition that trade and environment impacts and policies are interlinked, both at the national and regional levels. Trade and investment policies should maintain the environmental integrity of eco-systems.

2. Cooperation: Common rules, guidelines and frameworks for environmental management should be developed through processes of regional discussion and consensus-building. The more powerful countries should eschew the use of unilateral trade sanctions to impose environmental conditionalities, except in the context of international or regional agreements. Ample opportunities must be created for environmental concerns to be articulated by all members of APEC.

3. Mutual Responsibility: No APEC country can claim the moral high ground as the guardian of ecologically sound development. The embrace of regional mechanisms which promote environmentally sound trade patterns will require all APEC countries to make changes in their existing domestic policies and to enact new policies.

4. Efficiency, Eco-Efficiency, and Cost Internalization: One of the central aims of regional trade-environment cooperation is to generate market prices which take ecological costs into account24 The reverse is also important: environment policies should promote economic efficiency and aim to ensure that scarce financial resources are well-spent.

5. Scientist and Stakeholder Participation: The creation of sound approaches to regional environmental management requires APEC to open its doors to scientists, especially ecological scientists, citizen groups and other stakeholders. Scientists and stakeholders should receive ongoing opportunities to participate in the design and implementation of regional trade, investment and environment policies. Stakeholders include community, consumer, environment and development groups, labor unions, farmers, businesses and others.

6. Diversity and Commonality: The general approach of APEC should be to promote common guidelines and frameworks while leaving micro-management to national and sub-national governments. Rather than the same standards, for example, APEC could aim to standardize information gathering and testing procedures, as well as standard-setting methodologies such as environmental and health impact and risk assessment. Harmonization of standards should be pursued where appropriate.

A Six-Point Program?
A broad environmental agenda aims to embed an environmental rationality into APEC's fundamental goals and institutions--and to do so in a way which does not create a low ceiling on mutual environmental commitments. Among the issues which a regional citizen group coalition should address are the following.

1) Integration of Environment in the Trade Liberalization Process:

Without doubt, the centerpiece of APEC diplomacy in Osaka and over the next few years will be how to implement the Bogor "free trade" Agreement. The most likely approach will be for each nation to develop its own implementation plans.

On the environment side, the key issue will be whether environmental issues should be incorporated within the process of trade liberalization or treated in parallel. Trade proponents tend to argue for the parallel-track approach, since building and sustaining momentum for trade liberalization is politically difficult. The inclusion of environmental issues could muddy the waters, they fear, especially if championed by countries whose commitments to liberalization are lukewarm. The "Western" countries, including the U.S., Canada, and Australia, are keen to press ahead with trade liberalization. Southeast Asian countries, especially Malaysia, are more reticent, and Japan tries to stay in the middle.

From an environmental point of view, the ecological impacts of trade liberalization should be considered before trade barriers are lowered and environmental policies put in place in tandem with liberalization. This means that environmental issues should be integrated into national targets and timelines for liberalization. Integration could mean that mitigation policies at either the national or regional level be in place concurrently with the liberalization; or, if environmental costs are severe, that goals and timelines of liberalization be changed. On the other hand, in cases where liberalization brings environmental benefits, timelines could be speeded up.

Integration of trade and environment diplomacy could also mean that all APEC nations make a common commitment to internalize environmental costs and maintain ecosystem health. Operationalizing such commitments could be undertaken regionally or, more likely, in the spirit of diversity, left to national governments. At minimum, each APEC nation should be required to submit environment management plans concurrently with its national free trade implementation plans.

Integration of the trade and environmental agendas does not exhaust the range of beneficial regional cooperation. Parallel track initiatives are important in building human and technological capacities, generating and incorporating new information, and developing common norms for regional environmental management. The crucial point is that the new patterns of trade which will be created as a result of trade liberalization be shaped by an ecological, as well as a narrowly economic, rationality.

