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**INTELLECTUAL  
PROPERTY RIGHTS  
IN THE PRESENT  
INDIAN CONTEXT**



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NEW DELHI**

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# **INTELLECTUAL PROPERTY RIGHTS IN THE PRESENT INDIAN CONTEXT**

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## FOREWORD

One of the effective instruments for promoting foreign direct investment, transfer of technology and trade is the protection of Intellectual Property Rights in enterprises eager and willing to confront the realities of competitive edge of nations. Intellectual Property Rights have assumed increasing significance subsequent to information and technology revolution and emergence of service sector as a force in international trade. They have been recognized the world over as important commercial assets and driving forces for technological innovations, product development and economic progress leading to accelerated economic growth and social welfare. Thus the modern and well enforced IPR system is an important adjunct in national economic and technological developments.

Broadly, the Intellectual Property comprises industrial property dealing with technological innovations, trademarks for goods and services, industrial designs etc., others being copyright which protects literary, musical, artistic, photographic and audio-visual works, films, computer programmes and software as well as rights neighbouring on copyrights, namely the rights on performing artistic production of broadcasting organizations and geographical designs etc.

There has been neither uniformity nor harmonized Intellectual Property Rights at the global level which has been leading to a great deal of violation of Patent Laws and piracy of Intellectual Property. The counterfeit trade has been rampant and many countries which have been investing heavily on Research & Development for innovative activities have been losing substantially. It was against this backdrop that the developed countries led by the USA got the Intellectual Property Rights included in the Uruguay Round of MTNs. Notwithstanding the differences between the developed countries on the one hand and India in particular, on the other, regarding the "process" and



product" patents in the ultimate Agreement on TRIPs was agreed to.

The TRIPs lays down higher standards of protection for IPRs on global scale. The principal aim of TRIPs is to establish rule-based system to protect copyrights, trademarks, industrial designs, patents, layout designs, trade secrets, geographical indications etc. The Agreement is likely to bring about significant changes in the IPR regime in the developing countries. From the date of filing there will be extension of patent protection of products and processes to 20 years for technologies. There will be constraints on compulsory licensing practices as well as cases on civil litigation. In that case the proof of burden will lie with the party accused of infringement. The copyright law would protect computer software while producers of sound recordings, films and software will give protection under the rental rights.

India can benefit from more stringent rules outlined in the TRIPs. For example, in addition to copyright enforcement of writers, sectors such as agriculture and biotech industries will be potential beneficiaries of the TRIPs.

Viewed against this backdrop the paper by Mr. Shahid Alikhan, former DDG, World Intellectual Property Organization, Geneva, is a welcome step indeed. With his wide and varied experience in administering Intellectual Property Rights regimes at the global level Mr. Shahid Alikhan has brought out vividly the need for protection of IPRs in the context of growing world trade, globalization of economies and transformation of technologies & innovative activities among the comity of nations. He has pleaded for updating of the IPR laws and in some cases modernizing them to suit the changing international economic environment. In particular, he has highlighted the importance of IPRs for the small and medium enterprises which should be encouraged to follow improved quality management practices. He also vividly brought out the need for a re-look into the Intellectual Property protection being administered by India. He further pleaded that India should join Paris Convention to reap the growing benefits. Awareness of and confidence in the IPR

system could help strengthen the links between business and universities, he said. He pleads that Intellectual Property culture needs to be deliberately promoted which would encourage innovative and inventive activity linked to marketing needs, encourage scientific and technological creativity, helps modernize Intellectual Property infrastructure and administration to make them increasingly user-friendly as well as concentrating on human resource development required for the purpose. He recommends the establishment of an Indian National Institute of Intellectual Property which should serve as an apex body and "Think Tank" for all issues relating to Intellectual Property Rights on the lines of Republic of Korea's International Intellectual Property Institute, Max Planck Institute for Foreign and International Patent, Copyright and Competition Law, Munich, Germany, etc.

In view of the paramount importance attached to Intellectual Property Rights we thought it fit to bring out Mr. Shahid Alikhan's paper in the form of an Occasional Paper for the use of those who are interested in the Intellectual Property Rights studies and student community. We ardently hope that the Paper will effectively serve the desired purpose.

**Dr. P.L. SANJEEV REDDY**  
DIRECTOR GENERAL

New Delhi  
July 1997



# Intellectual Property Rights in the Present Indian Context\*

Shahid Alikhan

## Introduction

THE importance and linkage between protection of intellectual property, competitiveness in international trade and socio-economic development is a subject of considerable importance for our country in the present context, particularly as a determining factor in safeguarding the results of technological developments as well as in encouraging, nourishing and sustaining national creative endeavour.

Our own version of a mix of *glasnost* and *perestroika*, through the policy of economic reforms and liberalization, has aroused considerable interest and expectation both nationally and globally. It is an encouragement to all those who would like to see our country rise to its legitimate position as a world economic power for which it has all the potential.

The existence of all-pervasive regulations had become a problem in itself. The adverse impacts of licensing controls, stringent regulations and restrictions on initiatives of enterprises have helped to bring about a national consensus on the need for decontrol, deregulation, and for fostering efficiency and competitiveness.

In the last couple of years, there has developed a growing recognition that a more quality conscious approach to economic management would generate higher growth and greater resources for social programmes and further reduce the incidence of poverty.

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\* This monograph is an unedited version of the Paper presented by the author at Rajiv Gandhi Institute for Contemporary Studies, Rajiv Gandhi Foundation, New Delhi, India.

The road is admittedly not without its bumps, but dragging our feet now instead of moving speedily ahead would be like the prospective economic giant shooting itself in the foot.

**The Increasing Globalization of Trade and Economy:  
Implications for Developing Countries and for India  
— Both Challenges and Opportunities**

Globalization is a change that is transforming the world economy. Increasing internationalization of corporate production and distribution, and technological change is fast eroding barriers to international tradability of goods and services and to the mobility of capital.

IPRs are assuming an increasing role and importance in international trade, investment and economic relations. They are increasingly being recognized the world over as important commercial assets and a driving force in technological innovation and progress, leading to growing competitive capability.

World trade is increasingly becoming an important factor in the growth process. The international merchandise trade is slated to grow at more than 6 per cent over the next ten years, more than at anytime in the last over three decades. Internationalization of corporate production and distribution coupled with increasing technological advances is visibly lessening the boundaries in international trading.

In this changing economic scenario, developing countries are becoming—in fact some have already become—active participants, both as initiators and beneficiaries of change. While the initiation of liberalized economic reforms in a number of developing countries has itself subscribed to the globalization, the latter, in turn, is contributing to increasing opportunities and benefits for such developing countries.

Those developing countries which have used their productive sector to diversify and broad-base their manufacturing activities largely with utilization of the intellectual property system for qualitative production for exports, have seen their living standards show a steady and distinctive improvement. The challenges lie



in invigorating the domestic efficiency of innovation management in the context of a growingly open and competitive global economy, with greater opportunities for investments and exports. For us, an increasingly demanding, qualitative management of the productive sector is necessary to maintain the confidence of both national and foreign markets and for continued GDP growth which, as a result, will ensure the increasing welfare of our people.

To this end, the protection of IPRs is a priority for enterprises eager and willing to confront the realities of competition. Confidence in intellectual property protection is a powerful stimulus for innovation. Strong intellectual property protection is also an important factor in obtaining the transfer of the latest technologies as well as in attracting foreign direct investment.

