The Role of Copyright in the Cultural and Economic Development of Developing Countries

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The paper discusses about the role of copyright and intellectual property in cultural and economic development of developing countries, as also in the promotion of qualitative competitiveness in national and international trade. Economic growth depends increasingly on international competitiveness of the economy, industry and business. This competitiveness is driven by knowledge-based technological progress, which is encouraged, promoted and helped through effective IP protection. Effective use of the IP system and its enforcement by the judiciary and other enforcement agencies, essential for the socio-economic development of a country, is discussed in detail. WIPO Internet Treaties for the protection of copyright and related rights in the digital age are also discussed.

Intellectual property rights (IPR) are assuming an increasingly important role in international trade, in investment and in economic relations. IPR are no longer to be studied or discussed in abstraction or confined to law school debates. They are valuable commercial assets and a driving force in technological progress leading to increasing competitive capability and resultant empowerment in the international marketplace.

The globalization or universalization or internationalization of trade and economy, and the multilateral rules that most of us have accepted to be bound by, require us to adopt a post approach vis a vis IPR through close interaction between government, industry and the creative/inventive segment of society. The rapid global transition to an increasingly technology driven economy in the knowledge-based world of the current millennium, present for us both challenges and opportunities. With new, ever emerging technology, corporate activity should, in our countries, also in vigor and stimulate the economic climate.

Constant updating of legislation, modernizing of the relevant infrastructures and administrations, making them increasingly market oriented and user-friendly, establishing and/or modernizing collective administrators of copyright, are essential prerequisites. Strong IP protection with adequate and modernized copyright legislation plus its effective enforcement undoubtedly helps in transfer of technology and consequent technology development, as also in developing
external trade through identifying new markets while retaining old ones. It also helps in attracting foreign direct investment. Attracting such resources in a world of hyper competition will be more difficult if IPR protection is not strong or is inefficient.

The intellectual property system is one of the cornerstones of modern economic policy at the national level. It is increasingly becoming an important tool for sustainable development. Understanding and appreciating the social, cultural and the economic foundations of intellectual property and the copyright system, is a prerequisite for comprehending its increasing importance and role in national strategies for enhancing competition.

Intellectual property is not an end in itself; it is a means to an end, a catalyst for accelerating social, cultural and techno-economic growth and development in our countries. Its effective protection and use spurs socio-economic growth through providing the necessary incentives for increasing creativity, inventiveness and competitive capability. A quality conscious approach towards economic management would generate higher growth and greater resources for social programs.

Intellectual property comprises creations of human mind, of the human intellect. It consists mainly of two branches, one dealing with industrial property comprising technological inventions, utility models, trademarks for goods and services, industrial designs, etc. and the other being copyright.

Copyright protects literary, artistic, musical, photo, pictorial, graphic and sculptural works, audiovisual works, films, computer programs and software etc. as well as related rights, i.e. rights neighbouring on copyright, namely, the rights of performing artists, producers of phonograms and broadcasting organizations.

The existence of such exclusive rights is also the legal basis for contractual arrangements between the creators or the ones developing the idea, on the one hand, and the institutions or entrepreneurs wishing to use those ideas in the manufacturing process, on the other.

The recognition of the creator, the protection of his rights and the rights of those who invest in the making of his creations, contributes positively to socio-economic development of a developing country.

The economic value of intellectual property, the socio-economic benefits of the works of the mind is not yet a fully tapped potential. There needs to be broadbasing of the awareness of the considerable relevance of effective protection of intellectual property in safeguarding the results of technological development, as well as in promoting national creative endeavour. Links for technological growth need also to be cemented with research institutions and universities.

A much greater and more widespread awareness has to be built of its economic value for the private sector also for natural development and growth in the present millennium, also as to how the
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intellectual property system can be utilized to promote national creativity.

Having long been accustomed to using protected music, for example, in restaurants, bars, hotels, etc. without either getting a license for the use of such copyrights material or paying for such use, much determined persuasion will be necessary, preferably through collecting societies.

Such awareness could also be effectively ensured through the media, the press, the radio and TV networks, also through regular broadcasts and TV coverage for a specified time each month or bi-monthly. Over the years a much greater awareness seems to have been created amongst senior government officials in some universities and institutions of higher learning and in research institutions, it is yet to seep into the minds of the people who matter in our business sector and especially amongst the public at large.

