International Environmental
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INTELLECTUAL PROPERTY PROTECTION IN AFRICA

AN ASSESSMENT OF THE STATUS OF LAWS, RESEARCH AND POLICY ANALYSIS ON INTELLECTUAL PROPERTY RIGHTS IN SOUTH AFRICA

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I. INTRODUCTION

Intellectual property rights (IPRs) are property rights in something intangible and protect innovations and reward innovative activity.[1] IPRs comprise a bundle of rights focusing on the physical manifestations of intellectual activity in any field of human endeavour. IPRs are concerned with the expression of an idea for an invention, the details of which have been worked out and which takes the form of a product or process that can be applied industrially. Development over a century has given rise to various IPRs, which have become well known. These include patents, trade and service marks, copyright, rights in performances, designs, plant breeders' rights, utility models, appellations of origins, layout designs and topography.

Allocating IPRs to the creator of a work balances the private interests of the creator, by ensuring that s/he still has an incentive to create, against those of the society at large in having the information available for its use. Even though it does not diminish once it is shared, the role of IPRs is to ensure that information providers do not lose rights to the information by disclosing it, since such information can be used by an infinite number of persons simultaneously.[2] Indeed, one of the philosophic underpinnings of IPRs is to ensure disclosure of the information, the assumption being that lack of such right would discourage information holders from sharing their information for fear of losing it. The fear of losing exclusive rights to the information once shared is real because another person can use the same idea without having recourse to the originator of the idea.

Intellectual property has increasingly become a strong feature of international, regional trade arrangements and national legal instruments. From multilateral to regional and bilateral trade relations, IP issues almost inevitably come to the fore as a critical issue to be considered in any deals that are struck. An example of these regimes is the free trade agreements that have become a feature in international trade relations. The United States has concluded such agreements with Latin and Central American and Caribbean countries individually, in groups and collectively. It also has an agreement with Australia, Morocco, the South African Customs Union (SACU) countries, Singapore and Thailand.[3] It is against this backdrop that that IP continues to be the subject of widespread legal and political debate especially regarding the role of IP law and IP generally in the progress of societies in terms of its contribution to economic, social and cultural progress.

The role of IP in development and related policy areas, for example, is controversial.[4] Although most IP instruments protect the creator's private right, recent concerns on the right to development emphasize the judicious balancing of the private right of the creator to protection with the right of the community to access and enjoy the benefits of the IP.

Controversies on IP surround the subject matter of coverage, the range of rights that the holder of intellectual property enjoys and the equity of international arrangements for the protection of IP. While early intellectual property laws such as those on patents were designed to protect the product of the inventive genius who worked on his project in the attic or basement, technological advances have now become the recluse of industry with well equipped laboratories. Indeed the role of intellectual property in catalysing and stimulating industrial and commercial growth has come into sharp focus in recent years.[5] Big corporate firms have taken over inventive activity from the inventor and increased their share of intellectual property portfolio as they buy the best brains and purchase patents of patentees who are not able to exploit their inventions.[6] At a country level, this translates into larger portfolios for countries that have technological capability as there are more individual and corporate entities seeking protection of their intellectual property. The statistics available indicate that most patent applications emanate from North America and Europe while Africa accounts for less than two per cent of the total patent applications (See Table 1). This begs the question whether the investment that African countries have made in establishing intellectual property protection systems is justified. While African countries have invested in establishing IPR regimes, there is little evidence that these have impacted on the development of the individual countries. The argument that intellectual property contributes to development has not been proved in most African countries which have had IPR regimes dating back to the early 1900s. Indeed discussions on IPR in Africa have been around the issues of their being barriers to access to proprietary technology necessary for development and more recently to essential medicines necessary to contain prevalent diseases such as HIV-AIDS.

Table 1: Sources of Patent Cooperation Treaty Patent Applications, 1998 and 2000

Region	Country of origin	No. patents filed, 1998	No. patents filed, 2000	% of total 1998	% of total 2000
North America	United States	28,356	38,171	42.3	42
	Canada	1,315	1,600	2.0	1.8
Total North America		29,671			43.8
Western Europe/EU	Germany	9,112	12,039	13.6	13.2
	United Kingdom	4,383	5,538	6.5	6.1
	France	3,322	3,601	5.0	4.0
	Sweden	2,554	3,071	3.8	3.4s
	Netherlands	2,065	2,587	3.1	2.8
	Switzerland	1,293	1,701	1.9	1.9
	Finland	1,092	1,437	1.6	1.6
	Italy	925	1,354	1.4	1.5
	Denmark	624	789	0.9	0.9
	Austria	421	476	0.6	0.5
	Norway	394	470	0.6	0.5
	Others	1,101	1,463	1.6	1.6
Total Western Europe/EU		27,286	34,526	40.7	38.0
East Asia and China	Japan	6,098	9,402	9.1	10.3
	Rep. of Korea	485	1,514	0.7	1.7
	China	322	579	0.5	0.6
Total East Asia and China		6,905	11,495	10.3	12.6
Eastern Europe	Russian Federation	429	590	0.6	0.7
	Others	402	627	0.6	0.7
Total Eastern Europe		831	1,217	1.2	1.3
Australasia	Australia	1,048	1,627	1.6	1.8
	New Zealand	178	264	0.3	0.3
Total Australasia		1,226	1,891	1.9	2.1
Total Middle East		707	925	1.1	1.0
Total Rest of Asia		146	473	0.2	0.5
Total Latin America/ Caribbean		209	252	0.3	0.3
Total Africa		26	398	<0.1	0.4
Total number of applications		67,007	90,948	100.0	100.0

