



Rethinking the Private Sector- Environment Relationship in Latin America

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Abstract

The latest research and business experience shows that there are many positive links between competitiveness and improved environmental performance. A new view argues that firms and countries can create greater value and wealth through: cleaner and more efficient production processes, meeting the needs of new environmentally oriented markets and improved environmental aspects of the national business climate. In spite of numerous challenges, Latin America has a good chance of creating conditions that allow countries and firms to improve competitiveness by improving environmental performance.

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LATIN AMERICA AND THE ENVIRONMENT

Natural patrimony makes up an important part of the wealth of the Latin American countries. Abundant water, productive soils, and high value forest resources are commonly found across the region. In addition, with only 8% of the world's population, Latin America finds itself with a disproportionate endowment of natural resources. As well, a significant portion of the world's biological diversity resides in the region, much of it endemic; and the region's forests, soils and coral reefs play an important role in moderating the global climate by fixing atmospheric carbon.

Latin America possesses:

- 29% of the world's renewable water resources and 20% of the world's hydroelectric potential
- 23% of the world's potentially arable land
- 23% of the world's forests and 46% of the world's tropical forests
- 27% of the world's mammals, 34% of its plants, 37% of its reptiles, 43% of its birds, and 47% of its amphibians

Natural resources play a fundamental role in the region's history. Their abundance in the "frontier economies" of the New World led to the belief in a nearly limitless supply of resources that could be extracted, processed, used and exported without concern for the future. However, human populations have increased and many resources are showing signs of severe stress. At the global level, we now know that current patterns of production, consumption, and waste cannot be sustained in the long-term. We already see irreparable harm to global climate systems and biological networks that will likely be aggravated rapidly in the coming years.¹

In Latin America, environmental problems will likely become worse in the near future if we do not change course. Habitat destruction is causing an astonishing loss of biological diversity with attendant effects on water pollution and climate control; dramatic reduction in drinking water supplies in many countries; large-scale desertification in important and sensitive areas; diminishing real returns on much of the region's farmland (due to overuse, poor management, erosion, and chemical use); the collapse or near collapse of many of the region's major fisheries (from lack of fisheries management, destruction of coastal breeding habitat and climate change);² highly contaminated surface water in all metropolitan areas of the region; increased vulnerability to natural phenomena (hurricanes, El Niño, La Niña, flooding, droughts); and, reduced quality of life in most of the major cities of the region due to air pollution, poor water quality and inadequate sanitation.

These problems are central to issues of national and regional development. They correspond to losses of untold billions of dollars of current and future value to Latin American societies—losses that frequently do not show up in national income accounting, policy-making or business planning. The traditional argument to justify these losses is that "we are using this wealth to create new forms of wealth." But are we coming out ahead? Are we investing our natural wealth in creation of new value, or simply drawing down our national savings accounts? One comprehensive study of El Salvador found that in spite of robust average annual GDP growth of 5%, the country is becoming rapidly poorer when the costs of environmental and human health damages are

¹ Intergovernmental Panel on Climate Change (IPCC). *Climate Change 1995: Impacts, Adaptations and Mitigation of Climate Change: Scientific-Technical Analyses*. Edited by R.T. Watson, M.C. Zinyowera, R.H. Moss and D.J. Dokken. New York: Cambridge University Press, 1996.

² See for example, Barg, U., D. Bartley, J. Kapetsky, M. Pedini, B. Satia, U. Wijkstrom and R. Willmann. "Integrated Resource Management for Sustainable Inland Fish Production," FAO Fisheries Department. This paper was presented as document COFI/99/2 to the 23rd Session of the FAO Committee on Fisheries, 15-19 February 1999. www.fao.org/WAICENT/FAOINFO/FISHERY/NEWS/NEWS.htm

considered.³ Perhaps most important for business leaders and policy makers is that this loss of value reflects more than just failure to pay attention to environmental issues. It is indicative of weaknesses in the countries' strategies for competing in the global marketplace.

Scarcity in Spite of Abundance

- Latin America's population is expected to reach over 700 million by 2025, up from an estimated 500 million in 1999 (United Nations Population Division), with food and shelter coming largely at the cost of forest destruction.
- A large portion of the region's rural population (20% to 70% depending on the country) continue to live in abject poverty (United Nations Development Program)
- Deforestation rates in all countries (except Uruguay) were between .3% and 3% from 1990 to 1995, reflecting a loss of tens of thousands of square kilometers of forest, countless species and other benefits. (World Bank 1999)
- In most countries of the region, the percentage of the population that has access to safe drinking water is declining. (World Bank 1999)

The Old Value Chains Don't Work Anymore

The dominant feature of the new century is global inter-relatedness. Products and services are traded with inconceivable fluidity throughout most of the world. The countries of Latin America are now competing with each other and with countries around the world for trade, investment and opportunities to create societal well being. The "frontier economy" approaches of the past will prove unworkable for the future.

In a global economy, countries that depend on natural resources (and other undifferentiated inputs, like unskilled labor) are on a slippery slope toward decreasing wealth creation.⁴ Today, production inputs can be sourced cost-effectively from virtually any corner of the globe. For most developing countries this means that the raw material exports they have depended on for decades are becoming less profitable as competition increases. Just as importantly, labor can also be sourced virtually anywhere, meaning that competition for unskilled labor can lead to a bottom-seeking practices and squalid labor conditions.

The lesson that comes from modern competitiveness theory is that countries that create value through labor productivity, product differentiation and by adding local value will be able to create wealth and compete more successfully than those that do not. The Latin American value chains are still largely geared toward the low-value end of the chain—raw materials, undifferentiated labor and natural resources. Failure to move toward new value chains threatens to limit the development potential of the countries of the region, and will encourage continued destruction of the region's potential advantages in natural resources.

Rethinking the Relationship

Natural resources are production inputs as well as repositories for waste products. However, the same resources must be counted on to sustain the health and well being of the population. The natural environment currently provides the primary social safety net for the rural populations of the entire region, one of the few

³ *From Peace to Sustainable Development*, FUSADES, San Salvador, El Salvador, 1996.

⁴ See Porter, Michael E. *The Competitive Advantage of Nations*. New York: Free Press, 1990, and subsequent research based on frameworks presented in this volume.

forces limiting malnutrition and massive urban migration. As the countries of the region move at a rapid pace toward more open and globally oriented economies, the role of the environment in determining the competitive position of the countries and their firms becomes increasingly important. Moreover, increased globalization will amplify the costs of poor environmental performance as international market trends favor higher levels of performance.

However, global forces can also help Latin America create unprecedented opportunities and greater levels of wealth creation from higher levels of environmental performance. Partly because of a rich natural resource endowment, and partly because of past inefficiencies and a failure to tap emerging opportunities, the prospects for sustainable growth are unparalleled. In the short-run, more transparent and effective environmental policies, and better strategic orientation of key industries—and in the long-run a cleaner environment—should improve trade and attract foreign investment which, if properly channeled, will enhance not only competitiveness but also sustainability.

Successful incorporation of environmental factors into the region's competitive fabric will align its productive sectors with more valuable market opportunities, make its business climate more attractive to foreign investors, offer new and exciting commercial potential and protect the resources the region needs to survive in the future. From the new perspective of environmental wealth creation, business must be at the forefront of the discussion. It is the private sector that has the most to lose with "business as usual" and the most to gain by taking advantage of trends and generating the products and services that the world needs to improve well being.