The very important small and medium enterprises (SMEs) sector is still largely ignorant of IPR, and many creators of works of the mind and innovators are not yet aware of the basic parameters of intellectual property laws, now have to commercialize the results of their creativity. The challenges, especially for the SMEs lie in strengthening the domestic efficiency of creative management of their priority sector in the context of an increasingly competitive global economy with opportunities for investments and exports. Normally it is the foreign partner who buys out the developing countries’ counterpart. But an Indian SME has just done the opposite recently. It is an SME, which manufactures non-metallic expansion joints, an essential engineering product used in flue gas applications in industrial process plants.

The small scale sector, to which a sizeable proportion of the cultural industry in our countries belongs, plays an important role in the economic growth. Interestingly these micro enterprises are the sole sustenance for some 300 million people worldwide.

In India, small enterprises account for as much as 35% of the total value of industrial production in diverse fields. They contribute more than 30% of the country’s total export trade and provide employment to over 50 million people. However special focus is necessary to be laid to technology inputs, quality promotion and other practices to make them emerge as a vibrant constituent of the national economy. The problems faced by small enterprises particularly in accessing technology and developing export competitiveness have been formidable. Lack of familiarity with new technology options, inability in accessing them and organizing necessary finance for technology upgradation are a few which need to be addressed through institutional support.

The public at large also needs to be made aware of the considerable economic value of effective protection of intellectual property and consequent socio-economic benefits through enhancement of qualitative competitiveness in trade and copyright and greater possibilities of technological advancement in the process of moving from
industrial to the information age. Both policy makers and researchers require a better understanding of the substantial effect that a country’s system of IPR protection has also on transfer of technology especially in high tech industries.

Towards this end, knowledge promotion, education and training, are factors to be considered for effective implementation. There is a growing realization that becoming a newly industrial country means a lot more than merely having a bunch of factories. It calls for knowledge based growth, greater emphasis on and spread of education requiring its own reservoirs of technologists, inventors and creators producing tangible goods from human creativity and scientific ideas.

The business environment both domestic and international is becoming more competitive. The increasing market orientation of economic policies in most of our countries coupled with the gradual lowering of tariff barriers, is reducing the gap between domestic and international markets, and domestic players have to be internationally competitive.

Development is a multidimensional process. It seeks to create a broad based sustainable improvement in the quality of life and the standard of living. Economic growth is necessary, though not the only, condition for development. In a growing economy, development can be broadly defined as reduction, among others, of unemployment and poverty. A common concern of development policy, especially in developing countries, continues to be as to how to increase the availability of meaningful educational and employment opportunities.

Good management requires that in our enterprising R&D institutions, they should encourage our young technocrats to create and innovate, and even if it takes time, to promote inventiveness in the production of our own brands of technology in which we have both the competence and the price edge.

The same holds good concerning the need for a well managed collective administration of authors’ rights. The economic value of collecting and distributing copyright royalties to creators of works encourages our authors to write and provide our education system with textbooks written by our own writers and experts. These books relate more and are less expensive than importing these from abroad. Example is of a new project, the Caribbean Copyright Link, a proposed sub regional system of collective management of copyright in the Caribbean.

The recognition of the creator and inventor, and the protection of their rights and of the rights of those who invest in the making of their creations and/or commercialization of their creativity contributes positively to socio-economic development.

Global trading activity is increasingly drawn towards the trans-border alliances. For even the large industrial giants are unable to undertake all the technological requirements in their sphere of competence on their own. Joint ventures, co-production, agreements, joint research, technology tie ups and licensing arrangement based on effective
intellectual property rights protection are bringing together major firms in both the industrialized and the developing countries. These cooperative alliances include licensing or authorizing the use of protected creation and an important aspect of enterprise management of intellectual property.

Removal of barriers and opening up of economics in developing countries had already resulted in an unprecedented flow of funds and investment. Around US $425 billion worth of new factories, supplies and equipment had come to our developing countries between 1988 and 1995. In 1995 alone, the flow of private capital to third world countries totaled US $170 billion — an increase over 1990.

In this changing scenario, developing countries are becoming, in fact some have already become, active participants both as initiators and beneficiaries of the change. Economic growth, with the utilization of the IP system, is becoming global, and is not confined to industrialized countries.

Again, in those developing countries which have also used their productive sector to diversify and broaden their manufacturing activities with the use of the IP system for qualitative production for exports, their living standards have shown a steady and distinctive improvement. The challenges lie in invigorating the domestic efficiency innovation management.