Source: International Centre for Trade and Sustainable Development & UNCTAD, Intellectual Property Rights: Implications for Development, Policy Dissuasion Paper, UNCTAD-ICTSD Project on IPRs and Sustainable Development, Geneva (2003)

There are also issues of exclusion from the purview of intellectual property some forms of knowledge such as indigenous or traditional knowledge and the impact of intellectual property rights on access to medicine and food. The political economic contexts within which these discussions occur reflect an imbalance in the technological capacities between technology rich countries and technology poor ones. Economic inequalities between different parts of the world make it difficult to discuss the issues of property rights and biodiversity conservation without polarising the world into two major blocs of developed and developing countries. With two thirds of the world's biodiversity situated in developing countries and the technology for unlocking the value of that diversity in developed countries, the question of biodiversity conservation vis-à-vis property rights becomes essentially a political and economic one which divides developed and developing countries into two uncompromising blocs.[7] More specifically, Africa's wealth in biological resources and dependence on these resources for economic development and livelihoods makes the application of intellectual property rights particularly pertinent for these countries. The plethora of categories and for a discussing intellectual property rights is a source of concern for Africa in view of the dearth of resources. Of particular concern for Africa is traditional knowledge which communities have used over millennia for biodiversity management but which is not protectible under conventional IPRs.

The internationalisation of intellectual property protection through the World trade Organization's Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) ensures that the technology owner has protection of their IP in all areas of technology. Discussions about the implications of this provision in the context of a human right to food and healthcare have been the basis of heated discussions at the international level. The protection of IP in the realm of food and healthcare is not always easy to reconcile with these rights where access is hindered by the existence of IPRs. This statement is very relevant and should be developed further to capture in a few sentences Africa's experience in light of access to HIV drugs, traditional knowledge and benefit sharing.

B. Terms of Reference

Objectives

The main objectives of this study were to:

- To provide an analytical review, drawn from current research, state-of-the-art knowledge of IPR issues in Africa;
- To review current IPR practices and to identify the conceptual issues and challenges for policy formulation and implementation of an effective IP regime in selected countries, in the light of evolving international policies and practices;
- To contribute to the design of instruments, processes and procedures that allow African countries to better profit from global opportunities;

The specific objectives were to:

- To describe the capacity existing in South Africa and the analytical capacity in both research institutions and government departments to manage a satisfactory domestic IP regime and to engage in international IP discussions.
- To improve policy analysis capacity in order to enhance South Africa's negotiation and bargaining in international forums;
- To assist South Africa to promote coherence between their domestic economic policies and their international trade policies.
- Identify the relevant national and regional actors, including intergovernmental, public, research and academic institutions, and private and civil society organizations.

Specific terms of reference

The specific terms of reference were to:

- Identify the challenges for IPR legal & policy formulation and implementation in South Africa.
- Identify the institutional, financial, organizational and human capacity to research and conduct policy analysis in IPRs available in South Africa; and
- Identify specific IPR needs for South Africa.
- Establish the status of research on IPRs and IP protection and the direction it is taking in South Africa;
- Review & analyse current IPR practices in South Africa;
- Identify the conceptual issues and challenges for South Africa for policy formulation and implementation of an effective IP regime; and
- Assess IPR capacity in South Africa focusing on laws, policies and institutions; human resource capacity and the convergence and /or divergence between IPR laws and policies and national development imperatives.
- Identify areas requiring further in-depth research; Identify areas that require additional capacity to enhance effectiveness of the research institutions in Africa

Scope of the Study

In this report, we look at the trends in IPR protection, administration, enforcement and research in South Africa. We look at copyright, industrial property, plant breeders' rights and other emerging areas of IPP such as layout designs of integrated circuits and geographical indications. We will identify status of the law and policy, the administrative and management institutions and the challenges that South Africa faces in implementing international treaties for the protection of IP. The study is a part of a broader study covering Uganda, South Africa, Nigeria, Ghana and Kenya seeking to map the terrain of intellectual property protection and to identify the needs in terms of legislation, research and capacity.

C. Methodology

This study was carried out through library research and analysis of official documents.

