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THE IMPORTANCE OF INTELLECTUAL PROPERTY TO THE COMMONWEALTH CARIBBEAN: WITH SPECIFIC REFERENCE TO TRINIDAD AND TOBAGO

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ABSTRACT

As the developing world enters the twenty-first century, it is faced with an unprecedented effort on the part of more developed nations seeking to protect and tighten their intellectual property rights. This article examines the importance of intellectual property to the Commonwealth Caribbean by focusing on several areas including the correlation between economic development and intellectual property rights. It contends that the more developed nations often exploit the weak patent laws and investment opportunities fueled by high unemployment and large debt burdens that are characteristic of the developing nations. To this end, the research examines the tangible benefits that a system of national and international protection of intellectual property rights would afford Caribbean nations. It advocates that the legal profession in the Caribbean region lobby for a revision of laws that potentially impede foreign investment or participation, copyright and patent legislation, and greater protection of cultural intellectual property. The importance of intellectual property rights to one Caribbean nation—Trinidad and Tobago—illustrates the dilemmas faced by member nations of the Caribbean region. The article concludes that in more recent years protection of these rights has become an important contributing factor to the nation's gross national product.

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1. Introduction

From the dawn of human civilization, knowledge, inventions, and technical discoveries have been links in the chain of progress characteristic of the history of humankind. If we analyze this phenomenon, we may deduce that a good intellectual property system has been, is, and always will be a determinant in the drive behind the progress of humankind, becoming the protector of human creations. Protection of intellectual property is not an end in itself; it is a means to encourage creative activity, industrialization, investment and trade—thereby contributing to the general state of well-being.¹

Historically, the term invention comes from Latin (*lettera patente*)—with the first invention patent law appearing in 1474, created by the Republic of Venice with the aim of promoting industry. That document was a record of the disclosure of the invention by its creators and of the granting of exclusive rights to work said invention, both aspects being evident ("*patente*") from a simple reading of the letter ("*lettera*").² In modern times, patent documents contain the latest and most novel industry and technology solutions; and they cover all areas of human activity, grouped under an international classification system. These documents have a set format and contain a description of the state of the art and assessment of known solutions, as well as a description of the invention novelty with its industrial application, drawings, and formulae. If a competent invention protection system did not exist under patent laws, the inventor would be afraid of the invention being copied and would prefer to keep it hidden. This protection is important, more so today, when it is well known that large research and development centers all over the world spend enormous amounts of money and a considerable period of time trying to obtain patents that will enable them to recover the investment in their inventions.³

Traditionally, the industrial property system has worked as a simple franchise regime, a trade mark, or patent rights register; but from a modern point of view it should also be the main organ for disseminating the technological information contained in the document, and thus be a country's most effective development instrument. To wit, the proper use of industrial property can provide enormous economic benefits for developed and developing

countries.⁴ The most widely known economic advantage is the concession of the trademark or patent register which grants the holder a monopoly under certain conditions and for given periods of time. This means that an intangible idea can become a negotiable asset and one of considerable monetary value. For those wishing to acquire technology, it is essential that they examine the legal status of the patents or trademarks they are going to purchase: whether they are registered or in force, their scope, their term, whether the technology in question can be purchased elsewhere at less cost, or whether it is already freely available. For those considering research, it is also essential to ascertain the state of the art in the area in question.⁵

The first half of the 1990s was marked by an unprecedented effort on the part of industrialized countries to strengthen and expand the international intellectual property system and to establish universally accepted standards. Among the arguments wielded to justify the numerous initiatives taken on the multilateral front, and behind the pressures brought to bear unilaterally, are the losses that would be suffered by innovative companies and the prospect of benefits to be derived from enhanced protection, such as the encouragement of innovation, technology transfer, and foreign investments.⁶ As a matter of fact, the main target of pressure from the industrialized countries are the legal regimes of developing countries, which, for the most part, have just now begun to take up the basic principles or objectives of the proposed reform to the international system. They see this reform more as a reflection of the decline of United States competitiveness, the growing cost of research and development, and the globalization of the world economy, rather than an initiative aimed at strengthening technological and industrial development in their own economies.⁷

In the latter part of the 1990s, we have seen the need for the Commonwealth Caribbean and many other developing countries to respond to a period of sweeping reforms with regard to patent law, both through modifications to national legislation and as a result of negotiations held within the framework of multilateral treaties such as the World Intellectual Property Organization (WIPO) or the General Agreement on Tariffs and Trade (GATT), to which they are parties. The main purpose of these negotiations has been the need to reform the world intellectual property system. For Caribbean nations, there are three basic aspects within this main reform guideline aimed at protecting intellectual property. In the More Developed Countries (MDCs) of the region there is a trend towards greater patent protection, in line with legislation adopted in developed countries and their positions at international forums.⁸ Additionally, there is a move in the region to link the economic aspects of this issue with the legislative functions of the Caribbean Common Market (CARICOM) and to enhance the productivity and efficiency of intellectual property management and protection through the development of autonomous national offices and independently linking them to the research and industrial sectors.

The aforementioned changes can only be understood in the context of the present international scenario and, in particular, in the light of new attitudes of the industrial economies to intellectual property. Developed countries have begun to adopt this issue as a priority area in foreign trade policy and the implementation of policy measures—even going so far as to apply trade reprisals and sanctions—to developing nations, violating the spirit of this new trend in international co-operation. The modern intellectual property regime of Caribbean nations appears poised to promulgate an international dimension, but recent opprobrium by the WIPO has stymied their legislative progress. The main criticism proffered faults Caribbean governments for their laissez-faire attitude in introducing schemes that would promote the integral use of the intellectual property system, that is, the adoption of a scheme aimed at boosting and furthering technological development, innovation, and artistic and cultural creativity, which would accompany efforts to strengthen the scheme's legal structure each step of the way. To this end, this article examines the importance of intellectual property to the Commonwealth Caribbean. It will address several areas of concern: (1) developments at the international level and their impact on the intellectual property systems of the region; (2) intellectual property and economic development; (3) benefits of intellectual property to Caribbean nations; and (4) recent developments in the intellectual property regime in Trinidad and Tobago.