There is an increasing recognition in the world over that the IP system provides a balance of interests between the creators of new technology, who spend large outlays and resources in the creation and development of technology, and the users of the technology who employ it as an important tool for improving their technological ability and competitiveness in the market place.

It is frequently said that modern society is about to change into an information society. While what this means is not clear, it seems obvious that the main traditional economic scene in society viz agriculture and industry will be supplemented by third world sector, predominantly based on the collection, organized distribution and exploitation of “information”. The term information must, in this context, be understood in its widest sense. It covers within the strict meaning of the word, of course, news, facts and figures, such as used its scientific source material for decision making in the traditional economic sectors. However it has also a wide variety of services, including administration, communication and entertainment Thus, the so-called information society will reach far into our daily lives and will provide access to all sorts of expressions of human ingenuity and creativity.

The Internet and the worldwide web that we know of today are only glimpses of what can be expected in the coming years, when with increasing technological developments and constantly improving transmission systems, digitized living pictures will be transmitted in real-time much faster to the ordinary consumer. The impact of this kind of distribution of works on copyright is and will be gigantic. The information superhighway will allow interactive communication
with the listener or the viewer who in reality becomes the interactive user. This digital distribution of works upon request is raising problems on quite a different scale. Using these systems, which are being developed, the user can, at his home, ask for and receive a film, a musical work or text or any other type of work by contacting a huge database linked to a cable or telephone system.

From a legal standpoint it is a question as to how to deal with such transmissions on demand. Suggestions included application of existing rights of reproduction, communication to the public or distributors. The information society needs significant investments not only in the hardware including satellites and fibre optical acquisition of computer processing and storage capacity, also in the provision of information, since no one will be involved in the necessary hardware, unless there is attractive information available, which could be reached most economically by means of that hardware.

Again, the provision of the contents is not within its costs. Investments are necessary to create database computer programs, audiovisual productions, and other variety of information, are huge and, like other investments, they are only possible if there are suitable legal provisions which enable recovery of investment and leave also a reasonable margin of profit.

In this respect, the relevant legal provisions are covered through intellectual property laws, in particular protection of copyright and related rights. It is necessary to consider how the protection of copyright and related rights will work in the information society, the effects of digital technology on the rules for the protection of such rights and the need to harmonize natural legislations and inter-protection.

In this new century, modern sophisticated technology will be posing problems that will be having both qualitative and quantitative effects on copyright. With the new technologies enormous variety of information from all over the globe being unleashed through high speed communication systems supported by computer links via the information infrastructure commonly known as global information infrastructure or the information superhighways.

Protection of intellectual property rights is also a necessity for development of the global information infrastructure. In particular the improvement of enforcement procedures is urgent need for helping and fostering creativity and creating activity in a networked era. Well-enforced copyright legislation is essential for providing the necessary market based incentives and rewards needed to promote creativity in literary and artistic works. It is an important contribution factor in socio-economic and cultural development of a country, as it encourages, attracts and sustains investment in what has come to be known as the cultural industry.

Since copyright protection covers mass media communication, including virtually all forms and methods of public communication, not only printed publications but also sound and television
broadcasting, films, and also extends to protection of computer programs to computer systems for the storage of information, its economic value in an electronic age is quite considerable. Copyright laws in most countries now protect computer programs. India, for example, was one of the first 15 or so countries, in the world to protect computer programs through its copyright law amendment, which promulgated on 14 September 1984. In the national laws of countries following the Anglo-Saxon legal tradition, protection under copyright extends to certain so-called neighbouring rights or rights neighbouring on the rights in literary and artistic work viz. the rights of performers, producers of phonograms & broadcasting organizations. The 1995 law also protects snake charmers.

A modern and well enforced copyright system could be a driving force and one of the strong imperatives in the process of economic reform, in further liberalizing and restructuring of the economic and trade policies and in the promotion of national economic growth and development.