II. CONCEPTUAL FRAMEWORK

The emergence of new forms of wealth such as knowledge forms embedded in new technologies has brought enormous pressure to bear on existing forms of property rights. Some of these have not fitted as neatly into the dominant property rights' regimes as one would have hoped and problems have kept arising as to the appropriateness of those property notions in such cases. Developments in information technology have, for instance brought out questions concerning the capacity of existing copyright laws to protect the rights of actors in this sector while ensuring that the flow of information is not hampered.[8] Another area in which this debate has been raised is that of biological resources.[9] Existing IPR regimes ascribe greater value to germplasm that has been transformed through biotechnology than to land races.[10] While the latter are designated as primitive cultivars, the former are characterised as elite varieties. This characterisation reflects value judgments that translate into monetary gains. The skewed valuation scale does not indicate a continuum from the raw material to a transformed product. There is thus a marked dichotomy between the valueless raw germplasm and the commodified varieties that are processed in laboratories.[11] Indeed the value of these resources is lowered by the standardisation of systems of production, knowledge and institutions across the world. While such standardisation has its benefits, it tends to disregard the need to preserve diversity and take into account the contribution of local knowledge and institutions in this effort.

The implementation of an intellectual property rights system requires a clear legal and policy framework on these rights; a supportive infrastructure for the implementation of the laws and policies which includes trained personnel and office resources necessary to get the framework working. The role of law enforcement agencies such as the police, customs and revenue authorities cannot be overemphasized. The judiciary and legal practitioners ought to be aware of developments in IP law. In this regard, it is notable that most litigation on IP pertains to trademarks. There is very little case law on patents and breeders' rights. This may be attributable to lack of awareness and prevalence of exercise of these latter categories of IPRs.

The most critical test for an IP regime is the extent to which it promotes creation of new knowledge for national development. In the case of patents, the question of the development of endogenous technological capacity is critical. Further, an IP system that relegates traditional or indigenous knowledge to a subordinate position may serve only the interests of outsiders while leaving out forms of knowledge that are important in local domains.

Though most African countries have taken, or are in the process of taking the steps to ensure legislative compliance with international IPR norms, they lack capacity to effectively implement and harness these norms for national development. They have limited understanding of IPRs and the implications of instituting effective IP protection systems. There are very few people and institutions in the continent with experience and capacity to handle IPRs, especially with respect to trade, competition, investment and other recent global imperatives. Indeed the main drive behind the establishment of the International Lawyers and Economists against Poverty (ILEAP) in 2001 was a response to the identified capacity constraints of developing countries seeking to participate in the international trade arena.

The lack of expertise and dearth of knowledge on the state of research and policy analysis in IPRs relating to trade, existing capacity, level of policy analysis and demand, limited institutional capacity, communication of research findings and adequacy and effectiveness of research networks in IPRs is a big challenge to African countries seeking to domesticate the provisions of TRIPS. There is research being carried out on the interface between biotechnology and IPR and the impact of IPRs on access to drugs for ailments such as HIV-AIDS has assumed prominence in the wake of the case against the Kenyan government by pharmaceutical companies in 2001. However, there is no comprehensive analysis of IPR practices in Africa and the approach and challenges of policy formulation and implementation. There has also not been any assessment of the existing capacity in specific African countries and on the continent generally. In the South African region, a feasibility study is proposed to be carried out by the South Africa Research Management Association (SARIMA) in conjunction with the Association of Commonwealth Universities. It will explore possibilities of inter-university expertise sharing arrangement in intellectual property and technology transfer This is in recognition of the need to share the available expertise across the region.

Concerns about the negotiating capacity of African countries in WTO agreements such as TRIPS articulated in statements by most of the African ministers of trade at the Third Session of the Ministerial Conference held in Seattle, USA in November 1999 and more recently at the Fourth Session of the Ministerial Conference in Doha in November 2001 are indicative of the dearth of capacity of African countries to formulate workable IPR laws and policies and implement them effectively.

III. HISTORICAL CONTEXT

South Africa's IPR system is traceable to the Patents, Designs Trade Marks and Copyright Act of 1916.[12] When this Act was repealed, the different categories of IPRs, namely trademarks, patents, designs and copyright were placed under different legislations which then developed more or less independently.[13] Statutes in South Africa are guided by the equivalent British and European Patent Convention legislation.[14] There have been attempts recently to bring the various Acts in line with each other. The 1996 Intellectual Property Laws Rationalisation Act seeks to integrate IPRs subsisting in some parts of South Africa to the entire Republic.[15] Further the Intellectual Property Laws Amendment Act brought South Africa's IPR legislation in conformance with TRIPS.[16]

IV. LEGISLATIVE AND ADMINISTRATIVE FRAMEWORK

The principal legislations and formal instruments directly governing Intellectual Property Rights in South Africa include:

a) Patents Act 1978
b) Trade Marks Act 1993
c) Copyright Act 1978
d) Designs Act 1993
e) Harmful Business Practices Act 1988
f) Merchandise Marks Act 1941
g) Business Names Act 1960
h) Unauthorised use of Emblems Act 1961
i) Performers' Protection Act 1967
j) Registration of Copyright in Cinematography Films Act 1977
k) Intellectual Property Laws Rationalisation Act 1997
l) Medicines and Related Substances Control Act 1997
m) Plant Breeders' Rights Act 1976 (1996 amendments to comply with UPOV 1991)
n) Counterfeit Goods Act 1997
o) Intellectual Property Laws Amendment Act 1997
p) Harmful Business Practices Act 1998
q) Patents Amendment Act 1986, 2001, 2004
r) Merchandise Marks Amendment Act 2001

We will discuss the legislations that have direct IPR protection provisions and the administrative machinery for the protection thereof.