Attracting such resources in a world of hyper competition will become harder where domestic economic stability is not well entrenched and where integration with world markets for goods and capital is inadequate or yet also where IPR protection is not strong or is ineffective. A modern and well enforced intellectual property system is an important adjunct in national economic and technological development and could be one of the strong imperatives in the process of economic growth, and the industrial sector and SMEs should be encouraged to use the system as a means for national economic and technological development. The technological development of industrialized countries and some of the industrializing developing countries, if we can call them that, has evolved with the existence and enforcement of IPR protection.

These rights are key components of the infrastructure required for socio-economic growth, for developing national indigenous technological capacity, generating export opportunities, facilitating foreign investments. Their protection is critical to quality development of knowledge intensive industries and enterprises as well as to socio-economic growth. Since intellectual property deals with creations of the human intellect, it encourages innovative and inventive activity. It provides the necessary incentive for scientific and technological creativity.



The main objective of IPR protection is to encourage innovative activity, thereby providing for the largest number of people, economically and speedily the benefit of such activity. Such encouragement requires both the recognition of the creators, i.e., the investors and innovators and authors as also providing a possibility for them to obtain a reward for their creative endeavour. The creator, whether it be an individual or an enterprise, has to be accorded the right to prevent others from using his/her or its ideas without consent and without compensation to the individual creator or the concerned enterprise. Failure to do so can only encourage piracy and counterfeiting.

The availability through legal provisions, of an exclusive right ensures legal security and provides to scientific and technical institutions and to enterprises the possibility, through material resources and necessary funding, to encourage their employees to use their skills in research and development of worthwhile new ideas that can be utilized in constantly improving existing products or making new products.

### **Intellectual Property: Its Main Branches and Importance in Socio-Economic Development**

Intellectual property consists mainly of two branches, one being industrial property dealing with technological inventions, trademarks for goods and services, industrial designs, etc.; the other being copyright, which protects literary, musical, artistic, photographic and audio-visual works, films, computer programmes and software, etc., as well as 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 ideas, on the one hand, and the institution or enterprise wishing to use those ideas in the manufacturing process, on the other. Industrial property protection is critical to quality development of knowledge intensive industries and enterprises.

In the field of copyright, creative intellectual activity is encouraged by according to the authors, as creators of literary and artistic works, the exclusive rights in them. These rights also provide a legal basis for contractual arrangements/agreements between the author and the producer or distributor of the expression of the author's ideas, whether it be in the form of a book or a play or music performance in a theatre or other public place or as an audio or visual recording or a programme broadcast by radio or television.

Since copyright protection covers mass media, communication, printed publications, sound and television broadcasting, films, and in a number of countries, even extends to the protection of computer programmes and computer system for storage of information, its economic importance in an electronic age is quite considerable.

It protects the cultural industry which is quite large also in a number of developing countries, including our own, and encompasses *inter alia* publishing, software, music and film industries. Now digital technology, digital superhighways are revolutionizing the concepts of copyright protection. Consider that the worldwide WEB of INTERNET has now millions of users connected. The cultural industry is estimated to comprise of the total GNP 6.6 per cent in Sweden, 3.1 per cent in Australia, 4.5 per cent in Netherlands, 3.3 to 5.8 per cent in the USA, and 3.6 per cent in the UK. The cultural industry has to be protected against piracy of literary and artistic works which is basically a theft, and has to be sternly checked through, if necessary, special antipiracy squads in the police establishment and through an enlightened judiciary that would pronounce prompt and the maximum sentence under the law, in such cases.

Piracy of intellectual works is not to be confused with the aura of the acts of buccaneers of two centuries ago; today equipped with, and backed by, modern telecommunication and electronic technology, it is plain and simple theft. And, in its staggering proportions, it is increasingly tending to become an organized one on a scale that draws on grey and black areas of financing—



and in some cases at least, has all the trimmings of an underworld activity. According to an estimate made some years ago by the International Publishers Association, books were pirated to the tune of about US\$1 billion a year around the world; in addition, the estimated figure of another over US\$2 billion of pirated cassettes and tapes of sound and audio-visual recordings worldwide, indicates the dimension of a problem of staggering proportions.

Digital technology has already started to revolutionize the ways in which protected works are created and distributed. With the advent of interactive digital networks, digital superhighways, digital delivery and other new technological developments, new licensing techniques might become necessary. Using these systems being developed, a user at his home may at any time ask to receive a film, a musical work and possibly even a computer programme or any other type of work that can be digitized, that is to say, any work transferred to a binary computer format enabling a computer to process the work in the same way as simple data in digital quality. That data can then be manipulated, reproduced a large number of times without any loss of quality.

The recognition of, and encouragement given to, the inventor and creator, the protection of his rights and the rights of those who invest in the making of his creations, thus contributes positively to socio-economic development. Among the main branches of the intellectual property system, whereas copyright does not require protection through registration and accrues in literary and artistic works without any such formality, this is not the case where industry property is concerned.

Thus while collective administrations through societies of authors and composers can and are formed to help creators of literary and artistic works through the collection and distribution of royalties due to them, the industrial property administrations in charge of receiving and registering applications after due and often time-consuming examination, are the patent or industrial property offices forming part of the concerned government ministries. A modern well enforced industrial property system

could help in further expanding our economic and trade programmes; help also in intensifying activities in business, university and institutional research for facilitating technological development. Effectively enforced industrial property protection has often led to shifts in the costs linked with technology development to the private sector of the economy. The public funds thus released could then be diverted to provide the necessary basic needs for the community at large. The intellectual property system could act as a "facilitator" for the framework of a stimulating relationship between universities, R&D institutions and industry.

Patent laws protect new inventions. An invention to be patented should be new, should be non-obvious in the sense that it would not have occurred to any specialist, had such a specialist been asked to find a solution to the particular problem, and should be applicable in industry in the sense that it can be industrially manufactured and used. The patent system deals with the most recent technology. For technology users it is significant as inventions are disclosed in a well-established documentation and are available to any person desirous of using them. Technological progress is an important means of attaining economic growth, and the patent system with its wealth of technological information disclosed through patent documents relating to the registration of an invention, is an important resource in technological development, an aid in technology transfer, as well as the significant factor in growth.

The technology disclosed serves to stimulate ideas for further inventions and innovation; it could encourage the efforts of our inventors in coming up with even better inventions or inventing "around" the original. Such indigenous inventions, duly registered, could well surpass the original in the direction of industrial application of related technology. It is thus important to optimize the utilization of the intellectual property system in technological and economic competition, which will undoubtedly become more intensive for us in the years ahead.

International competitiveness can be maintained only through



high quality production, incorporating the latest technologies, and qualitative competitiveness in the world market and growth in trade can further ensure adequate and suitable jobs and employment opportunities. Encouragement of inventive activity is essential in as many enterprises as is basic to the national economy. It is essential to promote knowledge-based growth with greater concentration on education to produce a constant reservoir of scientists, technologists, inventors and innovators. There is a growing realization that a newly industrializing country means a lot more than a bunch of factories.

Technological innovation is the key to economic growth and social prosperity and patent information is the source of technological information that industrial research organizations have at their disposal. Incidentally patent applications worldwide had risen by 32 per cent from 1.25 million to 1.65 million annually in the five years ending 1990. Certainly, not all the several million registered patents in the world can be major technological breakthroughs. A fairly large number encompass incremental inventions consisting of small improvements to products or processes that increase their efficiency and marketability and are built "around" technological information available through existing patent documents. Valuable technology is not only high tech nor does it always have to come from abroad.