The cultural and information industry, which depends for its sustenance on an updated, modern, effective and well-enforced copyright legislation, has also come to be known as the copyright industry. It is growing rapidly in developed countries as well in a number of developing countries. The core of this industry is book publishing, newspapers, periodicals, printing; advertising, radio and television broadcasting; sound recordings, musical and audiovisual works, motion pictures and films; and computer software. Each of these sectors deals with the generation of material protected by copyright, and with the dissemination of that material. In addition, there are related non-core industries and institutions whose activities are in some measure copyright-dependent. These include those industries that deal with the production of equipment or hardware needed for the use of copyrighted material (radios, television sets, computers, recording and listening devices), as well as the output of printers, binders, paper and printing machine manufacturers, which contribute to the output of the copyright industries; and, of course, such institutions as libraries, theaters, and so on. Institutions and enterprises that undertake the production and distribution of educational, scientific and cultural material as well as that covering information technology, sophisticated high technologies, computer software and the entertainment fields are all part of the cultural industry of a country.

The so-called copyright industry represents, in some countries, the fastest growing sector of the economy, creating considerable employment generation and having an increasing export performance and potential. The contribution of this industry to the gross national product (GNP) is also bound to increase in the years to come, in a number of rapidly growing developing countries, which are taking up both the new challenges and the new opportunities thrown up by the increasing borderless dimension of trade and economy. The internationalization of socio-economic activities and the fillip it
has provided to the information technology industry has made some developing countries active participants both as agents and beneficiaries of the change.

The economic importance of intellectual property in respect, for instance, of the copyright industry in countries, which are major creators of copyright materials, has been well established. All studies carried out so far indicate that it contributes considerably to national economic wealth. It is also established that this industry ranks in size with other conventionally defined industries in such countries. As aptly put by an expert, the copyright system is an important part of modern society’s infrastructure. It is the foundation on which the publishing industry rests. Actually the acquisition and transfer of rights which take place within the copyright system are indispensable to the entire media — newspapers, journals, radio and television, and to entertainment field i.e. theatres, films, record production broadcasting etc. All these depend on a regular supply of literary, artistic and musical works, the creation and dissemination of which is stimulated by the copyright system. With the extension of this system during the last two decades to the protection of computer software, a considerable size of commercial activity of a country involves use of rights protected by copyright.

Until recently one did not have a real idea as to the extent of the economic dimensions of the copyright or cultural industry. In the last two decades, however, independent surveys and studies in certain industrialized countries have indicated how sizeable the industry is.

All these studies indicated the contribution of the copyright or cultural industries to their GNP, in Australia 3.1%; Germany 2.9%; India 5.06%; Netherlands 4.5%; New Zealand 3.2%; Sweden 6.6% (although Jennifer Skilbeek in the economic importance of copyright published by the International Publishers Association places it at 3.16% which seems more likely); the United Kingdom 3.6%; the United States 3.3% for the core industry and 5.8% for the total copyright including the dependent industry.

For developing countries, an important economic indicator of the contribution of the copyright of cultural industry is that it is also a substantial employment provider. For example, it provided employment in Australia for over 200,000 persons or over 3% of the labour force; in Germany, such activities provided employment for about 800,000 people or over 3.6% of the total job market; in the United Kingdom for over 800,000 persons; and employment in the core copyright industry in the United States of America more than doubled between 1977 and 1977 to 3.8 million workers (2.9% of the total US employment) and grew nearly three times as fast as the annual rate of the economy as a whole (4.8% vs 1.6%). This industry was also one of the largest and fastest growing sectors of the economy.

The income from exports of intellectual property products has also increased sizeably in a number of countries. These include exports of popular culture—movies, music,
television programs, books and computer software. For instance, the US copyright industries achieved foreign export sales of US $ 66.85 million in 1997, more than in all major industry sectors, including agriculture, automobile and the aircraft industry.

The significant employment potential of the copyright or cultural industry is an important factor to be considered in developing countries, since quite a number of our countries in different regions of the world have a very sizeable cultural industry, in terms of its contributions to the GNP. The economic value of the intellectual property rights lies also in increasing competitive capability, which is important in an electronic age, particularly also as copyright protection covers mass media communication, printed publications, sound and television broadcasting, films and, in a number of countries, also computer programs and computer systems for storage of information.

Majority of the countries who are members of WTO and hence bound by the TRIPS Agreement, require legislative modernization in respect of IP laws and their strict enforcement. A number of benefits could be derived through implementation of that agreement by all countries, developed and developing and in the latter, it would certainly, in the long term, help promote innovation, research and development, technological creativity and socio-economic growth.

Meanwhile even in some of the countries that are not yet members of the WTO and TRIPS, not only are their intellectual property or copyright laws updated but the necessary modernized infrastructure are available and their publishing and music industries are on the progressive path.