In addition, trading partners, financing organizations and international clients are important stakeholder groups who are now taking stronger positions regarding the environmental performance of firms, industries, and countries. Civil society, bankers and multilateral development organizations are also paying much greater attention to environmental performance, particularly at the firm level. Each of these stakeholders sends different signals that can be confusing to business and policy leaders. Instantaneous global communications contributes to the noise and urgency. However, as more countries, industries and firms gather experience in this area, one common theme emerges from careful analysis of these signals: *Superior environmental performance will be rewarded in the long run in most industries and in national development.*

The remainder of this paper will provide an overview of some of the latest thinking and research on the links between environmental performance and greater competitiveness for firms and countries in Latin America.

THE ROLE OF THE ENVIRONMENT IN FIRM AND INDUSTRY LEVEL COMPETITIVENESS

"Does improved environmental performance help or hurt firm and industry level competitiveness?"

The debate over the issue of environmental performance has been a bit confusing, largely because most of the discussion and analysis (and data) is concerned with whether environmental regulation improves firm-level competitiveness. If superior environmental performance does improve firm competitiveness, the issue of how we get there, by regulation or by other means, is really a secondary question of efficiency.

Both theory and an emerging body of empirical evidence on the topic show that under most circumstances, improved environmental performance should improve a number of aspects of firm competitiveness, especially in developing countries. Five specific competitiveness drivers relate directly to the environmental performance of firms and industries in Latin America.

Process Efficiency

Experience from around the world shows that companies that invest time, effort and resources in identifying ecoefficiency improvements are rewarded with substantial payback in cost savings and process improvements. Lower energy, water and raw material costs go directly to the bottom line of companies. Lower levels of harm to workers and the surrounding environment lead to a variety of direct and indirect positive impacts such as a more motivated workforce, lower insurance premiums and better relationships with nearby communities.

The experience of leading companies in Latin America mirrors results found in other parts of the world. Recent efforts by the Business Council for Sustainable Development, and other organizations such as the World Resources Institute, the Instituto Centroamericano de Administración de Empresas (INCAE), La Promoción de la Pequeña y Mediana Empresa Ecoeficiente Latinoamericana (PROPEL) in Colombia, and the U.S. Environmental Pollution Prevention Project (EP3) have documented numerous examples of firms achieving impressive improvements in efficiency, worker safety and process and product improvements. Indeed, opportunities in much of Latin America appear to be greater than in more industrialized countries because decades of relatively isolated markets have allowed fairly high levels of waste and inefficiency.

Ecoefficiency in Latin American Firms

A recent book from the Business Council for Sustainable Development-Latin America, *América Latina en el camino de la ecoeficiencia* presents 35 ecoefficiency case studies from across the region. These experiences show a variety of different applications of ecoefficiency, demonstrating the positive relationship between environmental care and development. Firms include: YPF, Siderar and Petroquímica Cuyo from Argentina; Aracruz Celulose, White Martins, Companhia Vale do Rio Doce from Brazil; Grupo IMSA and Grupo PRIMEX from Mexico; and, Macadamia Miravalles y POSAMACO from Central America. See www.bcsdla.org/med/libro.htm

Maintaining Access to “Greening” International Markets

All countries of Latin America are seeking to increase export earnings. Much of this increase has come, from sales to the industrialized nations of the north. Demand trends, especially in the U.S., Europe and Japan, are moving decisively and rapidly toward more environmentally friendly products and processes. In countless in-

dustries superior environmental performance is today, or will be in the very near future, a competitive necessity. These demand trends are driven by consumer preferences and trade relationships.

Buyer Preferences

Heightened awareness of environmental issues is leading industrialized country consumers to prefer more environmentally responsible products and services. Traditional “sun and sand” tourism is losing market share and value to ecotourism and cultural tourism. While the total market for these alternative destinations is still only 5% of the total market share, it is large (perhaps as much as \$50 billion per year) and demand is growing at a rate of 25 to 30 percent a year as compared with 2 to 4 percent for “sun and sand.”⁵

Food consumption shows similar patterns. The U.S. certified organic agricultural market⁶ in 1997 was \$4.7 billion, representing about 1% of the entire market.⁷ The European organic market was estimated at \$4.5 billion, and that of Japan at \$1 billion (both figures are also for 1997). Growth rates for the coming years are predicted to be 25% annually, compared with a 2% growth rate in traditional agricultural markets.

Consumers want to gain equal value with less and less material input. This trend is referred to as “dematerialization.”⁸ Projections of long term trends suggest that products that utilize less material per unit of service will dominate the marketplace, and that there will be a rapid conversion of market preference from products to services in many industries. Latin American business will first need to understand these trends and then begin responding to them with redesigned and new products if they expect to compete in the global marketplace.

Consumer Preferences are Changing Wood Products Markets

At the international level, the member countries of the International Tropical Timber Organization (ITTO) – all major producing and consuming countries—have been working now for several years on the “Year 2000 Objective,” which is the goal of having all international traded tropical timber comes from sustainably managed sources by 2000. While there have been some delays, and the target year has been pushed back, progress is being made toward that objective.

Consumer and other stakeholder desires are also driving change at the retail level. Based on pressure from domestic and international organizations the leading U.S. home improvement retailer, Home Depot, has made two significant changes in its policies. Early in 1999, Home Depot committed to purchasing and selling only timber that has come from independent third-party certified sources. Later in the year, under continued pressure from environmental and consumer organizations concerned about endangered forests, Home Depot also decided to eliminate its sales of wood from endangered “old growth” forest areas by the end of 2002. Other major chains have followed suit. According to the Rain Forest Action Network over four hundred companies from a range of industries have formally pledged to go “old growth free.”

⁵ See: Lizano, Rodolfo. "Tendencias del turismo en America Latina". San José: Instituto Costarricense de Turismo, 1997; and von Moltke, K. *et al.*, *Global Product Chains; Northern Consumers, Southern Producers, and Sustainability*, Chapter 6, Environment and Trade Publication #25, United Nations Development Program, 1998.

⁶ A large percentage of organic production is not certified. This is due to a variety of factors, including high certification cost, and immature distribution channels.

⁷ Rosen, Sydney and Bruce Larson, “The U.S. Organic Market: Size, Trends, and Implications for Central American Agricultural Exports,” HIID Policy Paper for the Central America Project 1999.

⁸ The field of “Industrial Ecology” has made important conceptual and practical advances in this area. See Graedel, T.E., and B.R. Allenby, *Industrial Ecology*, Prentice Hall, Englewood Cliffs, New Jersey, 1995; and the *Journal of Industrial Ecology*, published by the Yale School of Forestry and Environmental Studies and found at <http://www.yale.edu/jie/>

"Supplier requirements" are one of the most important trends in international purchasing. Firms, particularly in industrialized countries, are increasingly insisting that suppliers meet specific environmental performance or management system criteria. Requirements to implement and certify companies' environmental management systems to the ISO 14001 standard are becoming commonplace, particularly in the electronics industry. All major U.S. automobile manufacturers are introducing environmental management requirements for their suppliers. In Costa Rica the major banana producers have certified environmental management systems, including ISO 14001, and many are producing to the ECO-OK® standards. These companies are now "requesting" that their suppliers (including fertilizer and pesticide formulators) also achieve ISO 14001 certification. This "greening" of the supply chain is an important trend that offers increased market access to firms with environmentally friendly products and practices.

