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**PROTECTION AND MANAGEMENT OF INTELLECTUAL PROPERTY:  
THE ROLE OF LICENSING AND TECHNOLOGY TRANSFER**

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# PROTECTION AND MANAGEMENT OF INTELLECTUAL PROPERTY: THE ROLE OF LICENSING AND TECHNOLOGY TRANSFER

## I. Introduction

Private sector technology transfer is playing an increasing role in stimulating economic growth in developing countries and providing enhanced opportunities for U.S. industry. To reach its full potential, however, technology transfer requires an adequate framework for the protection and licensing of intellectual property rights and know-how. The purpose of this report is to provide an analysis of that framework within the countries of the Asian region.

Following a general overview of licensing and technology transfer procedures, the report will focus on legislation and practices in the following countries: Bangladesh, India, Indonesia, Malaysia, Nepal, Papua New Guinea, Singapore, Sri Lanka, and Thailand. It will also include an examination of the U.S. Trade Representative's reaction to some of those practices and legislation.

## II. Definitions, Concepts, and Scope

### A. Technology

The notion of technology embodies any number or combination of diverse skills, knowledge, procedures, or rights. Technology may be tangible, for example, when it takes the form of plant or machinery, or intangible, such as when it consists of technical or managerial know-how. Although technology is frequently protected by the grant of exclusive intellectual property rights, it need not entail only highly complex and sophisticated information.

The Licensing Guide for Developing Countries, published by the World Intellectual Property Organization (WIPO), adopts a definition of technology that emphasizes the breadth and comprehensiveness of the concept:

"Technology means systematic knowledge for the manufacture of a product, the application of a process or the rendering of a service, whether that knowledge be reflected in an invention, an industrial design, a utility model, or a new plant variety, or in technical information or skills, or in the services and assistance provided by experts for the design, installation, operation or maintenance of an industrial plant or for the management of an industrial or commercial enterprise or its activities."<sup>1</sup>

As can be seen from the WIPO definition, aspects of technology are present in all stages of an industrial or commercial undertaking, from the identification of the need to be fulfilled to the installation, operation, and maintenance of the technical solution adopted to meet that need.

Technology also contains a cultural element that takes on particular importance in the process of defining and implementing an appropriate technical solution. A study by the Organization for Economic Cooperation and Development (OECD) highlighted the cultural aspect of technology in the following definition:

"[Technology is] the use of scientific knowledge by a given society at a given moment to resolve concrete problems facing its development, drawing mainly at the means at its disposal, in accordance with its culture and scale of values."

While the importance of the cultural dimension of technology cannot be overemphasized, this study will focus on the legal parameters of technology protection and transfer.

## B. Technology Transfer

Technology transfer generally consists of an integrated series of commercial transactions. The objective of the transfer is typically to establish a plant and begin production, or to provide commercial services or governmental infrastructure. Technology transfer is not just a development concept; the principles of technology transfer apply even in the most industrialized settings whenever technology is purposefully transmitted by the technology owner to a technology recipient. The transactions that make up the transfer of technology may include any or all of the following:

- the grant and licensing of intellectual property rights;
- the transmission in documentary form of technical information or know-how (i.e., information and skills concerning the use and application of industrial techniques);
- the communication of technical information or know-how in the supply of services;
- the provision of support or services with respect to the creation of an industrial plant;
- the sale or lease of machinery, or the provision of support or services with respect to the sale or lease of machinery;
- the provision of support or services with respect to recruitment and training of staff or the establishment of accounting and managerial procedures; and
- the provision of support or services with respect to

the marketing, sale, and distribution of the end product or service.

The success of a technology transfer depends in large part on the ability of the technology supplier and the technology recipient to collaborate effectively. The technology transfer process involves the parties in a sequence of interrelated activities that typically requires them to:

- identify technological needs that correspond to realistic economic and development objectives;
- select the most appropriate technology based on a complete assessment of suitability, costs, and conditions of use;
- negotiate mutually favorable terms and conditions;
- adapt the technology to local conditions; and
- provide for the optimum absorption and exploitation of the technology.

From the point of view of a technology recipient in a developing country, technology transfer capability is often hampered by the recipient's inferior market position and bargaining power. The actual or perceived disparity in financial resources between the parties, as well the burden on the recipient to offer terms sufficiently favorable to overcome investment risks frequently has the effect of decreasing the efficiency with which technology transfer is carried out. The relatively short history of technology transfer to developing countries has consequently yielded a fair share of less-than-positive results, which in turn has served to generate and reenforce attitudes of caution, suspicion, and hostility toward unrestricted technology transfer.

### C. Intellectual Property

Technology transfer invariably involves the licensing or transfer of intellectual property rights and/or the supply of know-how (which will be described in D, below).

Intellectual property law primarily embraces the law of patents, copyright, and trademarks. Its object is to recognize and protect the products or processes "of intellectual activity in the industrial, scientific, literary or artistic fields."<sup>4</sup>

Exclusive Rights: Intellectual property law operates through the grant of exclusive rights, which empower the owners of those rights to exclude all others from using or copying the protected products or processes without the owners' authorization. For example, patents confer exclusive rights on inventors in respect of inventions that are novel, non-obvious, and capable of industrial application. Trademarks provide exclusive rights for trade symbols that serve to distinguish their owners' products or services from those of other owners.

Copyright grants exclusive rights to the authors of original literary and artistic creations, and has become the most common method of protecting computer software.

Limitations: Intellectual property rights must be obtained on a country-by-country basis and generally have no extraterritorial effect (i.e., the rights are enforceable only in the country in which they are granted). Furthermore, the scope or extent of the exclusive rights varies from country to country, and the rights are never absolute. For example, the protection afforded through the grant of a patent is limited in time to usually fifteen to twenty years and may be restricted or even lost if the invention is not exploited in the patent-granting country.

The obligation to exploit a patented invention is most often effected through a system known as "compulsory licensing." Compulsory licensing permits a government authority to authorize third parties to exploit patent rights without the approval of, but upon payment to, the owner of the patent when the owner has failed to make or use the patented invention within a set amount of time -- usually three years -- following the patent grant. Most countries (the United States and Sri Lanka are notable exceptions) have adopted compulsory licensing procedures to ensure that patents may not merely serve to block competition, but also carry with them the obligation to use the patented invention to the benefit of the patent-granting country.

Moreover, certain categories of inventions may be excluded from patent protection altogether. A number of countries, including India, prohibit patents for pharmaceutical products, although the processes to produce those products are patentable. Other products or processes that are sometimes excluded from patent protection are:

- methods for the treatment of the human or animal body by surgery or therapy, or diagnostic methods practiced on the human or animal body;
- plant or animal varieties, or essentially biological processes for the production of plants or animals;
- inventions based on nuclear or atomic energy;
- food substances; or
- microorganisms or substances obtained by microbiological processes.

Patent exclusions are justified on both administrative and developmental grounds. For instance, the difficulty of examining or evaluating certain categories of inventions may discourage countries from protecting them. In the case of food or pharmaceutical products, countries fear that granting exclusive rights may threaten the development of indigenous industries or the provision of affordable products, and thus may have a destructive impact on the countries' attempts to raise their standards of living.

Treaties: Although intellectual property law is essentially national in scope, a number of international treaties have been established to harmonize and set minimum standards for the grant and maintenance of exclusive rights. The two principal treaties are the Paris Convention for the Protection of Industrial Property (Paris Convention), which regulates patents and trademarks, and the Berne Convention for the Protection of Literary and Artistic Works (Berne Convention), which governs copyright law. In addition to mandating basic requirements of protection, both treaties embody the principle of "national treatment," which prohibits countries from distinguishing between their own nationals and foreign nationals in the way in which they apply their intellectual property laws. Countries are consequently not permitted to discriminate against foreign nationals, nor are they required to give them preferential treatment, even if there are great disparities in corresponding levels of national protection. In addition, the Paris Convention provides a "right of priority," which makes it easier to apply for foreign protection following the filing of a domestic patent or trademark application.

Among the countries included in this report, the following table indicates those that had ratified either the Paris or Berne Convention, or neither or both, as of January 1, 1991. It should be noted that a country's failure to ratify a treaty does not necessarily mean that the country fails to respect the treaty's principles in its national legislation.

	<u>Paris</u>	<u>Berne</u>
Bangladesh	X	-
India	-	X
Indonesia	X	-
Malaysia	X	X
Nepal	-	-
Papua New Guinea	-	-
Singapore	-	-
Sri Lanka	X	X
Thailand	-	X

Licenses: Intellectual property rights are often the subject of a license. A license is essentially a contract in which the intellectual property owner (the licensor) authorizes or permits another (the licensee) to do some or all of the acts covered by the grant of exclusive rights, usually in exchange for a royalty or fee. For example, the owner of a patent may authorize a licensee to make or use the patented invention, or the owner of copyright in computer software may authorize the copying of the protected program, in exchange for a percentage of profits made from that use or copying. The contractual relationship between the licensor and licensee, which consists of the mutual rights and obligations embodied in the license, is often subject to close scrutiny and must comply not only with a country's intellectual property law but also with its general law on contracts and unfair competition.

A less common form of license is known as a "license of right." The laws of a few countries, including France and India, establish a system whereby the patent owner agrees, at the time of the patent grant, to license the patent to anyone willing and able to meet the predetermined licensing terms. The license of right system may either be optional, as is the case in France, or mandated by law for certain types of inventions, as is the case in India.

#### D. Know-How

In contrast to intellectual property, know-how can consist of any specialized knowledge or expertise. It is generally what makes raw or abstract technology applicable and valuable in a particular commercial situation. Know-how may encompass specialized information or skills concerning the organization, management, operations, production, or marketing procedures of an enterprise, and is often as valuable as the intellectual property it may support. Know-how is not protected by the grant of exclusive rights, but rather by general principles of trade secret protection. The owners of know-how traditionally attempt to ensure the non-divulgence of their proprietary information by including confidentiality provisions in employment contracts and in agreements with know-how recipients.

The transfer of know-how is generally regulated by a know-how agreement, which is a contract governing the communication of information or skills and, like a license agreement, is also governed by a country's laws on contracts and unfair competition. Technical information may be described in documentation, furnished orally, or communicated through demonstration and training by engineers, technicians, specialists or other experts. Know-how may also be supplied through the provision of on-site professional expertise -- or technical-industrial cooperation services or assistance -- covering, for example, "the basic engineering of an industrial plant or its machinery and equipment, the installation, operation and maintenance of an industrial plant and the training of its personnel, or the management of an enterprise and its industrial and commercial activities."<sup>6</sup> The supply of know-how, particularly cooperation services, is frequently an ongoing process that may begin in the planning phase of a project and continue beyond the investment and start-up phase.

### III. Ways in Which Technology Is Transferred

#### A. Methods and Criteria

There are many methods or arrangements for bringing about the transfer of technology. Selecting the most appropriate one

for a particular transaction will depend on a number of criteria. Among them are: the development objectives and requirements of the recipient country as well as the nature of the country's laws and legal practices; the country's foreign exchange capabilities; the nature and complexity of the technology to be transferred; and the technological sophistication of the technology recipient.

Legal and Developmental Factors: As technology is transferred by means of contracts that provide for the licensing of intellectual property rights and the communication of know-how, the laws, court and administrative systems, and legal practices of recipient countries have an important bearing on the feasibility and structure of the technology transfer. The terms and formalities of any technology transfer are invariably subject to certain regulatory requirements the restrictiveness of which often depend on whether the recipient country is seeking to encourage or discourage foreign investment. For example, some countries require the registration of technology transfer agreements with a government authority, typically the patent office. As a prerequisite to registration, the authority must examine all agreements to ensure that they contain no objectionable clauses. If an unacceptable provision is found, the agreement may not be registered, which usually renders it unenforceable. Even in countries without formal registration procedures, the terms of any technology transfer agreement are subject to challenge in a court of law.

Sectoral Factors: The sector of the economy in which the transfer is taking place also has an impact on the form of the transfer agreement. For example, technology transfers in the science-based sectors, such as electronics, chemicals, and pharmaceuticals, tend to produce far more detailed agreements than transfers in other sectors, such as textiles, food, and light industry.

Financial Factors: Financial factors obviously play an important role in selecting the method of technology transfer. For instance, in countries where foreign exchange shortages are a problem but few restrictions are placed on foreign equity participation, it may be preferable to structure a technology transfer as a joint venture (see below) rather than as a pure license. That decision will also be influenced, however, by the complexity of the technology and the technological experience of the technology transfer recipient.