2) Resource Management: A Sectoral Approach
Environmental issues in trade agreements are typically treated as a problem of "standards" which refer primarily to ambient air and water quality or to product health and safety issues, like pesticide residues. The crucial issues for sustainable development, however, are bound up with the processes of production. Regional guidelines should aim to promote ecologically sustainable production and harvesting processes. Different ecological issues arise in the production of different kinds of goods and services. Rather than an across-the- board approach to environmental standards, APEC should approach trade-environment linkages on a sector-specific basis. This would allow a greater level of management specificity.

A sector-specific approach could aim to develop common guidelines for sectoral management policies, including resource use, allowable subsidies, the use of economic instruments, EIA requirements, labelling and other policy tools. In the manufacturing sector, environmental guidelines could be considered in light of work being undertaken by the International Standards Organization to develop Environment Management Standards (ISO 14,000). One advantage is that trade discussions are often structured around sectors.

The sectoral approach might be especially effective for resource- intensive sectors. Tourism, for example, is the

fastest-growing industry in the region. Without a common floor for environmental management, regional competition could undermine the longterm value of tourism assets. A set of common guidelines could set a broad framework for environmental responsibilities, including environmental impact assessment, biodiversity and waste management plans, and environment loading. Micro-management would be left to national and/or local governments.

Other resource-intensive sectors in which regional guidelines would be helpful include forest and forest products, shrimp aquaculture, and mining. A model for APEC mining sector guidelines could be the "Principles for the Environmental Management of Australian Mining Companies," generated the Australian Conservation Foundation. Aimed at Australian companies operating in Papua New Guinea, the Principles embrace a wide range of management issues, including environmental impact Assessment, the community's Right to Know, waste minimisation, and mine rehabilitation.25

3) Sustainable Agriculture:
Agricultural liberalization is a highly contentious issues in APEC, with the U.S. and other Western states pressing East Asian states to open markets. The environmental impacts of liberalization, however, have not been considered. Moreover, the trade impacts of current resource management policies which affect agriculture have also been ignored. For example, California's water subsidies not only deplete soils and water tables; they also distort international trade patterns.

APEC should establish an Agriculture Working Group to study the interrelationship between agricultural, resource management, trade and environmental policies and impacts. The Group should consider broad, trade-related environmental disciplines such as for input and resource subsidies which aim to promote sustainable agricutlure.

4)Environmental Provisions with the Investment Code:
Foreign direct investment flows are central to the process of economic growth in the Asia-Pacific region. APEC's recognition of the importance of FDI was made apparent in the adoption of a set of NonBinding Investment Principles. The Principles aimed primarily to facilitate foreign investment by promoting "free trade" principles, i.e. national treatment, transparency, and most-favored-nation status. However, one article in the Principles called for nations to not use low environmental standards as a way to attract foreign investment.

Eschewing "pollution havens" is a good start, although it falls short of providing a framework which proactively promotes environmentally sound foreign investment. Currently, there is no regional or international investment code that would necessarily promote environmentally beneficial technology transfer through foreign direct investment. In China, for example, anecdotal evidence suggests that, to reduce costs, local partners or purchasers ask foreign investors and exporters to strip away safety and environment protection components of their investments. Environmental provisions within a regional Investment Code should specify responsibilities of investors, home and host countries and include methods of accountability.

5)Regional Environmental Implications of WTO's IPR Regime:
The World Trade Organization has embraced a new regime on Intellectual Property Rights which was negotiated in during the Uruguay Round. Many environmentalists and developing country analysts have raised concerns that the Regime will undermine crop genetic biodiversity and/or expropriate small farmers of potentially valuable IPR assets. Another IPR-related issue is whether the new regime will speed or retard the process of environmental technology transfer, dissemination and development. These and other issues need to be explored in the context of APEC.

