Chapter 7

INSTITUTIONAL CAPACITY

INTRODUCTION

Developing countries face formidable institutional challenges in implementing IP protection, as required by TRIPS. Since the majority of developing countries with limited technological and scientific capacity have little to gain in the medium term from implementing TRIPS obligations, a major concern must be to limit the human and resource cost of establishing IP regimes. At the same time, these nations need to ensure that their national IP regimes operate in the public interest and are effectively regulated. The more technologically advanced developing countries will also want to ensure that their IP regimes complement and enhance their broader policies for encouraging technological development and innovation.

The challenges include formulating appropriate policy and legislation; administering IPRs in line with international obligations; and enforcing and regulating IPRs in a pro-competitive manner appropriate to national levels of development. Of course, many of these IP-related institutional and policy challenges are common to all countries but they are especially acute for many developing countries. And, importantly, the economic and regulatory context in developing countries in which IP regimes are being revised, in line with TRIPS, is often quite different from that in developed countries.

Difficult choices are involved. Should a developing country, for want of its own resources, be satisfied with re-registering patents because they have been granted in a developed country? Or should it attempt to develop national capacity in the examination of patents, in order to apply the different standards of patentability that we suggest may be appropriate? Under current circumstances, this is a very difficult task for the IPR administration institutions in most developing countries.

In this chapter we consider:

- What are the requirements for making effective IP policy and legislation in developing countries?
- How should developing countries approach the implementation of IP policy and enforcement of IP rights?
- How can developed countries and international institutions provide effective technical assistance to developing countries?

IP POLICY MAKING AND LEGISLATION

As the majority of developing countries, including LDCs, are either members of the WTO or in the process of becoming so, implementation of TRIPS requires changes in industrial property and copyright legislation. In some areas the changes will be relatively minor. In others, entirely new legislation is required. Many developing countries have already amended their IP legislation to comply with TRIPS and meet their January 2000 deadline. A much smaller number of LDCs have so far completed the legal and institutional reforms required to put TRIPS into practice. In addition to TRIPS, those countries not already members of international treaties such as the Paris and Berne Conventions may choose to join and this will require further legislative changes.

Developing countries also face choices about other IP-related reforms such as design of appropriate protection systems for plant varieties and plant genetic material; whether and how to protect traditional knowledge within the formal IP system; and how to regulate access and implement benefit sharing for national biological resources as envisaged under the CBD. Few countries have so far passed legislation in these areas. Quite apart from legislative or capacity issues, this may also reflect a lack of political consensus on which policies to adopt. In addition to amending IP-related legislation, developing countries also have to consider complementary reforms in related areas of the domestic regulatory environment, such as science and technology policy and anti-trust legislation.

Integrated Policy Making

In many cases, developing countries face particular difficulties in developing a comprehensive and co-ordinated policy on IP, in what is, for many, a relatively new area of public policy.[1] The impetus for policy changes in IP typically comes from international agreements to which the country is signatory, without necessarily having a coherent idea of how they can be implemented nationally (for example, TRIPS or the CBD). Within government, IP is a classic "cross cutting issue" affecting the interests of several government departments who will have different positions which will need to be reconciled. Typically, industry groups and other civil society organisations with a particular interest or view on the matter will also lobby departments. Moreover, some foreign governments may exert formal or informal pressure where they see their interests as being at stake. Thus the policy making process is complicated.[2] Ideally, formulation of IP policy in a developing country would be based on a sound appreciation of how the IP system might be used to promote development objectives, derived from an analysis of the country's industrial structure, modes of agricultural production, and healthcare and education needs. But the expertise and the evidence necessary to undertake that task is often in very short supply.

The reality in many developing countries is that institutional capacity is generally weak, and in particular there is a lack of experienced and well-qualified officials. In the majority of developing countries there is considerable dependence on technical assistance, in the form of draft laws, expert advice and commentary on new draft legislation, provided by WIPO and other bodies.[3] In the words of one commentator:

> "LDCs in particular do not have local experts to evaluate the suitability of model international laws to local economic, social and cultural conditions. LDCs often lack drafting expertise and are reliant upon outside legal drafters, who may be brought in from those western legal systems to which the LDC has historical links as consultants or on contract basis for a set period. The problem is especially acute in the case of IP since there are very few people who possess both the specialised technical skills of legislative drafting, as well as expertise in IP law."[4]

Thus, because the policymaking process is complex and technical, governments may seek to short circuit the process, particularly in the face of international agreed deadlines. They may therefore leave it to their own IP experts, if available, to construct legislation with minimal intra-government consultation. Or they may rely on foreign expertise. Either way the consistency of the IP legislation with development policies may not be subject to adequate scrutiny.

The ability of developing countries to co-ordinate policy across government in undertaking IP-related reforms is therefore crucial. The evidence suggests that some countries have established mechanisms to improve the co-ordination of policy making and advice, with the main participants being the key ministries most involved i.e. health, justice, science, environment, agriculture, education or culture (for copyright and related rights). However, these mechanisms are often only embryonic and their degree of effectiveness is yet to become apparent – particularly in respect of integration of IP issues with other areas of economic and development policy. In many cases, this may reflect the fact that such co-ordinating bodies are not able to draw readily on a supply of the necessary technical advice and expertise, but it will also reflects divergent interests within government.

Box 7.1 Participatory Policy Making in Action: South Africa

Since the late 1990s, the South African Government has been considering reforms to the country's copyright legislation. In the past, the publishing industry was the main interest group participating in the process of influencing government policy on copyright. However, in recent years, the educational sector has played an increasingly active role, calling for amendments to the law to address electronic copyright and to make provision for distance education, special educational programmes and the needs of disabled people (for example, the blind).

In 1998, the Department of Trade and Industry published Draft Regulations to amend the current Regulations attached to the Copyright Act. The educational sector responded by setting up a Copyright Task Team, under the auspices of the South African Vice-Chancellors' Association (SAUVCA) and the Committee of Technikon Principals (CTP). Stakeholders were invited to present position papers on the Draft Regulations and then to submit comments on them. As the Draft Regulations were restrictive to education, the Copyright Task Team submitted a consolidated document of comments and objections from the educational sector. As a result, the Draft Regulations were suspended.