A. Intellectual Property Administration

The Department of Trade and Industry is principally responsible for policy formulation in the realms of patents, trademarks, designs and copyright. It provides the framework for registration of IPRs, examination and adjudication.[17] Given the cross-cutting nature of IPRs however, legislation thereon emanates from diverse government departments and statutory bodies. These include: Agriculture; Environmental Affairs and Tourism; Arts, culture, Science and Technology; Health; Education; Communications; National Advisory Council on Innovation (NACI) and the Council for Scientific and Industrial Research (CSIR).[18]

Patents, Trademarks, Copyright & Designs

The relevant legislations here are the Patents Act No. 57 of 1978, the Trademarks 1993, the Copyright Act 1978 and the Designs Act 1993 read along with related amendments. The administration of trademarks, patents, copyright and designs is done by the Companies and Intellectual Property Registration Office (CIPRO) which comprises the former South African Companies Registration Office and the South African Patents and Trademarks Office. CIPRO is charged with among other things maintaining current registers of enterprises, trademarks, designs, patents and copyrights; conducting ex parte hearings and adjudicating in infringement cases.[19]

CIPRO is governed by a board of directors under a Director General and the Minister for Trade and Industry. It appoints both company and IPR registrars with specific registrars charged with the administration of specific categories of IPRs. CIPRO works closely with the South African Revenue Service (SARS) and the South African Police in enforcing IPR legislation. This is particularly the case with regard to counterfeit goods.[20]

Patents

The law regulating patents is the Patents Act 1978 as amended in 2001 and 2004. Patents are granted for twenty years with an annual renewal obligation. This guarantees the patent holder protection from commercial making, use, distribution or sale of the patented product or process without the permission of the patent holder. South Africa is however, not a patent examining country and therefore does check the novelty and non-obviousness of the invention. It merely registers patents that fulfil the formalities set out for registration. This has been noted as a major drawback to the patent protection system in South Africa.[21] As a member of the Patent Cooperation Treaty, South Africa allows for the filing of an international patent upon designation of the countries where the patent should be registered and payment of the prescribed fees.

Copyright

Under the Copyright Act 1978, the following works are eligible for copyright if they are original: literary works, musical works, artistic work, cinematograph films, sound recordings, broadcasts, programme-carrying signal and computer programmes. The work is required to be in fixed form to qualify for protection. The duration of the copyright depends on the type of work protected and ranges from fifty years. The author of a work has automatic protection as owner of the copyrighted work. It is not necessary to apply for copyright except in the case of films.[22] The amendment of the Copyright act in 2001 made provision for the nature of copyright in sound recordings.

Trademarks

Trademarks and service marks protect rights to use a particular distinctive mark or name to identify a product, service or company. They are of material value in distributing goods and services. The pool of potential trademarks is limitless and therefore there is the option to register a mark with an opportunity being accorded for others to protect the award of a trademark if it can be shown to infringe a prior mark. It is not a legal necessity to register trademarks as trademarks can be defended under common law. Trademarks are examined to ensure that there are no registered marks that may conflict with the mark applied for. The owner of a registered trademark has the exclusive right to prevent all third parties not having the owner's consent from using identical or similar signs for goods or services which are identical or similar to those in respect of which the trademark is registered where such use would result in a likelihood of confusion. The duration of a trademark is seven years and is renewable indefinitely. Consequently, a registered trademark can be protected forever. The operative law on trademarks in South Africa is the Trademarks Act No. 194 of 1993. The Merchandise Marks Act of 1941 as amended in 2001 also affects trademarks as it makes provision for the application of trade descriptions to goods and the alteration of trademarks. This latter statute also prohibits the unauthorised use of national flags and other official signs.

Designs

Design protection is about shape and features that appeal to the eye. They may be functional or aesthetic. An aesthetic design has to be new and original, have beauty in its shape, configuration or ornamentation and capable of being produced by an industrial process. A functional design for its part has to be new and not commonplace, its shape or configuration necessitated by the function and capable of being produced by an industrial process. Protection is afforded to aesthetic designs for fifteen years and to functional ones for ten years. The registration of designs has to be renewed annually. The operative law on designs is the Designs Act No. 195 of 1993. Under the Act the registrar of designs has wide ranging powers to register designs, receive evidence, authorise costs to be paid and tax costs.[23]

Plant Breeders' Rights (PBRs)

Plant breeders' rights are governed by the Plant Breeders' Rights Amendment Act No. 15 of 1996 which amended the 1976 Act to align it with the provisions of the international Union for the Protection of New Varieties of Plants, 1991.Under the Act, a breeder is "the person who directed the breeding of the new variety, or who developed or discovered it. A variety is defined as "any cultivar, clone, breeding line or hybrid of a kind of plant which can be cultivated". PBRs are granted for varieties that are new, distinct, uniform and stable.