Patents cover every area of technology from clips to computers, for example, clamps for car exhaust mufflers; improved brake systems for bicycles; spare parts for tractors used in agriculture; electrical switches, etc. These and many other indigenous technologies can be generated and exported only if the inventive habit is encouraged by ensuring that the system of intellectual property protection is effective, and that the inventor does not have to fear that his idea or his invention is likely to be imitated and used by others without compensation to him. Each such invention has a multiplier effect. It is the basis for further and increasing technical developments. It is interesting to compare the figures of patent applications filed in some countries with those in our own.



Recent (1993 rounded off) figures show patent applications were in Japan 380,000; the USA 191,000; Germany 118,000; the UK 101,000; France 82,000; Italy 65,000; China (including utility models) 67,000; Spain 57,000; Switzerland 56,000; Republic of Korea 47,000; the Russian Federation 44,000; Australia 31,000; Brazil (including utility models) 10,000. In our country the average for five years ending 1992-93 was only 3,600; in 1994-95 it was around 5,300. This means that in a huge country like ours, with professedly the third largest technical manpower in the world, the inventive activity is so poor as to be around 50 per cent of Brazil, 11 per cent of that in Republic of Korea and only 8 per cent of that in China. And, this includes foreigners' patent applications.

It would be interesting to know from our corporate sector and R&D institutions if really the inventive capacity of our scientists, engineers and skilled professionals is so low, or is it that they are not encouraged to register their inventions, or yet is it due to bureaucratic impediments, since the performance of inventive and innovative activity in the context of these figures is depressingly low. And this, despite the bright young technocrats, engineers and scientists we come across in our diversified industrial base all over the country. It is clear that we are lagging behind in developing such kind of a sophistication which needs to be encouraged in order to be ahead of others in developing our own brands of technology, even high technology on an increasing scale instead of looking for its transfer from abroad. It is essential that we change from being largely an importer of technology to becoming its producer and exporter.

As far as trademarks are concerned, the mark enables its owner or enterprise to build up a reputation for the goods offered in relation to that trademark—compels the owner of the mark to strive to maintain and improve the quality of the goods or services offered under the mark. The exclusive right of the owner of a mark precludes others from using it. Marks have an increasingly important role in a country's commerce and trade as they stimulate economic progress. In 1993 the number of trademarks and service marks registered worldwide was about 1.1 million. In our country



the total number of applications for trademarks in 1994-95 were over 37,000—the majority of these are of local origin.

Normally, the duration of protection of trademarks is not limited in time provided its registration is renewed, usually every seven or ten years as in various national laws. However, lack of information about the usefulness of intellectual property protection has often led to a mindset amongst an important section of public opinion based largely on misinformation. Intellectual property rights protection is seen as confined only to patents in chemicals and pharmaceuticals.

Let me say a few words about these areas in which even the best marketing strategy cannot sustain the enterprise without constantly launching new and improved products. A pharmaceutical enterprise, for instance, without new products, could lapse into trading in generics. Progress is not possible in this area without research (take for example, vaccines or drugs for cancer, leukemia or AIDS) and research is expensive.

To afford research and develop products requires patent protection, since effective patent protection does influence the transfer of the latest technology in this as, of course, in other fields, because only through such protection would an innovation become a legally protected item of trade and technology. It is estimated that the cost of bringing a successful new molecule or new drug in the market could vary between US\$100 and US\$300 million. Indian enterprise could probably bring a new molecule based on its own research for much less.

The fear and concern that extension of product patents to pharmaceuticals will hike up prices steeply is not well-founded. In any event, prices in any market would be based on several factors, including purchasing power in the particular market. Incidentally, it is estimated there are 30 patent drugs in the Indian market with a total sale of around Rs 310 crore. Only around 3 per cent of drugs in India are covered by patents, accounting for 6 per cent of the total pharmaceutical market. Likewise, drugs on patents protection which are on the WHO list of essential drugs

are around six. At least 22 drugs whose patent rights have expired recently are likely to be in demand for many years. The products patents rights regime will not come in the way of our manufacturing and exporting them.

Besides, drug prices are not likely to shoot up due to product patents, because:

- the TRIPs regime will apply to those patent applications filed after January 1995. It takes seven to ten years for a drug to come into the market after filing of the application. Therefore, existing drugs and even new drugs are not likely to escalate in price;
- share in the Indian market of such drugs is not likely to be higher than around 10 per cent;
- except for drugs which mark a spectacular breakthrough (AIDS or cancer) all previous generation of patent drugs are available in the market; their price would act as a check; and
- besides the compulsory licensing and drug prices control order are available as checks.

The point I am making is that in this area as in some others lack of studies or precise information does lead to generation of more heat than light. It is clear that the concern regarding extension of product patents will push up drug prices, that the domestic market will be served by imports and will preclude local manufacturing, could be overcome — if the pharmaceutical industry and the concerned authorities could direct the industry to take to greater research in drug production. The industry should take up the challenge by greater concentration on basic research, quality control and export efforts. The R&D expenditure of our pharmaceutical industry is around 2 per cent of total investment as against the world average of 10 per cent.

Another direction of concentration would be joint venture efforts in pharmaceutical research which would also involve and promote sharing of intellectual property. Companies wary of a regime where intellectual property is not protected in this



particular area, will have a greater inclination to cooperate if this were to change. A quick change to a regime of product patents in pharmaceuticals is possible, and has been achieved in countries like the Republic of Korea. Much greater incentive should be provided to our scientists who have long been denied the benefits of their efforts. When they have the resources and legal protection for their work, India will also have the competence to compete with research-based companies abroad.

Contrary to what others might think, I feel that well managed Indian firms in this area will do even better in the post-GATT era, thanks to possible licensing arrangements, whereby foreign firms not represented in India will be keen on licensing their research products to the Indian firms which are well established. I am of the firm belief that if our country is to proceed along the road to a big economic power status, we should encourage our very competent young technocrats to innovate and even if it takes a little time to come up, have an eye on the goal and to that end encourage innovativeness in production and export of our own brands of technology in which we have both the competence and the price edge.

Meanwhile, we are and should be concerned about the need to have cheaper medicines for the poorer sections of our society. This should not, however, mean that this large segment of our population be deprived, in cases of serious illness, and be condemned to previous generation of drugs. It should not be overlooked that we have a dynamic, entrepreneurial middle class of a size almost that of the population of the USA, which needs to be encouraged to obtain and be provided with medical insurance facilities to cover treatment at a price in private hospitals. In turn, that would help release availability of accommodation in our public hospitals for a larger intake of those who cannot at present afford medical insurance and deserve their attention and equal medical care.

To conclude this part of our discussion on the role of intellectual property and its importance in socio-economic development, an outstanding example of legal protection and attempts at its

enforcement has been the protection of computer software in our copyright law through an amendment in the law in 1984. It is a pride for us that through such protection and also through our long-standing adherence to the international convention for copyright protection known as the Berne Convention, we have helped our computer software industry to develop favourable quality ratings in the international information technology industry. Our software industry has performed exceptionally well. Exports in this area have increased from a level of US\$225 million in 1992-93 to US\$340 million in 1993-94 and were to exceed US\$450 million in 1994-95. These are expected to reach well over US\$1 billion mark by the end of the century.