In May 2000, the Department of Trade and Industry again published proposals to amend the Copyright Act. The SAUVCA/CTP Electronic Copyright Task Team was established to address the proposed amendments, as well as other issues not included in the proposals (e.g. those mentioned above). The proposed amendments were again restrictive to education. After the said Task Team held discussions with four Government Departments, namely, Trade and Industry; Education; Communication; and Arts, Culture, Science and Technology, a number of the more contentious amendments were withdrawn.

In January 2001, both Task Teams were disbanded to create two more permanent Intellectual Property Committees to represent the educational sector, namely, the SAUVCA IP Committee and the CTP IP Committee. These Committees have since held discussions with the Department of Trade and Industry, the Publishers' Association of South Africa, the International Publishers' Association and the Business Software Alliance. The SAUVCA IP Committee is currently preparing a working document on "fair use" and "multiple copying for educational purposes," for further discussion with stakeholders.

An under-emphasised aspect of IP reform in developing countries is the importance of the policymaking process itself, and the capacity for stakeholders, in government and outside, to participate in shaping policy and new laws. At one extreme, a country such as India has a broad-based, extensive system for public consultation and debate (including public workshops on controversial topics such as protection of biodiversity and traditional knowledge), as well as a high level of expertise within the academic, business and legal communities. At the other, in one sub-Saharan African developing country we reviewed, new copyright legislation was passed after just a technical drafting process with minimal public consultation or debate.

Developing countries such as Kenya, for example, which have longer traditions of IP policy making and a larger constituency of IP lawyers, academics and interested civil society organisations, are somewhere in the middle of this spectrum. During our visit, for example, we were able to meet the recently established TRIPS sub-committee responsible for considering how Kenya implements the TRIPS Agreement. This sub-committee included representatives from various government departments as well as from the private sector. In many developing countries, however, we believe there is still substantial room for improvement in terms of building a genuinely participatory process for IP policy reform. This objective should be given more emphasis by governments and donors alike.

Developing countries and donors should work together to ensure that national IP reform processes are properly "joined-up" with related areas of development policy. Likewise, greater efforts are needed to encourage more participation by national stakeholders in IP reforms. In providing technical assistance, donors must be mindful of the need to help build the capacity of local institutions to undertake IP policy research and dialogue with stakeholders, in addition to providing international experts and legal advice.

IPR ADMINISTRATION AND INSTITUTIONS

Introduction

There is very wide variation in the volumes of IPR applications and grants processed by developing countries (see Table 7.1.) and this has an important bearing on the institutional requirements for IPR administration. Applications are in part determined by whether the country is a member of the PCT or other international arrangement or of a regional organisation. But in most developing countries only a very small proportion of applications made under these agreements currently enter the "national phase" where substantive grant and registration takes place. Other factors include differences in national IP laws and regulations (which may be more or less attractive to applicants) and the IP policies of multinational corporations.

A WIPO study in 1996[5] surveyed 96 developing countries and found that in over two-thirds of the sample, administration of industrial property was performed by a department within a ministry of industry and trade, or a ministry of justice. In 10 countries, an independent government agency was responsible for administration of industrial property. The administration of copyright was performed by a department in a ministry of education or culture in a third of the sample and by an independent copyright agency in 15 cases. Interestingly, in another third of the countries sampled, there was no special unit identified at all within the government with responsibility for copyright administration.

But there appears to have been a significant increase in the number of developing countries that have moved to establish a single, semi-autonomous IP institution with responsibility for administration of both industrial property and copyright. Jamaica and Tanzania are two examples. There are good arguments for establishing a single, semi-autonomous IP administration office,

Table 7.1 Volumes of Applications and Grants in Eight Developing Countries, 1996-98

Country	1996		1997		1998	
	Appls	Grants	Appls	Grants	Appls	Grants
Patents						
China*	52714	2976	61382	3494	82289	4735
Guatemala	104	8	135	15	207	17
India	8292	1020	10155	N/a	10108	1711
Jamaica	79	23	70	21	60	16
Kyrgyzstan*	20305	125	25103	133	33905	91
Malawi*	39034	117	49934	49	67760	80
Sudan*	39061	97	49920	37	67719	64
Viet Nam*	22243	61	27440	111	35748	N/a
Trademarks						
China**	150074	121475	145944	217605	153692	98961
Guatemala	8206	5490	10588	6369	9988	4806
India	N/a	4436	43302	N/a	36271	4840
Jamaica	1537	1346	1883	2195	2005	1966
Kyrgyzstan**	2803	3297	3008	2592	3112	2760
Malawi	624	316	819	422	582	320
Sudan**	1508	1508	1482	1482	1514	1514
Viet Nam**	8440	6615	7830	5174	2838	2534

Source: *WIPO website*. www.wipo.int

* Member of PCT during this period. ** Member of Madrid Agreement or Protocol during this period.

Note: The cost of designating countries under the PCT is negligible hence applicants routinely designate a large number of countries. So although the total numbers of patent applications in the PCT member countries shown appear very large, only a very much smaller number of these enter into the "national phase" where action is required by national offices involving the grant of a substantive patent in the country concerned.

under the supervision of a suitable government ministry. These include the separation of the policy and administrative functions; creation of a more business-oriented approach to cost-recovery and expenditure control (including capital investment strategies and market-based staff remuneration); and the potential benefits from better policy co-ordination across different areas of IP.

Human Resources

The number of staff involved in IPR administration in developing countries varies enormously: from one untrained person in the Ministry of Trade and Industry in Eritrea to over 800 hundred staff across three different government agencies in India. To meet the minimum administrative standards required by TRIPS, the number required for a skeleton office handling very low volumes of IPR applications would be perhaps 10 professionals and a similar number of administrative/support staff. This requirement could be expected to rise over time with increased volumes of IPR applications.