Official Trade Relationships

The same awareness of environmental issues, health concerns and changing values that are leading to changes in industrialized country consumer demand are leading to changes in trade policy that will deeply affect the Latin American countries as they seek to develop more extensive trade relationships and secure preferred trading arrangements with the world's largest markets.

Country level environmental performance and reputations are already an extremely important aspect of bilateral trade relationships. The U.S. and the European Union, for example, call into question the suitability of other countries as trading partners based on their environmental reputation. This was a critical issue for Mexico's entry into the North American Free Trade Agreement (NAFTA); one which required the construction of complicated and expensive institutional structures and a great deal of investment of political capital to move forward.⁹ Environmental issues also directly affect multilateral relationships. Environmental concerns are among the most hotly contested and debated issues in GATT /WTO negotiations. In spite of efforts to reduce the potential for environmentally related non-tariff trade barriers, it is becoming increasingly clear that countries can and will use laws and regulations to improve the health and environmental characteristics of products entering their borders.

Environmental Performance and Home Market Competition

Globalization and openness is a two-way street. Today, a Latin American firm facing high caliber international competition can usually expect to be in an inferior position with respect to environmental performance. Most major U.S. and European consumer products companies have at least 20 years of experience improving environmental performance and experimenting with "green product positioning." Latin American firms that can meet these challenges effectively will have a better chance of protecting their share in their home market(s).

Reaction time may be the most critical variable. It may take only a few months for a company to change consumer expectations regarding specific product attributes, such as environmental "soundness" (through television and other advertising media). However, it can take months or years for a company to understand and develop systems to manage its environmental impact. It can take even longer for firms to change processes and products to keep up with competitors. And, most of these changes are not easy ones. They can require large-scale changes in managerial and staff attitudes as well as hardware and process changes. Many firms simply may not be capable of making such changes.

⁹ Schatan, Claudia, "Trade Liberalization and Free Trade Agreements: Environmental Perspectives for Central America," HIID Background Paper for Central America Project, 1999.

Stimulating Innovation

Companies working to improve environmental impact are developing products and services that will meet future needs better than we are meeting them today. These companies develop specialized expertise, or “core competencies” that allow them to innovate more rapidly in response to changing market conditions and based on strategic needs.

One well-documented case is the pulp and paper machinery industry. U.S. dominance in that industry has been successfully challenged by Sweden, largely due to environmental characteristics. Sweden's stringent environmental standards in the pulp and paper sector led Swedish companies to develop extremely efficient and clean production technologies that now dominate world markets in developed and developing countries.¹⁰ Going one step further, Latin American firms employing Swedish technology (or meeting its standards) are now able to respond effectively to competition in the U.S. for environmentally friendly pulp and paper products.

Another interesting case comes from Mexico. Twenty-one companies in the Tampico/Altamira area worked with the Business Council for Sustainable Development Gulf of Mexico to develop "by-product synergy" programs. The companies sought to identify opportunities to use each other's by-products and wastes as inputs into other production processes. Sixty-three potential synergies were identified, 29 with immediate commercial value.¹¹

Setting the Standards for Sustainable Tourism: Costa Rica's CST

Costa Rica is capitalizing on more sustainable tourism by developing programs to strengthen its market position through promoting even greater innovation and differentiating its tourism industry. The governmental tourism authority, the Instituto Costarricense de Turismo has created and implemented the "Certificate of Sustainable Tourism" (CST) program. This program evaluates hotels (and in the future other tourism businesses) based on a large set of parameters relating to their environmental and social performance. As hotels improve sustainability performance they receive higher levels of recognition. Over 150 hotels are participating in the program. The Ministers of Tourism of Central America have already expressed their intent to make this program the standard across the isthmus. The goal is that this program will become the standard by which sustainable tourism is measured worldwide. This places Costa Rica, literally, as the standard-setter for the fastest growing segment of the tourism market. (For more information see <http://www.turismo-sostenible.co.cr>)

Lower Risk Profiles for Finance and Investment

An important emerging area where environmental performance is expected to create value and improved competitive position is finance. Multilateral banks and some private banks now seek assurances about the environmental performance of companies and investment projects prior to investing. For instance, a limited number of banks provide discounts to firms that have environmental management systems in place.¹² In some cases, environmental criteria have been key in allowing firms to access international credit markets. Mexicana de Co-

¹⁰ For a more detailed discussion of this case see, Management Institute for Environment and Business. *Competitive Implications of Environmental Regulation: A Study of Six Industries*. U.S. Environmental Protection Agency: Washington, DC, 1995.

¹¹ Source: Business Council for Sustainable Development Gulf of Mexico Chapter and Bechtel Consulting, “Tampico Regional By-Product Synergy Study: Final Report,” August 1998.

¹² The United Nations Environment Program’s “Financial Services Initiative” tracks the environmental practice of a number of leading financial firms that subscribe to the program principles. Information about the program and survey results can be found at http://www.unep.ch/etu/finserv/fin_home.htm.

bre, for example, was able to establish credit lines in the United States largely due to its relatively low environmental risk profile. Accessing this credit created millions of dollars of savings in finance cost as financial crises and bank liquidity problems buffeted Mexico. Firms with lower accident rates and fewer problems with regulators and surrounding communities are lower risk investments and require less expensive insurance coverage for project finance and ongoing operations. Firms with sound environmental policies are also less susceptible to potential liability and costly environmental lawsuits. As environmental performance becomes an increasingly important factor, differences in risk profiles will become more pronounced and those firms with lower risk profiles will reap benefits.

Are Firms Creating Value from Environmental Performance?

Financial analysts should be asking themselves “if firms are creating value through environmental performance, shouldn’t we observe it in the financial markets?” In the long-term, we would expect to see superior financial performance for firms with superior environmental performance. In fact, over a long time horizon, this is perhaps the best way to prove or refute the connection between environmental performance and competitiveness.

Most of the data to support links between superior environmental performance and improved competitiveness are based on industry observations and case studies. However, recent empirical research on environmental performance and capital markets shows that the most successful and valuable multinational firms are those that adhere to the highest environmental standards.¹³ The authors researched the relationship between firm value creation and the stringency of internal company environmental standards for over 500 publicly traded, U.S.-based multinationals in non-service sectors. The study found that multinationals that have internal worldwide standards higher than any individual countries' standards are those with the highest levels of value creation. In contrast, firms that adhere to the lowest standards in the countries in which they operate are those with the lowest value.

Another area to look for connections is in the numerous “environmentally sound” investment funds. Socially and environmentally responsible investing is a strong trend in developed country financial markets. In the United States, this segment represents US\$2.2 trillion, or around 13% of the total market. Total assets of these funds have grown 80% during the past three years, compared to just over 40% for the rest of the market.¹⁴ Within this sector, several financial organizations are testing the theory that sound environmental performers are also superior financial performers by building mutual funds that include only companies (or in some cases sectors) that pass relatively high “filters” for environmental performance. Because these funds are new and relatively small (total market capitalization of all the funds is less than US\$1 billion), it is too early to draw conclusions but results thus far are encouraging. A 1998 comprehensive review of these funds showed that they were performing well against established benchmark indexes.¹⁵ Preliminary results for 1999 for UBS Brinson’s Eco Performance Equity Fund and Sustainable Performance Group show results closely tracking the Morgan Stanley Capital International (MSCI) Index. In 1999, UBS Brinson launched an additional eco performance fund “Eco Japan,” which quickly achieved over US\$100 million in assets.