The holder of PBRs has the right to exclude others from producing, selling, importing into or exporting from South Africa any material that is the subject of the PBR grant. It is not infringement of PBRs to use propagating material for bona fide research, for private or non-commercial purposes or if a farmer uses the propagated material on land that the farmer occupies. The duration of the PBRs depends on the kind of plant in question and ranges from twenty to twenty-five years.

The Medicines and Related Substances Control Amendment Act

South Africa is one of the countries most seriously affected by HIV/AIDS. The 1997 Medicines and Related Substances Control Amendment Act seek among other things to provide easier access to drugs. It contains a section authorising the government to override the provisions of the Patents Act and

> *Determine that the rights with regard to any medicine under a patent granted in the Republic shall not extend to acts in respect of such medicine which has been put onto the market by the owner of the medicine.*

The Act also entitles the government to authorise parallel imports from other countries where the same medicine is also manufactured. Provision on the possibility to override patent rights to foster the affordability and availability of medicines in section 15C.a constitutes a significant derogation to the TRIPS regime.[24] It was challenged by a group of pharmaceutical companies, which sought to have Section 15C declared unconstitutional because it authorised the government to determine the extent to which rights conferred under the patents act should apply. The pharmaceutical companies also argued that Section 15C was tantamount to depriving patent owners of their rights and that it violated the non-discrimination clause of Article 27 TRIPS. The pharmaceutical companies' petition was eventually abandoned in April 2001.

Intellectual Property Laws Rationalisation Act No. 1905 of 1996

This Acts makes provision for the integration of IPRs in Bophuthatswana, Transkei, Venda and Ciskei into the national system. In essence it extends the application of South African IPR laws to the entire country. It also repeals IPR laws with regional application replacing them with the national system.

The National Environmental Management: Biodiversity Act No. 10 of 2004

This legislation provides for the management and conservation of South Africa's biodiversity within the framework of the National Environment Management Act, 1998. More specifically, it provides for the protection of species and ecosystems that warrant national protection, the sustainable use of indigenous biological resources, the fair and equitable sharing of benefits arising from bio prospecting involving indigenous biological resources, the establishment of the South African National Biodiversity Institute (SANBI) and implementation of international obligations under the Convention on Biological Diversity.[25]

Under this legislation, the knowledge and intellectual property rights of communities are addressed. It specifically provides for the recognition of the intellectual property rights of communities and indigenous populations in the following words:

> *Notwithstanding the provisions of any other law of the Republic, this Act recognises and affords protection to the rights of local communities and indigenous populations to the following:*
>
> *(a) their biological resources, subject to the a priori rights of the state to such resources in its trusteeship capacity;*
>
> *(b) their knowledge, innovations and practices held collectively and acquired through generations;*
>
> *(c) to collectively benefit from the utilisation of their biological resources, knowledge, innovations and practices; and*
>
> *(d) to use their knowledge, innovations and practices in the conservation and sustainable use of biological diversity.*[26]

SANBI, the body charged with the conservation and management of biological diversity in South Africa is required to monitor the status of biodiversity, define a participatory process to determine the nature, scope and requirements of a sui generis community intellectual rights regime; determine the nature, scope and requirements of a sui generis community intellectual rights regime; and determine effective mechanisms for dispute resolution.[27] It is also expected to be the advisory and consultative body on matters relating to biodiversity, carry out research on indigenous biodiversity and sustainable use of indigenous biological resources.[28]

V. MAJOR INSTITUTIONAL STAKEHOLDERS

A. The Department of Trade and Industry (DTI)

As pointed out above, DTI has the charge to oversee the policy formulation with respect to IPRs in South Africa. Further it is closely linked with CIPRO, which is charged with the implementation of IPR legislation.

B. National Department of Agriculture

The office that administers PBRs in South Africa is the National Department of Agriculture. The Minister responsible for agriculture is mandated under the relevant statute to designate an officer as the Registrar of Plant Breeders' rights. The PBRS' registrar is to protect new plant varieties and perform other functions as instructed by the Minister.

C. Department of Arts, Culture, Science and Technology (DACST)

This is under the Ministry of Arts, Culture, Science and Technology and is responsible for the national science and technology policy. It is the organising point for the national system of innovation whereby a set of functioning institutions, organisations, individuals and policies interact in the pursuit of common social and economic goals.[29] DACST is also responsible for distributing research grants across the science community. Under the Innovation Fund large-scale projects focusing on major themes of government such as information technology to address the needs of the economy and society and environmental sustainability are promoted.

D. National Advisory Council on Innovation (NACI)

This Council enables DACST to consolidate and develop the national system of innovation by providing a focused mechanism to access and target critical science and technology research and information for socio-economic development. Under section 3 of the National Advisory Council on innovation act promulgated in 1997, NACI's objective is to advise the Minister on the

> *Role and contribution of science, mathematics, innovation and technology, including indigenous technologies, in promoting and achieving national objectives ...*

NACI coordinates the national system of innovation promoting cooperation therein; develops and maintains human resources for innovation and devises strategies for the promotion of technology innovation, development, acquisition, transfer and implementation in all sectors.