Box 7.2 Making up the Numbers: the Staffing of IP Offices in Seven Developing Countries

India: The Patent Office has a total staff of approximately 300 against an authorised complement of 530 (this includes 40 patent examiners out of an authorised total of 190 examiners). The Trade Marks Registry has a total of 259 staff against an authorised total of 282. And the Copyright Office has a total staff of 12, of which 9 are professional posts.

Jamaica: The recently established Intellectual Property Office, under the Ministry of Industry, Commerce and Technology, has a complement of 51 posts, of which only around half are currently filled.

Kenya: The Intellectual Property Institute has an establishment of 97 staff, 26 of which are professional posts and 71 are administrative.

St Lucia: The Registry of Companies and Intellectual Property, under the Attorney General's Department, has a complement of 9 posts with one post currently vacant.

Trinidad and Tobago: The Intellectual Property Office has a complement of 23 staff at present, with 6 posts vacant. A revised organisational structure proposes increasing the staff complement to 54 posts to handle the present workload.

Tanzania: The Intellectual Property Division of the Business Registrations and Licensing Agency has 20 staff (11 professional and 9 administrative).

Vietnam: The National Office of Industrial Property has 136 staff in total (87 professionals and 49 support staff) and there are a further 22 staff in the Copyright Office.

Source: Leesti, M. & Pengelly, T. (2002) *"Institutional Issues for Developing Countries in Intellectual Property Policymaking, Administration and Enforcement",* Commission on Intellectual Property Rights Background Paper, p.27

Almost all developing countries face shortages of professional staff in their national IP administration. In LDCs and the smaller, low income developing countries, the availability of technical and legal expertise tends to be in short supply. Where legal expertise does exist, there is no IPR speciality. In the more advanced or larger developing countries there is generally a greater availability of legal expertise in IP, particularly in the trademark field.

Information Technologies

IT systems are now a critical requirement for efficient IP administration. They enable easy access to a wide range of information on IP policy subjects as well as to the on-line patent databases and libraries of organisations like WIPO and the major patent offices. They are thus an important determinant of institutional capacity. Whilst the basic hardware requirements are fairly limited for small IP offices and the necessary software is readily available, the extent of automation and Internet-connectivity is surprisingly low.[6] Although some larger, higher income developing countries have fully automated systems for searching and application processing, a large number of countries still have manual, paper-based systems. This not only hinders efficient processing of applications but also greatly complicates collection of important statistical and management information.

EXAMINATION VERSUS REGISTRATION SYSTEMS AND COOPERATIVE ARRANGEMENTS

The administration of industrial property rights involves receiving applications, formal examination (if applicable), granting or registration of the IPRs, publication, and processing of possible oppositions. As some IPRs expire after specified periods of time, further steps are required to complete renewal procedures and documentation of the decision. The level of public administration required for copyright and related rights is minimal, however, as these rights are automatically acquired and do not require renewals.

By far the most challenging aspect is the substantive examination of patent applications to ensure not only that the claimed invention is novel, inventive and industrially applicable, but also that the applicant meets the disclosure requirements. Some patent applications now run to thousands of pages of technical data, in a wide array of technology fields, and substantive examination involves both professional/technical competence and access to the international patent information computer databases. Such institutional capacity requirements are very much beyond the reach of most IPR administration agencies in the developing world (with a few exceptions). Very few developing countries are capable of doing substantive examination in a broad range of technology sectors in-house.

One way for developing countries to resolve this problem is through use of a registration system under which patents would simply be accepted and granted without substantive review. There might be a simple review to ensure that the formalities of the law were satisfied. This would strongly reduce the costs of patent offices and human resource requirements. But, lacking a filter for registration, abusive practices of patenting may flourish. Given the presumption of validity that such a patent might enjoy, the burden of proving a patent invalid falls on the public or affected competitors. This may be too heavy a burden. In addition, establishing a local examination system, even if resource-constrained, permits the creation of capacity to draft and read patent documents, and to use them as a source of information. High mobility of patent offices' personnel often ensures the transfer of such capacity to the private sector or research institutions.

Regional or International Co-operation

Many developing countries have decided that regional and/or international co-operation in IPR administration is essential to reduce costs and increase efficiency. For patents in particular, many rely to a greater or lesser extent on the work of the EPO and the patent offices of the US and Japan, who together undertake the substantive examination for the majority of applications worldwide. In practice, there are three main options open to developing countries for regional/international co-operation.

Patent Co-operation Treaty

The first option is membership of the PCT and Madrid systems. Membership of the PCT system allows national patent offices to minimize search, examination and publication tasks. It also allows domestic applicants to file for international patent protection in all PCT members at relatively low cost (plus residents of developing countries get a 75% reduction in all PCT fees). Membership of the Madrid system produces similar advantages in trademark administration as the PCT.[7]

Countries may opt to apply Chapter I (International Application and Search) of the PCT only, and not Chapter II (International Preliminary Examination) if they consider that the examination made by a foreign patent office would lead to the application of standards and criteria significantly different from those in force locally, particularly in critical areas such as pharmaceuticals and biotechnology.

Contracting Out

The second option is to contract out patent administration to another national or international patent office, or a private organisation. For example, the EPO offers a service for search and examination for patents for some countries in Eastern Europe. A similar system for patents is offered to developing countries, although no country has yet taken advantage of this option. Developing countries are also able to seek assistance from WIPO's Patent Information Services (WPIS) for search and examination of individual patent applications.[8] A further variation is to utilise expertise within local universities, where this exists, for technical examination of patent applications, as is the practice in Chile, for example. Similarly, in Brazil, the Ministry of Health is obliged by law to assist the Industrial Property Institute (INPI) in the examination of pharmaceutical patents.