¹³ Dowell, Glenn, Stuart Hart and Bernard Yeung. “Do Corporate Global Environmental Standards Create or Destroy Market Value?” *Management Science*, June 1998.

¹⁴ Social Investment Forum, *1999 Report on Socially Responsible Investing Trends in the United States*, November 4, 1999.

¹⁵ Ganzi, John, S. Buffet and R. Dunn, “A Review of Publicly Available Funds that Focus on Financial and Environmental Performance.” A report by the Environment and Finance Enterprise for the U.S. Environmental Protection Agency, November 1998.

NEW MARKETS

The most exciting aspect of reexamining the private sector-environment relationship is the creation of new markets. While the competitiveness gains are substantial for firms incorporating superior environmental performance, they pale in comparison to the commercial opportunities available to the creators and producers of the products of a more sustainable future. Commercial opportunities in the development of new products, processes and services that help us steer a more sustainable path are estimated to be in the trillions of dollars in the coming decades.¹⁶ This represents the single most important global commercial trend for the foreseeable future.

Which firms will create the products and services for the new century? What are those new products and services? Many of the products cannot even be conceived of as yet, but a closer look at some of the markets on the near horizon point to exciting opportunities for Latin America and the Caribbean.

Agriculture

Agricultural markets are rapidly dividing into two general categories: high-value and commodity. Consumers in more developed countries are moving toward high-value products. Whereas both commodity and high quality products are experiencing more environmentally-oriented demand—environmental expectations are now a very important component of the high value markets most attractive for the competitiveness of the region. The most rapidly growing segment of the organic market is for frozen and processed organic food. In Japan, for example, organic soy products markets are realizing price premiums and grain markets appear to be developing organic niches for companies that supply more health-oriented consumers.

Recent studies of pilot projects have shown that access to environmentally-oriented industrialized country markets can unlock opportunities for businesses in developing countries.¹⁷ While data on price premiums are based on many small-scale studies, it is clear that organic production has historically received equal or higher prices at the retail and wholesale level. As production expands, however, price premiums may decrease, meaning that producers must move quickly to take advantage of these opportunities.

Tourism

A study of German tourists found that one out of every two choose destinations based on their environmental performance characteristics, including the environmental operations of hotels.¹⁸ Over 70% of all Japanese overseas trips are for the purpose of enjoying nature.¹⁹ Eco-tourism and cultural tourism, and more sustainable tourism generally, will likely offer the best market position for most tourism development in the region.

For Latin America and the Caribbean the challenge will be to develop tourism attractions and hospitality infrastructure that is consistent with the desires and values of this tourist market, and tangibly demonstrates this consistency to customers. Costa Rica's Certificate of Sustainable Tourism program offers an agile and power-

¹⁶ Hart, Stuart A. "Beyond Greening: Strategies for a Sustainable World," *Harvard Business Review*, Boston, January 1997.

¹⁷ See for example Robins, Nick and S. Roberts, eds., "Unlocking Trade Opportunities: Case Studies of Export Success from Developing Countries," International Institute for Environment and Development. 1998

¹⁸ Ayala, Hana. "Resort Ecotourism: A Paradigm for the 21st Century," *Cornell Hotel and Administration Quarterly* 37 (Oct. 96): 46.

¹⁹ World Tourism Organization, *Global Tourism Forecasts to the Year 2000 and Beyond: Vol 3: The Americas*, Madrid. 1994.

ful mechanism to orient public and private sector actors toward international demand (see Text box on page 7). This program could assist tourism operators, developers and financiers toward greater value creation in tourism markets and greatly strengthen the market position of countries and firms participating in the program.

Environmental Infrastructure

Nearly all Latin American countries are experimenting with private sector models for provision of environmentally related services such as water, sewage and waste management. Virtually every city, town and village in the region needs basic water infrastructure (either first systems or upgrades). In the near future many of the countries will also begin investing in sewage treatment capacity as well in order to improve water use efficiency and reduce downstream illness and resource damage. The World Bank estimates that in developing countries, US\$25 billion is spent each year on water and sanitation and another US\$25 billion on irrigation and drainage (1998 data). These amounts will likely increase significantly as needs continue to outstrip the ability of current mechanisms to build necessary supply. There is a need for creative approaches as well, such as gray water systems to make better use of scarce water resources, and mechanisms for protection of water sources (watersheds and aquifers) to insure reliable and safe supply (see “Environmental Services” section below).

Few countries of the region have sufficient capacity to handle municipal solid waste, and even less have any capacity at all to treat and dispose of hazardous waste. Without sufficient capacity in these areas, the countries risk severe public health and environmental hazards, and will discourage high quality firms from investing.

Additional regulatory and policy efforts across the region will require other types of environmental infrastructure. For example, the food processing industry represents between 20% and 60% of industrial output in the region, and is the major source of organic water pollutants. For public health, resource protection and competitiveness reasons, the sector is one of the most likely to be regulated, creating the need for large-scale investment in cleaner production technology and water treatment.

Renewable Energy

Renewable energy may be the most important new market area and a number of impressive opportunities already exist for a variety of energy sources found in the region. These opportunities offer the potential to radically transform energy use, pollution profiles, and rural development.

The region possesses an estimated 20% of the world’s hydroelectric generating potential—enough to cover the region’s energy needs for decades. Hydro development potential does, however, present development risks. Natural resource destruction, relocation of communities and a host of other problems have plagued these projects. Nevertheless, many types of smaller scale projects appear to be quite viable from economic, social and environmental perspectives.

Geothermal energy is a promising and emerging source. Volcanic and tectonic activity throughout much of the region creates ideal conditions for generation. For example, Peru has an estimated 2,000 megawatts of accessible geothermal capacity—enough to convert all current electrical generation and cover future needs for years.

Solar energy is an exciting area, particularly for rural development. Because of geographic and climatic conditions, most of the region receives above-average solar energy. Technical advances in collection and storage technology have made solar a viable alternative. The large fixed costs of running grids great distances, as well as the loss of energy in the transmission process reduce the viability of providing electricity to remote rural areas. Solar and wind systems can supply much of the household, communication and commercial needs for many rural or isolated communities. Pilot projects such as the solar ovens initiatives in Peru; solar thermal

water distillation systems in Mexico; and a number of rural and commercial projects in Argentina, Colombia, Honduras, El Salvador, Dominican Republic, Venezuela, and Mexico (among others) are testing, and in many cases demonstrating, the viability of solar energy strategies.

Argentina has the greatest wind energy potential in the world, estimated at approximately 500,000 megawatts. Harnessing a fraction of this huge potential would be enough to substitute fossil fuel energy in many urban areas; distribute energy more efficiently in rural areas; and perhaps even increase electricity exports to neighboring countries, such as Brazil, Uruguay and Chile. Many other countries such as Belize, Nicaragua, Mexico also have important wind potential, which could play an important role in rural electrification and reducing dependence on non-renewable energy sources.