2. The International Dimension of Intellectual Property

It is a well-established principle that intellectual property is territorial in nature, that is, that protection under a given copyright or patent law is available only in the country where that law applies. Thus, for works to be protected outside the country of origin, it is necessary for the country to conclude bilateral agreements with countries where the works are used. In the mid-nineteenth century, such bilateral agreements were concluded among European nations; but they were neither consistent nor comprehensive. As a result of the need for a uniform system of protection, the first international agreement for the protection of the rights of authors was concluded and adopted on September 9, 1886, in Berne, Switzerland: The Berne Convention for the Protection of Literary and Artistic Works. The countries which adopted the Convention formed the Berne Union to ensure that the rights of authors in all member countries were recognized and protected. The 1886 text of the Convention has been revised several times: the first major revision took place in 1908 in Berlin, followed by the Rome revision in 1948, the Stockholm revision in 1967, and the Paris revision in 1971.⁹

The Stockholm revision marked the beginning of the modern-day perception of intellectual property protection, for it was a response not only to technological changes occurring at the international level but also a response to the needs of newly independent developing countries for access to

works for the purpose of national education and for promoting their efforts at research and development. In recent years, access to the Berne Convention has accelerated due to the growing awareness that patent and copyright protection is a crucial part of the new global trading system. International trade in goods and services protected by intellectual property rights is a booming, world-wide business; and both developed and developing countries have recognized that it is in their interest to provide strong protection of intellectual rights in order to participate in the benefits of such trade. The recent concluded Agreement on the Trade Related Aspects of Intellectual Property Rights (TRIPS),¹⁰ which incorporates the substantive provisions of the Paris Act of the Berne Convention, is a clear proof of the importance now attached to intellectual property protection by many countries.

The main advantage for Caribbean nations acceding to the Berne Convention is macroeconomic in nature. Regardless of its level of social or economic development, by joining the Berne Convention, Caribbean countries become part of the international system for protection of authors' rights, and by extension, the international trading system for goods and services protected by copyright. This is important for the exchange of culture, entertainment, information, and technology. Moreover, the inclusion of the substantive standards of the Berne Convention in the TRIPS Agreement (discussed later) demonstrates that the observance of minimum standards of intellectual property protection is virtually indispensable in order for a country to achieve economically significant levels of trade-based foreign exchange. Membership in this Convention sends an important signal that the country is willing to exert the political will necessary to protect the rights of researchers from other countries. This signal may also be a pre-condition to successful international co-operation, including attracting foreign investment in sectors of the economy other than intellectual property. In sum, membership in the Berne Union has become a piece of a much larger puzzle; without copyright protection for all works, foreign and domestic, countries may find themselves deprived of timely access to needed information that will become increasingly a condition to economic and cultural survival in the twenty-first century.¹¹

The Agreement on Trade-Related Aspects of Intellectual Property Rights, the TRIPS Agreement, which came into effect on January 1, 1995, is the most comprehensive multilateral agreement on intellectual property. For Caribbean nations, it establishes standards of protection as well as rules on enforcement and provides for the application of World Trade Organization (WTO) dispute settlement mechanism to resolve disputes between member states. The areas of intellectual property that it covers are copyright; trademarks, including service marks; geographical indications, including appellations of origin, industrial design, patents including the protection of new varieties of plants; the lay-out designs of integrated circuits; and undisclosed information, including trade secrets. One basic feature of the TRIPS Agreement that is of particular significance for the MDCs of the English-speaking

Caribbean is that the protection of their intellectual property has become an integral part of the multilateral trading system as reflected in CARICOM agreements with the United States, the European Union, and the North American Free Trade Agreement (NAFTA). Indeed, it is one of the three pillars of these integration schemes, the other two being trade in goods—the area traditionally covered by GATT—and the new agreement on trade in services.¹² The fact that the protection of intellectual property has thus moved to the center stage of international economic relations is not surprising, given its major and growing importance for the conditions of international competition in many areas of economic activity. Indeed, Caribbean nations made the convincing argument during the TRIPS negotiations that the inadequate standards of protection and ineffective enforcement of intellectual property were often unfairly depriving right holders of the benefits of their creativity and inventiveness and, as a result, prejudicing the legitimate commercial interests of their countries.

Caribbean countries have been aggressive in their pursuit of intellectual property rights since they have been signatories to every major international agreement. However, the technology gap separating industrialized and developing or underdeveloped countries speaks to an underlying problem which is evident and is easily quantifiable in terms of invention patents. Thus, of the million applications each year worldwide, only 8 percent are from Third World countries and less than 2 percent are from Latin American and the Caribbean.¹³ It is hardly surprising that, in the Caribbean, 90 percent of patent applications are made by non-residents and result from research done abroad. An additional and related problem, not reflected in figures such as these, is the lack of effective industrial working of 95 percent of those invention patents granted in the region—which means that they do not lead to new industries and the resultant creation of goods, jobs, and foreign exchange for the country granting the patent.¹⁴

In view of the present precarious, pressing circumstances and the challenges of global competitiveness and regional integration faced by Caribbean industries, together with the urgent need to modernize and adapt its technological infrastructure, the industrial property issue should be supported and strengthened to make it an effective tool for regional development. In the past century, the gap between the developed and developing worlds has grown steadily. This analysis reveals that one of the preponderant factors contributing to this rift is the difference in scientific and technological progress. In addition, science and technology have become new factors of power that accompany and reinforce the status quo in international trade. It is pertinent to note that, in general terms, the international debate has been promoted by the developed countries for the purpose of obtaining adequate and effective intellectual property protection in order to avoid trade distortions. There is, however, another aspect, closely linked to trade which affects the Commonwealth Caribbean: the modalities for the licensing of intellectual property rights which can constitute trade restrictions or the denial of

access to certain markets. The industrial property system is thus of basic importance to the countries of this region, which have concentrated for the most part, on producing raw materials or agricultural products, making them heavily market-dependent and vulnerable to unfavorable price fluctuations. In almost all of the countries comprising the Caribbean, industrial property legislation dates from the past century, being at best cursory, which means that the established norms do not adequately represent developments in patent law and technology over the past generation.