Technological Factors: Where a discrete piece of technology is being transferred to an experienced user, a simple license arrangement limited to authorizing use in exchange for some form of compensation may be sufficient. Where the transfer is more complex, involving perhaps the establishment of a factory, and the recipient is less experienced, a technology transfer package consisting of numerous transactions may be required. In its most complex form, a technology transfer package may include as much as the following:

"[T]he preparation of feasibility studies; the determination of the technological process to be used, contracts for the financing and purchase of capital equipment; the design and construction of civil works; the preparation and inviting of tenders; the evaluation of bids; service agreements with technical and management personnel; the design of the industrial works, including architecture and internal layout; the licensing of relevant patents, designs and trade marks; agreements for the training of management technical and labour personnel; agreements for the acquisition of raw materials, equipment and services; erection of the plant and installation of equipment; the commissioning of the plant; the operation of the plant for a stated period; plant management, repair and maintenance; and arrangements for the marketing and distribution of the products of the manufacturing complex."<sup>7</sup>

An additional technological factor concerns the distinction between product technology and process technology. In general, the owners of technology are more willing to transfer the product embodying the technology than to transfer the process by which the product is made. As a result, the recipient of process technology may have to accept greater restrictions and conditions on the use of the technology than if the subject of the transfer were the product itself. The reason for the distinction is that technology recipients who gain unrestricted control over the use of a process can easily become effective competitors of the technology supplier.

Process technology is therefore frequently transferred as a "project package," which may include equity participation by the technology supplier, the provision of raw materials, spare parts, and servicing, and continued supervisory participation. An alternative method of transfer is by means of an "integrated process package," in which the technology supplier retains responsibility for assembling the process and putting it into operating order, but then relinquishes control to the technology recipient.

## B. Licensing

The transfer of technology does not always have to involve the transmission of intellectual property rights; occasionally, only know-how is transmitted. Most often, however, the possession of a patent, trademark, or copyright will "provide the lever" for a commercial technology transfer arrangement.<sup>8</sup>

Intellectual property rights may be transferred commercially in several different ways, depending in large part on the profit potential and the respective levels of sophistication of the buyer and seller. For example, where the seller desires a single, lump-sum payment and the buyer possesses the requisite

knowledge to put the technology into practice (or the seller lacks the capacity to provide that knowledge), the technology transfer may take place by purchase or sale. This type of transfer, which extinguishes any rights or entitlements that the seller had in the intellectual property, is referred to as an "assignment of rights."

The most common way of acquiring and exploiting technology, however, is through licensing. Licensing consists of the authorization by an owner of intellectual property rights or know-how permitting a beneficiary to make use of all or some of those rights or information. The owner of the rights is referred to as the licensor and the beneficiary of the authorization as the licensee.

Advantages: Licensing provides advantages to both the licensor and the licensee. By using the local knowledge, experience, and expertise of a licensee, a licensor may be able to alleviate the burdens often encountered when entering a new, foreign market. Moreover, the licensor will not have to undertake the expense of marketing, shipping, and adapting goods for sale in a foreign market if those goods can be produced locally by a licensee. The latter advantage is especially important when the licensor is not sure of the viability of a particular market and therefore wishes to minimize initial investment.

For a licensee, the principal advantage of licensing is the acquisition of a product or process without having to undertake the burden or expense of developing it. Where research and development resources are scarce, licensing technology may be the most feasible and least risky means of obtaining new products or processes. The profits and experience gained from a successful licensing venture may also provide licensees with the requisite financial and technical means to undertake their own research and development programs. This strategy is known as "licensing in" and is generally considered a realistic springboard to enhanced development and growth.

C. Stumbling Blocks to Successful Licensing

A major stumbling block to the successful negotiation of license agreements is the perception that agreements invariably favor the commercial interests of licensors to the detriment of the interests of licensees. What primarily gave rise to that perception is the presence in license agreements of restrictive terms and conditions that limit licensees' access to technology and therefore deprive licensees of the full benefit of the technology transfer.<sup>9</sup> Efforts to correct the perceived inherent imbalance in license agreements led to the enactment of regulatory legislation in a number of developing countries, including India (see below). Somewhat ironically, the legislation to eliminate restrictive provisions in licenses has

in turn been viewed as overly restrictive by potential licensors and has therefore failed to promote harmonious technology transfer. As the fear of restrictive provisions is still prevalent, it is worthwhile to identify some of the clauses generally viewed as most threatening.

Grant-Back Clauses: Grant-back clauses require a licensee to transfer to the licensor ownership or any other rights in improvements in the licensed technology made by the licensee. Where the obligation is not mutual and reciprocal, requiring the licensor to license all its improvements to the licensee on favorable terms, it tends to discourage the incentive of licensees to engage in research and development and emphasizes the inequality in relative bargaining strength. Other problems arise when the grant-back requirement applies to the entire technology transfer package and not only to the licensed intellectual property, when the licensor claims all profits from the marketing and sale of the licensee's improvements, or where the licensor insists on being the sole beneficiary of the licensee's improvements.

Tying Clauses: Tying clauses require a licensee to obtain additional inputs, such as raw materials, machinery, and additional technology, only from the licensor or a source selected by the licensor. They are considered to be among the most exploitative restrictions, particularly if the tied additional inputs are available from local sources, since they often result in economic inefficiencies and may seriously inhibit the host country's development efforts. Tying clauses are often viewed with disfavor if practiced in the U.S. and may run afoul of U.S. antitrust law. They are usually permissible, however, if they are necessary for the successful operation or utilization of the licensed technology. An example of a permissible tying clause, from the point of view of U.S. case law, is where the technology is new and relatively untested in the market, and therefore requires unusually close supervision to gain a firm commercial foothold.<sup>10</sup>

Unduly Long Royalty Payments: Royalty payments or other restrictions founded upon intellectual property rights should terminate when the intellectual property rights expire. Examples abound, however, of license agreements that require royalty payments when the technology is part of the public domain, and sometimes those agreements are not considered unreasonably restrictive. For example, when intellectual property rights are licensed as part of a technology package that includes the continuing supply of know-how, raw materials, and other services, the license agreement and royalty requirement may continue beyond the expiration of the intellectual property rights. Under U.S. case law, that continuation may be permitted when the royalty requirement is appropriately modified, or when it constitutes extended installment payments as opposed to royalties for post-expiration use.<sup>11</sup> Moreover, when a license agreement is based on a package of intellectual property rights of varying durations,

for example, several patents with different expiration dates, the obligations under the license may sometimes be maintained until the last intellectual property right has expired.<sup>12</sup>

Equitable Royalty Payments: Related to the length of the royalty payment obligation is the difficulty often entailed in determining an equitable royalty fee. The lack of a readily available measuring stick to set the value of the technology and intellectual property rights being transferred can give rise to an atmosphere of mistrust. Among the factors that may be taken into consideration in determining the fee are the licensor's research and development costs in creating the technology, the potential number of sales of the same technology, the extent to which the technology needs to be customized to the licensee's specifications, and possible future technological advances.

Clauses Restricting Research and Development: There is a natural tendency on the part of licensors to attempt to restrain the potential competitive impact of their licensees, which sometimes results in the inclusion of direct or indirect non-competition clauses in license agreements. Among the most troublesome form of non-competition obligations are prohibitions against the licensee conducting research on, or making improvement or adaptations to, the licensed technology. Although such prohibitions go well beyond grant-back clauses and have been condemned as impermissible restraints, they have been justified in the United States where the licensor can demonstrate potential injury to its commercial reputation, or potential legal liability, from unrestricted research activities.<sup>13</sup> In the case of publically-funded technology transfers, some forms of non-competition restraints may be deemed necessary in order to preserve scarce resources and avoid duplication of effort and expense.

Others: Other clauses viewed with disfavor by licensees because they too unfairly exploit the licensor's comparative advantage include:

- export restrictions that may prevent the licensee from attaining optimal production levels and the developing country from improving its balance of trade;
- field-of-use restrictions that limit the licensee's right to apply the licensed technology to only those applications that have been designated by the licensor, and thereby may enable the licensor to divide the market into non-competing segments;
- territorial restrictions that unreasonably limit the territory in which the licensed intellectual property rights may be exploited and may therefore also constitute a market-segmentation device;
- personnel provisions that do not impose on the licensor the obligation to undertake the training of local personnel to replace those that initially may have to be selected and supplied by the licensor (in cases

- where there is a lack of qualified personnel in the beginning stages of a technology transfer); and
- excessive quality control provisions that are primarily intended to control the licensee's commercial autonomy or tie the licensee to the supply of raw materials or additional goods or services, and not primarily to ensure quality maintenance.

#### D. Know-How Agreements

Know-how, particularly when it is not extensive, may be licensed or sold in the same agreement in which intellectual property rights are licensed. The more typical procedure, however, is to provide for the transfer of know-how in a separate agreement the form of which will depend primarily upon the nature of the know-how. For example, for know-how communicated in tangible form, the agreement will contain a promise by the licensor to supply blueprints, drawings, computer software, film, instructions, product specifications, job descriptions, or any other tangible information. In the alternative, the agreement may provide for the provision of technical or management services where the know-how consists of technical information communicated by the licensor in intangible form through assistance, training, advice, or consultation.

Provisions for the transfer of know-how may contain many of the same restrictions as those imposed in provisions for the transfer of intellectual property rights. In addition, however, know-how agreements will be concerned with preserving the confidentiality of all the secret aspects of the know-how being transferred. As a result, conditions will invariably be imposed that require the maintenance of confidentiality even after the know-how agreement has terminated. In general, such non-divulgence restraints are considered reasonable provided that the information retains the quality of confidentiality. When confidential information reaches the public domain through no fault of the know-how recipient, or when such person obtains access to confidential information through legitimate means, such as reverse engineering, there is little likelihood that the restriction may continue to be enforced.<sup>14</sup>

#### E. Commercial Arrangements in Which Technology Transfer Occurs

The transfer of technology usually entails more than the bare transfer of intellectual property rights and know-how. Intellectual property and know-how licensing typically are only a part of larger arrangements that may encompass the supply of financing, materials, labor, and management assistance. The selection of the most appropriate arrangement for the transfer of technology is among the most important and difficult that the technology recipient and supplier have to make. The alternatives range from turn-key contracts and joint venture agreements to

mere franchises and distributorships. The following are some of the more typical commercial arrangements in which intellectual property and know-how licensing takes place.

Turn-Key Contracts: A turn-key contract usually provides for the commissioning, design, selection and supply of technology, and construction of a factory or other large industrial plant by a single contractor. This type of arrangement often results in the rapid and relatively efficient acquisition of large-scale technology, but provides little opportunity, at least initially, for the development of indigenous technological capacity.

Joint Venture Agreements: A joint venture agreement typically establishes a joint enterprise or joint activity with the technology supplier and technology recipient as the sole or principal participants. The purpose of the joint venture may be to manufacture products, perform services, or carry out research and development, and the venture may be organized on a contractual or equity basis.

Contractual joint venture agreements specify the obligations of each of the parties, which may consist of the developing country participant supplying raw material and labor, and the industrialized country participant the intellectual property rights, know-how, and capital equipment. Contractual joint ventures are ideally suited for short-term activities or if the country where the venture is to be carried out does not permit foreign ownership.

In equity joint venture agreements the participants establish a separate legal entity, such as a corporation, which is responsible for carrying out the joint venture. Each participant possesses a predetermined ownership share in the entity, contributes resources to it, and shares in the profits or losses. Equity joint ventures are well suited for collaborative activities of indefinite duration and are often mandated by recipient countries that prohibit majority direct foreign investment.

Intellectual property rights and know-how are transferred to the joint venture entity through licenses or assignments, in the same manner as with respect to the other commercial arrangements. If the joint venture expects to engage in its own inventive or creative activity, the agreement should specify the financial or technological contributions anticipated from each party, and determine the ownership rights in any resulting intellectual property rights as well as how those rights will be exploited.<sup>15</sup>

Industrial Cooperation: Countertrade and production contracting are examples of industrial cooperation. They do not go as far as joint ventures, but nevertheless involve technology transfer. In countertrade, the supplier of technology, goods or services receives partial or total payment from the technology

recipient in the form of other goods or services. The simplest and most common forms of countertrade are barter and buy-back arrangements.

In production contracting, one party produces goods or performs services for another party in accordance with the technological specifications, intellectual property rights, and know-how supplied by that other party. Many manufacturing facilities in developing country free trade zones function on the basis of production contracting.