"Environmental Services"

Latin America has outstanding potential to produce a variety of products that fall into the category of "environmental services." These are biological functions performed by natural resources that deliver direct market value to a given set of clients. The classic example is hydroelectric power generation. Without a relatively intact watershed, hydroelectric plants do not receive optimum water flow and soil erosion can reduce turbine life. In most cases it is more cost-effective to pay for the maintenance of the watershed than it is to replace turbines or build new plants.

Experts agree that water is likely to be the most critical natural resource for the foreseeable future. Water scarcity and contamination are already a problem in much of the region and is likely to get worse in the coming years due to continued deforestation, misuse, droughts and other climatic disturbances. While most of us pay the cost of delivering water to our faucets through our utility bills, it is actually rare for anyone to pay for the cost of "production" of that water. Urban water suppliers, users of irrigation systems and hydroelectric power generators are all potential future customers of businesses, agencies or NGOs that ensure the continued flow of water.

Water supply from La Tigra National Park, Honduras

One interesting recent study attempted to value the water production value of a medium sized forest in Honduras. La Tigra National Park captures the water for most of the capital city of Tegucigalpa. Because of its proximity to the city and scenic beauty the park is constantly under threat from development. In addition to housing a cloud forest with unique endemic species, and being a source of great national pride, it is estimated that the parks water resources may be worth US\$78 million to Tegucigalpa for water capture services.

Source: Fundación Amigos de La Tigra

Future markets for global climate change mitigation offer additional opportunities to the region. The Kyoto Protocol to the U.N. Framework Convention on Climate Change established the concept of the "Clean Development Mechanism (CDM)," which if fully implemented would allow the Latin America and the Caribbean countries to sell climate change mitigation services to industrialized countries. The exact role of developing countries in the Kyoto Protocol is still a matter of negotiation, but most analysts believe that the CDM will function as a type of trading clearinghouse through which industrialized countries with obligations to reduce greenhouse gas (GHG) emissions can purchase GHG reductions ("offsets") from developing countries. The CDM would allow developing countries to participate in global climate change by developing more climate-friendly energy policies, protecting and regenerating forests to act as carbon sinks, and by reducing methane emissions through improved water treatment and livestock management. Investments derived from developed country purchases could provide the region with billions of dollars of investment to "leap frog" to new, cleaner

energy technology, greater industrial energy efficiency, more productive soil, cleaner and more plentiful water resources and a host of other benefits.

Projects to make energy consumption less carbon-intensive and more efficient and to "fix" atmospheric carbon in reforestation projects could amount to over \$3.5 billion for Latin America and the Caribbean in the next 20 years.²⁰ Well-considered policy direction is needed in this area to ensure that investments are sound and meaningful from a development perspective and to make sure that such large financial flows in these areas do not create market distortions that end up having a perverse effect on markets and levels of innovation. Some private and multilateral financial institutions are investing in early entry in this market, including the World Bank and the Central American Bank for Economic Integration.

Biological Diversity

Biodiversity conservation and bio prospecting are two evolving areas that require further research. While it is certain that the complex web of our biological systems is literally priceless, it is less clear how commercial value will be created in the long term. Pioneering agreements such as that between Merck and the Costa Rican National Institute of Biodiversity (INBIO) to provide nature-based compounds for pharmaceutical research were critical in developing models and testing the mechanisms for bioprospecting. There continues to be demand for biological extracts in the fragrance, agrochemical and pharmaceutical business, which appears to offer some growth opportunities for organized firms that have access to a broad base of endemic biological diversity. However, commercial and country-level development opportunities in bioprospecting are further complicated by ongoing controversy at the international level regarding ownership of biological information, such as genes.

Given the incredible variety of species found in the region, and the limitless number of potential products and derivatives, the commercial possibilities appears promising. Extraction and processing of products, essences and some scientific information shows potential in such markets as herbal remedies, dietary supplements, cosmetics, fashion (clothing and accessories), and pest control. Sustainable and well-controlled exports of unusual or particularly valuable species, such as butterflies, reptiles, nuts, flowers and plants, could create domestic and international market opportunities for small and medium sized businesses in the region, many in rural areas in need of such possibilities. New investment funds, such as the Terra Capital Fund, a Brazilian-based biodiversity investment fund, are exploring and testing business models to create value in this area.

Vulnerability Reduction

Recent climatological events such as: hurricanes in the Caribbean and Central America, flooding in Venezuela and Mexico, el Niño and La Niña related damage in Ecuador and Peru, among others, have shown that the region is very vulnerable to natural phenomena. In many cases, vulnerability has increased over the years due to deforestation, destruction of mangroves and coastal wetlands, expansion of human settlements into inappropriate areas and a host of other reasons. The natural resource base is the first line of defense against the potentially catastrophic effects of severe weather events.

In the coming decade the countries of the region, with support from external agencies, will begin programs to reduce vulnerability by investing heavily in the restoration of key natural resources, particularly certain coastal ecosystems, wetlands, upland watersheds and critical infrastructure. The tropical areas of the region in particular tend to face multiple risks that are interrelated in complex ways. Latin American countries, with

²⁰ Castro, Rene, "El Mercado Global del CO₂: Rol del PNUD en América Latina y el Caribe en el Periodo 2000-2005," United Nations Development Program, forthcoming in 2000.

support from the multilateral financial institutions and others, will have to invest heavily in better risk information, and the planning and regulatory mechanisms necessary to manage those risks more effectively.

While the precise mechanisms to be used for this investment in information and vulnerability reduction are not yet clear, financial institutions will certainly be called upon to develop innovative approaches to help national and local governments implement programs. These financial mechanisms aim to include creative means to better incorporate risk management in the design of development projects and which decrease the financial impact of severe events. New work in the financial sectors in insurance (particularly re-insurance), performance bonds, weather derivatives and insurance options imbedded in financing (such as contingent equity and in bond issues) offer the potential to support improved decision making and help firms and countries recover from large losses more quickly and efficiently.

There are also market opportunities for helping countries promote vulnerability mitigating land use practices. An interesting collaboration between the International Finance Corporation (IFC) and FUNDECOR (a Costa Rican non-governmental organization) is testing mechanisms to help small-scale landholders maintain forests by providing them with the long-term liquidity necessary to become foresters. Similar mechanisms could be designed to incorporate reforestation, vulnerability reduction, watershed protection, biological diversity conservation as well as commercial timber production.

BUSINESS CLIMATE AND FOREIGN DIRECT INVESTMENT

The environmental aspects of a country's business climate are largely defined by the rules that companies must follow with regard to their environmental performance. The conventional view has been that improving environmental standards impedes competitiveness and discourages foreign investment. This view no longer appears to be true. Leading business people see a strongly positive association between environmental performance and their competitive position.

Research conducted for the World Economic Forum's Global Competitiveness Report has sought to capture the perceptions and attitudes of business leaders from around the world regarding environmentally related business climate conditions.²¹ Among the findings are:

- Firms in many of the most competitive countries in the world believe their environmental standards are slightly to moderately profit enhancing.
- Highly competitive countries tend to have the most transparent and stable regulations. These characteristics ensure fair and even enforcement and allow for longer planning horizons for firms.
- Most business leaders believe that environmental regulations have played an important role in improving energy, water and materials use efficiency.
- In more than half of the 59 countries surveyed, business leaders thought that "environmentally friendly products" enjoy a slight to strong market advantage over conventional products. Interestingly for the region, these advantages were found primarily in countries that are current, and likely future, export clients of the region's agricultural and tourism products.