Today, it is a well-known fact that the intention of the modern legislator is to confer on the patent system a function other than a purely mechanical registering of invention ownership and to make it a dynamic tool for progress and development. There is, moreover, very obvious concern over certain social aspects reflected in, for example, the prohibition of the patenting of pharmaceutical and biotechnology products and in the fact that each government conserves its sovereignty when it comes to future decisions as to which processes and products may not be patented. This observation basically arises from a lack of correspondence between the theoretical justification of the system level, including old legislation that has not been updated, and the manner in which the mechanism in question works in practice. Aside from some noteworthy exceptions, patents do not play a significant role in the development of the countries of the region. As yet, patent documents are not even used as a source of technological information; and there is yet no legislative project that seeks solutions to problems arising from the supposed need to protect products resulting from new technologies. Nevertheless, from the mid-1980s, MDCs such as Jamaica and Trinidad and Tobago began to review their industrial property systems, introducing important changes in their legislation, particularly on the following issues: a stricter definition of patentability, a reduction in the number of patentable items, a more precise definition as to the sphere of the holder's exclusive rights, and the establishment of mechanisms intended to induce use of inventions locally by means of non-voluntary licensing or the abrogation of exclusive rights. Despite these changes, Caribbean nations have been left on the sidelines, a reflection of the state of their industrialization and the extent of their insertion in the global economy. However, for the region, the industrial property system can be an important tool as far as technology transfer and the promotion of innovation are concerned. To these ends, the system should reflect a fair balancing of interests between the person being protected and the society granting exclusive rights to the former. The concern of the intellectual property system has always been the constant pursuit of this balance. Society used to achieve this by granting exclusive rights to the inventor, based on the inventor's contribution to the nation's scientific and technological know-how.¹⁵ Today, the issues of concern have reached a more sophisticated stage: appropriate ways of protecting computer software and internet accessibility, for example. Consequently, serious difficulties arise in bringing about that social balance which has traditionally been the basis of any industrial property system.

This social balance, usually defined within national boundaries, has become highly vulnerable as a result of an attempt to make protection standards universal in response to the importance given to intellectual protection in international trade. In short, this balance of social interest is no longer simply an internal matter; today, it has become essentially an international issue.

3. Intellectual Property and Economic Development

Contemporary social science has asserted that while many countries are underdeveloped, few are aware of the connection between underdevelopment and the lack of protection of intellectual property. Today it is almost a truism to assert that modern technology offers the best and perhaps the only affordable hope for transforming underdeveloped nations into vibrant economically developed economies. The critical factors in producing wealth are capital, labor, and technology. Technology allows the production of more and better goods, at less cost, using fewer resources. Technology is, however, easy to steal and depends for its protection on strong patent, trademark, copyright, and know-how laws. Until recently these laws, known collectively as intellectually property laws, have been notably weak in the Commonwealth Caribbean.

The region known as the Caribbean is not homogeneous. The region comprises the Hispanic and French-speaking islands as well as the Anglophone Greater and Lesser Antilles. In some of the islands technological advancement has become an integral part of research and development, often fostered by government-sponsored projects underwritten by the various universities. Nevertheless, these exceptions do not alter the fact that the region, as a whole, lags behind the rest of the world in the utilization of modern technology. This regional lag has contributed to the relative decline in the economies of many island-nations because it has impaired the use of technology in the region that most needs to improve its productivity.

The free market economic system only became possible in the eighteenth century when land, labor, and capital were freed from the artificial constraints of the Middle Ages. Today, technology is becoming as important as the traditional factors of land, labor, and capital. Some believe it has assumed a more vibrant role in achieving successful development strategies. Technology needs to be released from the artificial constraints that bind its proper use. By and large, technology in the Commonwealth Caribbean has been blocked by conceptual constraints of which their removal is an affordable way to spur economic development. Intellectual property laws are the foundation upon which technological society rests. Unfortunately, developing countries, until recently, have done little to encourage intellectual property. The degree of attention and legal protection given to patents and trademarks by the governments of the Commonwealth Caribbean nations has not been great. The reasons for this neglect vary.

Some economists published theoretical studies in the 1960s which gave rise to the belief that foreign aid and technology were sources of underdevelopment. These studies showed that most of the patents generated in the Caribbean were filed in European countries by domestic corporations and were not even utilized in the region. Consequently, it was concluded that foreign technology was not transferred to the Caribbean and that patents were merely sterile monopolies. The theoreticians reasoned that the international patent system served primarily to benefit foreign companies and that a weak system of patent protection would help national development since technology, unimpaired by restrictive national laws, would flow from the developed world to the developing nations of the Caribbean. It is, thus, axiomatic that an underdeveloped region would not have a strong interest in patents and that until recently local economists would not realize that their patent system was deficient or non-functional.

It is obvious that weak intellectual property protection is not the only problem Caribbean nations face. The region must prepare itself for the next century, which will be a post-industrialized century driven by technology. The situation of the Anglophone Caribbean is critical. Governments in the region have inherited huge debts and are concerned about how the future of their nations are mortgaged. Politicians argue in their political campaigns that the developed nations are draining the life blood of these indebted nations and that the capital they need is being sucked out of them by foreign banks.

Critics in the Caribbean say the developed world, the North, continues to exploit the weak patent laws and investment opportunities fueled by high unemployment and large debt burdens. These charges are countered by statements that the developing nations suffer from flight of capital and lack of local investment because of the lack of confidence in local governments and the poor legal administration and financial policies of their governments. The analysis, though, provides one major conclusion. What is needed in the Caribbean is a way to stimulate the economies to be more productive. It seems clear that the use of modern productive technology is the key to economic development. Economic development would be of benefit to Caribbean countries and allow them to pay off their debt burden and produce better living conditions for its citizens. The developed world would also benefit because its commercial banks would be repaid and Caribbean nations would be able to purchase goods and services from the developed world. But, since technology is protected by patent and know-how laws which are either weak or now coming into existence, the region cannot hope to attract much licensed technology unless the intellectual property laws change. Foreign licensors would only license their technology if they could do so at a profit and if they do not run the risk of having their technology enter the public domain.