Parent-Subsidiary Transfers: Where an overseas parent company has been permitted to establish subsidiaries in developing countries, the parent company will have to transfer relevant intellectual property rights and know-how to its subsidiaries by means of license agreements. In general, where the parent company exerts extensive control over its subsidiaries, it will include few restrictions in its licensing arrangements.

Distributorships and Franchises: A distributorship is an arrangement in which a manufacturer supplies or sells goods to an entity (a distributor) within a particular territory, and the entity then supplies or sells those goods to end users within that territory. To ensure proper marketing, installation, and after-sales service, the manufacturer will frequently have to transfer know-how about the functioning of the product to the distributor.

A franchise arrangement authorizes the recipient of the franchise (the franchisee) to manufacture goods or perform services using intellectual property rights and know-how owned by the franchisor. Franchise agreements particularly concern trademark licensing as franchisees operate under their franchisor's trademark.

Distributorships and franchises take advantage of distributors' and franchisees' knowledge of local market conditions. They therefore often constitute a convenient method for overseas enterprises to enter developing country markets.

Sales or Leases: The sale or lease of machinery or other products to a purchaser in a developing country may entail the supply of know-how to permit the utilization of the machinery. That know-how will probably consist of instructions on the assembly, installation, operation, and maintenance of the machinery.

#### IV. National Systems for Technology Transfer

To flourish, technology transfer requires the support of an adequate system of intellectual property protection. Licensors and licensees alike must feel secure that the intellectual property rights being transferred will not be subject to infringement by unauthorized third parties. If a potential host country fails to provide a framework of intellectual property legislation and policies that reflects the value and importance of intellectual property, licensors will simply refuse to engage in technology transfer or will do so only under the most restrictive terms. There is therefore a direct relationship between the strength of a country's intellectual property system and the likelihood of viable technology transfer.

Role of USTR: Recently, the United States Trade Representative (USTR) has called attention to countries that possess allegedly inadequate intellectual property systems. In her 1990 National Trade Estimate Report, as well as by virtue of her authority under the Special 301 provisions of the 1988 Omnibus Trade Act, the USTR singled out India, Indonesia, Malaysia, and Thailand (in addition to nineteen other countries not included in this report) for failure to establish effective intellectual property standards. The USTR's focus on intellectual property rights has led to a series of bilateral discussions, as well as to efforts by some of the countries, most notably Indonesia, to improve national levels of protection.

The Special 301 provisions of the 1988 Act require the USTR to identify, usually by the end of April of each year, those countries that do not adequately and effectively protect intellectual property rights or that deny fair and equitable market access to Americans who rely on intellectual property protection under patent, copyright, or trademark law. In making those determinations, the USTR is required to take into account the conclusions reached in the National Trade Estimate Report, which the USTR publishes during March of each year. The countries that the USTR has so far identified (see the preceding paragraph) have been placed on "watch lists" and have been closely followed by the USTR's office. If the USTR decides that a watch list country has not sufficiently strengthened its standards of intellectual property protection, she can designate that country a "priority foreign country" and institute a "fast-track" investigative procedure that could lead to the imposition of serious trade sanctions. At the present time, India stands the greatest chance of being designated a priority foreign country.

It should be noted that the standards demanded by the USTR are in some cases higher than those currently required under international treaty obligations. For example, while the USTR has decried the inability to obtain patents for pharmaceutical products in India and Thailand (see below), neither the Paris Convention for the Protection of Industrial Property nor any

other intellectual property treaty prohibits countries from setting such limits on the scope of patentable subject matter, particularly when done in the name of public interest. The disparity between the norms sought by the USTR and those currently mandated by international law has been a source of criticism of the USTR's efforts.

The national summaries that follow focus on the criteria that the USTR seems to consider most important in evaluating the intellectual property systems of foreign countries. The criteria include: scope of patentable subject matter; length of the patent term; compulsory licensing and revocation of intellectual property rights; protection for service marks and computer software; and enforcement mechanisms against intellectual property infringement.

#### A. Bangladesh

Bangladesh's patent legislation dates from 1911, and its trademark legislation from 1940. Amended legislation is apparently under consideration, but the author was unable to obtain access to it. This synopsis is therefore based on the old legislation.

Patents are granted in Bangladesh for all inventions that meet the three internationally-accepted criteria for protection: novelty;<sup>16</sup> inventive step (referred to in the U.S. as non-obviousness); and industrial applicability. No category of invention is excluded from protection, and patents have an acceptable duration of sixteen years from the date of application. In addition, a patent owner may petition for a renewal of the patent for an additional period of up to five years if the patent has not been sufficiently remunerative. This latter provision is both generous and unusual.

A weakness in the Bangladeshi legislation concerns the rules on compulsory licensing and patent revocation. Despite U.S. disfavor of compulsory licensing, the Paris Convention for the Protection of Industrial Property permits governments to authorize third parties to exploit patent rights without the approval of, but upon payment to, the owner of the patent when the owner has failed to make or use the patented invention in the country for three years following the patent grant. This procedure, which is embodied in the legislation of the majority of countries, is employed to ensure that patents are not used merely defensively, but rather carry with them the obligation to exploit patented inventions to the benefit of the patent-granting country.

Under the Paris Convention, however, compulsory licenses may not be granted on an exclusive basis (i.e., to only one licensee selected by the government), but must be granted to whoever is able to carry out the invention. Moreover, in view of the less

onerous remedy of compulsory licensing, a patent may not be revoked merely for failure to exploit the invention.

The legislation of Bangladesh authorizes the government, upon petition by an interested party, to grant an exclusive compulsory license or to revoke a patent after four years from the date of grant if the patented product or process is manufactured or carried on exclusively or mainly outside Bangladesh. The legislation, however, also authorizes the grant of non-exclusive licenses, and requires a full investigation before any action can be taken to determine that the applicant for a compulsory license is prepared and in a position to manufacture or carry out the invention, and that the patent holder has refused to grant a license on reasonable terms.

The trademark legislation provides adequate protection for goods, but is silent with respect to service mark protection. Nevertheless, service marks may be sheltered against infringement under the common law prohibition against "passing off" (i.e., a person may not pass off -- or palm off -- his/her goods or services as those of another).

The legislation provides for the registration of license agreements with the Patent Office or Trade Marks Registry, respectively, and trademark licenses may be refused registration if the Registrar concludes that the agreement is contrary to the public interest. Registration renders an agreement enforceable at law and admissible into evidence in court proceedings. In the event of alleged infringement of an intellectual property right, a lawsuit may be brought before the District Court. Litigation and enforcement are governed primarily by the rules of judicial procedure.

Bangladesh was not included in the USTR's National Trade Estimate Report, perhaps because it is not yet a sufficiently large export market for U.S. goods. While the country's legislation would benefit from modernization and a general "beefing up," it does not pose significant impediments to technology transfer.

## B. India

In contrast to the legislation of Bangladesh, India's legislation has been targeted by the USTR as possessing some of the most serious barriers to technology transfer and trade. The USTR is of the view that India does not provide adequate and effective protection for intellectual property rights and has placed India on the "priority watch list" under the Special 301 provisions of the 1988 Trade Act, which may ultimately lead to the imposition of trade sanctions against the country.<sup>17</sup>

The Indian Patents Act prohibits patents for substances (i.e., products) intended for use, or capable of being used, as a

food, medicine, or drug, or substances prepared or produced by chemical processes. The processes for producing such substances are patentable, however, but the patent term for those types of processes is only five years from the date of sealing (i.e., granting) of the patent, or seven years from the date of filing the patent application, whichever is shorter. For all other inventions, the patent term is fourteen years from the date of filing the patent application -- also an unreasonably short duration according to the USTR.

The legislation contains broad provisions on compulsory licensing and "licenses of right." Compulsory licenses may be granted three years after the patent grant whenever the requirements of the public with respect to the patented invention are not satisfied, such as when there is insufficient local working of the invention or when the development of Indian trade or industry is prejudiced. Under a license of right, the patent owner agrees to license the patent to anyone willing and able to meet the licensing terms. Under the Indian legislation, however, patents for processes for the production of foods, medicines, or drugs, and patents for chemical processes, are deemed to be endorsed for licenses of rights three years from the date of the patent grant -- regardless of the willingness of the patent owner. In view of the relatively sweeping nature of these provisions, it is somewhat reassuring that they are not frequently applied in practice. For instance, only about two exclusive compulsory licenses were awarded in India in the past ten years.

India also possesses stringent regulations concerning the registration and content of license and technology transfer agreements (referred to in the legislation as foreign technical collaboration agreements). For example, agreements must provide for: suitable training of Indian production, management, and technical personnel; freedom to sublicense on agreed terms; viable R & D arrangements for the absorption, adaptation, and development of the imported technology; and assurance that the licensee will be free to produce the patented product after expiration of the collaboration without the need for further payment. Licenses must also be free of most tying clauses and should avoid the requirement of a stipulated minimum royalty related to turnover. Recurring royalty payments may generally not exceed eight percent of the selling price, which represents an increase over the previous maximum of five percent, and royalties and other payments are subject to tax, usually at a rate of thirty percent. Review and approval of foreign collaboration agreements is carried out by the Foreign Investment Board or the relevant ministry, and patent licenses must also be approved by the Controller of Patents.

Indian regulations were promulgated explicitly to govern the use of foreign trademarks. Although foreign trademarks may be used freely on products meant for export, their inclusion in foreign technical collaboration agreements is not allowed if it

would result in additional payment (i.e., payment for the goodwill or other value inherent in a trademark) or it if would adversely affect the small-scale sector or indigenous industry. To counter the perception that Indian consumers are prejudiced in favor of foreign goods, foreign trademarks are generally not permitted on goods produced for the domestic market.

No trademark (foreign or domestic) may be used or registered for single ingredient dosage forms of certain drugs, which must be marketed and sold under their generic names. In addition, service marks (i.e., trademarks for services, such as banks, insurance companies, or tourist services) may be used but not registered. Although service marks are excluded from statutory protection, they may nevertheless obtain protection (albeit weaker and less certain) under the common law remedy of passing off.

Trademark licenses, known in India as trademark user agreements, must be approved by the government and recorded with the Registrar of Trade Marks. To be approved, an agreement must not be against the interests of the general public. According to the USTR, the registration of trademark licenses is "routinely refused" on the grounds that the licenses will not promote domestic industry or will create balance of payments problems.<sup>18</sup>

Like most countries, including the U.S., India's trademark legislation contains a use requirement. The Indian requirement provides that registration of a trademark may be cancelled if the mark has not been used for five years and that failure to prove use by the plaintiff in an infringement action can result in a counterclaim for trademark cancellation. Although the USTR contends that the use requirement makes it difficult for foreign trademark owners to bring infringement suits, she also concedes that "the Indian courts have recently upheld trademark owner rights in infringement cases."<sup>19</sup>

India has a modern copyright act that protects computer software and provides relatively strong remedies against copyright piracy (i.e., unauthorized copying of copyrighted works). The copyright legislation, which provides a higher standard of protection than either the patent or trademark acts, is a reflection of India's important film, publishing, and computer software industries, and illustrates that increased protection will often accompany economic development.

As the case with most countries, India leaves copyright enforcement to private plaintiffs and to its overburdened court system. Because of enforcement difficulties, the USTR has concluded that piracy of patented works, particularly popular fiction and textbooks, constitutes a significant problem.

### C. Indonesia

Of all the countries included in this report, Indonesia has made the greatest recent attempt to improve its foreign investment climate by strengthening its system of intellectual property protection. While the USTR has recognized Indonesia's efforts, she continues to keep Indonesia on the "watch list" under the Special 301 provisions of the 1988 Trade Act.

On October 13, 1989, the Indonesian parliament enacted its first patent law, which will enter into force on August 1, 1991. The law provides for the grant of patents for a maximum of sixteen years (a fourteen-year initial term plus one two-year renewal). The government may postpone the patent grant for up to five years, however, if required for national development.

Although U.S. pharmaceutical companies feared that pharmaceutical products would be excluded from the scope of patent protection, the law protects both pharmaceutical products and processes. Foreign investors have expressed concern with the law's use provisions, however. To prevent a patent from lapsing, all patented inventions must be used within four years of the patent grant. The difficulty with this requirement is that the law does not consider importation of patented products, or of products obtained by patented processes, to be use. The law therefore obliges patented products or processes to be manufactured or carried out within the country. Moreover, the importation of products that are patented in Indonesia may, in certain cases, not be considered an infringement of the patent.

The law requires the recording in the patent register of all patent licenses. Recording must be refused if a license contract contains terms prejudicial to the national economy. Compulsory licenses may also be granted if a patented invention has not been worked for three years in the country (here too importation is not considered to be working).