A general realization that is lacking is that copyright industries in a number of developing countries are also a sizeable proportion of their respective GNPs and are by no means a negligible proportion of the economy. They are also substantial job providers, hence the necessity to protect them through strict enforcement, the natural copyright laws, which latter should provide for stringent penal provisions.

Cultural industry in India which is the world’s largest democracy and has one of the world’s largest economies, and in which the contribution of the cultural industry even back in 1996, 5.06% of the GNP, second only to the United States of America. It has a sophisticated book publishing industry, which ranks amongst the top 10 in the world, with books title production of around 60,000 and a turnover of US $ 455 million. Its film industry is the biggest in the world, producing 800 films a year; its record industry is also a major producer, with the largest unit sales among developing countries in the Asian region. In the year 2000, the retail value of sales of the Indian recording industry is US $237 million, the annual growth in units being 14% and in value in terms of US $9%. Its computer software industry is a classic example of what effective intellectual property protection can do to ensure economic growth. Protected as a literary work under copyright law since 1984, the industry has grown to be of the foremost
in the world with a compounded growth more than 50% between 1990 and 1997, and is increasingly becoming the driving force in information technology.

Exports of software increased from US $225 million in 1992-93 to US $1760 million in 1997-98, to US $2650 million in 1998-99 and up 57% to over US $4 billion in 1999-2000; the projection that this will go up to US $9 billion by 2001-2002, to US $25 billion by 2004-2005 and to US $50 billion by 2007-2008. By then the country’s software industry is expected to earn an annual revenue of US $85 billion. The exports, for example, in 1998-99 were 61 billion to the USA and North America and 23% to Europe. The compound advantage of the software industry is based on its cost effect world class quality, high reliability and rapid delivery of all of it powered by the state-of-the-art technologies.

The Indian software market, supported by rigorous enforcement of copyright laws and increased government spending on information technology, had grown from US $490 million in 1995-96, to US $1.25 billion in 1998-99. The software industry employed more than 250,000 professionals.

For achieving this velocity of business, both the software industry and the government have taken some purposeful steps. In May 1998, the Government of India not only put software on its National Agenda, but also created a National Task Force, which latter has adopted some path breaking measures. Government’s support included fiscal benefits, availability of high-speed data communications and infrastructure, besides ensuring of an almost red tape free system. The fiscal benefits include trade free zones, technology park schemes and tax exemptions on profits from software exports.

Insofar as information technology (IT) is concerned, the projection is for the country to be one of the IT superpowers by 2008. Also, by that year it is expected that 2.5 million jobs will be created in the IT sector. Apart from two Institutes of Information Technology in a central and northern state, a major Indian Institute of Information Technology (IIIT) has been set up in Hyderabad in the southern state of Andhra Pradesh. This IIIT, set up by the global players in the IT industry in association with and with the support of the state government, is designed to be any industry-driven centre of excellence in IT education and training at undergraduate and postgraduate levels. Around this core IIIT, major IT companies, such as IBM, Microsoft, Metamore, Oracle and Satyam computers are setting up corporate schools offering also short-term training programs in their areas of specialization. It is a research – driven institution, the conceptual model being different from the others, in that the vitality to sustain it would be by industry. The ultimate tribute to the skill-base of the industry has already been paid by Bill Gates who picked the Indian city of Hyderabad for basing his company’s first-ever development centre outside the United States of America .In the coming years, software companies in India are expected to strike quite a few deals for joint ventures and strategic alliances with foreign companies.
Concerning e-commerce, an interesting survey revealed that out of the top 28 e-commerce companies in India, 18 were growing annually at more than 500%. E-commerce and e-business in India is projected to grow to US $1.5 billion by 2004, and around US $10 billion by 2020. Likewise Internet which has just about 2 million users today in India, is expected to explode to 37 million by 2003 and will position the country as a global hub for content development and e-commerce.

To take an example of another country viz. China’s software industry, has made a substantial contribution to the country’s economic development. This industry has created more than 60,000 jobs. The average annual growth rate of the software industry was expected to be 28% in the 5 years, 2000 to 2005. It is also estimated that China will by 2003 become one of the world’s largest Internet markets. The number of Internet users in China increased, for example from 2.1 million in 1998 to 8-9 million in 1999. The websites are expected to grow to e-commerce activities and their e-commerce turn over is expected to reach US $1.2 billion by 2002.