Regional Organisations

The third option is membership of a regional industrial property system. There are currently four regional industrial property organisations in the developing world. In Eastern Europe and Central Asia, the Eurasian Patent Office has nine member states. In the Arab region, the Gulf Co-operation Council Patent Office includes six member countries. Within the African region, there are two regional industrial property organisations: OAPI and ARIPO which have 16 and 15 member states respectively. In addition, the six countries of the Andean Pact have developed common IP legislation (though this is still administered individually by national governments) and there are ongoing initiatives in the Caribbean and in South-East Asia. There are currently no regional industrial property administration organisations in Latin America, the Caribbean, Pacific, South Asia, or South East Asia. A majority of the LDCs (27 out of 49) are currently not members of regional IP organisations.

Whilst regional co-operation offers advantages for developing countries, it is principally focused in the area of IPR administration. This still leaves the requirement for national institutions to perform the important functions related to policymaking, participation in international rulemaking, enforcement and regulation of IPRs. Regional organisations, therefore, may complement, rather than wholly replace, an effective national IP infrastructure.

At the same time, regional/international co-operation also has some potential disadvantages for developing countries. First, membership of a regional system, depending upon its structure and the flexibility which is built in to cater for members' national interests, may make it more difficult for individual developing countries to apply IP regimes tailored to their needs (for example, with different terms and levels of protection in certain fields of technology). For example, LDC members of OAPI cannot take advantage of the extended transition period under TRIPS or the longer extension on pharmaceutical product protection granted to them in the Doha Declaration, unless the recently revised Bangui Agreement is amended to that effect. This is not the case for LDC members of the ARIPO system, who have more flexibility to fashion their own patent legislation and practice.[9] Second, membership of a regional or international patent system may create difficulties for a developing country to operate an effective system of oppositions for challenging the validity of patents. Finally, reliance upon regional institutions may hinder building up the (still) necessary IP related expertise and institutional capacities at the national level (for example, in policy making, enforcement and regulation).

Clearly, developing countries need to weigh the advantages and disadvantages of regional and international co-operation and choose the patent regime that is best suited to their national circumstances. At the same time, it may be helpful for the advocates of IP-related regional/international co-operation to demonstrate how some of the potential disadvantages for developing countries may be overcome or mitigated in practice. A more active and informed debate could help developing countries to understand the advantages and disadvantages of regional/international co-operation and reach the correct decision.

COSTS AND REVENUES

The Cost of an IP System

The establishment and operation of the IP infrastructure in developing countries involves a range of both one-time and recurrent costs. One-time costs could include acquisition of office premises; automation (hardware and software) and office equipment; consultancy services (for policy research, the drafting of new legislation, design of automation strategies, management re-organisation etc); and training of staff in the relevant agencies dealing with policy/law making, administration and enforcement. Recurrent costs could include staff salaries and benefits; charges for utilities; information technology equipment maintenance; communications services (including development of an annual report and website); travel expenses for participation in meetings of the international and regional organisations; and annual contributions to WIPO and regional organisations.

It is very difficult to draw general conclusions about the scale of these costs in developing countries, primarily because of different volumes of IPR applications required to be processed, variances in local labour and accommodation costs, and policy choices that different developing countries make in designing their IP infrastructure. For example, costs will be far higher in developing countries that operate substantive patent examination systems, compared to those using a registration system without any examination.

A 1996 study by UNCTAD reported some estimates of the institutional costs of compliance with TRIPS in developing countries.[10] In Chile, additional fixed costs to upgrade the IP infrastructure were estimated at $718,000, with annual recurrent costs increasing to $837,000. In Egypt, the fixed costs were estimated at $800,000 with additional annual training costs of around $1 million. Bangladesh anticipated one-time costs of only $250,000 (drafting legislation) and $1.1 million in annual costs for judicial work, equipment and enforcement costs, exclusive of training. The World Bank recently estimated that a comprehensive upgrade of the IPR regime in developing countries, including training, could require capital expenditure of $1.5 to 2 million, although evidence from a 1999 survey of relevant World Bank projects suggested that these costs could be far higher.[11] A recent report on modernizing Jamaica's IP system estimated initial automation costs alone of around $300,000.[12]

Meeting the Costs

In most developing countries, IPR administration agencies charge various fees for services related to processing applications for IP rights and also for renewing those rights once awarded. In some larger developing countries, such fee revenues are significant and far exceed their operating expenditures. In Chile, for example, fee revenues from the administration of industrial property rights amounted to $6 million in 1995, compared to recurrent expenditure of $1 million in the same period. In developed countries, IP offices often earn substantial surpluses, normally contributing significant sums to national treasuries.

The research that we commissioned indicates typically more modest, though increasing, revenue streams in many developing countries.[14] For example, IP fees revenues for the 1999/2000 financial year were $2.5million in India, $629,000 in Kenya, $230,000 in Trinidad, $214,000 in Tanzania and $162,000 in Jamaica. Fees from trademark administration are typically the largest single source of revenue as the granting of patents and other IPRs produces much lower revenues by comparison. This is especially true in low income developing countries.

Of course, the critical financial issue is the balance between revenues and expenditures. As the World Bank has pointed out, it seems hardly desirable that developing countries should divert resources from over-burdened health and education budgets to subsidise the administration of IPRs. Yet, this is a real risk in some smaller or low income developing countries which are likely to process very low volumes of IPRs for many years to come. From our own research on eight

developing countries, four appeared to be generating sufficient revenues from IP fees to cover administration expenditures, at least in terms of operating if not capital costs. However, Jamaica's IP office appears to be currently operating at a loss (about $120,000 in the 1999/2000 financial year) so requiring a subsidy from Jamaica's taxpayers, whilst in three other countries we examined, insufficient data were available for us to reach a judgement.[15]

Most developing countries will probably need to structure their capital investment programmes for IPR in stages and ensure that the service fees are set at a level where the full range of financial costs incurred in the IP system are recovered. This points to the need for rigorous financial management and accounting systems and for fees to be reviewed on a regular basis. The evidence we reviewed suggests that these conditions are not in place in some developing countries: for example, in Uganda patent fees were last revised in 1993.