The law provides ample remedies for the enforcement of patent rights through the grant of injunctions, damages, and the "remittance" to the patent owner of the infringing manufactured products or their monetary equivalent.

In the area of trademarks, recent court decisions have revealed an increase in enforcement of rights of foreign owners. Despite the prevalent U.S. perception that Indonesian courts traditionally favor local concerns in trademark infringement cases, the Supreme Court has, within the past few years, upheld exclusive rights with respect to the NIKE, SNOOPY, and WOODSTOCK trademarks. In addition, in 1989, the Supreme Court published fourteen judicial decisions that enforced trademark rights, and suggested that the lower courts refer to those decisions for guidance. Indonesia has expressed the intention to enact a new trademark law, which should continue the trend toward the

creation of a predictable legal environment for trademark protection.

In 1987 Indonesia amended its copyright law and brought it largely into conformity with the international standards contained in the Berne Convention for the Protection of Literary and Artistic Works (the prevailing international copyright treaty). The USTR acknowledged that "enforcement of copyright protection has improved since the 1987 law was passed,"<sup>20</sup> although enforcement for printed material and audiocassettes has, in her view, fared better than enforcement for motion pictures and computer software.

#### D. Malaysia

The USTR has focused her concerns about Malaysia's intellectual property system on its alleged lack of adequate copyright protection. As a result, the USTR has also placed Malaysia on the Special 301 "watch list."

Malaysia enacted a new copyright law in March 1987 that granted the government broad compulsory licensing rights in contravention of the Berne Convention for the Protection of Literary and Artistic Works. Although Malaysia has indicated its intention to become party to the Berne Convention and to modify its copyright law to conform to the treaty, to the author's knowledge it has not yet done so. As the U.S. and Malaysia have established neither multilateral nor bilateral copyright relations (i.e., mutual recognition and protection), U.S. authors must publish their works in Malaysia shortly after U.S. publication in order to obtain Malaysian copyright protection. As a result of the difficulty in obtaining protection, video cassette piracy and unauthorized public performances of U.S. copyrighted material are, according to the USTR, problems in Malaysia.

Malaysia's patent law dates from 1983 and replaced legislation that provided only for the re-registration of patents granted in the United Kingdom. In all major respects, the new legislation meets the international standards set by the Paris Convention. In addition, there are no undue restrictions on the scope of patentable subject matter, the fifteen-year patent term is sufficient, and, unlike in Indonesia, importation of a patented product or a product manufactured by a patented process falls within the scope of exclusive rights afforded by the patent grant.

The legislation specifically permits the grant of patent licenses, and provides that the parties to the license are free not to disclose confidential provisions in the contract. While the Registrar of Trade Marks and Patents is competent to examine and approve the registration of license and technology transfer

contracts, there is no obligation on the parties to submit their contracts for compulsory registration and control.

In the event of a dispute between the parties over the license agreement, the legislation prescribes an approach somewhat akin to that adopted under U.S. antitrust law: any clause or condition in the contract is invalid if it imposes restrictions on the licensee that are not derived from the exclusive rights conferred on the owner of the patent or necessary for safeguarding those rights. Nevertheless, restrictions on the licensee concerning the scope, extent, or duration of exploitation of the patented invention, or concerning the quantity or quality of the products within which the patented invention may be exploited, and obligations on the licensee to prevent him/her from prejudicing the validity of the patent, are not considered to be unlawful or invalid.

The trademark legislation similarly poses little concern. For example, while the legislation requires use of a trademark within three years following registration, use by the trademark licensee, or use of an associated trademark (i.e., under Malaysian law, a nearly identical trademark owned by the same proprietor), is equivalent to use of the registered mark by the registered owner. Furthermore, trademarks for goods destined exclusively for export are entitled to the same protection as trademarks for domestic goods.

A trademark licensee may register as a "registered user" by filing an application with the Registrar of Trade Marks and Patents. The Registrar is obliged to deny the registration if he/she concludes that use of the trademark by the proposed registered user in relation to the proposed goods is contrary to the public interest.

#### E. Nepal

Nepal, which amended its intellectual property legislation in October 1987, does not figure in the USTR's National Trade Estimate Report.

With the possible exception of Papua New Guinea, the legislation of Nepal is less detailed than that of the other countries in this report. For example, the provisions governing the criteria for obtaining patent protection do not deal specifically with novelty or inventive step, but simply state that patents may be granted for methods, processes, materials, and other inventions that are new (or made on the basis of a new theory or formula) and useful. There are also no provisions requiring that an invention be worked or permitting the grant of compulsory licenses. Under the recent amendments, the duration of patent protection has been set at a maximum of 21 years (an initial term of seven years from the date of registration and two

further terms of seven years each), and a procedure for patent inspection and opposition has been established.

The amendments also affect the trademark legislation by introducing protection for service marks and creating a requirement that all registered marks must be used within one year from registration. The term of trademark protection, which may be renewed indefinitely, is set at seven years.

The new legislation also strengthens enforcement by increasing the penalties for violation of exclusive rights, and permits trademark use by licensees on joint application to the Department of Industries. Patent licensing also appears to be permitted, provided that the transfer is recorded in the patent register.

#### F. Papua New Guinea

Although Papua New Guinea had been considering the introduction of patent legislation for some time, the author was unable to determine whether legislation has entered into effect. In the absence of legislation, a licensor must rely on the provisions of the license agreement, particularly confidentiality and non-divulgence clauses, as well as the goodwill of the licensee, to establish rights and safeguard his/her intellectual property.

In the field of trademarks, the country enacted a law in 1978 based largely on model legislation prepared by the World Intellectual Property Organization. The trademark law protects both trademarks and service marks for renewable periods of ten years. It contains a use requirement that permits removal of a mark from the register if it has not been used in good faith for a period of at least three years following registration.

Trademark licensing is governed by the law's provisions on registered users. Applications for registration as a registered user are filed by the proposed user and the registered trademark owner to the Registrar General. Provided that the license arrangement is not contrary to the interests of the public, the Registrar will accept it either unconditionally or subject to restrictions. The registration of a registered user may also be cancelled by the Registrar or by the court if the trademark is being used to cause deception or confusion or in ways that differ from the permitted use, or if there was a material misrepresentation or failure to disclose a material fact at the time of registration or a material change of circumstances since registration.

#### G. Singapore

Although the USTR has not included Singapore in the National

Trade Estimate Report or placed it on the "watch list" under the Special 301 provisions, the country has been subject to criticism by U.S. industry for failure to counter intellectual property piracy, particularly of computer software. No doubt partly in response to industry pressure, Singapore enacted copyright legislation that coincides significantly with the Berne Convention standards of protection.

Singapore has traditionally tied its grant of patents to the grant of patents in the United Kingdom. It possesses distinct rules with respect to compulsory licensing, however, to ensure that inventions are worked commercially in the country within three years from the patent grant. Among the grounds for the grant of a compulsory license is the imposition by the patent owner of unreasonable conditions on the grant of non-compulsory licenses, including insistence that potential licensees accept unreasonable tying clauses. In addition, the government has reserved the right, upon payment of compensation to the patent owner, to make, import, or obtain any patented pharmaceutical product needed for use in government hospitals or other medical institutions.

Trademarks must be registered to receive protection in Singapore. The owner of an unregistered trademark is not entitled to recover damages for infringement. As in the other countries in this report, trademark rights are conditioned upon use of the mark, and a trademark may be removed from the register if the owner lacked any bona fide intention to use the mark at the time of its registration or has failed to use it for a period of more than five years. Use by a trademark licensee expressly counts as use by the trademark owner, however.

The registration of trademark licenses is carried out by the Registrar of Trade Marks and Patents, and requires the submission of the license agreement as well as information concerning the relationship between the trademark owner and the user. The Registrar examines the agreement with regard to the interests of the general public, and, as in Papua New Guinea, is empowered to place conditions or limitations on its acceptance for registration.

#### H. Sri Lanka

In 1979 Sri Lanka enacted a comprehensive intellectual property code based on model legislation prepared by the World Intellectual Property Organization. A primary motive for the passage of the code was to create a positive business climate for foreign investment and technology transfer. The legislation is consequently quite favorable to foreign intellectual property owners.

From the U.S. point of view, the most advantageous element of the code is the absence of compulsory licensing provisions.

Unlike most countries, and despite its permissibility under international law, Sri Lanka does not require local exploitation of a patented invention. Sri Lankan law is therefore compatible with that of the U.S. in not obliging a patent owner to use the patented invention in the country but nevertheless authorizing him/her to prevent others from making or using it during the entire patent term.

The code also embodies a fast, efficient, and relatively error-free patent application procedure designed primarily for foreign applicants. In lieu of Sri Lankan examination of patent applications to determine whether an invention is patentable, applicants furnish an "international-type search report" prepared by any foreign patent office that has been appointed an International Searching Authority under a multilateral agreement known as the Patent Cooperation Treaty. The international-type search report is determinative of whether an invention is novel and involves an inventive step, and consequently enables the Sri Lankan Registry of Patents and Trade Marks to process applications and grant patents quickly and with little hardship on the applicant.

In the field of trade and service mark protection, the code provides an unusually generous grant of rights. For example, in most countries (including the U.S.) a trademark is entitled to protection if, in the minds of consumers in the country where protection is sought, the trademark is distinctive (i.e., able to distinguish the goods or services of one producer from those of another). Under the Sri Lankan legislation, however, a trademark is entitled to protection if consumers anywhere hold it to be distinctive. Moreover, a trademark owner can typically prohibit infringing use of his/her trademark only on goods or services that are identical or similar to those for which the trademark has been registered. In contrast, in Sri Lanka, a registered trademark owner may prohibit any prejudicial infringing use that is carried on without just cause, such as use of the trademark with respect to dissimilar goods or services (for example, tee shirts bearing the COCA-COLA logo).

The copyright provisions are fully in accord with the Berne Convention and grant broad copyright coverage. In addition to artistic and literary works, the code protects utilitarian works, such as works of applied art or functional architectural structures, as well as works not fixed in a tangible medium, such as unrecorded lectures and choreographic works. The code thus goes farther than the U.S. Copyright Act in setting the scope of copyrightable subject matter.

Although not mentioned expressly in the code, computer software is recognized in Sri Lanka as constituting a copyrightable utilitarian work. Ironically, however, several American software producers have misread the copyright provisions and have refused to sell or license software to Sri Lanka.

institutions because of a misperceived lack of copyright protection.

The code permits two significant but internationally acceptable restrictions on the extent of copyright protection: restrictions on the right to prohibit the making of translations; and restrictions on the right to prevent photocopying and audio and video recording. With respect to the first restriction, if a work has not been published in Sinhala or Tamil (the two Sri Lankan languages) within ten years of publication in its original language, any person may produce a Sinhala or Tamil translation without the authorization of, and without making payment to, the copyright owner of the original work. The provision on photocopying and recording applies to libraries and scientific and educational institutions, and permits the copying of even an entire work if: the work has lawfully been made available to the public; the copying neither conflicts with the normal exploitation of the work nor unreasonably prejudices the legitimate interests of the author; and the number of copies made is limited to a specific need. Both provisions reflect, and attempt to remedy, the difficulty that developing countries like Sri Lanka have in obtaining suitable educational materials and teaching resources.

Licensing is expressly authorized by the code, and registration of all or any of the particulars of a license agreement is optional. While the code thus adopts a non-restrictive approach toward licensing, it nevertheless does not give the parties total freedom. The code declares null and void all deleterious clauses, which, like the Malaysian legislation, it defines as provisions that impose upon the licensee restrictions not derived from the intellectual property rights conferred on the owner of those rights, or unnecessary for safeguarding those rights.

Special provisions apply to contracts that involve the payment of royalties outside the country. If the Registrar of Patents and Trade Marks has reasonable cause to believe that a contract is detrimental to the economic development of Sri Lanka, he/she must refer the matter to the Governor of the Central Bank. If the Governor concurs with the Registrar, the record of the contract must be cancelled from the patent or trademark register. This provision has never been applied, however, and is unlikely to be so in the foreseeable future.

Almost all the litigation that has arisen under the code has concerned claims of violation of trademark rights. In a recent case involving infringement of a well-known mark for tea, the courts upheld the rights of the multinational corporation to the detriment of the infringing local concern.