There is other evidence as well. In 1995, Professor Michael Porter and Claas Van Der Linde reported research findings that pointed to increased competitiveness in industries that faced high levels of environmental regula-

²¹ For a concise analysis of the findings, see Panayotou, Theodore and Jeffrey R. Vincent. "Environmental Regulations and Competitiveness: 1997 Global Competitiveness Report." Geneva, Switzerland: World Economic Forum.

tion.²² Review of the research shows that environmental regulations are unlikely to have a large adverse effect on competitiveness. This is not surprising since, even in the U. S. (believed to have the world's most expensive environmental regulations), the costs of environmental regulation are a relatively small fraction of total production costs. Variations in the costs of labor, energy and raw materials, and infrastructure adequacy would be expected to overwhelm the costs of environmental compliance.²³ Further studies have shown that the relative stringency of environmental regulations in different countries has not had a negative impact on net exports.²⁴

On the investment side, a variety of studies have documented that multinationals base their location decisions on other factors, such as high quality infrastructure, low labor costs, and large domestic market. In addition, there is growing evidence that foreign-owned firms or joint ventures tend to be cleaner than local firms in developing countries for five reasons: (1) higher standards are embedded in the technologies of multinational firms; (2) these firms tend to export to environmentally-sensitive markets; (3) greater control is exercised in environmental management to avoid tarnishing the company's global image; (4) some firms may be deterred by potentially environmental clean-up liabilities; and, (5) pollution intensive industries from developed countries have learned to be careful after decades of scrutiny by regulators and civil society.²⁵

Perspective of a Multinational CEO

Niall FitzGerald, Chairman of Unilever PLC made the following observations regarding environmental issues and its relation to investment and trade in Central America at a recent presentation at INCAE,

“One of the myths is that environmental standards are seen as an obstacle to competitiveness and to investment. Practical experience and academic research overwhelmingly now show quite the opposite. Multinational companies expect to operate to high environmental standards. Environmental protection is not a barrier to investment, particularly when the standards are evenly enforced. It can become a barrier if a multinational has its own high standards, and it finds that it is operating in an environment where lower standards are accepted and the playing field is not even.”

What are good business climate aspects?

By establishing stringent environmental standards, it appears that countries do not make themselves less attractive to most foreign investment. Taking it one step further, can countries encourage greater value creation through improved environmental aspects of their business climate?

In the *Competitive Advantage of Nations*, Michael Porter suggests that countries that have proven successful at developing greater levels of competitiveness and wealth creation have progressed through a set of "stages of development." According to the empirical research, these phases relate directly to the level of sophistication of the competitive approach exhibited by the nation's overall business climate and its leading industrial groupings or "clusters." From development driven by relative endowments of factors (such as low cost labor and abundance of cheap raw materials), countries and their leading industrial clusters can advance to development

²² See "Green and Competitive: Ending the Stalemate," Harvard Business Review, September-October 1995.

²³ See for example, Wheeler, David and Ashoka Mody. 1992. "International Investment Location Decisions: The Case of US Firms." *Journal of International Economics*. Vol. 33: 57-77; and, Panayotou, Theodore and Jeffrey R. Vincent. 1997. (see footnote 21 above)

²⁴ See for example, Tobey, James A, 1990. "The Effects of Domestic Environmental Policies on Patterns of World Trade: An Empirical Test." *Kyklos*. Vol. 43 (2): 191-209.

²⁵ For a more detailed discussion of this point and other issues relating to globalization and environment, see Panayotou, Theodore, "Globalization and the Environment," Background Paper for *The Human Development Report 1999*. United Nations Development Program, New York.

strategies based on high quality direct investment, and then to internally driven strategies based on high levels of innovation. In this manner, countries develop new capabilities that permit higher levels of competitiveness for their business clusters, and reinforce the conditions for the general business climate.

In its efforts to support competitiveness and sustainable development efforts in Central America, CLACDS has proposed a set of environmentally related business climate conditions that would support progress through the different stages. Table 1 summarizes the environmental characteristics of different phases of competitive development.

Table 1. The Environment and the Determinants of National Competitive Advantage

<i>Development Phase Determinants</i>	Factor Driven Phase	Investment Driven Phase	Innovation Driven Phase
Factor Conditions	Primary means of competition is through low price and low value contribution of natural resource inputs.	Traditional uses of natural resources still an advantage. Increased specialization sustains some differentiation and value-added.	Continuous creation and improvement of highly specialized environmental factors (resources, services, infrastructure)
Demand Conditions	Environmental and health concerns not part of local demand, not offered to international customers.	Environmental aspects of demand in home market are consistent with demand in export target markets. Demand for processes that are as "clean" as those in investing countries.	Sophisticated demand in local markets anticipates desires and needs of international markets.
Related and Supporting Industries	Absence of all but the most basic governmental services such as garbage collection and issuance of harvest and mining permits.	Minimal infrastructure to attract and support investors from developed countries. Basic, but not highly specialized	Variety and creativity of suppliers provide competitive advantage through innovative products and services that improve environmental protection and competitiveness
Strategy, Structure and Rivalry	Firms compete only on price characteristics, and do not incorporate much environmental value in planning or sales.	Nascent competition to meet minimal environmental characteristics for products and processes.	Firms develop highly specialized global positions based on environmentally superior strategies.

Source: Doryan, Eduardo et al., "Competitividad y Prosperidad Económica Sostenible: Avances Conceptuales y Orientaciones Estratégicas," CLACDS Working Paper Number CEN-001, April 1999.

It is important to note that competitiveness theory points to demanding domestic markets as perhaps the most important driver of firm level innovation and competitive development. In the region, domestic demand for environmental attributes is weak, which means that the leading companies of the region will have to "learn by doing" in demanding international markets, while at the same time working with industries and governments to develop more environmentally oriented demand conditions that will help all firms meet and exceed international

expectations. Policy makers and business leaders should explore options to “jump start” environmentally oriented demand in domestic markets. For example, government-purchasing policies have proven to be effective market stimulators. Preferences for environmentally superior products, such as certified sustainable wood products in school furniture; paper products from companies with certified environmental management systems; environmentally friendly hotels for lodging employees and guests; and, even sustainably grown food products for residential institutions and schools send strong signals to the market and encourage firms to learn how to improve environmental performance.

Building these attributes into the business climate will help create higher levels of competitiveness. International market forces pushing toward more environmentally aware products, processes and services can be harnessed as drivers to achieve a self-reinforcing competitive position. Aligning the environmental aspects of the region's business climate with high-level international expectations will support and encourage desperately needed investment by leading international firms. Generating and delivering products and services with the attributes that demanding international markets value will ensure continued access to these markets and provide the opportunity for developing more specialized high-value niches.

If transparently and consistently applied, high quality firms considering investment for the region will likely view serious environmental standards as an attractive aspect of the business climate—one that provides stability, adequate infrastructure and discourages "bottom-seeking" behavior by suppliers and competitors. Serious efforts in the environmental area could dramatically improve the firm and industry level competitiveness and provide an important impetus toward greater levels of high quality foreign direct investment for the region. As a matter of policy, the countries in the region should engage actively in strategies, such as environmental screening, to discourage bottom-seeking firms from investing.