Technological developments in this area have been proceeding at a breathtaking pace leading to new problems, with the advent of interactive digital networks, digital superhighways, use of fibre optics, digital delivery and other new developments. While I do not want to go into details about this aspect, I am mentioning this in passing as computer software is protected in our country, as indeed in most countries, under the copyright law.

#### **Modernizing/Updating of Our Intellectual Property Laws**

National intellectual property legislations need a constant review and updating from time to time in order to be in step with the ever increasing, almost volcanic, eruption in new technologies, as well as to provide solutions to problems posed by the rapidly developing technologies, so as to strengthen the necessary legal protection for national creativity, inventive activity and innovation promotion.

Insofar as copyright is concerned, I am happy to say that Indian Copyright Act of 1957 was revised in 1983 and 1984 to provide, among others, for enhanced penalty provisions for infringement and against piracy of works as well as to protect computer programmes as literary works.

The most recent amendment of the Copyright Act, the bill for which was duly examined by a Joint Select Committee of Parliament was approved and passed on 1 May 1994, and the



amendment rules for which were published in the Gazette of India dated 5 May 1995, was through a notification of the same date brought into force as from 10 May 1995. This recent amendment is an important landmark which brings the Copyright Act of 1957 in tune with developments in the field of satellite broadcasting, computer software and digital technology. The Government and the authorities concerned deserve to be congratulated for having done well in respect of the new copyright legislation which has amended the old Act not the least by modernizing some of its rules which deal with the emerging technologies, and is now one of the more modern copyright laws in the world.

We cannot say the same about industrial property legislation. The Patents Act of 1970 and the Trademarks Act of 1958 are proposed for revision but are yet to be revised, while the Industrial Design Law of 1911 vintage is yet to be proposed for a revision. The bill for amending the Trade and Merchandise Marks Act, 1958, was introduced in the Lok Sabha on 19 April 1993. It was referred to the Department-Related Parliamentary Committee on Industry. The Committee having representatives from both houses of Parliament presented its report on 21 April 1994. The amendments suggested were stated to have been incorporated and the bill was passed by Lok Sabha on 29 May 1995 but it has not yet been passed by the Rajya Sabha. The statute on trademarks provides for registration of trademarks and through such registration, facilitates the process of obtaining speedier and effective remedy against unauthorized use of the technologies by rival traders. It is in view of this and of technological progress that the trademark statute needs to be amended from time to time to take into account also the changes manifesting in the market place. The proposed amendments to improve on the trademarks and patents laws will certainly help modernize our industrial property legislation which is both necessary and desirable.

So far as patents are concerned, our Patents Act has not been revised since the last two-and-a-half decades. We hear that it is sacrosanct and so it should not be amended. And yet Japan has, in the course of its economic development, revised the Japanese Patents Law over a dozen times between 1945 and 1980 alone, to

keep in step with emerging technologies and their developmental needs, and now to be in line with the TRIPs Agreement, Japan has completed the amendment of the domestic laws again. The new Patents and Trademark Laws came into force from 1 July 1995.

Under the TRIPs Agreement certain minimum standards are required to be adopted. A transition period of five years is provided to all developing countries to give effect to the provisions of the TRIPs Agreement. Countries that do not provide for product patents in certain areas can avail of a further transition period of five years.

Notwithstanding the transition period allowed, member countries are to provide, with effect from the date of coming into force of the WTO Agreement, a means for filing of applications for patents in the areas of pharmaceuticals and agricultural chemicals and, on fulfilment of certain conditions, grant of exclusive marketing rights (i.e., exclusive rights to sell and distribute) for a period of five years or until the patent is granted or rejected, whichever is earlier. These obligations arose as there were no transitional arrangements in case of pipeline protection. Hence, the amendments were made through the Ordinance of 31 December 1994 to provide for filing of applications for product patents in the field of agricultural chemicals, fertilizers and pharmaceuticals.

The amendment Act also provides for exclusive marketing rights for the application after a set of conditions have been fulfilled. The applicant has to

- (a) file an application in India for grant of a patent;
- (b) file an application and obtain patent for an identical invention in any convention country;
- (c) obtain marketing approvals for the same convention country; and
- (d) obtain marketing approvals from the appropriate authority in India. (For drugs from Drugs Controller; for agricultural



chemicals; for each chemical from the separately specified office.)

The proposed amendments in the legislation on patent also provide for certain safeguards.

- (i) In the event that the existence of exclusive marketing right is against public interest or any other circumstances of extreme urgency, the Government may, either on its own or through any authorized person, exercise the said right.
- (ii) Government may, in the public interest and for reasons to be stated in writing, direct any substance which is the subject of an exclusive marketing right to be at a price to be sold at a price determined by an authority designated by it.
- (iii) Compulsory licensing provisions under the Patents Act would be extended to exclusive marketing rights also. The right holder would maintain adequate supplies of the substance for which the right has been granted and in the event of his failure to do so, the Government could pass directions as appropriate to ensure availability or even transfer rights to some other person.

These changes, amendments and safeguards in our industrial property legislation — long overdue — do not, if cold-bloodedly examined, smack of being done at the behest of supposedly interested groups as sometimes irresponsible criticism tends to allege.

A modern intellectual property system with updated legislation is an essential component of the enabling environment for economic development. We should modernize our industrial property laws (Patents, Trademarks and Industrial Designs) at the earliest. Since the advantages of an effective intellectual property system are as obvious as the copyright system in which we have given ourselves one of the most modern legislations, why should we dither when, in our national interests, we should also have a modern Patents, Trademarks and Industrial Design legislation? And particularly when we see the example of other

developing countries not only in some other regions but also in Asia, like for example China, the Republic of Korea, Indonesia, Malaysia to take some random examples, not to speak of the fastest developing country – Japan.

Our legislation not only requires to be updated and modernized but also enforced properly. Here again, in the copyright area, we have given ourselves not only a recently updated legislation but also the Government in the Ministry of HRD, Department of Education (the nodal Ministry) is following up creditability on its enforcement. Upon its request to state governments to set up special cells in the Police to deal with infringement cases, I understand some states— Delhi, West Bengal, Karnataka and the Union Territories of Goa and Chandigarh— have done so. The Ministry has also been organizing awareness building seminars for instance in November 1994, when they had amongst others a number of Home Secretaries and senior police officers from quite a few states attending such a seminar. Some easily understandable brochures have been prepared and circulated to state governments for circulation also to the concerned police officers, etc. It is about time we did this also in respect of industrial property protection.

**Systematic Use of Patent Information; Encouragement of Inventive Activities and Innovation Management and R&D Activity; Importance of SMEs in Its Promotion; Transfer of Technology, Its Acquisition and Licensing**

Industrial property documents, notably disclosure of inventions, are a source of the state-of-the-art technological and commercial information invaluable in the development of creative new technologies. Patent documents are a unique source of technical information on what is already known, that is the state-of-the-art, and in most cases provides a concise background of the technological progress in the field concerned.

They are easily accessible, give a host of commercially useful information concerning owners of the patented technology, information regarding the prior art, working of the invention, the countries in which the said invention is protected, the duration of the protection. The number of patents documents indicating



chemicals for each chemical

detailed information about new inventions published each year is well over one million. They are the largest available source of technological information, containing information regarding the background of the invention, a detailed description of the invention, etc. Eighty per cent of all technical developments worldwide are disclosed in patents documents and in the descriptions contained therein. Almost all the technical details you find in patents documents are never published anywhere else.