## I. Thailand

Thailand joins India in being among the four countries that the USTR has placed on the "priority watch list" under the Special 301 provisions of the 1988 Trade Act (the others are Brazil and the People's Republic of China). Thailand also faces the threat of "regular" 301 actions that have or are likely to be filed with the USTR by U.S. pharmaceutical and copyright groups alleging specific inadequacies in Thailand's intellectual property laws. If progress is not made in resolving the section 301 conflicts, Thailand, like India, may find itself the recipient of trade sanctions -- most likely a cut in duty-free benefits under the Generalized System of Preferences.

The USTR's complaints span all aspects of Thailand's intellectual property system. The primary issues concern: exclusions from the scope of patentable subject matter; an insufficient patent term; overly broad compulsory licensing provisions coupled with a strict local working requirement; and ineffective enforcement against copyright and trademark infringement.

Thailand's patent act, which was promulgated in 1979, provides that patents may not be granted for pharmaceutical products or ingredients, foods, beverages, and agricultural machinery. Under intense pressure from the USTR, the Thai government agreed to introduce patent law amendments during its 1991 parliamentary session that would at least include patent protection for pharmaceuticals. The responsibility for drafting the amendments has been handed to a national intellectual property committee established in 1989 and chaired by the Permanent Secretary of Commerce.

Previous attempts to resolve the pharmaceutical patenting issue have not succeeded, however. In May 1989 the Thai government proposed a monitoring system to prohibit the manufacture of generic copies of new U.S. drugs for a period of two years from the day the drugs are registered for approval with the Thai Food and Drug Administration. Also in May 1989, a more sweeping parliamentary measure to guarantee product patent rights resulted in a no-confidence motion against the then Prime Minister. As in India, pressure from the USTR has tended not only to yield some positive results, but also to arouse criticism and opposition from important segments of Thai industry and government.

The patent act provides a patent term of fifteen years from the date of filing the application -- and not, as the USTR would have it, from the date of the patent grant. Patentees have three years from the time of receiving the patent to begin producing the patented product or applying the patented process in Thailand. If they have not done so (without legitimate reason), or if the patented product is not being sold in the domestic market or is being sold at unreasonably high prices or in

insufficient supply, any person may apply to the Director-General of the Department of Commercial Registration for a compulsory license to work the invention. When the patented product is not being distributed to meet national demand, an importation license (i.e., authorization to import the product into the country) may be sought from the Board of Patents of the Ministry of Commerce in lieu of a compulsory license. Moreover, if the conditions that gave rise to the compulsory or importation license persist for an additional three years, the Director General may request the Board of Patents to cancel the patent registration.

The USTR's concerns with respect to trademarks center on the lack of protection for service marks and inadequate penalties for infringement. In bilateral discussions, Thailand has indicated that its national intellectual property committee will address the U.S. concerns by proposing amendments to its trademarks act. In addition, although Thailand remains a center for counterfeit goods, the government has stepped up significantly its enforcement of trademark infringement complaints.

Much of the problem relating to recognition of copyright protection in U.S. works was resolved in 1989 when the U.S. finally acceded to the Berne Convention for the Protection of Literary and Artistic Works. According to the USTR, however, copyright enforcement and piracy of U.S. books, records, and movies remain significant problems. In view of the alleged gravity of those problems, three major U.S. industry groups (the International Intellectual Property Alliance, the Recording Industry Association of America, and the Motion Picture Export Association) have recently filed a section 301 trade complaint against Thailand with the USTR. In addition, the USTR has taken issue with Thailand's ten-year limitation on translation rights, which parallels the limitation adopted in Sri Lanka.

Also like that of Sri Lanka, the Thai copyright law does not explicitly grant copyright protection to computer software, but does protect utilitarian works. In 1983 a juridical council advisory opinion determined that computer software fell within the scope of copyright protection; however, that decision was not confirmed by a court of law. Although the USTR initially expressed some discomfort at the lack of explicit protection, her office has since indicated its "willingness to await a Thai court test of the juridical council's advisory opinion."<sup>21</sup>

Technology transfer agreements that entail patent licensing must be in writing. The license contract must be submitted to the Director-General of the Department of Commercial Registration for examination and registration. If the Director-General considers that any clause in the contract is contrary to the law, he/she must submit the contract to the Board of Patents, which then instructs the Director-General on whether or not the contract (or the contract clause if it is severable) should be refused registration. Clauses that are contrary to the law include those which impose on the licensee any condition,

restriction, or royalty term that tends to hinder the development of industry, handicrafts, agriculture, or commerce. In addition, any clause that requires a licensee to pay royalties after the patent has expired is null and void.

## V. Technology Transfer Experiences

It had originally been the author's intention to include four in-depth case studies of technology transfers in the countries covered by this report. Despite repeated efforts, however, the author was unable to identify American technology suppliers willing to share their experiences and provide access to supporting documents and files. The reasons that the suppliers gave most frequently for their unwillingness to participate were: confidentiality of the technology transfer arrangement; management policy not to get involved in reports of this kind; and fear (despite assurances to the contrary) that participation in the report might adversely affect their position in the host country or with the Department of Commerce.<sup>22</sup>

Nevertheless, the author was able to compile information about a number of technology transfer arrangements, which is reported below. In some cases, the information came from personal communications with the managers responsible for negotiating and overseeing the transfer; in others, the information came from secondary sources, including host country newspaper accounts. A common theme in the transfers, most of which were successful, is that the suppliers were able to secure adequate protection for their technology and know-how by carefully selecting trustworthy technology transfer partners rather than relying on the host country's intellectual property legislation. Thus, while a strong intellectual property system is an important factor in encouraging and facilitating technology transfer, it is not always an essential prerequisite to success.

### A. India

The following account was provided by the Director of International Administration of a major U.S. instrument company that has established a successful joint venture in India. The account was furnished on condition that it be reproduced verbatim and that the company not be identified.

Company X: Company X, a billion dollar division of an eight billion dollar U.S. conglomerate, started a forty percent owned joint venture in India in 1982. The company was chartered to do sales, service, assembly, and light local manufacturing of Company X's broad line of industrial instrumentation.

From the onset, the Indian joint venture offered the complete line of industrial measurement products to the Indian market. Industrial customers in India, however, tend to be conservative and price sensitive, so the majority of the success has been with proven products in the mature portion of their cycle.

The products which represent leading edge technology are more slowly accepted.

The joint venture was profitable from the first year and by 1990 had grown to sales of more than \$15 million (U.S.), with a manufacturing plant, headquarters office, and fifteen sales offices.

The fifty percent annual growth of the 1980s will not be sustained, but thirty-five to forty percent annual growth is planned for the '90s. By indigenisation of piece parts, cost savings of approximately \$1M U.S. have been realized, and the venture has been certified to provide certain parts to the company's operations in the rest of the world.

Through careful planning and cooperation, this joint venture has been very successful, and has established bench marks in growth and profitability for others to strive for.

3M: Although 3M operates wholly-owned subsidiaries in Singapore and Thailand, its operations in India are through a joint venture established in mid-1988 with the Birla industrial concern. Birla 3M Ltd., headquartered in Bangalore, is a closely-held company in which each partner has a forty percent share and the remaining twenty percent is owned by public holdings. The new company has already reported a \$7.5 million profit.

The joint venture manufactures a broad range of 3M products, including adhesive tapes, electrical termination power lines, telecommunications connectors, high-temperature tubes, sealants, and ceramic products for the aerospace industry, and surgical equipment and respirators. In selecting products, the company indicated that it makes its determinations on the basis of Indian market and priority needs (e.g., products for the power, telecommunications, and health sectors). It emphasizes the indigenization of technology and adoption of local materials without compromising on quality.

3M apparently considered thirty-five potential partners before selecting Birla. One of the preconditions to the establishment of the joint venture was that a 3M executive serve as the joint venture's managing director. The chairman of the board, however, comes from Birla.

GE: The importance of transferring affordable and appropriate technology was evidenced by an innovative transfer

planned in 1988 by GE. GE had had limited experience in importing medical diagnostic imaging equipment for sale to India, but perceived that the time was ripe to establish an Indian manufacturing facility. It believed, however, that it would not be profitable to transfer the highly sophisticated and costly imaging equipment that its parent company manufactured in the U.S. Instead, GE chose to transfer technology to its forty percent owned Indian joint venture (Elpro International Ltd.) from its seventy-five percent owned Japanese joint venture (YMS). The reason that GE selected the Japanese technology was that it was less expensive and complex, and therefore was considered to be more suitable to local market conditions. By transferring technology from one joint venture to another, GE was able to broaden its share of the developing Indian subcontinent market. More importantly, had GE not acted, it might have been prevented from continuing to import medical equipment. Under Indian law, continued importation is often blocked once Indian companies begin to manufacture the products in question. Since Indian enterprises had already begun local manufacture of imaging equipment, GE avoided the anticipated ban.

Pioneer Hi-Bred: Pioneer Hi-Bred International Inc. is a U.S. agricultural research and seed manufacturing company. In 1988 it entered into an initially successful but ultimately failed joint venture, Pioneer Seed Corp. Ltd., with a non-resident Indian company. Among the technology that Pioneer Hi-Bred transferred to Pioneer Seed was important genetic material. The transfer depended largely on respect for and maintenance of trade secrets and confidentiality.

Pioneer Seed carried out significant research activities, primarily in Hyderabad, on maize, sorghum, pearl millet, and sunflower hybrids, and was the first company commercially to introduce Sorghum Sudan Grass as a fodder crop for dairy cattle. The joint venture became the leading seed company in India in 1986.

In 1988, a dispute erupted between Pioneer Hi-Bred and its Indian partner. The U.S. company accused its partner of breaching its fiduciary responsibility, misappropriating trade secrets, and committing other disloyal conduct. Because the joint venture agreement contained a "choice of forum" clause that granted jurisdiction to U.S. courts in the event of disputes, Pioneer Hi-Bred was able to file suit in U.S. District Court to wrest control from its partner. In addition, it petitioned the Delhi High Court to enjoin Pioneer Seed from using the Pioneer trademark, seized the genetic material that it had transferred, and induced key employees to resign from Pioneer Seed by offering them continued employment with Pioneer Hi-Bred.

Although Pioneer Hi-Bred would no doubt have preferred to have avoided the dispute, it was able to block the unlawful conduct and disband the joint venture -- with its own reputation intact. It has since formed a new venture (with a different

partner but most of the former key personnel) in which it owns a forty-percent share. Pioneer Hi-Bred's experience underscores the need to anticipate the possibility of conflicts and, whenever possible, to include appropriate dispute resolution procedures in the technology transfer agreement.

Pepsico: Pepsico Inc. has also encountered some recent difficulty in its operations in India. Pepsi Foods was authorized to carry on business in India, and use the Pepsi trademark and name, on the condition that it fulfill substantial export commitments in addition to its domestic market allotments in the areas of snack foods and soft drinks. The Indian government's Standing Advisory Council recently undertook an investigation of alleged non-performance by Pepsi Foods as a result of unused capacity at one of Pepsi's food processing plants and its rejection, on the grounds of poor quality, of an allotment of fruit for export.

To counter these difficulties, Pepsi Foods has embarked on a program of exporting products designated by the government as export promotion priorities and manufactured by Punjab-based small-scale entrepreneurs. Among the products are sporting goods, value-added tea, and processed tomatoes, rice bran and shrimp. Pepsi is also collaborating with the Punjab Agricultural University to increase the quality of fruit production.

## B. Indonesia

The following account was provided as "company confidential" and off the record. The company is therefore not identified.

Company Y: Company Y, a dairy producer, is involved in a successful dairy farming joint venture in Indonesia. The technology involved in the venture is more than 100 years old, thus obviating the necessity of patent protection. The know-how needed to master the technology is of great value, however, and forms the real basis of the technology transfer. Company Y provided substantial training that assured the success of the venture.

According to Company Y's counsel for international licensing, the company would have serious reservations about transferring "space-age technology," except to sophisticated partners in countries with solid legal systems and reliable intellectual property laws.

Corning Glass: A classic and often-studied example of a technology transfer arrangement to Indonesia is the Corning Glass Works joint venture for the manufacture of dinnerware (P.T. Indo-American Industries) proposed in the late 1970s. Corning had been approached by a large, highly skilled Indonesian producer requesting a license for the production of CORELLE, a dinnerware made by an extremely complex process. Corning was not

interested in entering into a license arrangement for a proprietary technology and considered that the manufacturing process for CORELLE was inappropriate for Indonesia. Instead, Corning proposed a joint venture for the manufacture of opal glassware, manufactured by an older, non-proprietary process.