As high fees may discourage some types of applicants from obtaining IPRs, a number of countries have chosen to adopt a tiered-system of charges, where reduced fees are charged to non-profit organisations, individuals and small commercial organisations, such as those where the number of employees or level of turnover falls below specified thresholds. This seems a very sensible cost-recovery policy to adopt, as it should provide a means of developing the national IP infrastructure and delivering improved services for users, without placing additional burdens on public finances. A policy of charging higher fees to applicants from developed countries may strike some as attractive, but this would be inconsistent with the principle of national treatment required under the Paris Convention and TRIPS. But because the overwhelming majority of patent applications in most developing countries are from abroad, a comparable income may be generated with a tiered system.

Over time, streamlining IPR administration through automation and regional or international co-operation in some countries may help to generate higher volumes of patent applications and granted patents for which fees can be charged. And of course, part of the answer is clearly the provision of technical and financial assistance from donors. But such assistance is not a panacea for developing countries: it can never be guaranteed; resources are limited and other priorities may be more pressing; and it is mainly available only for one-time investment costs, rather than for financing a recurrent deficit in operating budgets.

Developing countries should aim to recover the full costs of upgrading and maintaining their national IP infrastructure through the fees charged to users of the system. They should also consider adopting a tiered system of fees for IPR registration. The level of charges to users should be regularly reviewed to ensure that they enable full recovery of the costs of administering the system.

ENFORCEMENT

Enforcement in Developing Countries

IPRs are valuable to rights holders only if they are well enforced, which implies that legal systems need to be effective. At the same time, legal systems must have the capacity to nullify invalid IP rights, such as patents that have been granted despite the existence of relevant prior art. TRIPS sets out detailed minimum requirements for enforcement of IPRs. For many developing countries, particularly low income ones, compliance with these provisions of TRIPS presents considerable institutional challenges for judicial systems, civil and criminal procedures and the enforcement authorities. In addition the strengthening of enforcement can be highly sensitive in political terms if it increases prices for poor consumers, or threatens employment in industries that are infringing or even the tax revenues derived from them.

In many developing countries, specialist areas of commercial law, such as IP, are a challenge to their judicial systems. In these circumstances, administration of IP laws in the courts is likely to be

especially difficult, as judges and lawyers require in-depth knowledge of complex technical and legal concepts. This state of affairs poses possible dangers in terms of both "under-enforcement" and "over-enforcement" of IP rights in developing countries.

Industry associations such as the Business Software Alliance and the International Intellectual Property Alliance often estimate very high levels of IPR infringement in developing countries.[16] Evidence of the extent of IPR infringement in developing countries is problematic, as reliable official statistics are often unavailable. However, it is generally accepted that the extent of the IPR infringement problem in most low income countries is greatest in the areas of copyright (counterfeiting of products such as computer software and music cassettes which are easy to copy) and trademark infringements, although it needs to be noted that, in terms of lost revenues, use of counterfeit products is more significant in the developed world.[17]

We agree that enforcement systems in developing countries need to address serious IPR infringements more effectively. This is important to protect the incentives that the system offers to IP rights holders. But it is also important that developing countries develop institutions capable of doing this in a balanced, pro-competitive way. More specifically, enforcement institutions in developing countries need to be robust enough to decide if IP rights are valid or invalid and to resist their potential abuse by restrictive business practices such as "strategic litigation." For example, as developing countries come under pressure to provide systems whereby injunctions can be more readily and easily obtained, there is a risk that these could be abused by IP rights holders and so inhibit legitimate competition. As IP enforcement systems in developing countries are strengthened in line with TRIPS, it is essential that proper emphasis be placed on the need to protect the public interest and develop fair proceedings for both parties in disputes.

Effective enforcement of IPRs tends to rise with income levels, so institutional weaknesses in this area are likely to be greatest in the poorest countries. For example, in Tanzania and Uganda there is little evidence of cases involving IPR infringement proceeding through the judicial system, whilst in Kenya, in recent years, the customs authorities have made 50 seizures of counterfeit goods and 20 IPR-related criminal cases have been brought before the courts.[18] Some developing countries, such as Thailand and China, have gone further and established specialised courts to hear IPR-related cases as a means of improving their capacities for national enforcement, though such a measure is not formally required under TRIPS. A more attractive approach for developing countries is probably to establish (or strengthen) a commercial court, which may hear IPR-related cases *inter alia* and provide improved access to justice for the business sector as a whole. In any event, in most developing countries, a considerable programme of training for the judiciary and other enforcement agencies in IP subjects will be required.[19]

The "private" nature of IP rights suggests the importance of resolution of disputes between parties either out of court or under civil law. Indeed, as state enforcement of IPRs is a resource-intensive activity, there is a strong case for developing countries to adopt IPR legislation that emphasises enforcement through a civil rather than a criminal justice system. This would reduce the enforcement burden on the government in the case of counterfeiting on a large scale, although the state enforcement agencies would still be required to intervene. That said, we note that developing countries have come under pressure from industry which advocates enforcement regimes based on state initiatives for the prosecution of infringements. Such pressures should be resisted, and right owners assume the initiative and costs of enforcing their private rights.

Developing countries should ensure that their IP legislation and procedures emphasise, to the maximum possible extent, enforcement of IPRs through administrative action and through the civil rather than criminal justice system. Enforcement procedures should be fair and equitable to both parties and ensure that injunctions and other measures, are not used unduly by IP rightsholders to block legitimate competition. Public funds and donor programmes should mainly be used to improve IP enforcement as part of broader strengthening of the legal and judicial systems.