Those proposing strong patent, copyright, and trademark laws in the Southern Hemisphere, including the Caribbean, are attacked as unpatri-

otic persons who are selling out their countries to foreign investors. The common view held by many is that the passage of strong patent laws will raise food and pharmaceutical prices to the detriment of the nation and to the sole benefit of foreign interest. It is also felt that strong computer software laws would only serve to benefit foreign software developers who have already recouped their development cost in their home markets. These outdated attacks show a lacking in the basic understanding that a strong system of intellectual property protection serves as the foundation for a modern economy. Attacks on the patent and copyright systems show that an educational campaign is needed to change the traditional thinking that has paralyzed the region's technological growth.¹⁶

The lack of protection for patents and trade secrets hurts the development process. It means that local citizens do not dream of developing and patenting more productive methods because it would be futile to patent their invention. The situation created by the lack of adequate protection has greatly discouraged the flow of licensed technology to the region. The Caribbean must compete with developed and developing nations for both capital and technology. The re-emergence of Eastern Europe will probably come at the expense of Caribbean nations, a concern echoed during free trade negotiations. What is needed is a fresh look at the importance of technology and of the laws that protect it in the Caribbean. Inadequate intellectual property protection means that attempts to build an industrial base in the region becomes aborted because the understanding needed to support a technological revolution is lacking. Technology can easily be protected by the passage of laws protecting know-how, trade secrets, copyrights, and trademarks and by enforcing these laws. Passage and enforcement of these laws is well within the economic means of Caribbean governments. The cost of passing and enforcing strong intellectual property law is close to zero. The price of not having strong intellectual property law is underdevelopment.¹⁷ To wit, Caribbean nations should consider adopting as their industrial policy the passage of strong laws to protect intellectual property and adopt other laws encouraging foreign investment.

4. The Benefits of Intellectual Property Rights to Caribbean Nations

Investments in Caribbean nations and transfers of technology to them by foreign companies are heavily influenced by the strength or weakness of their intellectual property protection, particularly in high-technology and pharmaceutical industries. As such, one of the enduring questions that troubles these developing nations concerns the tangible benefits that the system of national and international protection of intellectual property offers. They derive little comfort from the knowledge that scholars are divided on whether the patent system is, indeed, an unmixed blessing. Both Adam Smith and John Stuart Mills, noted classical economists, condemned monopolies generally but agreed that patent monopolies served a useful purpose.¹⁸

Modern writers have characterized industrial property monopolies as "social monopolies," "general welfare monopolies," or "socially earned monopolies" as the monopoly grant is limited and conditional.¹⁹ Such monopolies are limited not only in terms of time-periods but also because of the continually emerging newer technology. Joseph Schumpeter described the competition from the new products, technology, sources of supply, and forms of business and organizations as "the process of creative destruction" which effectively limits monopolies. On the other side are writers who lament that patent monopolies restrict free and fair competition to an unacceptable extent and that the rewards that monopolies confer may be unrelated to the efforts or investments of inventors and innovators.²⁹ It has been pointed out that a definite shift has taken place where it is the companies, rather than the individuals, who are the major and, increasingly, about the only players who benefit from the industrial property system.

This means that Caribbean nations have begun to adopt a more accommodating stance on foreign direct investment (FDI) and technology transfer, and in recent years a certain level of ambivalence has accompanied the move to tighten intellectual property rights (IPRs). On the one hand, these countries anticipated increasing costs. This reflects both the higher rents in the form of royalty payments from their status as net importers of technology and also higher administrative costs from creating an appropriate system to enforce IPRs. More recently, Caribbean nations have begun to voice a long-standing concern that stronger IPRs hinder the diffusion of technology through patent non-use and other abuses of monopoly power. On the other hand, and despite its complex determinants, there are also grounds to expect greater FDI flows to follow tighter property rights, particularly in more knowledge-intensive industries. Moreover, there has been a growing recognition that tighter property rights can encourage technological activity through improved access to new knowledge, including technology transfer and enhancements to research and development capabilities. In this respect, it is worth noting that innovative activity in the Caribbean is initiative associated with smaller innovations with a significant informal component. The importance of trade secrets and petty patents in stimulating incremental innovative activity suggests that there is considerable scope for measure, other than legislative changes on IPRs, to enhance performance in this area. Consequently, and independently of any pressure from developed countries, Caribbean nations face a difficult task of how best to integrate IPRs into their economic development strategies.

A major challenge as we approach the new millennium is the evolution of a model which would facilitate sustainable development in the sixteen small member-states of the Caribbean Community (CARICOM). The leading and integrating element of this model is access to the global niche markets not only in terms of the expansion of traditional markets and the exploration of new markets for existing business sectors, but also in terms of the introduction of new markets for emerging business sectors. The Industrial

Revolution was the most fundamental reorganization of humankind since the agricultural revolution centuries earlier. The structures of everyday life changed forever and with them the nature of families, governments, cities and farms, and culture. In many important ways, today we do not think in the same way as those who lived before the Industrial Revolution.

The most important power source of our generation is information processing. Computers have had, over the past thirty years, the impact of a performance increase similar to that of an industrial revolution, once every ten years. In the industrial age capital, labor, and natural resources were the three basic inputs of production. But now that we are in the information age, information, including human intellect, knowledge and innovation, is now becoming a fourth critical factor of production. Information technology, including hardware, software, and coursework (computer-based instruction materials) must, therefore, command a prominent place in our formal and informal curricula. In the Caribbean, we must, therefore, measure the development of Caribbean citizens not by brawn, literacy, and numeracy, but also by computer literacy.