The agreement provided that the know-how and technical assistance for the Indonesian project would come from Corning's seventy-five percent owned subsidiary in Argentina, which had already successfully manufactured the glassware. The proposed Indonesian plant was of the same capacity as the one in Argentina and would produce identical products. Corning retained an independent engineering firm to design the plant and manage the procurement, construction, and equipment installation under Corning's supervision.

In addition to providing key process and lay-out information and sending a technical crew to Indonesia to help in start-up operations, Corning agreed to provide on-site training to key Indonesian workers. The agreement also stipulated that a Corning project manager, who was subsequently to become the joint venture's general manager, would oversee project implementation and technology transfer, with the assistance of a full-time Corning project engineer. All other sales, financial, and administrative positions were required by the agreement to be staffed by Indonesians recruited locally.

#### C. Singapore

Milipore and Glaxo: Singapore has begun a process of scientific collaboration and technology transfer between its Institute of Molecular and Cell Biology and foreign corporations. For example, a U.S. company, Milipore, has agreed to transfer (on loan) equipment for DNA and peptide synthesis and protein micro-sequencing. Milipore and the Institute will apparently work together to develop sophisticated software for the life sciences, and Singapore has agreed to become a regional base for Milipore sales and marketing.

A more elaborate agreement was concluded with a British corporation, Glaxo. The agreement, which has a fifteen-year duration, provides for collaborative applied research on the molecular biology of the central nervous system. In exchange for providing the funds to finance the research team, Glaxo has the right of first refusal to develop products generated by the research. The Institute will receive royalty payments based on sales for all products that are successfully commercialized.

#### D. Sri Lanka

Computer Software: As mentioned above, Sri Lanka, through its Computer and Information Technology Council (CINTEC), has sought to license computer software from U.S. producers, but has

sometimes been refused because of the country's alleged failure to provide adequate copyright protection. Those refusals are particularly troublesome in view of CINTEC's demonstrated respect for software protection and its attempts to reach innovative licensing arrangements. In one instance, a software supplier refused to renew a multiple-user license for statistical software employed in agricultural research stations that CINTEC had negotiated with the supplier's predecessor. Although the supplier accused CINTEC of having violated the agreement, the more likely motivation for the supplier's refusal was the potential for increased earnings by entering into individual-user licenses.

Dykings: In the early 1980s the Canadian International Development Agency's Industrial Cooperation Division (CIDA-ICD) helped a Canadian bicycle manufacturer, Dykins Ltd., establish a joint venture in Sri Lanka. Impressed with Dykins' Canadian operations as well as its willingness to share its knowledge with local partners in developing countries, CIDA arranged and paid for the company to exhibit at a "Technology for the People" trade fair. In preparation for the exhibition, the company developed a bicycle model that it felt would be more appropriate for use in developing countries because it was able to transport heavy loads and negotiate different types of terrain.

As a result of contacts made at the trade fair, as well as pre-screening of potential partners by CIDA, Dykins entered into a joint venture with the Mercantile Bank of Colombo. Dykins received forty percent of the equity in the new company in return for supplying jigs, fixtures, and intensive training. The technology transfer was developed as a three-year process characterized by continued training and increasing responsibility for local manufacture. At the end of the three-year period, the local partner had internalized and assumed all manufacturing processes, and Dykins only needed to continue to provide managerial advice.

It is interesting to note that Dykins also tried to make contact with potential Indian joint venture partners. The company was not successful, however, because it felt that it was only being introduced to people who were too high ranking for its needs. In all its overseas operations, the company's perception was that it was most successful when it was able to work in partnership with small-scale businesspeople.

#### E. Thailand

Heinz: In 1987 H.J. Heinz established a joint venture in Thailand, known as Heinz Win Chance Ltd., in which Heinz has a fifty-one percent ownership share. According to Heinz's CEO, creating a joint venture in Thailand was not unlike the process in most Western industrialized countries, primarily because Thailand's banking system follows a Western model and the

government's role in the negotiation process is mostly regulatory rather than participatory.

Heinz's objective in entering Thailand was not only to meet the needs of the local market but also to serve as a base of export for Southeast Asia. It consequently considered it essential to select a partner that already had substantial experience in the market on the basis of a going concern.

To the Thai partner's already established line, Heinz added a line of its infant milk cereals, marketed under its own trademark, and installed equipment enabling it to produce a broader range of products, including ketchup and other sauces designed to appeal to the taste preferences of Thai consumers. The joint venture also entered into a collaborative research project with a Bangkok university to test a feeding program aimed at improving infant nutritional health.

The management of the joint venture is the responsibility of the Thai partner, which has been granted decentralized decision-making authority (apparently a hallmark of all Heinz joint ventures in the developing world). In the opinion of H.J. Heinz's CEO, the partner's understanding of the Southeast Asian market, demonstrated superior skill in producing goods for the Thai consumer, and familiarity with national laws and governmental policy make it unnecessary for H.J. Heinz to intervene in the joint venture's management operations. Reliance on the Thai partner also made the government's approval of the joint venture easier to obtain, according to the CEO.

A final and important key to the joint venture's success is that Heinz "has not forgotten the need for good corporate citizenship, especially in nations once suspicious of Western economic influence."<sup>23</sup> The CEO stated that, "In...Thailand, we have worked closely with government officials and nutritional experts to assure them that our presence is a benefit to the public health."<sup>24</sup>

## VI. Conclusions

Although the lack of strong systems of intellectual property protection makes the successful transfer of technology more difficult, it by no means renders it impossible. As most of the above examples indicate, carefully structured technology transfer arrangements can prove profitable to both the technology supplier and technology recipient even in the countries that possess the least adequate intellectual property laws and practices.

While it is not possible to ensure the success of any technology transfer, the following factors should prove helpful to AID in developing technology transfer projects that involve licensing of intellectual property rights:

Choose the Right Partner: Particularly in countries where intellectual property rights are weak, the selection of a technology transfer partner with whom one can develop a relationship of trust and confidence is crucial. A successful technology supplier must be willing to share his/her knowledge, despite gaps in the host country's system and culture of intellectual property protection, while a successful recipient must appreciate and respect the proprietary nature of technology and know-how.

AID can play an important role in partner selection, pre-screening, and matching. It can also help sustain relations between the partners by making its services available in an informal mediator or ombudsman capacity.

Take Full Advantage of Available Intellectual Property Rights: As intellectual property rights are primarily national in scope, a technology supplier is generally entitled to no legislative protection in a host country unless he/she applies for it. Technology suppliers must therefore be made aware of the extent of exclusive rights that exist in the various countries in order to determine whether it is worthwhile to pursue protection. That determination, moreover, must be made at an early stage in the commercialization process, usually well before a technology transfer partner has been selected.

When intellectual property rights are obtained, the technology supplier must assure that the corresponding obligations, in particular use obligations, are fulfilled. The failure to respect those obligations can result in the loss of intellectual property protection.

Understand the Technology Transfer Agreement: Just as it is necessary to be fully aware of the rights and obligations of intellectual property protection, so is it necessary for the technology supplier and recipient to understand the rights and obligations embodied in a technology transfer agreement. A technology transfer agreement must be carefully and prudently negotiated, and due consideration should be given to addressing potential future conflicts by including provisions on dispute resolution procedures.

Steer Clear of Restrictive Terms: Technology suppliers should be strongly discouraged from seeking to include in licensing agreements any tying, grant-back, royalty, territorial, R&D, field-of-use, or other clause that may be perceived as being restrictive. In contrast, the agreements should ensure host country internalization of the transferred technology through adequate training and transfer of authority and responsibility. AID may wish to consider developing its own model licensing provisions that could be used as a basis for negotiations in its technology transfer projects.

### View Licensing Within the Broader Technology Transfer

**Context:** Assuring the transfer of intellectual property rights or know-how should be viewed as only one of a series of transactions (albeit an important one) that usually makes up the transfer of technology. The level of intellectual property protection needed to achieve relative security may therefore vary with the type of technology transfer arrangement adopted. For example, in a joint venture where the technology supplier assumes significant responsibility for local management and control, obtaining "ideal" protection may be less essential than in a straightforward licensing arrangement where the supplier maintains minimal presence and control. As foolproof protection exists nowhere, including the U.S., the level of protection available should be evaluated in each instance as one of the risks or benefits of doing business in the host country. Care should therefore be taken not to overinflate the importance of intellectual property for, without an appropriate perspective, there is a risk that unreasonably high standards of intellectual property protection may become an unattainable prerequisite of technology transfer.

**Avoid Highly Proprietary Technology:** In designing technology transfer projects, prudence would require that AID focus on projects that do not involve the transfer of highly proprietary technology (i.e., technology that was very expensive to develop but is easily copiable, and therefore whose continuing value depends largely on strict enforcement of intellectual property rights or maintenance of confidentiality). The need for caution is particularly important in the case of technologies that have been excluded from a host country's scope of patent protection, for example, India's exclusion of pharmaceutical products.

**Carefully Consider Trademark Choice:** In technology transfers that entail the commercialization of trademarked goods or services, the technology supplier and recipient must carefully consider whether to use the supplier's trademark or adopt a local mark (i.e., not that of the technology supplier). Often the decision may turn on whether the goods or services are destined for domestic consumption or for export. While a foreign trademark may carry with it valuable intrinsic goodwill and thus provide ready market access, its domestic use may inhibit the development of local reputation and therefore frustrate an important developmental objective of the transfer. Moreover, adopting a trademark other than that of the technology supplier may avoid registration problems (particularly in India) and shield the supplier from potential trademark infringement disputes.

## ENDNOTES

1. WIPO, Licensing Guide for Developing Countries, Geneva, 1977 (WIPO Publication No. 620(E), p. 28.
2. OECD, North/South Technology Transfer: The Adjustments Ahead, Paris, 1981, p. 18.
3. M. Blakeney, Legal Aspects of the Transfer of Technology to Developing Countries, Oxford, 1989, p. 3.
4. See Henry, "The Political Risks of Patent Licensing," in Finnegan and Goldscheider, eds., The Law and Business of Licensing, New York, Clark Boardman, 1980, § 530.391; and Blakeney, Legal Aspects of the Transfer of Technology to Developing Countries, Oxford, ESC Publishing, 1989.
5. For a more detailed explanation of the various elements of intellectual property, see An Appraisal of the Intellectual Property Law System of Sri Lanka, prepared for US AID, Colombo, Sri Lanka, by Erstling.
6. WIPO, Licensing Guide for Developing Countries, Geneva, 1977, p. 23.
7. Blakeney, supra note 3, p. 28.
8. Blakeney, supra note 3, p. 33.
9. See Goldscheider, "International Licensing Agreements Involving Developing Countries," in Finnegan and Goldscheider, supra note 4, § 520.33; UNCTAD, Major Issues Arising from the Transfer of Technology to Developing Countries, 1975, chapter II; and Blakeney, supra note 3, p. 35.
10. U.S. v. Jerrold Electronics Corp., 187 F.Supp 545 (E.D.Pa. 1960); see also Dehydrating Process Co. v. A.O. Smith Corp., 292 F.2d 653 (1st Cir. 1961).
11. See Modrey v. American Gage and Machine Co. 339 F.Supp. 1213 (S.D.N.Y. 1972); Juyck Crop. v. Albany International Crop. 193 U.S.P.Q. 200 (1977); and Brulotte v. Thys Co., 379 U.S. 29 (1964).
12. See McCullough Tool Co. v. Well Surveys Inc., 343 F.2d 769 (3rd Cir. 1959); and Rockform Corp. v. Acitelli-Standard Concrete Wall, Inc., 367 F.2d 678 (6th Cir. 1966).
13. See Tripoli Co. v. Wella Corp., 452 F.2d 932 (3d Cir 1970); and Susser v. Carvel Corp., 332 F.2d 505 (2d Cir. 1964).
14. See, for example, Keewanee Oil Co. v. Bicron Corp., 416 U.S. 470 (1974); Donaldson Co. v. LaMaul Inc., 299 F.2d 412 (8th Cir. 1962); and Riteoff, Inc. v. Contact Industries, Inc., 350 N.Y.S.2d 690 (App.Div. 1973).

15. See Blakeney, *supra* note 3, p. 45.

16. A novelty requirement can mandate either local novelty (i.e., that the invention has not been previously disclosed in the particular country) or universal novelty (i.e., that the invention has not been previously disclosed anywhere in the world). Bangladesh's requirement is for local novelty.

17. On several occasions, the USTR had promised stepped up enforcement against India if the GATT Uruguay Round talks did not result in the conclusion of a comprehensive code regulating trade in intellectual property rights. See, for example, 7 Int. Trade Rep. 766 (1990).