E. Council for Scientific and Industrial Research (CSIR)

CSIR is a statutory scientific research council established in 1945. Its mandate is to foster industrial and scientific development by itself or in partnership with public and private sector institutions and contribute to the improvement of the quality of life of the people of South Africa through directed and multidisciplinary research and technological innovation. In carrying out its mandate, CSIR sources and develops knowledge, establishes ventures and licenses IPR.[30]

F. Environmental Affairs and Tourism

The Department of Environmental Affairs and Tourism is the central policy formulating and co-ordinating body for environmental matters. Its vision is to lead environmental management and tourism in the interest of sustainable development and contribute to the improvement of the quality of life of all South Africans. Some of the ways in which the department seeks to foster its vision is through promoting the sustainable development, utilisation and protection of the country's natural and cultural resources and fostering equitable access to the benefits derived from the country's natural and cultural resources.[31] As the department responsible for biological diversity, DEAT has the responsibility to ensure that the rights to genetic resources for all are protected in the interest of sustainable development.

G. Other Stakeholders

1. Universities

The role of higher institutions of learning in innovation has recently come into sharp focus. The activities of researchers at these institutions are likely subjects of intellectual property protection. Some of these institutions have established technology transfer offices with intellectual property policies guiding activities in such offices. UCT Innovation for instance manages IP at the University of Cape Town. Under the headship of an IP manager, it drafts, negotiates and signs sponsored research contracts and also looks after the intellectual property generated. It also assists in the commercialisation of IP by supporting research-based entrepreneurial activities and contributes to institutional and national policy development on matters of IP.

In a different context, the Law and Treatment Access Unit AIDS Law Project at the University of Witwatersrand has done work on the role of competition policy in mitigating the impact of patent protection. In a complaint lodged with the South African Competition Commission in 2002 against GlaxoSmithkline and Boehringer Ingelheim, they argued that the two pharmaceutical companies were in violation of competition law by charging excessive prices for their anti-retroviral drugs to the detriment of consumers. They argued further that the excessive pricing had occasioned unnecessary loss of life.[32] The Commission found that the two pharmaceuticals were using their exclusive rights to deny licences to other manufacturers while keeping their prices high. The pharmaceutical companies entered separate settlement agreements with the complainants and the Competition Commission.[33]

3. Collecting Societies

Societies that collectively manage copyright or groups representing sections of copyright holders are also key stakeholders. These represent music, performers, copiers and software interests. Examples of these are the Publishers' Association of South Africa (PASA), the South African Music Rights Organization (SAMRO), National Association of Broadcasters, Musicians Union of South Africa, Association of South Africa Music Industry and South African Recording Rights Association (SARRA). In the realm of software, The Business Software Alliance (BSA), a watchdog group dedicated to fighting software piracy is also an important stakeholder.

5. Non-Governmental Organizations (NGOs)

Non-governmental organizations have also joined the fray on IPRs in terms of informing South Africa's position at international meetings as well as pushing for favourable provisions in IP laws. They have played a critical role in the quest for cheaper dugs for HIV AIDS.

VI. INTELLECTUAL PROPERTY STATISTICS

CIPRO has invested tremendously in information technology. Application forms for different types of services are available online. It is clear that the number of applications and registrations of different categories IP have increased over the years. It was not possible for the author to establish the sectors that have predominated. In the realm of PBRs, it is clear that most are applied for ornamentals and that South Africans account for the highest number of grantees of PBRs.

A. Applications Filed at the South African Companies and Intellectual Property Registration Office (CIPRO)

Patents

Period	Total
Number of new patent applications in South Africa in 1982	9606
Number of new patent applications in South Africa in 1983	9724
Number of new patent applications in South Africa in 1984	10149
Number of new patent applications in South Africa in 1985	9901
Number of new patent applications in South Africa in 1986	9775
Number of new patent applications in South Africa in 1987	9766
Number of new patent applications in South Africa in 1988	9742
Number of new patent applications in South Africa in 1989	9973
Number of new patent applications in South Africa in 1990	10469
Number of new patent applications in South Africa in 2002	9727

Designs

Period	Total
Number of new applications for designs in South Africa in 2002	1400

Source: CIPRO, http://www.cipro.co.za/about_us?registration_stats.asp

Plant Breeders' Rights

Table 1: South African Plant Breeders' Rights by Ownership

COUNTRY	NUMBER
Argentina	2
Australia	60
Belgium	4
Canada	1
Denmark	29
France	117
Germany	129
Israel	34
Italy	5

COUNTRY	NUMBER
Japan	24
Korea	2
Mozambique	10
Netherlands	195
New Zealand	33
RSA	669
Spain	19
United Kingdom	30
Uruguay	1
USA	219
Zimbabwe	20
TOTAL	1603

Table 2: South African PBRs by Crop

CROP	***NUMBER***
Ornamental	618
Fruit	223
Vegetable	234
Agricultural	384
Forage/Pasture	144
Total	***1603***