Over the years these small states have searched for opportunities to generate employment and enhance their foreign exchange earnings. These efforts have been focused mainly in the areas of minerals, agriculture, tourism, and manufacturing. More recently offshore financial and information services business sectors have emerged. Other potential opportunities in the export services sector include: professional services, expansion of the entertainment industry to culturally receptive markets; as well as health, festival, sports, and computer tourism. This last mentioned opportunity arises when computer-based training courses are mounted in small states conducted by international and local leading-edge facilitators using state of the art technology. Often the participants from external markets combine their training programs with a vacation, which is often to their financial and logistical advantage. The global business revolution brought about by the advent of the information age, through which information technology and telecommunications technology opportunities abound, has resulted in a vision for the future hitherto unsurpassed.

Recent world-wide dialogue on the laws and regulations governing intellectual property has laid the foundation in terms of the protection of intellectual property rights, which has in turn stimulated a new vision in the CARICOM region with respect to trade in Industrial Property Related Services (IPRS).²¹ The Caribbean Community will need to adjust policies in regard to intellectual property rights to comply with recent changes with the adoption of GATT. The Uruguay Round's Trade-related Intellectual Property Agreement sets worldwide minimum standards for intellectual property law. These changes, because of GATT, relax trade barriers within the global community while protecting the rights of importing and exporting parties. Individual governments in the Caribbean have begun aggressive reformulation of national laws to implement GATT provisions, which represents major

changes and at the same time help and encourage the creation and expansion of local business. It has now been recognized and accepted in the Caribbean Community that IPRS have the potential to be a significant export sector.

The Caribbean Community members must exploit the IPRS export opportunity by taking full advantage of the development of cultural, intellectual, information and communication technology resources. Companies in the region must reorient themselves to undertake knowledge based activities, including research and development, engineering design and computer software development. Manufacturing and services, as in the case of Singapore, are the twin engines of economic growth. Local enterprises must be encouraged to upgrade their skills and to evolve into strong export-oriented companies. The "Virtual Solutions" training concept, which is now being released on the international marketplace, is available to users on the Internet or in an Intranet corporate environment. It has the major advantage of being equally available to users on all types of technology platforms. It will facilitate the distribution of remote training solutions in the CARICOM countries and allow an individual to improve his/her skills in a timely manner. This emerging IPRS business sector complements the other export sectors in enhancing the foreign exchange earnings thrust, and it has the potential to reduce the brain drain and ultimately contribute through a ripple effect to increased employment.²²

Seven major categories have the potential for export from CARICOM countries to other countries within the region and in other Third World countries, for example, in Africa and the Pacific, where the transfer of the technology would be appropriate. Three MDCs in the region, Barbados, Jamaica and Trinidad and Tobago, have led the Caribbean region in exporting agricultural and consulting engineering services. Agronomists, plant breeders, livestock scientists, and agricultural economists abound in the region. This is primarily the result of the world class Imperial College of Agriculture which preceded the Faculty of Agriculture at the University of the West Indies, as well as other agricultural institutions. Most of these resources reside in the ministries of agriculture and in regional research and development institutes and universities. There is a trend towards a reduction of public sector financial dependency in many of these organizations, which has forced them to market these services in the wider marketplace where there is a need to improve the technology to obtain greater quality, productivity, and competitiveness for traditional and exotic agricultural commodities. Traditionally, services such as construction management, environmental engineering, and ecological consultants would have to be imported from extra-regional supply markets. With the move to regional cooperation, CARICOM nations now rely on domestic sources of engineering to provide these needed services and there is the opportunity to export these services from CARICOM countries with surplus to those where the resources are scarce.

In other areas of intellectual property related services, education and training, management and consulting offshore financial, insurance and banking services, and performing and commercial artistic services are all integral parts of the move to harness the fallout from intellectual property protection in the Caribbean. None, though, is as important as the revolution occurring in the Caribbean in the software and multimedia development services. There is a growing demand internationally because of the advent of the information age and particularly the global information superhighway for the development of software, courseware, and multimedia products. Many companies in the U.S., for example, where there is the largest market in the world for information processing services, are therefore looking for offshore destinations where (1) there is a stable government; (2) a population receptive to training in the latest technologies; (3) the wage rate is favorable compared to the US; (4) English is the first language; (5) tax laws encourage profits; (6) and there is a modern physical and telecommunications infrastructure available. Many CARICOM countries meet or have the potential to meet all these needs. However, attention must be continually paid to the hardware, software, and telecommunications environment, thus giving the necessary support to the highly trained and expanding people base.²³

As part of this movement in improving the communications infrastructure of IPRS, the Caribbean region must create a multimedia super corridor, a fiber optic cabled area, within which Smart Partnerships²⁴ must be encouraged between local and multinational corporations. This will be a catalyst for the development of multimedia products and services and will serve as a springboard for the regional and world markets. Multimedia technology can help the Caribbean towards the goal of productivity improvements through the development of human potential. Multimedia technology which merges text, graphics, sound, and motion video provides the opportunity for individualized, interactive, self-paced, competency based instruction.²⁵ Additionally, there is the opportunity to create state-of-the-art interactive multimedia exhibits. For example, the Barbados Tourism Encyclopedia, developed as a joint venture between a Barbadian and a foreign firm, is the official site of the Barbados Tourism Authority on the Internet which has received rave international reviews. This technology, which can be used for other applications as well, must be expanded to all tourism destinations in the Caribbean.²⁶

It appears that the direct benefits of intellectual property protection in the Commonwealth Caribbean are related to the services subsequent to the promulgation of protection. A number of primary policy issues associated with the export of this service arise from the above discussion. Members of the Caribbean Community must begin to identify appropriate Third World countries for penetration as well as negotiate trade agreements with those countries that are at the leading edge of the information industry. But, more importantly, governments must facilitate public and private sector partnerships to mount dynamic training programs in business management, infor-

mation technology, contracting, intellectual property protection and finance and, at the same time, develop middle management know-how, executive awareness, and high impact training programs to increase the technical skills of their employable population. Additionally, the region must promote assistance to access grants—to finance investigations and test ideas—which is at the foundation of intellectual property development. This is indeed at the high risk end of the business development spectrum and hence should be borne by individual governments in the Caribbean region. The promotion of venture capital organizations to finance technologically up-to-date equipment with the aim of producing more innovative and creative financial products must become the cornerstone of the IPRS sector.