18. Office of the United States Trade Representative, 1990 National Trade Estimate Report on Foreign Trade Barriers, 1990, p. 91.

19. *Id.*

20. *Id.* at p. 97.

21. *Id.* at p. 194.

22. Furthermore, there has been relatively little foreign investment and formal transfer of technology by American firms in the countries included in this report as compared to other regions of the world.

23. Anthony J.F. O'Reilly, "Establishing Successful Joint Ventures in Developing Nations: A CEO's Perspective," *Columbia Journal of World Business*, Spring 1988, at p. 71.

24. *Id.*

## APPENDIX I

## GLOSSARY OF TERMS

**COMPULSORY LICENSE:** An authorization given to a beneficiary by a government authority permitting the beneficiary to exploit patent rights against the will of, but generally upon payment to, the owner of the patent, usually either when the owner has failed to fulfill obligations to exploit the patented invention, or when public interest dictates.

**COPYRIGHT:** The exclusive right granted to the author, or originator, of an original literary or artistic creation by virtue of which copies of the creation may be made only by the author or with the author's authorization. In a growing number of countries, computer software is considered a literary work subject to copyright protection.

**DISTRIBUTORSHIP:** A commercial arrangement in which a manufacturer supplies or sells goods to an entity (the distributor) within a particular territory, and the entity then supplies or sells those goods to end users within that territory.

**EXCLUSIVE RIGHTS:** Rights that are given to owners of protected intellectual property to exclude all others from using or copying the protected products, processes, or creations without the owner's permission.

**FRANCHISE:** A commercial arrangement in which the owner of intellectual property rights or know-how (the franchisor) authorizes an entity (the franchisee) to manufacture goods or perform services using those rights or know-how. Franchising is of particular importance in trademark licensing as franchisees operate under the franchisor's trademark.

**GRANT-BACK CLAUSE:** A provision in a license contract, often viewed with disfavor by licensees, that requires a licensee to transfer to the licensor ownership or any other rights in the improvements in the licensed technology made by the licensee.

**INTELLECTUAL PROPERTY:** A form of intangible property conferring the right to possess, use, or dispose of products, processes, or other creations created by the human mind or human ingenuity. Intellectual property essentially relates to pieces of information that can be incorporated in tangible objects at the same time in an unlimited number of copies anywhere in the world (the property is not in those copies but in the information reflected in those copies). Intellectual property is generally broken down into two branches: industrial property (primarily patents and trademarks), and copyright.

**JOINT VENTURE:** A form of business partnership involving joint management and the sharing of risks and profits between enterprises based in different countries. If joint ownership of capital is involved, the partnership is known as an equity joint venture.

**KNOW-HOW:** Technical information and skills concerning the use and application of industrial, commercial, or agricultural techniques.

**KNOW-HOW AGREEMENT:** A contract governing the communication or supply of technical information and skills from the possessor of that information to a recipient.

**LICENSE:** A contract in which the owner of intellectual property rights (the licensor) authorizes or permits another (the licensee) to perform some or all of the acts covered by the grant of exclusive rights, usually in exchange for a royalty or fee.

**LICENSE OF RIGHT:** Under the law of a few countries, an authorization by the patent owner, generally given at the time of the patent grant, permitting any qualified third party, to perform some or all of the acts covered by the patent. Licenses of right may either be given voluntarily or may be mandated for certain types of inventions.

**PATENT:** A document, issued by, and upon application to, a government office, that describes an invention and confers exclusive rights on its owner by virtue of which the patented invention can normally only be exploited (i.e., manufactured, used, sold, or imported) with the patent owner's authorization. The protection conferred by a patent is limited in time (usually to 15-20 years). An Invention, which may be defined as a solution to a specific problem in a technical field, is patentable if it is new, involves an inventive step (i.e., it is not obvious), and is industrially applicable.

**SPECIAL 301:** A provision of the 1988 Omnibus Trade Act (amending the 1974 Trade Act) that attempts to open foreign markets to U.S. exports and investment by authorizing the withdrawal of concessions, the restriction of imports, or the imposition of other sanctions against countries that deny adequate and effective protection for intellectual property rights.

**TECHNOLOGY:** Systematic knowledge for the manufacture of a product, or the rendering of a service in industry, agriculture, or commerce, including knowledge reflected in an invention, technical information in the form of documentation, or in skills or experience of experts, for the design, installation, operation, or maintenance of an industrial plant or its equipment, or for the management of an industrial, agricultural, or commercial enterprise or its activities.

**TECHNOLOGY TRANSFER:** An integrated series of commercial transactions to bring about the movement or transmission of modern or scientific methods of products or distribution from the technology owner to a recipient.

**TRADEMARK:** A sign that serves to distinguish the products (and also often the services) of one enterprise from those of another.

**TURN-KEY CONTRACT:** A agreement under which the contractor assumes responsibility to the client for constructing productive installations and ensuring that they operate effectively before turning them over to the client. The responsibility of the contractor ends when the contractor hands the completed installation over to the client.

**TYING CLAUSE:** A provision in a license contract, often viewed with disfavor by licensees, that requires the licensee to obtain additional inputs, such as raw materials, machinery, and additional technology, only from the licensor or a source selected by the licensor.

**USTR:** United State Trade Representative, a Cabinet-level post responsible for carrying on all bilateral and multilateral trade negotiations, serving as the principal advisor on trade matters, representing the United States at GATT meetings, and coordinating the trade agreements program as well as all U.S. trade policies.

**WIPO:** World Intellectual Property Organization, a specialized agency of the UN system that seeks to promote international cooperation in the protection of intellectual property. WIPO administers the Paris Convention for the Protection of Industrial Property and the Berne Convention for the Protection of Literary and Artistic Works, and assists developing countries in the modernization of their intellectual property systems.

THE SPECIAL 301 PROVISIONS OF THE U.S. TRADE ACT:  
THE IMPACT OF INTELLECTUAL PROPERTY ON U.S.  
INTERNATIONAL TRADE POLICY

by

Jay Erstling

The Omnibus Trade and Competitiveness Act of 1988 (the Trade Act)<sup>1</sup> elevates the protection of intellectual property to one of the principal priorities of United States trade policy. In enacting the legislation, Congress vented its "festering frustration"<sup>2</sup> with the direction and results of U.S. policy and sought more powerful remedies for America's growing trade woes.<sup>3</sup> The "Special 301" provisions<sup>4</sup> are among the Act's most important and controversial innovations. The provisions seek to open foreign markets to U.S. exports and investment by sanctioning harsh retaliation against countries that provide inadequate and ineffective protection for intellectual property rights.

The merger of intellectual property and international trade policy embodied in the Special 301 provisions constitutes the most strenuous effort by the U.S. Congress to influence foreign national intellectual property protection and affect the outcome of ongoing multilateral intellectual property negotiations. The provisions have already achieved a significant impact on both counts. They have strengthened the role of the United States Trade Representative (USTR) in pressuring nations to accept intellectual property standards that are compatible with U.S. interests, and have focused attention on the importance to the United States of the GATT Uruguay Round negotiations on trade related aspects of intellectual property (TRIPs). At the same time, however, the provisions have generated international resentment and criticism. The primary allegation levelled against the provisions--justifiable in this author's opinion--is that they ignore accepted standards of international law and undermine the GATT multilateral trading system.

This paper provides an overview of the Special 301 provisions by examining their history, intent, and impact on countries that have been singled out for alleged intellectual property abuses. It also considers the relationship between Special 301 and the GATT negotiations.

#### Historical Perspectives

U.S. government and industry representatives have often contended that foreign piracy of U.S. intellectual property contributes substantially to the national trade deficit. For example, the U.S. International Trade Commission has estimated

that American business lost more than \$40 billion in foreign earnings annually because of the failure of many of America's trading partners to provide effective protection against infringement of U.S.-owned inventions, trademarks, and copyrighted works.<sup>5</sup> The Special 301 provisions strive to reverse those losses by linking the maintenance of intellectual property inadequacies with the specter of U.S. trade retaliation.

Creating that linkage was primarily the result of intense lobbying by U.S. industry. Although intellectual property and international trade are traditionally viewed as distinct and separate domains, in the 1970s U.S. companies dependent on foreign markets began pressing Congress to broaden the scope of trade policy. Among the factors that brought about this change were: the growing importance in international trade of intellectual property-based products, such as chemicals, pharmaceuticals, motion pictures, videos, books, and computers; the development of inexpensive technologies that made it simpler and more profitable to engage in intellectual property piracy; the rising costs of research and development needed to create new products; and the increasing globalization of the marketplace, which challenged traditional notions of competitiveness.<sup>6</sup> As a result of industry pressure, the U.S. Government ultimately agreed "to use the leverage inherent in access to the United States market as a means of stimulating countries to upgrade their level of [intellectual property] protection."<sup>7</sup>

The first important manifestation of this new policy came with the Trade and Tariff Act of 1984.<sup>8</sup> The Trade and Tariff Act instructed the President to consider the protection that foreign nations grant to intellectual property when deciding whether to bestow the benefits of the Generalized System of Preferences or impose import restrictions under section 301 of the Trade Act of 1974.<sup>9</sup> Likewise, the Caribbean Basin Economic Recovery Act directed the President to take into account the adequacy of intellectual property protection in Caribbean nations before offering special tariff treatment.<sup>10</sup> Both acts were united in incorporating a flexible, discretionary approach to integrating intellectual property and international trade policy. The Special 301 provisions, on the other hand, adopt a complex, rigid procedure that, once invoked, can lead to mandatory retaliation.

### Overview of Special 301

The Special 301 provisions amend and expand section 301 of the 1974 Trade Act.<sup>11</sup> Their purpose is "to provide for the development of an overall strategy to ensure adequate and effective protection of intellectual property rights and fair and equitable market access for United States persons that rely on protection of intellectual property rights."<sup>12</sup> To achieve that purpose, the provisions establish a special procedure requiring the USTR to identify each year those countries that do not adequately and effectively protect intellectual property rights or that deny fair and equitable market access to Americans who

rely on intellectual property protection under copyright, patent or trademark law. Countries that have been identified are designated as "priority foreign countries" and become subject to the imposition of a whole gamut of trade sanctions.<sup>13</sup>

The provisions mandate the method to be used by the USTR in identifying priority foreign countries. The USTR must consult with appropriate Federal agencies, including the Copyright and Patent Offices, consider information and petitions furnished by interested persons, and take into account the conclusions reached in the annual National Trade Estimate Report on Foreign Trade Barriers (NTE Report).<sup>14</sup> The purpose of the NTE Report, which is submitted to Congress by the USTR, is to identify and analyze foreign acts, policies, or practices that constitute significant barriers to, or distortions of, trade.

The provisions also make clear that the USTR's authority should be used sparingly as only the countries with the "most onerous or egregious acts, policies, or practices" may be identified.<sup>15</sup> Examples include countries whose practices have the greatest actual or potential adverse impact on U.S. products, countries that have not entered into good faith negotiations to eliminate intellectual property problems, or countries that are not making significant progress in bilateral or multilateral intellectual property negotiations. Of particular importance to Congress in including the last criterion was the willingness of nations to make accommodations and concessions in the TRIPs negotiations, which were originated by the U.S. to establish a code of intellectual property protection within the GATT system.<sup>16</sup>

Under Special 301, the USTR has thirty days following submission of the NTE Report to Congress to identify priority foreign countries. Once an identification has been made, the USTR is required, within an additional thirty days, to initiate a section 301 investigation, unless he/she determines that such an investigation would be detrimental to U.S. economic interests. In that case, however, the USTR must justify the decision in writing to Congress and must specify the economic interests that would be adversely affected by the investigation.<sup>17</sup>

The purpose of a section 301 investigation is twofold: to determine whether any of the cited acts, policies, or practices of the priority foreign country is "unreasonable or discriminatory and burdens or restricts United States commerce";<sup>18</sup> and, if so, to recommend appropriate trade sanctions to remedy the abuse.<sup>19</sup> In carrying out the investigation, the USTR must request consultations with the priority foreign country as well as seek the advice of appropriate government agencies and interested persons. Although the time limit for all other section 301 investigations is at least twelve months from the date of initiation, investigations brought under the Special 301 provisions are on a "fast track" and must, in most cases, be completed within six months.<sup>20</sup>

If the USTR determines that trade sanctions are necessary and appropriate, he/she has a powerful array from which to choose. For example, the USTR may recommend suspension of trade

agreement concessions, the imposition of punitive duties or other import restrictions, and the withdrawal of designation under the General System of Preferences. Subject to specific directions from the President, the USTR must implement his/her recommendations within thirty days.<sup>21</sup>

### Special 301 in Action

In applying the Special 301 provisions, the USTR was faced with a dilemma. On the one hand, she was obligated to comply with Congressional intent to adopt a tougher stand in eliminating purported unfair barriers to U.S. trade. On the other, she was aware that many GATT member nations, including the European Community, Brazil, and India, viewed the Special 301 provisions as a threat to the multilateral trading system.<sup>22</sup> Adopting too tough a stand could therefore jeopardize the success of the GATT TRIPs negotiations--the very negotiations that the Special 301 provisions sought to encourage.