Well over 32 million patents documents have been published in the world and over one million new inventions are documented each year. Thus patents documents are largest source of technological information. The collection and computerization of such patents documents and information can help (a) avoid costly duplication of effort in research and development of ideas already developed, (b) solve given technical problems, and (c) inform enterprises concerning the products their competitors may have or are developing. In order to encourage inventive and innovative activity amongst their technical staff, our corporate sector and enterprises as well as research institutions have a valuable base of information to turn to when required.

This is the Patent Information System (PIS) in Nagpur, which is a branch of the Office of the Controller General of Patents, Design and Trade Marks under the Department of Industrial Development, in the Ministry of Industry.

The PIS has an updated core collection of the most important patents documents worldwide, gathered on the basis of a country-wise user survey; the Indian patent database is available for users on-line; patent documentation on CD-ROM is being received; and installation of modern equipment has enabled collecting, indexing, storing, searching, retrieving and disseminating technological information.

The establishment of such a core collection and computerization of the service has been done through funding by the Government of India and the UNDP, under a project costing around US\$700,000, out of which modern computer and other equipment has been installed at a cost of over US\$300,000 for collecting,



indexing, storing, searching, retrieving and disseminating technological information. This project has been undertaken in collaboration with and through execution by the UN's Geneva-based specialized agency, the World Intellectual Property Organization (WIPO).

A short nine-page brochure entitled "Patent Information for Commerce and Industry" has been prepared by the PIS and circulated to many industrial enterprises to inform them of the existence of such a service, to which they could turn for obtaining information about the latest inventions in their field of technology, so that in the process of modernization of their production plants for qualitative competitiveness, they could obtain the required and latest technological information in their field from this service. This project was conceived and based on the premise that a good information service and good assistance programme by the national patent office could give additional innovation impulses and could assist private and public enterprises in their productive sector and in their development.

Indian industry and our corporate sector have to use intellectual property protection in the process of furthering our technoeconomic capabilities through the introduction of the latest and newest technologies in our productive sector, so that our products are qualitatively competitive in the export market. Industry would need to use the initial transfer of technology to originate worthwhile indigenous technology. An advance in technology should result in a commodity with more attractive performance characteristics and a product more saleable for the producers and the less costly for the consumer.

As business research advances and with growing investment in research and development, the business policy of industry will have increasingly to be concerned with their inventions being protected. Small professional cells may have to be created and grow with each important industry, to encourage their employees to flag their inventions for protection of their IPRs. It is ultimately essential to develop our own brands of technology.



My own message in this context to industry associations would be to pay increasing attention also to, and to extend help and encouragement for, the growth of the small and medium sized enterprises (SMEs) who should be encouraged to follow improved quality management practices.

SMEs are fairly significant employers and are units of technological innovation; they can adapt sooner to technical changes. In particular, SMEs must be encouraged through simplifying of our regulations and procedures and by facilitating access to credits, markets and training. These micro-enterprises are a source of sustenance for an estimated 300 million people worldwide. The opportunities for them in our country to make more informed investment decisions could also prime the national technological base.

There is often a lack of awareness of the important economic and technological impact that industrial property rights protection can have on enterprise management and competitiveness. Its effective protection helps increase the efficiency with which inventive activity can be generated and used through encouraging the creative initiative of employers and investment in R&D and marketing.

Innovation management should involve obtaining and providing patents protection not only for high technology developments but also for all incremental improvements, provided they are new, and non-obvious, and industrially applicable. Enterprises should, in the present competitive world, develop a deliberate policy of encouraging employees to invent; securing protection for their inventions; checking on and avoiding infringing of patents owned by others; keeping in touch with patent activities of competitors; and acquiring the latest technology through patent licensing contracts. Particularly if an enterprise has been investing a great deal of money, time and manpower in the inventive process, the amount spent on acquisition of a patent will not be wasted; it can be regarded as part of overhead costs (such as insurance, depreciation, etc.) and also as an investment towards ensuring future profits of the enterprise.

Enterprises, both large as well as medium and small, stand to gain a great deal through their employees' inventive activities and should provide incentives for their employee inventors through monetary awards, promotions or special remuneration to be decided by mutual consent. An enterprise while protecting its inventions through patents should secure their protection in countries where the markets are significant to its trade in the particular invention.

Patents are protected in well over 130 countries. While national filing of a patent for invention is normal, foreign filings are expensive and costs are hiked up due to translation charges, foreign agents fees, etc. It is therefore always advisable to decide on this after considering likely market demands, licensing possibilities, enforcement difficulties, etc.

Transfer of technologies through licensing arrangements is also an important aspect of enterprise management of industrial property. Transfer of technology agreements, joint venture arrangements and other cooperative alliances include licensing or authorizing the use of protected inventions.

Another aspect to bear in mind is that it is likely that an enterprise desiring to acquire patented technology may not have sufficient skilled employees in the relevant area. The expertise of the licensor to train the required staff of the licensee may be necessary and it would be useful to have this included in the agreement.

Transfer of technology through licensing agreements or licensing contracts is an effective way of promoting technology transfer since the latter is then received from the right source and normally with the full assistance of the licensor. Certain pitfalls need, however, to be guarded against in negotiating licensing contracts due, sometimes, to the weaker bargaining position or lack of experience of some of our enterprises.

Considering that during the last year about a quarter of the total number of developing nations in the world recorded a reasonable rate of growth and considering the role of technology



in economic development, the desire to acquire the latest technology is obvious.

Effective intellectual property protection plays an important role in attracting technology transfer and in obtaining the desired range of technical knowledge available in other parts of the world. The introduction of the latest and newest technologies in our productive sector plays a critical role in economic growth. Adequate legislation and enforcement of intellectual property rights undoubtedly helps in the transfer of technology as it assures foreign investors and foreign licensors that their technology will not be exposed or revealed to competitors. In other words, a barometer for the easier availability and supply of the latest technology and know-how to industry is the existence of adequate and effective patent protection.

Within a country itself, sophisticated research-based innovation, which should aim at using the initial transfer of technology to originate worthwhile technology nationally, is often stunted by lack of adequate intellectual property rights that could adversely affect technological competition.

The complexity of the technology sought to be acquired naturally influences the form and type of licensing contract arrangement. If the technology is specific, a licensing contract would be preferred. If the technology to be acquired envelopes a whole production complex, a turnkey arrangement is often considered. But, as is known, since in turnkey contracts, the contractor is responsible for the design, construction and commissioning of the plant concerned, it often fails to develop indigenous technological capacity which is perhaps more constrained in a turnkey contract than in a licensing arrangement. The via media often leads to preference for joint ventures—an association between enterprises involving joint undertaking or commercial activity or project, whether it be contractual joint venture or equity joint venture.

Increasingly one notices that global industrial and trading activity is drawn towards transborder alliances. Even 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 arrangements based on intellectual property rights protection are bringing together major firms in both the industrialized and the developing countries.

Let me now briefly refer to a very important aspect, namely the enforcement of IPRs.

While legislation concerning intellectual property rights, that is the legislation on patents, trademarks, industrial designs and copyright needs to be constantly updated and modernized in order also to keep in step with the new technologies, it is more than obvious that even the best laws duly promulgated but kept neatly on the shelf, so to speak, are of no use unless they are efficiently administered and effectively enforced. Generally, the enforcement of intellectual property rights involves procedural formalities in a number of hierarchical forums. Such formalities and procedures are designed to assist and help the owner of such rights not only to obtain them from the competent office but also to enforce them by preventing their infringement by others, usually competitors.