As the Caribbean region passionately seeks economic development through this rather newly emerging regime of IPRS, it has come to realize that technological progress is a major component of any economic development strategy: improvements in productivity and efficiency are major products of technological progress. Recognizing the dire need to build local technological capabilities and competence, national governments must encourage public sector reform, private sector re-orientation and trade union re-focusing aimed at alleviating constraints to IPRS export marketing. In light of this rapidly changing external environment, promoting the practice of continual renewal of public and private sector organizations and the establishment of professional consulting associations to set standards for the consulting industry must be encouraged. To enhance these policy directives, the legal profession must lobby for the revision of laws that potentially impede foreign investment or participation, copyright and patent legislation, and facilitate cultural freedom intra-regionally. The end result of the IPRS incentive is economic in nature. To wit, CARICOM members must promote fiscal incentives for pioneer activity while promoting the concept of “a level playing field” exemplified by tax exemptions on inputs and adopting the policy of taxing the outputs, not the inputs, in a trade liberalization environment. To coalesce these policies, nations in the region must facilitate the freedom of movement of professionals and establishments within CARICOM so that a greater contribution can be made by people from countries with the greatest potential for the export of IPRS to the development of other member countries. If these policies can be adopted, IPRS and adequate industrial property protection appear to be the facilitators of direct investment and the emission of development. The successful articulation of these policies may improve the capacity of the countries in the region “to absorb and efficiently deploy the new technologies, adapt them to local conditions, improve upon them and ultimately create new knowledge, what may collectively be termed technological dynamism.”²⁷

Intellectual property protection and its residuals of IPRS and industrial property protection have been accompanied by an open-minded attitude towards innovation and have signaled a change in traditional attitudes and structures. Caribbean nations must pursue an anti-trust policy and re-

strict foreign investment to only those areas where local expertise is not available. The economies, though, may still be dependent on foreign technology; therefore, an investment climate has to be maintained. The IPRS regime has a significant role to play; and, coupled with intellectual property protection, it will be needed to protect the patents, trademarks, and know-how of enterprises, particularly the indigenous ones. In due course this will lead to the stages developed countries have achieved. This model of development, which has been put forward by Barbara Hansen, has been pursued successfully by some of the newly industrialized developing countries such as South Korea, Taiwan, Singapore, India, and Brazil.

5. The State of Intellectual Property Law in Trinidad and Tobago

The Intellectual Property Office of the Republic of Trinidad and Tobago describes its chief purpose as:

The stimulation of research and creativity within the country by providing intellectual property rights and the legal means for their protection and encouraging the public disclosure and the effective use of accurate information on creative effort thereby enhancing the competitiveness and contributing to the economic and social development of the people.²⁸

The protection of intellectual property rights in Trinidad and Tobago did not assume prominence until the conclusion of the Uruguay Round of multilateral trade negotiations²⁹ which the islands signed in Marrakech, Morocco, on April 15, 1994. The Marrakech Agreement establishing the World Trade Organization (WTO) is responsible for governing trade relations among its members with the support of a Dispute Settlement Body. On the September 26, 1994, Trinidad and Tobago also signed a bilateral Intellectual Property Rights Agreement with the government of the United States which required the island-nation to enact and implement similar and, in some cases, broader protection than that required by the TRIPS Agreement. The TRIPS Agreement established minimum universal standards for patents, trademarks, industrial designs, geographical indications, integrated circuits, trade secrets, copyright and neighboring rights. Trinidad and Tobago reached an understanding with the U.S. for the implementation of the necessary national legislation by September 26, 1996. Even before the signing of TRIPS, Trinidad and Tobago had taken steps to modernize its industrial property legislation and infrastructure in keeping with internationally accepted standards of intellectual property protection.

Like much of the legislation of the island, the laws pertaining to the issuing and administering of patents no longer comfortably meets the requirements and obligations of Trinidad and Tobago in the current environment of international trade and cooperation. The present law of patents, The

Patent and Design Act, is based upon Ordinance No. 25 of 1867 which amended the then existing law. As early as 1883, the international community recognized the importance of cooperation in the area of industrial property and established the Paris Convention for the protection of industrial property. The Convention established the main principles that signatories to the Convention agreed to apply in their treatment of intellectual property. It was not until the decade of the 1970s that the international community began making real progress in harmonizing the world's patent system. Two main types of patent systems have generally co-existed internationally. Trinidad and Tobago inherited and maintained the simple registration system. The other system is called the "full examination system". The main difference between the two systems lies in the presumption of the validity of the information disclosed about the invention. In the simple registration system, the state relies upon a declaration by the person applying for the patent to determine the novelty, ingenuity, and utility of the technological advance being disclosed. Should any other persons dispute the validity of the applicant's declaration, their main course would be litigation. In the full examination system, the state determines through its own resources the validity of the information provided by the applicant.³⁰

Trinidad and Tobago, recognizing the advantages of the full examination system in creating a competitive investment climate, began a review of its existing patent legislation which resulted in the Patent Bill, 1988. Before this Bill was introduced in parliament, a number of other initiatives were underway. Internationally, the Uruguay Round of GATT included significant discussions on the trade related aspects of intellectual property rights. Locally, the government was pursuing a bilateral agreement with the U.S. as a hopeful precursor for entry into the North American Free Trade Alliance. This eventually resulted in a Memorandum of Understanding in 1994, which has previously been mentioned. This meant a general review of the Bill produced in 1988, which resulted in the Patent Bill of 1993. In March 1994 Trinidad and Tobago acceded to the Patent Cooperation Treaty and became a Receiving Office for international patent applications. Subsequent review of the Patent Bill of 1993 resulted in the Patent Bill of 1996, which was passed by both Houses of Parliament on July 9, 1996.³¹