In Solomonic fashion, the USTR adopted a middle stand. Under the statutory guidelines, the USTR has had to make two sets of Special 301 determinations: in May 1989 and April 1990. On both occasions, she declined to identify any countries as priority foreign countries even though, in her view, "all countries [were] eligible for potential priority designation... because all countries 'deny adequate and effective protection of intellectual property rights' within the meaning of the statute."<sup>23</sup> Instead, the USTR established a two-tiered "Watch List" of countries whose intellectual property rights systems cause the U.S. the greatest concern, and threatened to elevate to the status of priority foreign country any nation on the list that did not make progress in strengthening intellectual property protection.<sup>24</sup>

Initially, the USTR singled out 25 countries whose intellectual property practices, in her view, required special monitoring. She placed seventeen of those countries (Argentina, Canada, Chile, Colombia, Egypt, Greece, Indonesia, Italy, Japan, Malaysia, Pakistan, Philippines, Portugal, Spain, Turkey, Venezuela, Yugoslavia) on a secondary Watch List, and announced that the U.S. would "step up its efforts to resolve problems" attributed to them. The remaining eight countries, whose practices were considered to suffer from the most serious deficiencies, were named to a Priority Watch List. The Priority Watch List countries were Brazil, India, Mexico, People's Republic of China, Republic of Korea, Saudi Arabia, Taiwan, and Thailand.<sup>25</sup>

For each country included on the Priority Watch List, the USTR outlined an accelerated action plan to remedy the alleged inadequacies, and declared her intention to pursue the plans in intense bilateral discussions during the following 150 days. She further stated that she would review the status of the Priority Watch List countries "no later than November 1, 1989, taking into account the extent to which the objectives of the accelerated

action plans [had] been achieved."<sup>26</sup> Although the plans differed in detail from country to country, in general they called for the broadening of the scope of patentable subject matter, the introduction or expansion of the grant of copyright and service mark protection, stepped up enforcement against intellectual property piracy, and "constructive participation" in multilateral intellectual property negotiations.<sup>27</sup>

On November 1, 1989, the USTR announced the results of her review: she downgraded the status of the Republic of Korea, Saudi Arabia, and Taiwan from the Priority Watch List to the secondary Watch List; but left Brazil, India, Mexico, the People's Republic of China, and Thailand on the Priority List for continued close scrutiny. The rationale for the USTR's decision was that the three downgraded countries had all displayed "significant commitments to changing their intellectual property policies."<sup>28</sup> The USTR was impressed that Saudi Arabia had pledged to enact a copyright law, that Taiwan was working to modify its copyright legislation and to resolve a dispute over alleged pirating of videotapes, and that the Republic of Korea had created an intellectual property task force and increased the use of police to deter intellectual property piracy.

On January 24, 1990, the USTR again revised the Watch List designations by removing Mexico from both lists and Portugal from the secondary list. The USTR was satisfied that the Mexican government had committed itself to modernizing intellectual property protection by undertaking to lengthen the patent term, offer patent protection for pharmaceutical products, restrict compulsory licenses, and fortify protection of trademarks and trade secrets.<sup>29</sup> In view of Portugal's overall revision and reenforcement of its intellectual property legislation, the USTR was confident that Portugal had also made sufficient progress to merit removal from the list.<sup>30</sup>

Largely as a result of her Watch List revisions in November and January, the USTR chose to make no new Special 301 designations pursuant to the April 1990 statutory deadline. Instead, she cited the "significant progress" made by countries placed on the Watch Lists in 1989, and asserted that "[t]his has been a year of steady improvement in the protection of intellectual property rights around the world."<sup>31</sup> As to continued progress, the USTR referred to the relationship between Special 301 and the TRIPs negotiations, and stressed that those negotiations, scheduled to conclude in December 1990, were the "best way to achieve meaningful intellectual property protection this year."<sup>32</sup>

At the present time, four countries (Brazil, India, People's Republic of China, and Thailand) remain on the Priority Watch List, and nineteen on the secondary Watch List (Argentina, Canada, Chile, Colombia, Egypt, Greece, Indonesia, Italy, Japan, Korea, Malaysia, Pakistan, Philippines, Saudi Arabia, Spain, Taiwan, Turkey, Venezuela, Yugoslavia). The principal barriers cited by the USTR continue to include: the failure to provide patent protection of sufficient duration and for pharmaceutical

or chemical products; the absence of service mark registration or copyright protection for computer software; the grant of trade-distorting compulsory licenses; and the lack of adequate enforcement procedures.<sup>3</sup> Nevertheless, no country has possessed a sufficiently egregious combination of barriers to provoke its identification as a priority foreign country under Special 301.

### Evaluation of Special 301

Based on the USTR's findings, it may be argued that the Special 301 provisions have succeeded in encouraging increased awareness and higher levels of intellectual property protection. The threat of unilateral trade retaliation has had a significant effect on developments in the TRIPs negotiations and on commitments by U.S. trading partners to modify their national intellectual property policies. The provisions have generated substantial international criticism, however, that calls into question the wisdom and legitimacy of the U.S. initiative.

The problem with the Special 301 provisions is that they endow the USTR with supranational power. The provisions authorize the USTR to impose or threaten unilateral trade sanctions against countries that have not violated any international standard of intellectual property protection. In other words, Special 301 empowers the USTR to insist, under penalty of retaliation, upon the application and enforcement of intellectual property standards set only by the U.S., even though no international agreement or treaty embodies those standards or requires that they be enforced as a matter of domestic or international law. It is therefore no wonder that the Director General of GATT rebuked section 301 as being contrary to multilateralism and the antithesis of trade liberalization.<sup>34</sup>

If the TRIPs negotiations succeed, they will bring the protection of intellectual property rights within the scope of the GATT trading system. For the time being, however, the GATT contains no provision that requires member nations to eliminate trade barriers created by inadequate or ineffective intellectual property protection. Moreover, some developing nations, under the leadership of Brazil and India, have contended that the regulation of intellectual property should remain outside the GATT.<sup>35</sup>

The establishment of international intellectual property standards has long been the domain of two treaties administered by the World Intellectual Property Organization: the Paris Convention for the Protection of Industrial Property; and the Berne Convention for the Protection of Literary and Artistic Works. Neither treaty imposes levels of protection as rigorous as those called for by the USTR. For example, although the USTR has emphasized patent protection for pharmaceutical or chemical products, the Paris Convention permits each country to determine its own scope of patentable subject matter and to exclude certain inventions from protection. Similarly, while the USTR's demand for copyright protection for computer software may reflect sound

judgment, it does not reflect the Berne Convention, which allows countries to decide individually whether software falls within one of the categories of copyrightable "works."<sup>6</sup>

What is unacceptable about the Special 301 provisions is that they enable the USTR to circumvent prevailing international norms and standards in favor of those set unilaterally by, and in the exclusive interests of, the U.S. In essence, they presume that the USTR may dictate to foreign nations what the content of their intellectual property laws should be, without regard to longstanding notions of national treatment and autonomy.

To her credit, the USTR has refrained from enforcing the provisions in an abusive manner. Her relatively mild rhetoric and reliance upon bilateral discussions under threat of retaliation have served far more productively than the alternative of retaliation itself. Unfortunately, the USTR has pledged to step up enforcement if the TRIPs negotiations end in failure.<sup>7</sup> Regardless of the TRIPs outcome, it can only be hoped that the USTR was bluffing and will not embark on a course of Special 301 enforcement that disregards international law.

#### ENDNOTES

1. Omnibus Trade and Competitiveness Act of 1988, Pub.L.No. 100-418, August 23, 1988, 102 Stat. 1107.
2. Hearing on Title II of S. 1860 and S. 1862 Before the Senate Comm. on Finance, 99th Cong., 2d Sess. (1986) (statement of Chairman Robert Packwood).
3. At the time the Trade Act was enacted, the annual U.S. trade deficit was estimated at \$137 billion and was predicted to increase.
4. Pub.L.No. 100-418, title I, section 1303, August 23, 1988, 102 Stat. 1179 (codified in 19 U.S.C. 2242 and 2411 et seq.) [hereinafter cited by reference to the United States Code].
5. See 36 Pat., Trademark & Copyright J. at 401 (1988).
6. R.M. Gadbow, "Intellectual Property and International Trade: Merger or Marriage of Convenience?," 22 Vand. J. of Transnat'l L. 223 at 226-228 (1989).
7. Id. at 228.
8. Pub.L.No. 98-573, 98 Stat. 2948.
9. Pub.L.No. 93-618, 88 Stat. 1978, 19 U.S.C. § 2411.
10. Pub.L.No. 98-67, 97 Stat. 395, 19 U.S.C. § 2702.

11. Section 301 comprises a group of provisions that are available to enforce rights under international trade agreements and to respond to unfair foreign trade practices. The provisions appear not only in section 301, but also in subsequent sections of the Trade Act of 1974, as amended.

12. H.R. 3, 100th Cong., 1st Sess., section 1303(a)(2), Cong.Rec. H.1886 (April 20, 1988). The purpose underscores the Congressional finding that "international protection of intellectual property rights is vital" to U.S. competitiveness. Id., section 1303(a)(1).

13. 19 U.S.C. §§ 2242(a) and 2411(c).

14. 19 U.S.C. § 2242(b).

15. Id.

16. See Main, "Pursuing U.S. Goals Bilaterally: Intellectual Property and 'Special 301'," Business America, Sept. 25, 1989, at 6; and "U.S. Proposal for Negotiations on Trade-Related Aspects of Intellectual Property Rights," 34 Pat., Trademark & Copyright J. at 667 (1987).

17. 19 U.S.C. § 2412(b) and (c).

18. 19 U.S.C. § 2411(b)(1).

19. 19 U.S.C. § 2411(c).

20. 19 U.S.C. §§ 2413 and 2414(a)(3) and (b).

21. 19 U.S.C. §§ 2411 and 2415. The USTR may grant a delay of up to 180 days, however, if substantial progress is being made by the priority foreign country toward reaching "a satisfactory solution with respect to the acts, policies, or practices that are the subject of the action." 19 U.S.C. § 2415.

22. See, for example, "GATT's Dunkel Criticizes U.S. Section 301, Urges Strong Commitment to Uruguay Round," 7 Int'l Trade Rep. 766 (1990); "Japanese Officials Welcome Super 301 News, While Brazil Sees GATT Round Benefits," 7 Int'l Trade Rep. 615, 616 (1990); and Mohan, "The U.S. threat of a trade hegemony," The Hindu, June 7, 1989.

23. "USTR Fact Sheets on Super 301 Trade Liberalization Priorities and Special 301 on Intellectual Property, Released May 25, 1989," in 6 Int'l Trade Rep. 715, 719 (1989). See also "Hills, Citing Significant Progress, Declines to Name Countries under Special 301 Provision," 7 Int'l. Trade Rep. 616 (1990).

24. 7 Int'l Trade Rep. 616 (1990).

25. 6 Int'l Trade Rep. 719 (1989).
26. Id.
27. 6 Int'l Trade Rep. 720-721.
28. "USTR Removes Three Nations from Intellectual Property List," 39 Pat., Trademark & Copyright J. 30, 31 (1989).
29. "Mexico's New Patent Protection Plan Will Take It Off Special 301 Priority List," 39 Pat., Trademark & Copyright J. 248 (1990).
30. 7 Int'l Trade Rep. 616.
31. Id.
32. Id.
33. Office of the United States Trade Representative, 1990 National Trade Estimate Report on Foreign Trade Barriers (1990); and United States Trade Representative, Fact Sheet, "Special 301" on Intellectual Property, April 27, 1990 at 5-6 (1990).
34. 7 Int'l Trade Rep. 766 (1990).
35. "U.S., Japan Support EC Draft Agreement for Trade-Related Intellectual Property," 7 Int'l Trade Rep. 153 (1990).
36. See World Intellectual Property Organization, Background Reading Material on Intellectual Property at 49-52, 66-68, 85, and 366 (1988).
37. 7 Int'l Trade Rep. 766 (1990).