China also has a huge cultural industry. The book publishing industry produces over 61,000 new titles. The number of printed copies of these (1984) was over 3 billion. The prerecorded music sales amounted to US $346 million, nearly 150 films are produced (1995) annually & attendance in (1994) cinemas was stated to be nearly 14.5 billion people (1991).

The Internet—network of networks, continues it expansion and has millions of users connected. The estimate of worldwide installed base of PCs in the home and in education had increased to 18 million units in 1997.

As can be seen, the rapid advance in technology in relation to intellectual property rights is an important feature of the contemporary scenario. Dissemination of new interactive technological systems is surpassing traditional means by which literature, music, films were made available through retail outlets selling books, video records etc. The new interactive online systems enable people to have access to databases from which they can cause a book, musical recording or film to be transmitted to them by wireless means or by cable. The online system is also no longer national. It is a global system.

Exploitation of IP is getting international especially with the Internet. This process cannot be stopped—at best can be regulated to an extent.

The publishing and music industries which deliver information and entertainment, have become specially vulnerable to unauthorized delivery through downloading via Internet from illicit website.

An important feature of technology is that it is making it possible to have technological devices, which permit automatic monitoring the use to which people put this enormous wealth of material to which they have access. Thus, what is often described as a problem created by technology could be solved by newly emerging technology itself, enabling the copyright owner to keep track of the volume of use, which the public makes of the product of his
creativity. These signals could be read by electronic devices, which have to be embodied in the equipment made available to the public. This would enable owners to ascertain the number of copies that have been made of their works.

With the Infotech revolution, a globalized world will not be necessarily be a westernized world. Cross cultural exchanges will certainly lead, as indeed they are already doing to adoption of many things the world over from developing countries and the countries in transition. Problems will be there — though perhaps a newer set of problems. Some of the new questions, during the current millennium in so far as IPR is concerned, will be whether over the long term, could we continue with territorially bound laws or whether in the years to come, with greater harmonization could the territorial concept of the IP laws be retained or should they be made more identical.

However, for the protection of copyright owners, it is necessary to have constantly updated legislation and the required national infrastructures to enforce protection. It is also necessary that national legislation make it an offense to circumvent these technically inbuilt “copy protection” systems. There is an increasing realization that national copyright legislations need a constant review and updating, since technology is developing very fast. Qualitative new problems are emerging with the progress of digital technology, of interactive digital networks, “digital superhighways” and digital delivery systems. The Internet, originally for researchers, is becoming a worldwide web, connecting millions of users whose number is growing exponentially.

The rapid growth of emerging, sophisticated high technologies, while posing new challenges, is also providing new opportunities. The advent and rapid evolution of computers and computer programs have virtually led to the introduction of digital technology in copyright. Digital technology and digital superhighway are revolutionizing the concept of protection of creative works. This has a number of important consequences for copyright. The digital format only affects creation, but also the diffusion of works, which latter stored in a digital medium, can be communicated and received in their original quality. Such communication networks are often referred to as the national (or global) information infrastructure of the “information superhighway” This digital distribution of works upon request, for instance, is raising problems on quite a different scale.

The impact of this kind of distribution of works on copyright is and will continue to be significant. In the context of the protection of copyright and related rights in the digital age, it has led to the adoption in 1996, of two international treaties, the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT). These treaties clarify that exclusive rights must apply to such “transmission on demand” and they also oblige the contracting parties to provide legal remedies against the circumvention of technological measures (e.g. encryption) used by
authors in connection with the exercise of their rights, and against the removal or altering of information, such as certain data that identify the work of their authors, necessary for the management (e.g., licensing, collecting and distribution of royalties) of their rights (“rights management information). Promotion of adherence to these treaties known as WIPO’s Internet Treaties geared to ensuring copyright protection in cyberspace in very necessary.

It is clear that with the enormous contribution of the cultural industry in our country to both national economic growth and provision of job opportunities, it is essential to protect the significant investments that these industries require. Continuance of the large scale investments entailed in the cultural industry will be only possible if there are suitable legal provisions which enable recovery of the investments and leave also a reasonable margin of profit. While legislation needs to be constantly reviewed, updated, proactively modernized, and also effectively enforced. There should be a mechanism for improved management of IPR. China has improved its IPR system and is well ahead in international trade, registering no less than 35% of its GDP in that sector. It is important to ensure that our legislation provides for stern penal provisions for infringement, and the Judiciary should also appreciate the need for imposing the maximum punishment in the case of infringements, which alone can help maintain and sustain national creative activity provided by the cultural industry and its many sided creative activity.