I need hardly reiterate that IPRs are of little or no use if they are not effectively enforced, usually by the courts of law.

In most countries the courts are the main agencies adjudicating infringement actions. It is important that our legislation provides for stern penal provisions for infringement and, if I may say so with due respect, the judiciary should appreciate the need for imposing the maximum punishment in the case of infringements which alone can help maintain and enhance national creative activity as well as support the inventive and innovative spirit of our people.

### **International Protection of Intellectual Property and Developing Countries: The Indian Context— Copyright and Industrial Property**

Taking copyright first, since a basic characteristic of the copyright law of any country is that it has no effect outside its territoriality, copyright protection is not available beyond national



boundaries, unless a country is party to an international treaty — the oldest such treaty in this field is the Berne Convention for the Protection of Literary and Artistic Works adopted in September 1886 and administered by WIPO. It contains a number of detailed provisions which have harmonized copyright laws over a considerable part of the world.

In October 1995, there were 117 states party to the Berne Convention of which over 70 were developing countries. India is not only a member of this Convention continuously since seven decades but was a very active participant in the expert groups and in the diplomatic conference for revision of the Convention in 1971 to include provisions that were to the considerable advantage of developing countries.

India is also an elected member of the Executive Committee of the Berne Convention since the formation of that committee as a consequence of the 1971 revision of the Convention. We have played an active role in all the intergovernmental committees that have met since the end of the 1960s, not only to find solutions to the problems faced by developing countries which were largely tackled through the amendment of the Convention in 1971, but also concerning the problems to be solved for the future. These are posed by the new technologies which are having both quantitative and qualitative effects on copyright.

Some of these arise out of reprography, private recording of phonograms and videograms, cable television, satellite broadcasting, computer storage and retrieval of works protected by copyright, computer programmes, digital distribution system with the advent of digital technology, etc.

Insofar as industrial property is concerned, like in copyright, a patent, trademark or industrial design granted or registered in a country is effective only in that country. For protection in other countries, this must be obtained in each country separately, unless the owner of the right can use the procedures under an international treaty to file a single application and to obtain the grant of a patent for invention or registration of a trademark that will be effective in the other designated countries concerned.

For this the country desiring to use the facility must be party to the main international treaty in this field, which is the Paris Convention for the Protection of Industrial Property, concluded in 1883, and then accede to its two subsidiary treaties in the field of industrial property, for the purpose. These subsidiary treaties are the Patent Cooperation Treaty (PCT) and the Madrid Agreement Concerning the International Registration of Marks (the Madrid Union).

In order to help our inventors and innovators, accession to these treaties is strongly to be recommended.

Incidentally, of the 136 member states party to the Paris Convention for the Protection of Industrial Property, over 80 are developing countries. We are neither a member yet of this treaty nor, as a result to its two subsidiary treaties, namely the PCT (which has 83 member states) or the Madrid Union Treaty (which has nearly 50 member states).

China is a member of all these and is reaping considerable benefits. So are a number of Asian developing countries.

Yet we have, as members of the WTO Agreement and Article 2 of TRIPs, to comply with all the substantive provisions of the Paris Convention as from January 1995. Then what prevents us from joining it and enabling our inventors, through adherence to its subsidiary treaties, to get the facility of a single filing.

It is interesting to note that Article 7 of TRIPs Agreement, entitled "Objectives", states, and I quote "the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare and to the balance of rights and obligations." It is a "should" rather than "shall" provision. There is no corresponding statement in the Paris or Berne Conventions.



**Institutional Framework; Human Resource Development; Awareness Building; Modernizing the Patent Office Administration; Setting Up of An Intellectual Property Institute; Teaching of Intellectual Property; Preparation of Public Awareness Material**

It is becoming essential, imperative and urgent that in IPRs and their protection, not only a progressive new thinking needs to be developed in business, research and development circles, but also the “mindset” among the community at large be helped through greater awareness building.

Such awareness building has to be extended not only to technocrats in industry, to the intellectuals, the universities and the public at large, but also to the police and the judiciary who play an important part in enforcement.

Economic growth, to be meaningful, must reach out masses of our people. It should result in creation of and provision of job opportunities, achieving a balance between quality and quantity of such jobs. On the other hand the best instrument of distributive justice is socio-economic growth, which in today's world is technology-driven. For this, our productive sector must be qualitatively competitive, and should use in the process the latest technologies. We can get technologies for the purpose, but to ensure the latest and the best, it just cannot be without ensuring updated IPR protection and its effective and efficient enforcement.

Much greater awareness building is, therefore, essential about the socio-economic impact of strong intellectual property rights protection, if we were to use the intellectual property system optimally for our benefit. The need for greater awareness-building is imperative when one sees views being aired and positions taken and asserted, but little studied, and through repetition, being accepted, owing perhaps again to lack of detailed knowledge or precise information. As the adage goes, there is no worse blind than one who does not want to see.

Teaching of intellectual property should be extended to a larger number of universities and institutions. As far as I am aware this

is being taught in the Delhi and Bombay universities. We have around 200 universities, IITs, IIMs, etc.

Awareness of, and confidence in, the intellectual property system could help strengthen links between business and the universities. It could encourage industry and business to turn to university and R&D institutions' researchers for various consulting requirements. On the other side, university researchers and those in R&D institutions, through their increased contacts with business and industry research, would get the required stimulus for their work. We need consciously to promote such interaction in the context of seeking and retaining export markets and directing production patterns to this end. Weak internal linkages that inhibit the efficiency of the productive sector will have to be corrected.

An intellectual property "culture" needs to be deliberately promoted, which would encourage innovative and inventive activity linked to market needs, encourage scientific and technological creativity, help modernize intellectual property infrastructure and administrations to make them increasingly user-oriented as well as concentrate on human resource development required for the purpose.

Intellectual property rights and their protection should come on our national economic agenda. It should form an integral part of our economic policy, industrial policy, S&T policy and educational policy. Public awareness material on intellectual property protection needs to be produced for different categories of people.

Simultaneously, with this, a major effort in the form of a project is desirable for modernization of the patent office to make it capable of undertaking speedier novelty search and examination of patent applications.

While its branches could continue to provide limited assistance, a centralized industrial property office for search, examination and grant of patents, with the patent information service in the same headquarters, together with receipt and registration of



trademarks and industrial designs, is strongly recommended. This could be in a new 16 to 18 storied building as may be required, in the suburbs of Delhi with duly computerized facilities.

This is so in many countries. The Brazilian Patent Office occupies 19 out of 23 floors and is centralized in one building. So is it in the Republic of Korea, in Indonesia and Malaysia, to take only some examples. In Japan, of course, a new building has recently been constructed in the heart of Tokyo, which houses their Industrial Property Office. It has the most elaborately computerized administrative system which is called their paperless system. We need not go in for this, but should be able to do, at least, what other progressive developing countries are doing.

A systematic use of patent information is a prerequisite for meaningful R&D activity in the country. A forward-looking policy for use of patent information must be formulated and implemented at the national level.

A dynamic, capable high-level administrator-cum-technocrat should head such an office as Controller General or Commissioner. The Republic of Korea, China, for example, have such senior personnel in charge. In Korea, the Commissioner is of the rank of Vice Minister in the Ministry of Trade and Industry.

