Negotiating IPR during International Cooperation in Science and Technology

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Science and technology play an important role in building the international relations among nations. The recent upsurge in the globalization of trade and economic reforms has brought science and technology cooperation at the centre stage of the agenda of negotiations of the national policy-making bodies. Of these, the issues of intellectual property rights (IPR) are of particular significance. The paper examines the critical features of negotiating IPR while handling R&D collaborative projects with other countries.

Intellectual property rights (IPR) are conferred in respect of works that result from the creative and inventive activity of the human mind. The main elements of IPR include the patents, copyright and related rights, trademarks, geographical indications, industrial designs, lay-out designs (topographies) of integrated circuits, and protection of know-how and undisclosed information. The rights are the legal rights, granted by the government, for a limited period in exchange of the public disclosure of the inventions. The grant of rights is intended to encourage the creators and authors in their creative pursuits. The rights are governed according to the national laws of a country.

The national laws for the protection of IPR, in India, had little interface with the programmes and policies of international cooperation in science and technology in the initial stages. In principle, science was considered an universal phenomenon and the international cooperation in science was viewed as an instrument which facilitated free flow of scientific information and knowledge across national boundaries. To the extent, the international cooperation was focused on basic research programmes or sharing of scientific information, training or exchange of personnel, there were no problems with regard to the intellectual property protection. The importance of IPR issues grew when the cooperation was focused more on applied research and technological
development programmes. This kind of cooperation involved competition among the cooperative parties to exploit the results of research and development (R&D) arising out of the cooperative activity and, therefore, raised concerns about IPR. The significance of IPR concerns during inter-governmental negotiations for cooperation in science and technology arose in late 1980s when some of the countries stressed for more stringent protection to intellectual property. In particular, the nature of cooperation between India and the United States, was greatly influenced by these developments.

There has been no coherent response of most developing countries on IPR issues concerning the implementation of the international programmes of cooperation in science and technology. There is a lack of awareness about the management of IPR both at the national level as well as among the scientists in the R&D institutions across the country. How does one respond to the questions of intellectual property protection in international cooperation in science and technology? An attempt is made in this paper to suggest ways and means for developing such a response.

**International Treaties on IPR**

IPR has been subject to negotiations in a number of international treaties and conventions. The list of such treaties is given in the Annexure. The treaties have aimed at achieving consensus - a balance of interest - on many of the contentious issues. The Agreement on Trade-Related Aspects of Intellectual Property (TRIPS) under World Trade Organization (WTO) is a major step in bringing consensus on key aspects of IPR on which there were differences in the national laws of different countries. The TRIPS Agreement came into force with effect from 1st January 1995 and set the minimum international standards in a broad range of intellectual property areas including mechanisms for dispute settlement and domestic enforcement.

**R&D Collaboration—Key Principles**

The arrangements of international cooperation in science and technology are worked out under the inter-governmental umbrella agreements. The main responsibility of negotiating the inter-governmental agreements in science and technology lies with the Department of Science and Technology. The department conducts the negotiations in consultations with the Ministry of External Affairs. By the end of 1999, it had established instruments of cooperation with above 50 countries. Some of the key principles that are kept in view during the negotiations of international R&D collaboration agreements are as follows:

- The agreements on cooperation in science and technology are subject to the laws and regulations of the respective countries.
- The participating institutions / industries generally kept themselves free to exploit the results of research in their respective countries.
- Exploitation of research result in the third country is subject to mutually agreed terms and conditions.
- Indian R&D institutions are free to enter into R&D collaboration arrangements in the same or similar area of work with any S&T agency or institution wholly or substantially funded by the Government, subject to appropriate clauses regarding maintenance of
confidentiality/secrecy of information supplied by the collaborator.

- Indian side retained freedom to market products resulting from commercialization of the results of R&D in India, regardless of whether such production/commercialization took place in India or outside.

- International R&D collaborations were not to violate or circumvent any bilateral or international agreement or treaty or convention to which India was a party.

- On cessation of the agreement, the Indian side retained freedom to enter into R&D or other types of collaboration agreements for the productionization of the results of collaboration and for the utilization of know-how, data, etc resulting from such R&D.

- Indian personnel were free to seek alternative employment, participate in scientific and technical meetings, conferences or join membership of any national or international scientific/technical societies or committees.