To take only one example, computer software products are quite vulnerable to piracy. Rising product development costs combined with worldwide capability to rapidly and inexpensively imitate, have raised the stakes both for the victims and the perpetrators. A software package is expensive to prepare but easy to copy. As investments needed for creation of computer software are often very high, the protection of such software against unauthorized copying is of crucial importance. The ingenuity of commercial pirates is boundless. It must be remembered that technology is a double-edged weapon available to infringers as well. Pirated editions of new products can come on the market at almost the same time as the original. Thus in reality, the lead-time is practically non-existent. A software-based society is burdened with the fate of decreasing lead-time and if the legal system, which prohibits copying, is not strengthened, the incentive for creating new products is lost.

Computer transmission and electronic reproduction will change the way information is treated as intellectual property. The Internet has also created already a US $ 5 billion piracy problem in the entertainment sector. It is clear that more and more music will be unloaded on the Internet illegally and will only be a matter of time before the professional pirates move in. The implications for the recording industry, for example of rapidly mushrooming Internet piracy are immense. Computer transmission and electronic strengthening also of regional or sub regional cooperation in
enforcement of intellectual property rights and constant exchanges to improve on it, would be an extremely positive development and should be encouraged.

Generally, enforcement of intellectual property rights involves procedural formalities in a number of hierarchical forums. It is therefore essential to build up and constantly strengthen the machinery for enforcing intellectual property rights protection. This is a good management practice. Effective protection of intellectual property is the need of the hour. Our national creative talent should be protected in order to reap the benefits of their full economic value for society and their enhancement of economic growth.

In the process of economic reforms and growth, the adoption and use of an effective IP system that promotes creative activity is a sine-qua non in our own larger national interests. Removal of barriers and opening up of economies in a number of developing countries has already resulted in an unprecedented flow of funds and investments.

For benefiting from the economic value of the protection of intellectual property rights, it is necessary that business and industry, as well as scientific institutions should be encouraged to consciously promote among their employees, technocrats and scientists the innovative and creative spirit, and to use the IP system as a tool for development.

Effective protection of intellectual property helps in benefiting from its economic potential through transfer of technology by means, inter alia, of licensing contracts, which not only allows exploitation of legal rights protected in respect of patents, trade marks, designs etc., but also provides the necessary technical assistance in the exploitation of those rights. Such transfer of technology is not only a legitimate activity; it also helps in the creation of jobs and in increasing the geographic area of sales. With licensed technology, foreign investments will also be stimulated. The transfer of the latest emerging technologies would help faster techno-economic growth and development.

In this context, it should not be overlooked that cyber legislation, rules and regulations are necessary for facilitating growth of information technology industries and e-business ventures in a rapidly networked and integrated world and in an expanding market for Internet services. Global information networks, e-commerce and Internet economy are transforming life in communication, commerce and learning. The Internet as a vehicle of global electronic commerce is growing at an exceptionally rapid rate and is expected to reach a level of US $200 billion by 2005.

In the present scenario, developing countries would need to go ahead with techno-economic reforms aggressively. Technology is fast becoming an important asset in trade, in investment and in economic development. In this context and in the international market place, it has been well said that world trade increases with investment; it is investment that increases with effective intellectual property protection. The
promotion of national creative activity is thus the bedrock on which the foundations of national economic progress must rest and to promote it, adequate protection of IPR is a basic precondition.

The worldwide relevance of the economic value of IP has been further strengthened with the entry into force on 12 January 2000 of the TRIPS Agreement for developing countries members of the World Trade Organization (WTO). From this date globally enforceable IPR has become available to the single largest number of rights owners having access to legal protection over their creativity in the history of the formal IP system. The TRIPS Agreement, emanated as a result of negotiations in the Uruguay Round of Trade Negotiations. The Uruguay Round has often been subjected to apprehensions based on misunderstanding of the facts. The one and big obstacle to free and fair-trading is even in some important countries, the parochial nature of domestic politics, which has not globalized commensurate with the world economy. This applies both to the developing world and to some industrial countries. Political will and good faith are required and the latter should be encouraged for finding meaningful resolutions also to the pending implementations related concerns of the developing countries.