If we are to take the big leap which our economic reforms programme foresees, it is also necessary for the concerned authorities to consider assisting in the establishment of an Indian National Institute of Intellectual Property which should serve both the functions as well as a think-tank for mooting policy options and initiatives.

There are examples of such institutions, although slightly differently oriented, in the Republic of Korea's IIPTI in Daeduk (International Intellectual Property Institute) which was inaugurated on 8 May 1991. There are also the much older institutions such as (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

Property Studies (Centre d'études internationales de la propriété industrielle (CEIPI)) established over 30 years ago in the University of Strasbourg, France; it was formed at the instance of industry and serves it in respect of related industrial property studies; (iii) The Common Law Institute of Intellectual Property in London, UK; and (iv) The Japan Institutess for Invention & Innovation (JIII) in Tokyo, Japan, which has played an important role in the development of modern Japan through awareness building, spreading of patent information, research and training, etc.

Such an institution is certainly needed in our country. It could, in addition to producing its own research papers and monographs, make a positive contribution to general awareness and human resource development through regular orientation courses for which a fee could be charged. These could extend from three days to 10 days depending on the level of the participants.

These courses could be for technocrats in industries; the legal profession including patent and trademark attorneys; the enforcement agencies including the police, concerned officials dealing with or required to contribute in policy making in intellectual property matters from the Ministries required to deal with this, namely External Affairs, Industry, Commerce, HRD, S&T; also selected officials from industry associations, chambers of commerce, associations of pharmaceutical industry; and concerned research personnel in R&D institutions, in IITs, university research centres.

#### **Industrial Property Protection: Invention and Innovation Promotion in Some Developing Countries— Some Examples**

Although examples are invidious in respect of nearly 140 developing countries in the world, programmes are underway in a large number of these countries for modernizing and user-orienting their industrial property infrastructure as an aid in their development plans. It is increasingly being realized that invention, innovation and technology development is closely linked with quality production and resultant growth of manufactured goods in increasing proportion to total merchandise exports.



A recent survey in 1994 of global economic prospects and the developing countries indicated that while economic growth between 1994 and 2003 in industrialized countries would remain low, it is expected to continue its persistent growth in respect of GDP and exports in a number of developing countries. The survey refers to the likelihood of a record surge in private capital flows to creditworthy middle income developing countries. These flows which were US\$113 billion in 1993 are, however, sensitive to investor confidence in respect of commitment to policy reform.

World growth only 1.1 per cent in 1991-93 is expected to recover to more than 3 per cent a year in 1994-2003, mainly due to economies of some 30 per cent of developing countries, which are in the aggregate growing faster than those of the major industrialized countries. Most, in fact all, such developing countries are using the intellectual property system as an engine of growth.

Let me now mention a few examples of some countries in Asia. I shall try to relate intellectual property protection to the economic development in these countries since that is the basic thrust of our topic today.

In *Malaysia*, an intellectual property department has been formed in the Ministry of Domestic Trade and Consumer Affairs; an elaborate patent information service has been established in this department. They hired an Australian computer specialist for helping computerize the service. This patent information service is used for promotion of national technological innovation to promote growth, which has already registered an 8.5 per cent increase in 1993 with a sustained annual average growth of 8.3 per cent between 1991-1993. During this period the manufacturing sector grew by an average of 12.5 per cent, with 70 per cent of exports being manufactured goods. Prudent macroeconomic management, well thought-out long-term development policies, implemented by impressively, well managed public institutions, have led to this growth performance. An active Inventors' Association exists for encouraging inventive activity with its head being the Chief of the Palm Oil Industry. The MARA Institute of



Technology and other institutions of higher education teach intellectual property law through their law faculty curriculum. The Government at the highest level is taking an interest in promoting and strengthening the protection of intellectual property and using it for furthering their economic growth. The Prime Minister of Malaysia in a statement last year with reference to their proposed scientific and technological development foreseen by 2020 AD, particularly mentioned the importance that his Government attaches to intellectual property protection in this context.

In *Singapore*, the national intellectual property system is being deliberately upgraded and its importance was particularly highlighted by the first Deputy Prime Minister of Singapore who headed a national economic development review commission to consider steps for what they call their "Next Leap".

In *Indonesia*, a programme of further strengthening the industrial property system and its administration is being vigorously implemented; considerable importance is paid to using their patent documentation collection in the service of industry as an instrument of growth. During the last years, a regular programme of awareness building concerning intellectual property matters has been organized in different island cities through roving seminars. The economic performance over the last two decades has been improved and progress recorded in all important dimensions of economic development. Economic growth has been sustained at an average of 6.5 per cent during this period; its benefits have been spread widely, with consequent reduction of poverty even during periods of difficult economic adjustments. A senior executive, the Vice-Cabinet Secretary in the Office of the President of the Republic, personally guides the work of industrial property administration and deals with the international aspects of intellectual property protection.

*Thailand*, between 1987 and 1990 had real GDP growth, among the highest in the world, averaging almost 12 per cent. Their growth continued at 8 per cent per year during 1991-93. This performance was built on prudent macroeconomic policies



supported by a vibrant and responsive private sector. There has been a sizable increase in manufactured exports and in inflows of foreign direct investments since the second half of 1980. The Government has been paying increasing attention to and using the intellectual property as an essential tool in the growth process. This is dealt with in the Ministry of Commerce in which there is a Department of Intellectual Property headed by a Director General.

In *Vietnam*, the National Office of Inventions (NOI) has put through a programme for strengthening their administration and for the establishment of a patent documentation service. The country's macroeconomic performance recovered substantially in 1992 and 1993 and the GDP growth was 8.1 per cent in 1993. The Government is determinedly building awareness simultaneously in Hanoi and Ho Chi Minh city for the use of the industrial property system in their growth process.

In the *Republic of Korea*, around end-1960s with a GNP growth averaging 9 per cent the annual exports grew by 20 per cent and the per capita income increased 15 times. The GNP growth has continued at 8.5 per cent during 1980-85; 10.2 per cent during 1985-90; 8.4 per cent in 1991. The Korean Industrial Property Office (KIPO) under the Ministry of International Trade and Industry plays an important role in providing industrial property services to industry and enterprises. It is headed by a Commissioner of the rank of Vice Minister in Ministry of International Trade and Industry. KIPO had a staff of between 650 and 700 and a budget of over US\$33 million of which 80 per cent was earned by fees and 20 per cent was received from the Government subsidy. There has been a rapid rise in applications, 20 per cent in patent applications, growing more speedily from nationals than from foreigners.

In *China*, the economy has grown at a near record pace both in 1992 and 1993 averaging over 13 per cent per year and the trade balance surplus was US\$4.4 billion in 1992. Liberal policies towards trade and foreign direct investment have led to increased export growth. The patent system is recognized as closely connected with the country's scientific, technological and



economic development. As some of you perhaps know, China's leaders had met for a week-long meeting in the week commencing 25 September 1995 to approve their ninth five-year plan and endorsed an 8 to 9 per cent annual growth rate for the next five years.

China began preparations for setting up a patents system only in 1979; the first Chinese Patent law came into force in 1985; China acceded to the Paris Convention for Protection of Industrial Property in 1985; to the Madrid Agreement for International Registration of Marks in 1989 and to the Patent Cooperation Treaty in 1994. The Chinese Patent Office, headed by a Director General of Vice Minister's rank has, since 1985, received a total of nearly 1,850,000 applications for patents; the patent system and its constant improvement is considered by them to be crucial in the development process. The Government considers that the patent system has encouraged creative activity on a massive scale, has encouraged investments in the development of sophisticated technologies and is crucial in the development of their trade and economy.