**Principles of Sharing IPR**

The inter-governmental agreements laid down the terms and conditions of the cooperation in the field of science and technology (S&T). The matters relating to intellectual property formed the part of the negotiations under inter-governmental agreements and till about mid-1990s, were guided by the spirit of mutual interest and the belief that the cooperation would bring benefits to the people of both the countries. The rights were either the joint property of the two governments or were shared equally even if the project had been funded by either of the two governments. In some cases, one agreed that the outputs of the collaborative efforts, for example, the improved technology, could be used by either or both the countries, with due recognition of each other’s contributions.

The research findings were published in the public interest, if was mutually agreed upon. The breeding material, germ plasm, etc. was freely exchanged between the cooperating institutions. The only requirement was that the full credit was to be given to the source of the origin of the material. The information obtained by either of the collaborating institutions or its personnel under the S&T agreement was not to be divulged to any third party without the specific consent of the other contracting collaborator.

Many of these principles were in conflict with the emerging international concerns. The attention of the policy makers for international cooperation in science and technology in developing countries including India has since focused upon the need to evolve a suitable response to IPR issues. There is an increasing concern among the policy-makers for carefully looking into the IPR related issues while negotiating S&T Agreements with foreign countries so as to best protect the national interests. First, there is a concern about the variations in the Indian national laws on intellectual property protection with those of the other countries, primarily, with the laws of the industrialized countries. Secondly, the policy-makers feel that there is generally a lack of awareness about the management of IPR among the scientists across the country which may act as a constraint in successfully negotiating IPR at the level of R&D institutions. These factors had a significant contribution in determining the position on IPR while negotiating an inter-governmental agreement.
Management of IPR

At the national level, each of the S&T departments or agencies is responsible for programmes and activities in specified fields of S&T as defined in their respective charters. While negotiating specific instruments or programmes of cooperation with other countries, each of the S&T departments / agencies is required to follow the same guidelines on IPR issues as are nationally evolved. The solution to IPR issues depends upon a clear formulation of the IPR-related articles in the inter-governmental agreements. There is a need of proper coordination of policies on intellectual property within different S&T departments and agencies.

The basic principles governing the sharing and ownership of intellectual property are agreed while negotiating the main S&T agreement. For example, one of the agreed conditions could be that the IPR would be shared on the basis of equality and owned jointly by the cooperating countries. The detailed terms and conditions on IPR are not specified in the main agreement but are left to be covered under a separate arrangement, namely the protocol on IPR, which could be finalized at a later date between the participating R&D institutions.

At the level of the institute, the detailed terms and conditions of sharing and handling IPR are to be in consistent with the policies and practices of handling IPR in the R&D institutions. For this purpose, foremost, it is essential that an appropriate awareness is created at the level of the working scientists on the protection on intellectual property and its proper management in day-to-day conduct of the research work. This calls for specific policies and practices concerning, say, writing and drafting of patents, patent search, defining pre-existing rights in cooperative programmes including international collaborative arrangements, sharing of royalties, or management of keeping records of research.

In the context of international R&D collaboration, negotiation of a protocol on IPR is most important. The salient features of the protocol on IPR are described below.

Negotiating a Protocol on IPR

Definitions

The first requirement of negotiating a protocol on IPR is that a common view is evolved on the legal terms to be used in the protocol. For example, the definition of the main elements of IPR could not be in contradiction with the national legal system and the international treaties of which the country is the member. Therefore, at the outset, first negotiating point would be that the protocol would respect the national laws on IPR of the respective countries.

Pre-existing Rights

The pre-existing rights are the rights in inventions, discoveries, know-how, and other technology that are owned by the scientists or institutions prior to the effective date of the collaborative research agreement. It may include any patent applications that are made before the start of a research project. It is important to formulate conditions and strategies of sharing the pre-existing rights in the collaborative research programmes at the outset of collaboration rather than after the establishment of the collaborative research programme.

The collaborators who possess pre-existing intellectual property need to declare it prior to commencement of the new research programme as access to such intellectual prop-
property can have immediate effect on the future commercial activities. This should be done well before new property is developed in order to avoid conflict in the management of new property.

Pre-existing rights are generally allowed to be owned by each collaborator. Each collaborator should be free to use them for research purposes in the current collaborative project. However, if these are essential component in the new intellectual property generated under the project the same should be available to other collaborators on reasonable terms and conditions or on cross-exchange basis.

Each collaborator should find out whether there are prior collaborators of the specific research project who have continuing rights to the research. In such a case, it is the obligation of each collaborator to obtain from prior collaborators a formal and legal release of any right that the earlier collaborator might still have in the research project. It is important that no right of a prior collaborator should be involved or attempted to be assigned while negotiating the ownership of the inventions and other technology that may arise from the collaborative work.