Source: Waynard J. Van de Walt, South African National Seed Organization, 2001

Trademarks

Year 2003	New Applications	Certificates (Registered)	Renewals	Restorations
January	1754	1902	1013	9
February	1883	1469	1023	34
March	1690	1925	738	27
April	1799	1432	1001	28
May	2104	1290	1007	7
June	2078	1361	1116	11
July	1884	1457	1027	12
August	1889	1380	1076	10
September	2076	1151	614	15
October	2375	1401	811	9
November	1935	1137	834	8
December	1636	881	924	19

Source: CIPRO

VII. INTERNATIONAL AGREEMENTS AND ARRANGEMENTS

A. Membership of International Bodies

South Africa is actively involved in the formulation and implementation of international policy on IP and is party to:

Paris Convention for the Protection of Industrial Property (1883); the World Trade Organization's Agreement on Trade-Related aspects of Intellectual Property Rights (TRIPS Agreement) of 1995; Patent Co-operation Treaty (PCT) of 1970 since 1994; the International Union for the protection of New Plant Varieties (UPOV) which it joined in 1977 and acceded to the 1991 version implemented through the Plant Breeders' Rights Amendment Act No. 15 of 1996; and Berne Convention for the Protection of Literary and Artistic Works (1886). South Africa is however not a member of the African Regional Intellectual Property organisation (ARIPO). South Africa is a member of SACU and the conclusion of a Free Trade Agreement between SACU and the United States will impact on its IP regime.

VIII. ASSESSMENT OF NEEDS AND RECOMMENDATIONS

A. National Infrastructure

Whilst South Africa's IP infrastructure is more superior to other countries in Africa, it has been contended that there is need for improvement. IT is in increasing use in IP management and CIPRO's mission is clear on automating IP management services. Indeed CIPRO has invested in IT to avail IP information online. Once fully implemented, the major complaints on the national infrastructure pertaining to the length of time it takes to process applications for IP due to the non-availability of IP information online will have been dealt with.[34]

B. Human Resources Capacity

Institutional Capacity

The staffing of IP management and implementing institutions, financing for IP management services and keeping up to date with merging issues in IP management remain major challenges.

With respect to enforcement of copyright, the training of enforcement officers such as the police, inspectors, customs and revenue officers is critical to the effective implementation of the law.

Legal Practice

South Africa has a number of firms specialising in IP compared to other countries in Africa. Indeed many international companies use South African attorneys to deal with their IP matters. They are organised under an umbrella body, the South African Institute of Intellectual Property Law (SAIIPL) whose objectives are:

- To protect the interests of owners of Intellectual Property
- To advise owners of Intellectual Property and to draft and file the necessary documentation for protection of Intellectual Property.
- To promote the interests of the profession - patent attorneys and patent agents who specialise in the field of Intellectual Property Law.
- To advise and liaise with the Government regarding legislation affecting the field of Intellectual Property.
- To promote South Africa's interests and image internationally as regards Intellectual Property and to liaise with international Intellectual Property organisations.
- To act as disciplinary body that protects the interests of the South African public by ensuring that standards and practices in the field of Intellectual Property Law are maintained. [35]

The members of SAIIPL include Spoor and Fisher, bowman, Gilfillan John & Kernick, Adams and Adams, Burrells, Webber Wentzel Bowens, D. M. Kisch and others. They are located in major cities such as Johannesburg, Cape Town, Pretoria, Midrand and Port Alfred. Some of the firms have branches in different cities.[36]

Judicial Process

South African courts have been called upon to make decisions on major IPR cases and their jurisprudence here is well established especially in the area of trademarks. The case of McDonalds[37] on well known marks is an example of this jurisprudence. The references above to matters being taken to the Constitutional Court and the Competition Commission also rend credence to the assertion that intellectual property litigation in South Africa is more advanced than in other African countries. Moreover, SAIIPL has a digest of unreported cases and Burrells provides law reports on IPR.

Status of IPR Research

It was not possible to establish the status of IPR research but looking at the activities around intellectual property protection, it is clear that research is going on around the relationship between IPR and competition, IPR and biological resources and IPR and culture. The Trade Law Centre (TRALAC) based at Stellenbosch is also doing research on IP issues related to trade.

Educational, research and training institutions

Most law degrees offered in South Africa have a small component of IP law. The University of South Africa has a wide range of IP courses.[38]

IX. NEW LEGISLATION

A. Draft South African Indigenous Knowledge Bill

This deals with the management principles of indigenous knowledge systems, establishment of an authority to regulate indigenous knowledge, fair decision-making and conflict management among other things.[39]

X. CONCLUSION AND WAY FORWARD

As pointed out above, South Africa's capacity in IP surpasses that of many developing countries. The use of the concept of the national system of innovation has enabled the relevant departments in the country to mainstream IP in innovation both for research purposes and for innovation.

The following activities need to be done as a follow-up to this study:

1. Mapping of the role of IP in South Africa's development
2. Exploration of the implications of protection of indigenous knowledge on general IPP policy implementation
3. Investigating the impact of non-examination of patents on IPP in South Africa
4. Disaggregation of patent registration information into domestic and international patent applicants
5. Research on the strategic areas that South Africa should invest in for IPP that would impact on national development
6. Training law enforcement personnel in IPP
7. Working out ways of mobilising expertise in IPP and IPR through the creation of a national database and establishing a national IPR research centre as the national home for IP expertise.