6) "Green Financing" Mechanisms:
Many APEC countries have large financing needs for infrastructure and human resource development. The embrace of new and rising environmental commitments will add to demands for capital. APEC members should consider innovative financing methods for environmental infrastructure and capacity-building. These might include educating and mobilizing banks and other private sector lenders, perhaps through a regional Banker's Sustainable Development Code (potentially modelled after UNEP's code); the creation of an APEC Environmental Trust Fund; and the creation of an environment investment window at the Asian Development Bank.

7) APEC Environment Commission?
APEC has few central institutions and operates largely on the basis of formal and informal committees and working groups. The day-to-day process of making decisions and building consensus is headed by the Senior Officials Meeting, which includes the Senior Officials of foreign affairs and trade ministries. Below the SOM are two economic Committees and eleven Working Groups. In addition, APEC functions via a range of "fast track" processes, including summit meetings of APEC heads of state, sectoral Ministerial meetings, and task-specific groups, such as the Eminent

Persons Group and Pacific Business Forum. Finally, there are sub-regional meetings, most importantly of ASEAN, and non-governmental groups. The only NGO which currently has observer status at APEC is the Pacific Economic Cooperation Committee (PECC).

All these groups have a role in promoting sustainable development in APEC. The central question, however, is whether environmental issues can be adequately pursued without a separate institutional home. On the one hand, an environmental institution would provide oversight and guidance to APEC's environmental work. On the other hand, an institutional home far from the central economic action, such as an Environment Working Group, would only marginalize environmental issues. A Commission on Environment and Sustainable Development, however, might be effective in interfacing with other APEC groups and with a broader public. The input of scientists and citizen groups is especially important in developing what will of necessity be an unfolding agenda in coming years.

Notes

1. The members of APEC are: Japan, South Korea, China, Hong Kong, Taipei, Thailand, Indonesia, Malaysia, Singapore, Brunei, Philippines, Australia, New Zealand, Papua New Guinea, Canada, the United States, Mexico and Chile.

2. One of the first attempts to chart the interrelationship is Nautilus Institute, Trade and Environment in Asia-Pacific: Prospects for Regional Cooperation, papers to a Workshop held at the East West Center, September, 1994.

3. The gravity coefficient for East Asia in 1992 is 2.13; for the Region it is 1.69. See Peter A. Petri, "The Interdependence of Trade and Investment in the Pacific," in Edward K.Y. Chen and Peter Drysdale, Corporate Links and Foreign Direct Investment in Asia and the Pacific, Australia: Harper Educational (PAFTAD), 1995, Table 3.1. Interestingly, the intensity of trade in East Asia has declined significantly since the end of World War II, when the gravity coefficient was 4.48. It declined steadily until the mid-1980s, when it began to rise slightly.

4. K-Y. Jeong, S. Kubayashi, and H. Takahasi, "International Trade in NEA: Past, Present and Future," Working Paper Number 1, Project on Economic Cooperation in Northeast Asia, Sasakawa Peace Foundation, February, 1995.

5. See C. Brandon and R. Ramankutty, Toward an Environmental Strategy for Asia, World Bank Discussion Papers No. 224, Washington: World Bank, 1993.

6. See Emmy Hafild, "Environmental Impact of Rapid Development Strategies in Southeast Asia: An Indonesian Case Study;" and "Urban Planning and Environment: A Look at Bangkok," papers to Northeast Asia/Southeast Asia Consultation on Environment and Development, FOCUS on the Global South, Chulalongkorn University, Bangkok, October 20-22, 1995.

7. Chinese Research Academy for Environmental Sciences, Tumen River Area Development Project, Environmental Study, report to UNDP, Draft, Beijing, May, 1994.

8. RAINS-ASIA: An Assessment Model for Acid Rain in Asia, The World Bank and the Asian Development Bank, March 1995. Chapters are authored individually.

9. D.C. Esty and R. Mendelsohn (1995), "The Environmental Implications of China's Economic Development," Draft, Yale University, July, 1995, Table 4-3.

10. See L. Zarsky, Trade-Environment Linkages and Sustainable Development, Report to Department of Environment, Canberra: Government of Australia, 1991.