Ownership

The sharing of IPR should be in accordance with the respective laws and regulations of the two countries. The IPR guidelines should ensure an unlimited access to all intellectual property for all partners for research work while carrying out the joint R&D work.

Patents and copyrights arising from projects funded by either government under the international collaboration should be the joint property of the two governments or should be jointly owned by the participating S&T institutions or scientists. The alternative is to agree upon that the IPR would be shared in proportionate to the inputs put in by the respective collaborating institutions. In this case, it is essential that the participating scientists and R&D institutions are well versed with the management of IPR and should not lose their interests in the collaborative projects.

The issues of ownership of intellectual property generally cover the rights of the existing partners. In some R&D projects, it may become a possibility that new collaborators are involved at a later date. The share of such late entrants in the collaboration should be determined based on the importance of their contributions.

Sharing of Confidential Information

Confidential information is generally not known among or readily accessible by lawful means to the experts in the field. Each collaborator should identify at the earliest possible moment the information that it wishes not to be disclosed. The actual or potential commercial value of the information should be taken into account while keeping secrecy about the information.

The confidential information or results which are furnished to the other party through the collaborative programmes or obtained as a result of research carried out under the programme should be made available to interested parties provided both participating institutions give their consent. The consent should be given explicitly in writing.

The collaborating institutions should keep itself the right to communicate or disseminate the confidential information to the personnel within or employed by the receiving institution or other concerned departments.
or agencies involved in the joint research. Information should be disseminated only on conditions of confidentiality.

The information whose disclosure is authorized should be used solely within the scope and limits of the collaborative R&D programme. Neither of the collaborating institutions should disclose any confidential information provided by the other institution except to the concerned employees and government personnel and, with the consent of the other institution, to their local collaborating institutions.

Publications

Each of the participating institution should have the right to publish the results emanating from the joint research. The publications may be joint or separate as may be determined in each case. The results of the research should be published in internationally recognized scientific journals and the publications should not be unnecessarily delayed. Any delay found essential on account of commercial reasons should be suitably examined by both the collaborators and in such case the publications be delayed as required for seeking patent protection.

In case the publications are made solely by one country, then the other country or its participating institutions in the joint programme should be entitled to worldwide, non-exclusive, royalty-free licence to translate, reproduce, adapt, transmit and publicly distribute such works.

Exchange of Information

The exchange of information refers to a relationship wherein a collaborator in a country requests for certain information from the collaborator in other country who then responds by sending the requested information to the former collaborator as per the terms and conditions of the agreement. For example, there may be costs involved in such exchange of information which may have to be paid by the collaborator requesting for the information.

However, in case the exchange of information involves computerized databases, the questions of proprietary do arise and steps should be taken to ensure protection of IPR embedded in the computerized databases. In case the information is exchanged through cyberspace — online information networks like internet — one should go by the merits of the case and as far as possible follow prevailing domestic laws as still there are many issues regarding protection of copyrights on internet and cyberspace which are not yet internationally resolved.

Joint Seminars/Workshops

Joint seminars/workshops are generally intended to encourage free exchange of ideas and scientific and technological information. As such there are no specific concerns for protection of IPR. However, it is always advisable to make a record of discussions during the seminars and events and jointly bring out their proceedings. Sometimes such discussions may give rise to the conception of innovative ideas leading to patentable inventions. A proper record of discussions would help identifying how the idea of the invention was conceived and by whom.

Exchange of Visits/Training/Fellowships

Most international cooperation programmes involve the exchange of scientists for training or short/long term study visits. Any intellectual property generated during such visits is guided by the intellectual prop-
property policies of the receiving S&T institution. The visiting scientist gets the rights as one of the inventors along with the counterpart collaborating scientists of the receiving S&T institution.

**Commercialization of Patents and Know-how**

The nodal collaborating institutions may entrust the commercialization to one of them, carry it out jointly or seek the assistance of respective governments or other organizations. An independent institution, for example, a joint R&D centre or a company may to involved to manage the intellectual property with benefits to flow to the participating organizations of the collaborating countries.

The collaborating institutions should ensure that the intellectual property secured is worked in the respective countries on a commercial scale to the fullest possible extent that is reasonably practicable. The revenue earned through the commercial exploitation of the IPR should be shared by the participating institutions of the two countries on an equal basis. Part of the revenue can be used for compensating the expenses met in obtaining the requisite protections of the intellectual property.