The Patent Cooperation Treaty (PCT) essentially provides its members with the possibility to seek patent protection for an invention simultaneously in each of a large number of countries by filing an international patent application. Such an application may be filed by anyone who is a national or residing in a contracting state. Regarding the receipt of PCT applications from nationals of Trinidad and Tobago, official agreements have been signed with the following international searching authorities to do substantive examinations for local PCT applicants: The Swedish Patent Office, The Austrian Patent Office, The U.S. Patent and Trademark Office, The European Patent Office, and The World Intellectual Property Organization. Although the Patent Act of 1996 addresses primarily the administration of patents within the

context of PCT, the Act provides considerable discourse for other aspects of intellectual property, namely trademarks, copyright and neighboring rights, industrial design and geographical indications. Trinidad and Tobago has assumed a leadership role in the Caribbean in administering the various dimensions of intellectual property, the most noteworthy being the enforcement of industrial design and copyright law.

Legislation for the protection of industrial design for the purpose of product differentiation emerged about the same time as the industrial revolution. The first law in the United Kingdom with this objective was targeted at the textile industry. As techniques of mass-production were applied to other areas of manufacture, so too the scope of the relevant legislation expanded. The definition of a 'design' in the current Patent and Design Act (Act 10 of 1900, now found in Chapter 82; 83 in the Laws of Trinidad and Tobago) and many of the relevant provisions in that Act are derived from the Designs Act (1842) of the United Kingdom. The Act identifies universal originality as the main criteria for protection of a design and requires the issuing body to only examine the formality of the application to determine whether the design satisfies the definition required and to determine that it is not contrary to good order and morality. The burden of proof is, therefore, placed on the applicant if proof is required, for example, by the Court.

In more recent years, Trinidad and Tobago has steadily moved to protect against violations of its copyright laws. The current Copyright Act, No. 13 of 1985, repealed and replaced the Copyright Act of 1911 of the United Kingdom and the Copyright Act Chapter 82; 80 (except Part 1) of the laws of Trinidad and Tobago. The new Act is based on the United Kingdom Copyright Act and on the provisions of the Berne Convention as amended up to September 28, 1979, and the Universal Copyright Convention. Trinidad and Tobago became a member of the Berne Convention in 1988. The current system is not a registration system like that of the U.S. and Canada. Copyright automatically arises in relation to products defined as literary, musical and artistic works under the Act, once those works are original and are expressed in some material form by a person who is a resident of the islands. Trinidad and Tobago also became a member of the Geneva Convention for the Protection Against Unauthorized Duplication of Phonograms in 1988. The present copyright protection in Trinidad and Tobago is inadequate. With the advances in science and technology, the international community has also recognized the deficiencies in the existing provisions of both the Berne and Rome Conventions. As a result, the island-nation has been taking part in discussions with a committee of experts to negotiate a protocol to both Conventions. Some of the areas of review include: computer programs, data bases, musical works, satellite communication and broadcasting rights. Trinidad and Tobago has also taken part in discussions on issues concerning the preservation and protection of folklore; intellectual property aspects of folklore and the harmonization of the different regional interests. Today, the Controller of Intellectual Property for both islands has laid before parliament

a new law to be debated that specifically addresses advances in science and technology and their impact on copyright infringements.³²

The protection of copyright appears to be the islands' most valued asset. Regardless of which approach is taken to copyright law, though, the law is enacted for certain special purposes, namely to pursue specific political, economic, and social aims. As far as any copyright law is concerned, these aims are of a principally economic character, briefly put, of two types. One aim is to stimulate creativity and inventiveness in society and thereby contribute to development; another aim is to protect the investments which are necessary for the production and distribution of cultural, informative, educational, and entertainment material. Furthermore, legal protection of performers is desirable in order to protect their profession in general, particularly in the face of the technological developments which make live performances by artists more and more unnecessary; and finally, granting exclusive rights to broadcasters with respect to their broadcasts making it possible for them to obtain exclusive rights for transmitting certain important events. In the past, in order to acquire them they often had to provide guarantees against unauthorized broadcasting. To some extent, in Trinidad and Tobago, the law on copyright also serves to protect authors' and performers' moral interests, that is to safeguard the integrity of their productions and to make sure that they are duly credited when their productions are used.

The copyright law in Trinidad and Tobago creates certain rights for the benefit of creative thinkers. Those rights invariably have an economic value. Generally, those rights can be assigned or transferred to others, mainly to various categories of producers who take the responsibility for the dissemination of the works or performances either through the production of objects where those are embodied or through dissemination without production of copies through broadcasting. Regardless of which method is chosen, the producers always invest money in those productions for which they have a vested interest in protecting. Thus the authors and performers have an economic interest in relation to the producers; and they all have a common interest in relation to consumers. In recent decades the economic aspects of the copyright law have attracted more and more attention. There are several reasons for this. One reason for the interests in those economic aspects lies in the advent of new technologies and the ensuing greater potential to use protected works in larger scales and with a much better quality; a second, more significant, reason is the growing importance of intellectual property in international trade. This has become clear in several contexts; for instance, in the GATT/TRIPS negotiations, NAFTA, and in a number of bilateral agreements between the U.S. and the European Union. In Trinidad and Tobago, the economic impact of the copyright law lies to a large extent in the output of the so-called "copyright industries" which have come to play an increasingly important role in the national economy. These industries deal with the manufacturing or production of goods and services to which the copyright law applies. During the past fiscal year copyright service industries contrib-

uted approximately 2.7 percent of the gross national product (GNP) for Trinidad and Tobago.³³

Admittedly, the value of a developing country's intellectual property law can only be gauged from the contributions it has made to the industrialized market economies. This is because developing nations are just now beginning to realize the importance of protecting creativity. What is true for all countries, though, is that copyright and the industries engaged in that sector have become increasingly important; and considerable attention must be paid both because of its domestic importance and in view of the international trade in rights under that branch of law. It has been said that as soon as a country rises above the level of a purely agrarian society, there is need for a law on intellectual property protection. This is due to the fact that a society, in order to develop into a higher and more sophisticated level, has a need for imaginative and creative efforts. Those efforts sometimes emerge without any particular economic consideration, but in most cases those efforts are stimulated by intellectual property law protection. For Trinidad and Tobago, the establishment of rights under intellectual property protection is an important element for economic development, both in relation to domestic development and in relation to international trade— especially in the fields of information, culture, entertainment and high technology.