OBSTACLES AND CHALLENGES TO IMPROVED ENVIRONMENTAL PERFORMANCE

Analysis of the performance of firms in Latin America and the status of environmentally related policy across the region indicates a troubling situation. Little attention is being paid to the long-term competitive advantage that these resources can provide for the region. A number of the region's leading firms are making good progress toward improved competitiveness through higher levels of environmental performance. However, they are the exception. So few firms are taking action that there is little data on real improvements in firm performance and accompanying competitive improvements. The region appears to be lagging behind other parts of the world, and most observers agree that environmental issues remain outside of the "mainstream" concerns of most business managers. Three specific points help illustrate this lag:

- 1) Reductions in energy, water, and raw materials consumption are nearly always guaranteed to provide impressive financial returns, usually ranging from 15% to 30% annually. However, a 1997 CLACDS-HIID survey of leading companies found that only 59% of Costa Rican respondents and 44% of Salvadoran respondents claimed to have programs to improve energy efficiency.
- 2) The region lags well behind most of the rest of the world in number of firms certified to ISO 14001 environmental management specifications (see Table 2).
- 3) Despite huge growth and market potential in environmentally improved products, such as organic food, only a handful of industries in a few countries are moving to meet this demand.

Most Latin American firms appear to operate in a general competitive atmosphere that makes them unlikely to focus on environmental issues. What are the key factors suspected in this lack of attention to environmental issues?

Table 2. ISO 14001 Certification, 1999 by Country and Region
(from World Bank, *Greening Industry*)

Region/ Country	Number Certified	Index* Value	Region/ Country	Number Certified	Index* Value	Region/ Country	Number Certified	Index* Value
Africa			Latin America			W. Europe		
Egypt	15	21	Costa Rica	2	22	Denmark	300	175
South Africa	21	16	Argentina	37	12	Sweden	400	172
Morocco	2	6	Brazil	65	8	Ireland	80	121
Asia			Mexico	27	8	Finland	130	105
Korea	463	95	Chile	4	6	Switzerland	292	93
Malaysia	80	82	Uruguay	1	5	Austria	180	80
Thailand	100	59	Colombia	3	4	UK	950	78
Singapore	60	59	Peru	1	2	The Netherlands	300	75
Japan	1542	32	E. Europe			Germany	1100	47
Philippines	23	26	Hungary	31	69	Belgium	120	45
Hong Kong	40	24	Slovak Rep.	8	40	Norway	60	38
Turkey	40	20	Slovenia	6	31	Spain	116	20
Indonesia	43	19	Czech Rep.	12	22	France	177	12
India	60	16	Croatia	3	15	Italy	100	9
China	60	7	Poland	8	6	Portugal	7	7
Pakistan	2	3	Rumania	1	3	Greece	6	5
Oceania			Russia	1	1	North America		
Mauritius	2	47				Canada	90	15
New Zealand	27	45				USA	210	3
Australia	130	34						

*Index = (Number Certified)/GDP, standardized to the range 1–200.

Source: *Greening Industry: New Roles for Communities, Markets, and Governments*, World Bank, 1999.

Lack of Information

There is a troubling shortage of information in the region on environmental trends in the marketplace and of approaches to address these trends. There is little Spanish and Portuguese language material (original or in translation), and very few organizations involved in disseminating materials on environmental performance,

environmental management, environmental strategy, corporate responsibility, best practices, or other relevant topics. A few organizations in the region, particularly trade associations, are beginning to become more active in environmental management. However, most of these efforts are new and modest in scope and are far from adequately supplying the industries' needs for information.

General Economic Conditions

First and possibly foremost, a lack of general economic stability in much of the region leads to a shorter-term outlook in policy, business planning and financing. This short-term outlook results in either a lack of concern or a heavy economic discounting of future environmental effects of development and business decisions. The resulting high interest rates and short lending terms impede serious long-term investment, including investments in cleaner, more efficient technologies.

Real interest rates in the region are still considerably higher than those of industrialized countries, with many countries still seeing rates in the high teens. Long-term credit (more than one to two years) remains severely limited or unavailable in most of the region. Under these conditions, many "common sense" investments that lower environmental impact are priced out of reach. At the broadest level, there is little incentive to be concerned about regeneration of a forest, deteriorating water quality or even soil erosion if a company's planning horizon is only two to five years.

Economic Policies

The transition from closed, import-substitution oriented policies of the past toward more globally oriented economies is a difficult one. Remnants of the old approaches remain, many of which greatly influence environmental performance. Continued market protection perpetuates a lack of efficiency in many productive sectors, encourages the over-exploitation of natural resources, and reduces incentives for innovation in environmental and other areas. Tariffs placed on imported technology by most countries have slowed the adoption of more efficient and less polluting technology by businesses. Excessive freight charges, insurance and frequently very high transaction costs (permits, forms, secure storage, and time) mask the true costs of importing such needed equipment.

Direct and indirect subsidies for land, water, and electricity more often than not lead to undervalued use of these resources.²⁶ Ubiquitous land and water subsidies encourage expansion of extensive agriculture, destruction of valuable natural resources (such as forests and mangroves) and support a host of other activities not capable of paying full cost for their inputs.

The continued use of asset-based corporate tax systems in many countries results in tax disadvantages for investment in new, clean, efficient technology because purchasing new equipment increases the taxable asset base of a company. This tax approach appears to harm competitiveness in a number of ways, not just for environmental performance.

Latin American citizens pay three times the amount for their productive output. First, they pay the price for goods out of their pockets. They are then charged the price of inefficient production for which they must compensate with their tax dollars (or through elevated prices). Finally, even if less directly or in the longer term, they pay the price of environmental damage caused by industries that have been given indirect incentives to damage the environment.

²⁶ For interesting discussions of some of the effects of subsidies and other incentive structures see Moor, A.P.G., "Perverse Incentives," Institute for Research on Public Expenditures 1997; and Roodman, D., "Paying the Piper: Subsidies, Politics and the Environment," Worldwatch Paper #133, Washington, DC. November 1996.

Economic Policies Have Reduced Competitiveness and Sustainability of the Agricultural Sector

Government policies have contributed to the misallocation of resources in agriculture. In the past, a major problem has been the net taxation of agriculture primarily through the over-valuation of the exchange rate through expansive macro-economic policies with large budget deficits, and industrial import protection policies. These exchange rates have hurt agriculture by raising domestic prices relative to world prices and by reducing the purchasing power of farm households. To compensate farmers for these losses, governments in developing countries frequently have turned to subsidizing credit and agricultural inputs such as irrigation, fertilizers and pesticides. However, studies indicate that the subsidies primarily benefit the large farms.

Both subsidizing agricultural inputs and taxing agricultural outputs send the wrong market signals to farmers, creating distortions and inefficiencies in agricultural production. For example, countries with high levels of agricultural trade protection use more than ten times as much chemical fertilizers and pesticides per hectare as countries with low levels of protection. Yet these chemical products can damage the environment and human health. Removal of input subsidies would reduce the fiscal drain on the public treasuries and would improve the sustainability of agriculture. Moreover, reduction of subsidies generally would not hurt small farmers.