Each nodal participating institution should be free to determine the sharing of the rights, interests and royalties as well as the liabilities between itself and its employees or to any other local participating institution as per its applicable domestic legislation and practices.

**Dispute Settlements**

Any dispute regarding intellectual property arising out of the collaborating arrangements should be resolved through mutual discussions between the participating institutions. In case of a failure, the dispute should be referred to the joint committee that oversees the cooperation between the two countries whose decision should be binding on the two sides.

**Renunciation of IPR**

One should agree before starting a programme on the names of countries where one intends to seek protection of intellectual property. If one participating country or its institutions does not desire to seek protection in countries other than those identified in the above mentioned list, the other collaborator may proceed for seeking such protection in the said countries solely in its own name.

If one of the countries renounces to obtain protection for the intellectual property or declines to participate in the expenditure connected therewith, the other country may proceed to obtain such protection and meet the expenditure connected therewith. The renouncing country should agree to extend all assistance to the other country for seeking the protection.

**Keeping Records of Research and Maintenance of Accounts**

The best way to determine the contributions made by the collaborating institutions or the working scientists is to keep the records of research. These records are also essential in obtaining protection in some countries.

The nodal collaborating institutions in the collaborative project should maintain detailed accounts in respect of the expenditure incurred in securing and maintaining the protection of IPR by them in their own countries and in third countries. An account of the revenue earned should also be kept in a similar manner. Annual statements of ac-
counts duly authenticated should be exchanged between them at the end of the subsequent financial year.

**Contract R&D**

Mashelkar points out the importance of internationalization of R&D and stresses the need that such R&D should lead to creation of wealth. IPR issues become important in this regard. There is a considerable amount of R&D activity that is undertaken outside the realm of inter-governmental arrangements. For example, foreign agencies and industrial firms may contract R&D to Indian institutions. There are IPR issues involved during such cooperation which should be carefully handled. Siddhartha deliberates upon some of the issues and principles for sharing IPR in collaborative R&D programmes.

In case an R&D institution receives an R&D contract from a foreign agency, normally, both tangible and intangible intellectual property are to be wholly-owned by the giver of the money/funds; but the recipient of the money may have royalty-free licence for his non-commercial use. In principle, the funding organization has rights to any invention or discovery encompassed in the results of the agreed-upon research programme. The rights to improvements to the research results are generally not granted to the sponsors. In case the sponsors are keen to obtain rights on improvements then they should maintain a continuing research and development support or contract out further research to gain such rights.

In some instances, it may be essential to give an R&D contract to a party/institution outside the country. In such a case, one should ensure that no application for patents should be filed, by the foreign institution receiving the contract, for inventions resulting from work undertaken under the contract without prior approval of the R&D agency giving out the contract. The agency should be notified of the patent application number, filing date, the applicant's name and be supplied with copies of the description and drawings filed with the application within a short span of time (say three months) from the date of filing of the patent application. The agency that gives a contract should keep with itself the rights without payment to an irrevocable non-exclusive licence to exploit the invention for its purposes and to grant sub-licence for these purposes to anybody in the country.

In case of a grant given by a foreign agency to an S&T institution within the country, both tangible and intangible property are to be wholly-owned by recipient of money; but the donor of money may have royalty-free licence for his own use.

**International Cooperation Involving Industrial Partners**

The Government of India issued guidelines in 1994 to encourage international R&D collaboration between industrial enterprises/institutions. The main objective of the guidelines was to give a thrust to international R&D collaborative efforts between industrial enterprises and R&D/academic institutions located in India and those in other countries, specially in areas of common relevance and interest to the participating enterprises/institutions. The policy stated that the international R&D collaborations between industrial firms were not to be permitted to be utilized as an alternative channel for import of proven technologies. The government retained the right to notify the lists of specific products or technologies in respect of which international R&D col-
collaborations were to be specially encouraged. The Guidelines included specific measures regarding sharing of IPR wherein the rights resulting from international R&D collaborative arrangements were equitably shared between the Indian and the foreign parties.

The recognition of the confidentiality obligations is essential for the R&D institutions while dealing with industrial firms as one of the collaborators. For example, the confidential and proprietary (i.e., trade secret) information owned by the industry and transferred to the scientists in university or S&T institution should be guarded. Similarly, the confidential and proprietary information developed prior to the beginning of the research programme by the respective collaborators should be defined in the collaborating research agreement.