As a result, new groups with specific needs and uses for intellectual property, including also holders of traditional knowledge and folklore, will be brought face to face, some for the first time, with existing national systems for the exercise and management of IPR. The economic relevance of IP is thus likely to expand both in terms of the number of users of the system and the subject matter they seek to protect.

Constructive engagement with legitimate, as also newly articulated needs for protection of national creativity, will contribute to ensuring that the intellectual property system continues to function as a powerful engine of economic growth and of social and cultural progress in the present millennium.

The introduction of the latest and newest technologies in our productive sector plays a critical role in economic growth. In every business enterprise whether it is goods or services, the knowledge of emergence of sophisticated new technologies has made piracy and counterfeiting, which are basically a form of theft; easier watchdog groups estimate that software and audiovisual record piracy companies bear billions of dollars in loss revenue.

This has to be sternly checked through even stronger penal provisions in our national IP legislation, through also as in some countries, the use of special antipiracy squads in the police establishment, and through an enlightened judiciary that acts promptly and does not hesitate to impose, when required, the maximum sentences under the law. Infringement committed willfully with profit making motive should be punished by criminal sanctions and the level of sanctions must make it clear that such infringements are serious offences. The criminal sanction could comprise of both fines and imprisonment.
The knowledge component is becoming a predominant element. Protecting such new knowledge is a key to preventing others from pre-riding on their success and goodwill in the marketplace.

To promote economic growth through technology development with the aid of the intellectual property system, it is essential, imperative, and necessary that in intellectual property rights and their protection, awareness building programs should be regularly held at the national and sub-national levels periodically, in order to help develop a progressive new awareness in business, research and development institutions, and in university circles, as also to help change the “mindset” among the community at large through greater information dissemination. This should cover not only technocrats in industry, the intellectuals, the universities and the public at large, but also the police, customs and the judiciary, which play an important part in enforcement. Developing specialization amongst judges in the field of intellectual property is also a desirable element.

As a corollary, an intellectual property “culture” needs to be assiduously and deliberately promoted, which would encourage innovative and inventive activity, encourage scientific and technological creativity, help modernizing intellectual property infrastructure and administration, to make them increasingly user-oriented, as well as concentrate on personnel resource development required for these purposes. Likewise, teaching of intellectual property should become an essential part of the law faculties in universities, in institutions of higher learning, and in institutes of engineering, management and scientific research.

Setting up of a national, sub regional or regional institute of IP is also an important point to consider. Such an institute should be designed to serve the function of an awareness building institution. An example of such an institution is the IIPTI at Daeduk in the Republic of Korea, which was inaugurated on 8 May 1991.

Other much older institutions elsewhere in the world include (i) The Max Planck Institute for Foreign and International Patent, Copyright and Competition Law established in 1966 in Munich, Germany, (ii) the Centre for International Industrial Property Studies (Centre d’Etudes international de la propriete industrielle CEIPI), established nearly 38 years ago in the University of Strasbourg in France. It was formed at the instance of the industry and serves it in respect of related industrial property studies, (iii) the Common Law Institute of Intellectual Property in London in the United Kingdom, (iv) the Japan Institute for Invention and Innovation (JIII) in Tokyo, Japan, which has played an important role in development of modern Japan through awareness building, spreading of patent information, and through research and training. Still other more recent institutions are: the Institute of Intellectual Property Development (IIPD) set up under the aegis of the Federation of Indian Chambers of Commerce and Industry (FICCI) in New Delhi, and the ASEAN Institute of Intellectual Property, etc.
The socio-economic benefits of IP protection stem from the enhancement of qualitative competitiveness through the use of the system, which is a critical tool in national development. A modern intellectual property system is an essential component of enabling environment for technology-based development of a country’s economy and adds to the economic value of the growth process. Intellectual property rights and their protection need to be on our national economic agenda. It should form an integral part of our economic policy, S&T policy, and education policy.

**Conclusion**

Economic growth depends increasingly on international competitiveness of the economy, of industry and business. Such competitiveness is driven by knowledge-based technological progress, which latter is in turn, encouraged, promoted and substantially helped through effective intellectual property protection. Effective use of the IP system by governments and by the private sector, as well as its strict enforcement by the judiciary and other enforcement agencies is an essential ingredient of socio-economic development. Our security and self-respect in the ensuing century depends to a substantial extent on our economic well-being and on the success of our quest for qualitative competitiveness in trade, industry, and business.