Enforcement in Developed Countries

So far, this section has focussed exclusively on issues related to enforcement of IP rights in developing countries. This reflects the weight of the discussion of the enforcement topic in the literature we have reviewed. By contrast, it seems to us that there is very little discussion or recognition of the problems which face IP rights holders from the developing world in enforcing their rights in countries like the UK, the US or Japan, for example, where the costs of litigation may be prohibitive. This means that firms from developing countries competing in developed countries are vulnerable to strategic litigation involving IP rights. A related problem, as shown by the case of turmeric (see Box 4.2 in Chapter 4), is the granting of invalid IP rights by third countries on knowledge that exists as prior art in developing countries. Developed countries must consider how they could improve access to their justice systems for developing countries in IP-related cases.

Developed countries should implement procedures to facilitate effective access to their intellectual property systems by inventors from developing nations. These might include, for example, fee differentials that favour poor or non-profit inventors, pro bono systems, arrangements for recovery of legal fees by prevailing parties in litigation, or inclusion of appropriate IP implementation costs in technical assistance programmes.

REGULATING INTELLECTUAL PROPERTY RIGHTS

Regulation of IP rights, particularly in relation to matters of special public interest (as with compulsory licensing) or in relation to controlling anti-competitive practice by rights holders should be given high priority in the design of public policy and institutional infrastructure. As well as the development of appropriate regulatory frameworks *per se*, an important part of effective regulation is the undertaking of regular, periodic reviews of all aspects of the national IP regime, to ensure that these are relevant and appropriate.

The rationale for developing countries to establish such regulatory systems and instruments in respect of IPRs is well documented.[20] Indeed, it is perhaps an overlooked fact that developed countries have introduced stronger IP protection in the context of competition regimes and other regulatory regimes designed to ensure that IP rights do not harm the public interest. In the US particularly, but also in other developed countries, pro-competitive regulation of IP rights and control of related restrictive business practices are key features of anti-trust legislation and these are regularly put into effect by the courts, competition authorities and by other relevant government agencies.

Seen from the institutional perspective, however, effective regulation of IP rights to standards common in the developed world is likely to present significant challenges for policymakers, administrators and enforcement agencies in developing countries. This is borne out by our own research in eight developing countries, which revealed that there is no record of any cases related to IP issues being brought through the courts under legislation relating to competition.[21] As one commentator recently put it:

> "...in most developing countries mechanisms aiming at controlling restrictive business practices or the misuse of IP rights are weak or non existent. Similarly, developing countries are generally unprepared or unable to neutralize the impact that price increases resulting from the establishment or reinforcement of IP rights may have on access to protected products, particularly by the low income population." [22]

Only about 50 developing countries and transition economies currently have so far adopted specific competition laws. More developing countries, including LDCs like Uganda, are, however, now developing such legislation. Other developing countries may include provisions related to

regulation of IP rights within their existing IP laws. But the existence of legislation to address competition issues in a developing country does not mean that competent institutions, able to tackle complex IP-related issues effectively, will be in place.

For example, the skills and judgements required for the administration of compulsory licences, such as determining what constitutes "reasonable commercial terms" and "economic value of the authorisation" are quite sophisticated and may well go beyond the existing institutional capacities of many developing countries. This point is born out by the fact that compulsory licences have hardly ever been used by developing countries (although it can be argued that simply the threat of such licences might have proved sufficient or that national authorities are unwilling to utilise this instrument).

There is a clear dilemma here for developing countries. On the one hand, establishing an effective regulatory framework, including competition policy, is an important complementary step for introducing stronger IP protection. On the other, although larger developing nations (for example, India) are making efforts to strengthen and upgrade their institutional capacities in this area, for many nations this is likely to be just as complex and difficult a task as establishing an IPR regime. A widely held view in the developed world is that the IP system can only function as intended if complemented by an effective framework for competition policy. This raises the question of whether an IP system alone is a worthwhile goal for developing countries.

There is no easy solution to this dilemma. For LDCs, there is a good case for extending the transition period for the introduction of IPR regimes, as we discuss in Chapter 8. For other developing countries, the case for developing a competition regime does not rest solely on its relationship with IPRs. The widespread privatisation of state industries and increased concentration in many markets in the last two decades is another powerful reason for having an effective competition policy, as both developed and developing countries have learnt. We conclude therefore that a higher priority should be accorded to strengthening competition policies in developing countries.

Developed countries and international institutions that provide assistance for the development of IPR regimes in developing countries should provide such assistance in concert with the development of appropriate competition policies and institutions.

TECHNICAL ASSISTANCE AND CAPACITY BUILDING

Current Programmes

Under Article 67 of TRIPS, WTO Members from developed countries are obliged to provide technical and financial assistance to developing countries to facilitate its implementation. Most developed countries provide some sort of IP-related technical assistance to developing countries. This is done either bilaterally (mainly by national patent offices) or multilaterally. The principal international organisations involved in the provision of IP-related technical assistance to developing countries are WIPO, EPO, the World Bank, UNDP and UNCTAD. A number of non-governmental organisations are also active in undertaking research and providing technical assistance to developing countries in the area of IP.

The types of technical assistance which have been provided by donor organisations fall into the following broad categories: general and specialised training; legal advice and assistance with preparing draft laws; support for modernising IPR administration offices and collective management systems; access to patent information services (including search and examination); exchange of information among lawmakers and judges; and the promotion of local innovation and creativity. As most donors do not have agencies in the locality, short-term advisory missions and consultants are normally deployed in developing countries to plan, deliver and monitor programme activities.

Training and human resource development has been a major focus, an important example being the WIPO Worldwide Academy established in Geneva in 1998. More recently, assistance for automation of IPR administration in developing countries and regional IP organisations has also become significant. In particular, we note the WIPONet programme, being implemented by WIPO over 5 years at an estimated cost of $20 million. The programme will provide on-line services such as Internet connectivity, hosting of national IP websites, secure electronic mail and exchange of IP data to 154 IP offices around the world. Clearly WIPONet has the potential to deliver substantial benefits, although it is too early to judge the extent of its impact.