While the examples being given here are of developing countries, I would like amongst Asian countries also to take the example of Japan, which for the purpose of its inclusion here, I may be permitted to refer to as the "fastest developing" country.

In *Japan*, the industry known for its concentration on its export effort, is encouraged to, and does make full use of the patent system, which latter is almost the first legal system which the Japanese adopted from the West. Their first patent law was promulgated in 1871. During 1956 to 1961, the GNP doubled while productivity in industry tripled. Through development of trade, then industry and of technological excellence, Japan has throughout used the industrial property system. In step with its techno-economic development, the Japanese patent law was revised almost a dozen times between 1945 and 1980. The Japanese Patent Office (JPO) receives the largest number of patent applications of any country in the world—almost one-third of the world's total patent applications. These increased by 51 per



cent between 1983 and 1992, while the trademark applications increased by 106 per cent. In 1993, the total patent applications were 380,035 (332,460 by Japanese nationals and 47,575 by foreigners) while trademark applications in the same year totalled 174,585. During their growth in the last four decades, the import of foreign technology was initially as essential factor in industrial and economic development till it matched the technological growth of other industrialized countries and, in quite a few cases, surpassed it. The vitality of growth was considered to be the enormous increase in industrial property applications filed by the Japanese in Japan. It is the most prolific country in patenting and constantly bringing new products on the market. For successful Japanese companies, patents are an integral part of innovative strategy. The leaders of Japan's industry have always acclaimed the industrial property system as a prime factor in Japan's postwar economic development.

Arising out of and to be in line with the TRIPs Agreement, Japan has completed the amendment of its domestic laws — their amended patent and trademark laws have already come into force on 1 July 1995. They expected to have their revised copyright laws promulgated in January 1996. They have also created a new system for accelerating the examination of patent applications.

In other regions of developing world, much greater attention is being paid to IPR protection as an instrument in the growth process. In *Egypt* the patent office is headed by an eminent scientist with the rank of Vice Minister. In *Ghana* and *Zimbabwe*, intellectual property is taught at university level. The Industrial Property Administration in Zimbabwe is under the Controller of Patents, Trademarks and Industrial Designs in the Ministry of Justice, Legal and Parliamentary Affairs. It is very well managed and is one of the very well organized ones I have had the privilege to see in Africa. The Controller is a doctorate degree-holder in intellectual property law.

In *Latin America* especially in Chile, Mexico and Brazil, they have very well managed industrial property administrations.

In *Brazil*, for example, which had earned the reputation of a

near miracle economy in the late 1960s with double digit growth that continued through the 1970s to average 9 per cent, one of the highest rates of growth but dropped between 1981 and 1993 due to the oil shock, debt crisis and drastic reduction in foreign direct investment. Government introduced significant structural reforms and a stabilization plan in 1993. The reforms included liberalization, deregulation including elimination of domestic production quotas, licensing, prior approvals for investment plans and other economic restrictions. The privatization programme initiated in 1991 resulted in sales of 25 Government enterprises for \$6.9 billion; the steel sector has been completely privatized as well as a large part of the petrochemical industry. Trade liberalization has forced the private sector to be more competitive and contributed to productivity gains of 18 per cent in 1993. GDP also grew in 1993 to 5 per cent after several years of low growth and recession. Meanwhile, the Brazilian industrial property office located in Rio de Janeiro has computerized its documentation service which had a collection of over 18 million patent documents and more recently made the information increasingly available to industry and business. The National Institute of Industry Property (INPI) as the patent office is called, received in 1993 around 14,500 patent applications of which nearly 2,500 were from nationals, and also about 62,500 trademark applications the same year of which over 55,000 were from nationals. INPI has a huge organization occupying 19 out of 23 floors in a building in the centre of Rio; has a staff of over 700, of these there were nearly 120 examiners for patents and over 60 examiners for trademark applications.

### **Conclusion**

In conclusion, let me say the following in recapitulation or arising out of my presentation.

- (i) A modern intellectual property system is an essential component of the enabling environment for economic development, which later is becoming increasingly technology based. Intellectual property signifies this advancing knowledge in the form of ideas, techniques,



processes and products having economic and commercial potential.

- (ii) Intellectual property should be placed on our economic agenda and should become an integral part of economic, industrial, science and technology and educational policy.
- (iii) Our industrial property legislation should be modernized, refined and updated to keep pace with global developments and emerging technologies. Its enforcement should be strictly ensured. The ultimate test of the efficacy of a modern legislation lies largely in its enforcement.
- (iv) A project should be launched for the automation and modernization of the Patent, Designs and Trademarks office administration; increased efficiency of their procedures and practices in order to meet the growing demands of the user community. This office should be located in a centralized building in or around the capital, Delhi, together with its Patent Information Service.
- (v) Systematic use of Patent Information by R&D institutions and business enterprises should be encouraged.
- (vi) India should accede without losing any time to the international industrial property conventions such as the Paris Convention for the Protection of Industrial Property and its two subsidiary treaties, namely the Patent Cooperation Treaty (PCT) and the Madrid Agreement Concerning the International Registration of Trademarks. These latter two subsidiary treaties will greatly benefit our inventors, enterprises and trade by making protection available in a number of designated countries without incurring separate application and translation charges in each country where protection is sought.

All major countries of our size and industrial potential are members of the Paris Convention—the total membership comprises 136 states of which over 80 are developing countries.

- (vii) Awareness building should be given a priority. Lack of information about the importance of intellectual property leads often to a mindset among an important sector of public opinion based largely on misinformation. Our industry, the corporate sector and enterprises should be encouraged to use the intellectual property system in furthering the techno-economic capability through introduction of the latest and newest technologies in the productive sector.
- (viii) We should encourage our very competent young technocrats and scientists to innovate and even if it takes a little time, to come up with new inventions which, when tested for industrial applicability, would not only result in a competitive product but if possible, have a price edge.
- (ix) Industry/R&D/University linkages should be encouraged.
- (x) For competitiveness in international trade, industry and enterprises, big and small, would increasingly need research-based innovation which should aim at using the initial transfer of technology to originate worthwhile indigenous technology. Innovative efforts should be encouraged for creation of new designs, new processes, new products, new markets, and new customers.
- (xi) We should consider setting up of an Inventors' Association on the model of such associations in a number of countries, including developing countries, with an eminent scientist or inventor at its head.
- (xii) Concerned authorities both in government and industry should consider assisting in setting up of an Indian National Institute of Intellectual Property which would serve as an awareness building institution and a think-tank.

To sum up, we should, in the process of our socio-economic development, use the intellectual property system as other



countries have done or are doing, in order to sustain and constantly endeavour for technology-based growth.

The question is, should we remain in our shell and let the world go by, or should we struggle to obtain our place in the sun and amongst the progressive and progressing countries. Since there seems to be no alternative, clearly the way lies through export promotion and an increasingly and aggressively, if I may say, competitive industrial, enterprise and business sector using the intellectual property system as its base.

In our earlier "long walk" to freedom we have crossed famous rivers, as an African saying goes, and now on the road to big economic power status, we have greater challenges to face but vast opportunities in front of us.

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### OCCASIONAL PAPERS

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