11. A better measure of welfare would be more inclusive than simply income and incorporate environmental as well as social factors such as leisure time, health, crime, education, etc. See Herman Daly and John Cobb, For the Common Good, Boston: Beacon Press, 1989, Appendix 1.

12. J.H. Primavera, "Shrimp Farming in the Asia-Pacific Region: Environment and Trade Issues and Regional Cooperation," and Mangrove Action Project, "The Environmental and Social Costs of Developing Coastal Shrimp Aquaculture in Asia," papers to Workshop on Trade and Environment in Asia-Pacific: Prospects for Regional Cooperation, Nautilus Institute, September, 1994.

13. Another example is NAFTA's impact on agricultural lands in Mexico. NAFTA mandates the opening of Mexican

agricultural markets to US-produced goods, including lower-cost American corn. Low US production costs are the result, in part, of the absence of adequate sustainable resource management policies. Input subsidies generate agro-chemical pollution and encourage monocultural cropping. In the absence of a common approaches to resource management, the US rules system will dominate and crop biodiversity resources in Mexico will be lost.

14. See Vivienne Wee and Noeleen Heyzer, Gender, Poverty and Sustainable Development, Centre for Environment, Gender and Development, Singapore, 1995.

15. G.M. Grossman and A.B. Krueger, "Environmental Impacts of a North American Free Trade Agreement," Discussion Paper #158, Woodrow Wilson School of Public and International Affairs, Princeton University, 1991.

16. See L. Zarsky, "Lessons of Liberalization in Asia: From Structural Adjustment to Sustainable Development," in Regional Financing for the Environment, Manila: Asian Development Bank, 1994.

17. See L. Zarsky and J. Drake-Brockman, "Trade, Environment and APEC: Imperatives and Opportunities for Regional Cooperation," Center for Asian Pacific Affairs, Asia Foundation, San Francisco, December, 1994.

18. See D. Vogel, The Greening of Trade Policy:National Regulation in a Global Economy, Cambridge: Harvard University Press, 1995; and D. Wheeler and P. Martin, "Prices, Policies and the International Diffusion of Clean Technology: The Case of Wood Pulp Production," in P. Low, ed., International Trade and the Environment, World Bank Discussion Paper 159, Washington D.C: World Bank, 1992, pp. 197-224.

19. See Faye Duchin, "Ecological Economics: The Second Stage," in R. Costanza, O. Segura, and J. Martinez-Alier, eds., Down to Earth: Practical Applications of Ecological Economics, Covelo, California: Island Press, forthcoming 1996.

20. See David O'Connor, Managing the Environment with Rapid Industrialization: Lessons from the East Asian Experience, Development Centre, Paris: OECD, 1994.

21. For a copy of the statement, contact Sally Thornton, Environment Canada, Ottawa.

22. The Ministers also endorsed Japan's proposal to include a "3Es Project" (Economic Growth, Energy and the Environment) in APEC's 1995 work plan. The APEC Economic Leaders Meeting in Bogor endorsed a report which, inter alia, recommended that APEC consider convergence in regional environmental standards. See Achieving the APEC Vision: Free and Open Trade in the Asia Pacific, Second Report of the Eminent Persons Group, August, 1994.

23. One of the first NGO attempts to spell out an APEC environment agenda is National Wildlife Federation, Fixing What's Broke With APEC: First Steps Toward a Sustainable Development Action Plan that Can Be Adopted at the November 1995 Osaka Ministers' Meeting, Trade and Environment Program (Washington) and East Asia Program (Tokyo), June 23, 1995.

24. Some ecological costs are unknown, inherently uncertain or infinite. The concept of cost internalization is used loosely here to suggest that prices carry some information about ecological scarcity and norms

25. Helen Rosenbaum, Principles for the Environmental Management of Australian Mining Companies Operating in Papua New Guinea, Melbourne: Australian Conservation Foundation, 1995.