Assessing the Impact of Technical Assistance

Given the lack of evaluation exercises yet undertaken, it is difficult to comment authoritatively on the impact and effectiveness of technical co-operation undertaken by the various donor organisations in specific countries or regions. It is important for ensuring effectiveness and value for money, however, that donors undertake such evaluation exercises, individually and collectively, as a routine activity within the programme management cycle. In the same vein, we have been struck by the paucity of literature which identifies 'best practice' for IP-related technical assistance. This contrasts with the sectors such as environment and trade, where donors and developing countries have come together to develop a body of internationally agreed guidelines in fora such as the OECD Development Assistance Committee. A similar exercise focused on IP-related technical assistance might be very valuable.

It is clear that there have been some considerable achievements in the last 5-10 years in terms of modernising the IP infrastructure and developing the associated human resources in the developing world. Large numbers of people, from a variety of professional backgrounds, have received general and specialised training in IP subjects. This is particularly important for the educational system and the working bar that enable nations to use their own IP systems and participate effectively in international negotiations and in negotiations with suppliers of foreign technology. Equally, many developing countries have overhauled their IP legislation and have taken advantage of mechanisms for international co-operation such as the PCT and Madrid systems to make important efficiency gains and provide improved service levels. Perhaps the regions where there has been the biggest impact are Latin America and Eastern Europe, but there has also been significant development of institutional capacities in other developing countries like China, Morocco, Vietnam, Trinidad and Tobago, and India.

At the same time, many low income countries, and particularly LDCs, still face considerable challenges in developing their IP infrastructure. Taking this into account, there are some important general issues for the financing, design and delivery of technical co-operation to developing countries, and particularly the poorest countries, that need be addressed immediately.

Financing Further Technical Assistance

More finance for the necessary institutional reforms and capacity building in developing countries needs to be provided as many developing countries struggle to implement the TRIPS Agreement over the next few years. Whilst we believe this requirement to be significant, it is not possible to suggest the precise amount. Capacity building needs for each country have to be assessed individually. As a rough order of magnitude, however, the World Bank's recent estimate, noted above, of $1.5 to $2 million per country for a comprehensive upgrade of the IPR regime seems to us to be a reasonable starting point. But clearly, more work needs to be done by donors and developing countries to assess and quantify the relevant needs.

A related question, of course, is from where should the additional necessary finance be secured. As we have demonstrated earlier in this report, most developing countries have very low levels of IPR creation, so technical assistance related to strengthening IP protection is unusual in that a

significant share of the resultant direct benefits can be expected to go to foreign IPR holders who are mainly from the developed countries. Moreover, in LDCs and other low income countries, extremely low levels of human and economic development mean that priority is rightly given to increasing aid expenditures on basic health and education services for poor people.

Taking the above points into account, we believe there are compelling arguments that the costs of modernising the national IP infrastructure in such countries should be met by IP rightsholders. In fact, this is what organisations such as WIPO and EPO and the patent offices of some developed countries already do, to a great extent, by generating revenues for their technical assistance programmes from fees for services provided to IP rightsholders.[23] Additional financing for technical assistance could be generated relatively easily and equitably in this way.[24]

WIPO, the EPO and developed countries should significantly expand their programmes of IP-related technical assistance. The additional financing required could be raised though modest increases in IPR user fees, such as PCT charges, rather than from already over-stretched aid budgets. Donors could also seek to direct more technical assistance at LDCs in view of their special needs in developing an IP regime, as well as the wider institutional infrastructure they require for effective enforcement and regulation.

Ensuring Effective Delivery of Technical Assistance

Our sense from discussions with those involved is that there is a great deal of scope for improvement in the delivery and coordination of assistance in the IP field. Much money has been spent in various ways by many different institutions but the results do not seem commensurate with the effort. The design and delivery of IP-related technical assistance to developing countries needs to be improved. It needs to be much better integrated with the overall national development strategy of individual countries. Too often, IP-related technical assistance appears to be planned and delivered in isolation from other development programmes. For example, new IP legislation may be prepared for countries by specialist agencies like WIPO, but the institutional infrastructure to administer the new regime is not put in place because larger, mainstream development agencies have not been involved. On the other hand, World Bank-funded projects in Brazil, Indonesia and Mexico have taken a more holistic approach to upgrading the national IP architecture. In these cases, modernisation of the IP regime was one component of much broader programmes of policy reform and capacity building aimed at stimulating R&D spending and improving competitiveness.

Activities have also not always been well co-ordinated by the multiple donors involved, or by the countries that are receiving such assistance. This has resulted in duplication of efforts or, at worst, conflicting advice. In Vietnam, for example, eight different donor agencies had provided assistance in the country between 1996 and 2001.[25] A large part of the problem is that the main IP donors (for example, WIPO and EPO) do not have any staff based in country, and co-ordination of planning and delivery of assistance is therefore somewhat hampered. In this respect, it might therefore be useful for donors to consider experimenting, on a pilot basis, with in-country or in-region field managers to improve co-ordination of their IP-related technical assistance programmes on the ground in developing countries.

It seems to us that a crucial opportunity for improving donor co-ordination and integrating IP-related assistance programmes better within the national development strategies, is the Integrated Framework for Trade-Related Technical Assistance for LDCs (Integrated Framework). This initiative brings together multilateral and bilateral donors (including the World Bank, UNDP, UNCTAD and WTO but not WIPO or EPO) to undertake joint needs assessment and programming for trade capacity development and trade reform. As the Integrated Framework theoretically already includes support for TRIPS implementation in LDCs, this appears to be the appropriate vehicle for deepening co-ordination amongst donors on IP-related assistance. In practical terms, the first step could be for WIPO and EPO to join formally the Integrated Framework's group of core donors.

IP-related technical assistance should be organised in relation to an individual country's specific development needs and priorities. One way to do this is to incorporate such assistance within the Integrated Framework to facilitate better integration with national development plans and donor assistance strategies.

Finally, in order to address these new challenges, donors and developing countries need to find new ways of working together more effectively. In particular, better use should be made of the existing institutional mechanisms, at the national, regional and international levels, for understanding the IP-related capacity building needs of developing countries, for sharing information on technical assistance projects, and for undertaking collaborative sector-level reviews as a part of a continuous elaboration of best practice.