Source: *"The Environment and Central American Competitiveness, CLACDS Working Paper #CEN-702, May 1999*

Industrial Organization

The structure of markets in much of the region may also be leading to under performance. Domestic firms have tended to fall into two major categories. The first group consists of the larger firms that have traditionally benefited from monopolistic conditions, protection from high tariffs, and favorable market regulations. The second category includes smaller firms ranging from micro to medium-sized businesses.

In general, protected markets and managed competition have allowed companies to pay less attention to efficiency, technological innovation, cost reduction, and rational use of energy and inputs.²⁷ Companies still under protection, principally larger domestic firms with secure local markets, have little incentive to change operating practices. Profits are frequently guaranteed by economic, legal, and commercial structures. For these firms, environmental performance is merely one of many areas that could be improved, along with productivity, marketing, and strategy, among others.

The micro, small and medium sized firms, the large majority of total Latin American businesses tend to operate on the margins of economic viability and do not generally participate in the tax, financial, and other societal systems. Financing is scarce or nonexistent for most of these firms, and the business planning horizons are extremely short given the high risks of operations. These companies recognize the need for reduction of energy consumption and waste, but low levels of concern appear to be attributed to a lack of information, general unavailability of appropriate investment capital to improve performance, and the absence of customer or government pressure.

Financial Policies and Practices

As capital flows more freely in the region and the private sector assumes a greater role in driving development, the need for increased competitiveness on a global scale will require new approaches to financial practices in

²⁷ Velazquez, Jose Luis. "Los empresarios y el cambio." *Revista INCAE*, 2:2, 1988, 73-78.

the region. Banks and other financial institutions will be increasingly called upon to review their policies and practices and work closely with their clients to identify investments that add "environmental value" to their operations.

Few banks in the region are aware of environmental issues— either the risks associated with potential problems, or of the positive benefit associated with addressing environmental issues in most industries. For a variety of historical reasons, financial systems have been utilized to promote government objectives in agricultural and industrial production. Many bank programs of this type continue to reinforce sub-optimal use of resources, inhibit the use of technological innovation, and promote environmentally unsustainable behavior. For example, pollution control and prevention equipment are typically charged higher interest rates, because, in spite of regulatory mandates and market-driven reasons for cleaner technology, pollution prevention and control equipment is frequently classified as "non-productive assets." In the agricultural sector, out of date technological practices are reinforced and frequently "locked in" as a part of loan packages and in many countries the systems are tied in to outdated, inefficient and occasionally corrupt distribution mechanisms for agricultural inputs.

On the positive side, banks and other financial institutions are adapting quickly to reduce risk and capitalize on new market opportunities. Leading international banks now have several years of experience in incorporating environmental variables into their credit and insurance decision making process. They use environmental criteria to avoid bad loans, lower risk of projects, and evaluate the credit worthiness and management quality of companies. The United Nations Environment Program's Financial Initiative now includes over 150 of the world's leading financial institutions that have made a pledge to improve their own environmental performance thereby improving their own competitiveness and contributing more fully to the goals of sustainable development.²⁸

In addition, the major multilateral development banks, such as the Inter-American Development Bank and the World Bank are providing guidelines and recommendations to help financial partners make better decisions regarding the environmental risks and opportunities of projects. Innovative programs at the International Finance Corporation, and most recently at the Multilateral Investment Fund, are creating additional opportunities to provide the liquidity necessary to take advantage of environmentally related market opportunities.

Environmental Legislation and Regulation

With a few notable exceptions, such as Mexico and more recently Argentina, environmental laws and regulations have not been overly effective in bringing about significant changes in the environmental performance of businesses in the region. In recent years, there has been a substantial increase in the number of environmental laws and considerable international assistance in regulatory development and enforcement. A closer look at the laws themselves and the institutions in which they operate yields a better understanding of why they have not yet been particularly effective.

Environmental laws in the region miss many activities that are most damaging to the environment and critical to the countries' competitive position. They frequently address minutia, such as excruciating detail on water discharge parameters, rather than on pressing issues of national development and competitiveness such as deforestation, water consumption, and energy use. Hazardous waste is a critical area where only a few countries have even attempted to take action.

²⁸ See http://www.unep.ch/etu/finserv/fin_home.htm

In areas where rules typically exist, such as for water discharge, they are generally weakly enforced. First, many of the laws do not set specific parameters to define compliance and lack exact implementing regulations. This means that all enforcement is on a "case by case" basis and is necessarily subjective. This strains government resources and creates uncertainty for the private sector. Second, government agencies tasked with enforcing laws and regulations lack staff and other resources. Third, in most countries there is an additional challenge of seeming inconsistency and conflict between different laws and regulatory authorities. Fourth, many of the countries of the region lack administrative law systems to resolve issues consistently outside of the judicial branches. Fifth, government authorities frequently lack the political will to bring action against companies struggling to create employment and productive opportunities. Sixth, explicit and implicit incentives in tariff structures, tax policies, and financial practices frequently encourage firms to act in ways that run counter to the spirit and letter of the environmental laws, and the benefits of not complying outweigh the risks of getting caught and being forced to comply.

Looking toward the future, the countries must look at ways to make environmental rules more consistent with development goals, such as increased competitiveness and sustainability. Approaches that help firms take advantage of new market opportunities and make improvements that are in their own enlightened self-interest will facilitate adoption of higher levels of environmental performance.

Recent experience from developing countries around the world is promising. *Greening Industry: New Roles for Communities, Markets, and Governments*, a new policy research report from the World Bank reports on a number of regulatory and policy approaches that have proven effective at helping countries and industries solve environmental problems in efficient, creative, and frequently competitiveness-enhancing ways.²⁹

²⁹ See <http://www.worldbank.org/nipr/greening/index.htm>

CONCLUSIONS: TOWARD A NEW PRIVATE SECTOR ORIENTATION

New research and experience from the field clearly show that in most situations superior levels of environmental performance are essential from the perspectives of both development and competitiveness. Globalization brings with it unprecedented challenges and opportunities to the countries of the region due to changing global value chains. The need for competitiveness in the region's business sectors and the importance of its natural resource base for future development points to a critical need to link the environment with competitiveness. Fortunately for the region, long-term commercial opportunities relating to environmental performance are perfectly aligned with competitive and societal necessities of the region. Joint action in the environmental area by private sector actors, governments and civil society of the region can lead to creative and effective solutions that can improve the long-term development and viability of the nations of the hemisphere.

Latin America's private sector must be at the forefront of changes toward a more positive relationship between the natural environment and business competitiveness. The nations of the region are counting on their private sectors to be the engines of future development. The first, and perhaps most difficult task will be to set aside preconceived notions of how environment relates to competitiveness and development. Changing traditional thinking cannot be done in a vacuum. Business leaders must begin working with their (and other) industry groups, governments and civil society leaders to begin improving those environmental aspects of the business climate that are most likely to stimulate direct investment and provide a lasting basis for trade and export-led growth.

Finally, business must look at environmental performance from its own self-interested point of view. From a long-term perspective, improving environmental performance at the firm and national level is a "no-regrets" policy. There is little or no downside risk. Further, there are unparalleled opportunities for Latin American business to participate in new environmentally related business ventures, both within the region and at a global level. While obstacles remain, they can be overcome. The question that remains is whether countries and firms in Latin America will move quickly and carefully enough to successfully benefit from improved environmental performance.