6. Conclusion

Commercial piracy of intellectual property costs the industrial economies tens of billions of dollars and thousands of jobs each year. Particularly hard hit are the communications and information industries. The problem is exacerbated by the inadequacies in current international agreements, the reluctance of key foreign countries to fight piracy, and the rapid expansion of technologies for accessing, copying, and storing intellectual property. While no one has made a highly reliable estimate of the scope of piracy, it appears to represent a substantial threat to many countries' fastest growing and most prominent industries. For example, an increasing share of U.S. output is in the nature of "informational goods and devices," precisely the area where creators' and exporters' rights are protected by intellectual property law. The Congressional OTA (Office of Technology Assessment) has estimated that world trade in intellectual property affects more than 22 percent of the U.S. labor force and 5 percent of the U.S. gross national product. In the U.S., exports of intellectual property have doubled in recent years and now represents more than 25 percent of exports. That share would be greater if it included goods like pharmaceuticals, whose value lies largely in the research and development represented by patents.

In the Caribbean, the apparent use of "free riding"³⁴ is more illusory than real. As in the case with deficit spending by central governments, most of the benefits accrue in the short-run while most of the costs are deferred to future generations in the form of lower real incomes and standards of living.

Piracy of intellectual property in the Caribbean has been recognized as a detriment to development because it fails to develop the domestic-producing capabilities of the region and thus saddles future generations with lower quality and less diverse goods, inflated prices, and lower labor productivity and competence. As the Caribbean has shown, economic activity does not decline after aggressive intellectual property reform. Even in the short-run, developing regions must allow their marketplace to fully and correctly anticipate the institution of property rights. In time, the market will create new and similar jobs for workers displaced in pirate industries. The Caribbean region has approached intellectual property reform in an assertive manner. Eager for economic development, this has not left these island-nations at a permanent disadvantage—facing high prices for the technologies and creative works needed to modernize. In fact, prices and inflation did not automatically increase when intellectual property was protected; and, as such, one can conclude that there is no guarantee that piracy will keep prices down and to the benefit of consumers. By allowing technological piracy, Caribbean nations recognized that they did not provide the incentives for indigenous innovation but rather stifled it and fostered the “brain drain” of their most able inventors. Now, among the developing world, Caribbean nations have taken the lead to protect and encourage intellectual property rights.

ENDNOTES

1. Lisa (1992) Chapter 1.
2. Jacobsen (1995), pp. 283-310.
3. WIPO Special Report (1996).
4. Miller (1979), pp. 43-62.
5. Ibid.
6. See Report of the Third World Network: TRIPS and Biodiversity. Seminar on the WTO and Developing Countries, Malaysia, 1996.
7. WIPO Special Report (1996) *Introductory Seminar on Industrial Property for Developing Countries*.
8. WIPO Report (1998) *Different Titles of Protection for Inventions*.
9. See Special Report, *Patent Legislation and New Technologies in Latin America and the Caribbean*, IV Meeting of the Latin American and Caribbean Forum on Intellectual Property, Caracas, 1994.
10. WIPO Sponsored Seminar on Latin America and Caribbean Symposium on the TRIPS Agreement, Caracas, 1996.

11. Ibid.

12. WIPO (1998) *Implications of the TRIPS Agreements on Treaties Administered by WIPO*, Special Report.

13. Ibid.

14. WIPO (1996) *Patent Information Services for Developing Countries*, ISIP/96/4.

15. WIPO Regional Meeting: Country Reports on the State of Intellectual Property: Jamaica, Trinidad and Tobago, and Barbados, 1998.

16. Sherwood (1994)

17. Ibid.

18. See Adam Smith (1776) Book V, Chapter 1, Part 111; John Stuart Mill (1848), Book V, Chapter X.

19. Quoted by F. Machlup, *An Economic Review of the Patent System*, Study No. 15 of the Sub-Committee on Patents, Trademarks and Copyrights of the US Senate, 1958, pp. 26-27.

20. See, for example, Vaughan (1925); Albert F. Ravensheat (1908) and Firestone (1971).

21. WIPO Special Report (1998) *The Role of IPRS in Development for Underdeveloped Countries*.

22. Ibid.

23. Shrader (1994) *Intellectual Property Provisions of the GATT 1994: The TRIPS Agreement*, CRS Report for Congress 94-302-A (Washington, D.C.: The Library of Congress).

24. Smart partnership is a term used in intellectual property law to describe alliances in the high technology industry.

25. Ibid.

26. WIPO Country Report on Barbados (1998).

27. UNCTAD (1990) *Transfer and Development of Technology in a Changing Environment: The Challenges of the 1990s*

28. See WIPO Special Report (1996) *WIPO Regional Meetings of Heads of Industrial Property Offices of Caribbean Countries: National Report of Trinidad and Tobago—Annex X111*, WIPO/IP/CAT/96/2 (n).

29. See Special Report Issued by the Information and Media Relations Division of the GATT, Geneva, 1994.

30. WIPO Regional Meeting of Heads of Intellectual Property Offices of Caribbean Countries, Update to the National Report of Trinidad and Tobago, 1998.
31. Ibid.
32. Telephone interview with the Controller of Intellectual Property of Trinidad and Tobago, June 1998.
33. CSO Annual Economic Report of Trinidad and Tobago, 1998, CSO, Port-of-Spain, Trinidad.
34. Term used to describe the theft of intellectual property i.e. patents, copyright and trademarks in developing countries.

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