Donors should strengthen systems for the monitoring and evaluation of their IP-related development co-operation programmes. As an important first step, a working group of donors and developing countries should be established to commission and oversee a sector-wide impact review of IP-related technical assistance to developing countries since 1995. A team of external evaluators should carry out this review.

We return in the next chapter to the question of the appropriateness of the content of the technical assistance provided by international and national agencies.

[1] It should be noted that many developed countries find the coordination of IP policy difficult too, but this is not normally compounded by lack of technical expertise.

[2] An interesting case study in the area of plant genetic resources is Petit, M. et al (2001) *"Why Governments Can't Make Policy: The Case of Plant Genetic Resources in the International Arena",* CIP, Lima. Source: http://www.cipotato.org/market/whygov/FlyerGR1.pdf

[3] From January 1996 to December 2000, 119 developing countries and regional organisations received assistance from WIPO through preparation of draft IP laws. See WIPO (2001a) *"WIPO's Legal and Technical Assistance to Developing Countries For the Implementation of the TRIPS Agreement From January 1 1996 to December 31 2000",* WIPO, Geneva. Source: http://www.wipo.org/eng/meetings/2000/ace_ip/pdf/wipo_trips_2000_1.pdf

[4] Drahos, P. (2002) "Developing Countries and International Intellectual Property Standard-Setting", Commission on Intellectual Property Rights Background Paper 8, Commission on Intellectual Property Rights, London, p 21. Source: http://www.iprcommission.org

[5] Institute for Economic Research (1996) *"Study on the Financial and Other Implications of the Implementation of the TRIPS Agreement for Developing Countries",* WIPO, Geneva.

[6] According to WIPO, 154 IP offices around the world currently lack Internet connectivity, WIPO (2001b) "Revised Draft Program and Budget 2002-2003", WIPO, Geneva. Source: http://www.wipo.org/eng/document/govbody/budget/2002_03/rev/pdf/introduction.pdf

[7] At the time of writing, membership of the Madrid system (70 countries) is considerably lower than that of the PCT (115 countries).

[8] According to the WIPO website "WPIS provides a conduit for channelling search requests from a wide range of users in developing countries to the Industrial Property Offices of those countries who have agreed to assist in providing these searches. The searches are free to those requesting them. For some search requests, for example, those from ARIPO, examination is also carried out. Since the start of the program in 1975, until the end of July 2001, almost 15,000 search requests have been processed free of charge from over 90 developing countries and 14 intergovernmental organizations and countries in transition. In the year 2000 1,315 search requests were received from 39 developing countries. These reports also covered special requests for novelty search and substantive examination as to the patentability of patent applications in developing countries as well as special requests for search and examination of patent applications submitted by ARIPO. In the early 1990s, the majority of requests came from users in the Asia and Pacific region; more recently users from Latin American countries are more active."

[9] For more discussion of the ARIPO and OAPI regional industrial property systems, see Leesti, M. & Pengelly, T. (2002) *"Institutional Issues for Developing Countries in Intellectual Property Policymaking, Administration and Enforcement",* Commission on Intellectual Property Rights Background Paper 9, Commission on Intellectual Property Rights, London, pp.38-39. Source: http://www.iprcommission.org

[10] UNCTAD (1996) *"The TRIPS Agreement and the Developing Countries",* UNCTAD, Geneva.
[11] World Bank (2002) *"Global Economic Prospects and the Developing Countries 2002",* World Bank, Washington DC, chapter 5, "Intellectual Property: Balancing Incentives with Competitive Access". Source: http://www.worldbank.org/prospects/gep2002/full.htm
[12] Lehman, B. (2000) *"Modernizing Jamaica's Intellectual Property System",* International Intellectual Property Institute, Washington DC, p.62. Source: http://www.iipi.org/activities/research.htm
[13] UNCTAD (1996).
[14] Leesti, M. & Pengelly, T. (2002), p.109.
[15] Leesti, M. & Pengelly, T. (2002), Section 3.5.
[16] For example, it has been estimated that computer software infringement levels in Vietnam and China in 2000 were 97% and 94% respectively. Business Software Alliance (2001) *"Sixth Annual BSA Global Software Piracy Study",* BSA. Source: http://www.bsa.org/resources/2001-05-21.55.pdf
[17] For example, North America, Western Europe and Japan alone account for over 65% of global revenue losses from counterfeit computer software, Business Software Alliance (2001).
[18] Leesti, M. & Pengelly, T. (2002), p.95.
[19] In the US, for instance, courts apply a traditional four-part test of equitable jurisprudence to decide whether or not to issue a preliminary injunction, including an analysis of whether there is a reasonable likelihood that the patent, if challenged by the defendant as being invalid, will be declared valid. It assumes that there will be harm caused to the titleholder, but balances this against the harm that the alleged infringer will suffer in case the measure was wrongly granted. The effect of granting an injunction on the public interest (for instance, access to medicines) is also taken into account. Injunctions are very exceptionally granted inaudita parte. See Chisum, D. (2000) *"Chisum on patents. A treatise of the law of patentability, validity and infringement",* Lexis Publishing, US.
[20] For example UNCTAD (1996), and Correa, C. (1999) *"Intellectual Property Rights and the Use of Compulsory Licenses: Options for the Developing Countries",* South Centre, Geneva. Source: http://www.southcentre.org/publications/complicence/toc.htm
[21] Leesti, M. & Pengelly, T. (2002), p.32.
[22] Correa, C. (1999), p.1.
[23] WIPO's total projected income of 530 million Swiss francs for 2002/3 includes fee revenues of over 455 million Swiss francs.
[24] If PCT fees alone had remained at the level of the 1996-1997 biennium – rather than being substantially reduced – projected PCT fee income for the 2002-2003 biennium would have been 279 million Swiss francs higher, see WIPO (2001b).
[25] Leesti, M. & Pengelly, T. (2002), p.44.