Summary and Conclusions

The paper has examined the IPR concerns at the level of working R&D scientists in the context of international R&D cooperation programmes. The characteristic features of a protocol on intellectual property are discussed and the basic principles governing the sharing and ownership of intellectual property are delineated. In collaborative R&D projects wherein both the collaborators make contribution to the technical aspects of the effort and share substantial financial investments, it is advisable that the nodal collaborating institutions/scientists draw up an agreement to govern intellectual property relationships for the execution of the collaborative R&D programme within the ambit of the inter-governmental agreement concerning science and technology. The institutions/scientists of the collaborative countries may carry out research either separately or together in their respective countries and share components of the research programme or results.

For programmes of international cooperation in science and technology it is essential that a sound policy on intellectual property matter both at the national level as well as at the micro-management level of R&D institutions and working scientists be established. No single country has a monopoly position on human ability, and different countries and different companies could excel in different activities at different times. The principles and practices of IPR should enable the expertise available across the national borders to be optimally shared and exploited for the benefits of the people of the two countries.

References

5 Gupta V K, Protecting confidential R&D information, Asia PacificTech Monitor, 17 (3) 1999, 37-42
6 Mashelkar R A, “India’s emergence as a global R&D platform: the new challenges and opportunities”, Lala Karamchand Thapar Centenerary
Annexure 1 - International Treaties and Agreements concerning Intellectual Property

A  India is a member

1 Convention Establishing the World Intellectual Property Organization (WIPO) (established: 14 July 1967)
2 Agreement on Trade-Related Aspects of Intellectual Property (TRIPS) (established: 1 January 1995; Administered by WTO)
3 Paris Convention for the Protection of Industrial Property (established: 20 March 1883; revised 1900, 1911, 1925, 1934, 1958, 1967 and 1979; administered by WIPO)
5 International Convention on Biological Diversity (established: June 1992)
7 Universal Copyright Convention (UCC) (established: 6 September 1952; revised 1971)
8 Convention for the Protection of Producers of Phonograms Against Unauthorized Duplication of Their Phonograms (established: 29 October 1971; administered by WIPO)
10 The Copyright Treaty (established: December 1996)
11 The Phonogram and Performers Rights Treaty (established: December 1996)

B  India is not a member

1 Strasbourg Agreement Concerning the International Patent Classification (IPC Union) (established: 24 March 1971; amended 1979; administered by WIPO)
4 International Convention for the Protection of Performers, Producers of Phonograms and Broadcasting Organizations (Rome Convention) (established: 26 October 1961; administered by WIPO)

5 Convention Relating to Distribution of Programme Carrying Signals Transmitted by Satellite (established: 1974; administered by WIPO)

6 Treaty on International Registration of Audio Visual Works (Film Register Treaty) (established: 1989; administered by WIPO)

7 Hague Agreement Concerning the International Deposit of Industrial Designs (established: 6 November 1925; revised 1934, 1960, 1967, 1975 and 1979; administered by WIPO)

8 Locarno Agreement Establishing an International Classification for Industrial Designs (Locarno Union) (established: 8 October 1968; amended 1979)

9 Madrid Agreement Concerning the International Registration of Marks (established: 14 April 1891; revised 1900, 1911, 1925, 1934, 1957, 1967 and 1979; administered by WIPO)

Protocol Relating to the Madrid Agreement Concerning the International Registration of Marks was established in 1989.

10 Madrid Agreement for the Repression of False or Deceptive Indications of Source on Goods (established: 14 April 1891; revised 1911, 1925, 1934, 1958 and 1967; administered by WIPO)

11 Trademarks Law Treaty (established: October 1994)

12 Nice Agreement Concerning the International Classification of Goods and Services for the Registration of Marks (Nice Union) (established: 15 June 1957; revised 1967, 1977 and 1979; administered by WIPO)

13 Lisbon Agreement for the Protection of Appellations of Origin & their International Registration (Lisbon Union) (established: 31 October 1958; revised 1967 and 1979; administered by WIPO)

14 Vienna Agreement Establishing an International Classification of the Figurative Elements of Marks (Vienna Agreement) (established: 12 June 1973; revised 1985; administered by WIPO)

C Other regional treaties (Membership open on regional basis)

1 European Patent Convention

2 The African Intellectual Property Convention (OAPI)

3 The African Regional Industrial Property Organization (ARIPO)

4 The Cartagena Agreement Legislation on Industrial Property

5 North American Free Trade Agreement (NAFTA)