Endnotes

[1] US Council for International Business A New MTN: Priorities for Intellectual Property (1985) at p. 3.

[2] Karen W. Baer, *A Theory of Intellectual Property and the Biodiversity Treaty*, 21 SYRACUSE J. INT'L L. & COM. 259 (1995).

[3] Sisule S. Musungu, "General Trends in the Field of Intellectual Property: Issues and Challenges for the Establishment of a Development Oriented Framework, *Regional Dialogue on Intellectual Property Right, Innovation and Sustainable Development in Eastern and Southern Africa,* Organised by the International Centre for Trade & Sustainable Development (ICTSD), the United Nations Conference on Trade and Sustainable Development (UNCTAD) and Trade ad Industrial Policy Strategies (TIPS), 29 June-1July 2004, Cape Town, South Africa.

[4] It is argued that IPRs in their present form do not serve the interests of developing countries with little technological innovation capacities...

[5] *See* Patricia Kameri-Mbote, 'Patents and Development', in YASH VYAS ET. AL., LAW AND DEVELOPMENT IN THE THIRD WORLD, Faculty of Law, University of Nairobi, Nairobi, Kenya (1994).

[6] Peter Drahos, *Information Feudalism: Who Owns the Knowledge Economy?,* Earthscan, London, 2003.

[7] *See* Timothy Swanson, *Diversity and Sustainability: Evolution, Information and Institutions, in* INTELLECTUAL PROPERTY RIGHTS AND BIODIVERSITY CONSERVATION - AN INTERDISCIPLINARY ANALYSIS OF THE VALUES OF MEDICINAL PLANTS 1 (Timothy Swanson ed., 1995) noting that 12 developing countries hold about 50% of all biodiversity.

[8] *See* John Perry Barlow, *The Economy of Ideas: A Framework for Rethinking Patents and Copyrights in the Digital Age*, 2.03 WIRED 83 (1994) and Margaret Jane Radin, Property at the Crossroads: Two Paradigms in Need of Reinterpretation (mimeographed / work in progress).

[9] *See, e.g.,* John H. Barton, *Patent Scope in Biotechnology,* 26 IIC 605 (1995).

[10] Land races are defined as actively cultivated crop varieties that have been developed in traditional agricultural systems through both natural and human selection. *See, e.g.,* Steven C. Witt, *Biotechnology and Genetic Diversity*, *in* BIODIVERSITY 23 (E. O. Wilson ed., 1988).

[11] *See* VANDANA SHIVA, MONOCULTURES OF THE MIND : PERSPECTIVES ON BIODIVERSITY AND BIOTECHNOLOGY (1993). *See also* John H. Barton & Eric Christensen, *Diversity Compensation Systems: Ways to Compensate Developing Nations for Providing Genetic Materials, in* SEEDS AND SOVEREIGNTY - THE USE AND CONTROL OF PLANT GENETIC RESOURCES 338 (Jack R. Kloppenburg, Jr. ed., 1988).

[12] Act No. 9 of 1916.

[13] Ethél Teljeur, *Intellectual Property Rights in South Africa: An Economic review of Policy and Impact*, the Edge Institute, South Africa (2003)

[14] Rosemary Wolson, *Towards TRIPS Compliance: South Africa's Experience and Legislative Reforms,* ICTSD, ACTS & QUNO (2001).

[15] Act No. 107 of 1996

[16] Intellectual Property Laws Amendment Act 1997

[17] *See* Teljeur, *supra* note 13 at p. 24

[18] *Ibidem*

[19] CIPRO 2002

[20] Teljeur, *supra* note 13

[21] *Ibidem*

[22] http://www.cipro.co.za

[23] See Sections 6, 7 and 11 of the Act.

[24] Philippe Cullet, *TRIPS and the Right to Health in Developing Countries,* Journal of World Intellectual Property (2002)

[25] United Nations Conference on Environment and Development: Convention on Biological Diversity - Done at Rio de Janeiro, June 5, 1992, *reprinted in* 31 I.L.M. 818 (1992).

[26] Department of Environmental Affairs and Tourism, National Environment Act: Biodiversity Chapter (2002) (On file with the author).

[27] *Ibid.*

[28] Section 10.

[29] http://www.info.gov.za/yearbook/2001/science.html

[30] http://www.csir.c.../PTL0002_PGE100

[31] www.info.gov.za/yearbook/2004/pdf/9environ.pdf accessed on 27th July 2004

[32] See *Hazel Tau & Others V. Glaxosmithkline and Boehringer Ingelheim* and discussion in Jonathan Michael Berger, Advancing Public Health by Other Means: Using Competition Policy to Mitigate the Impact of Patent Protection, *Regional Dialogue on Intellectual Property Right, Innovation and Sustainable Development in Eastern and Southern Africa,* Organised by the International Centre for Trade & Sustainable Development (ICTSD), the United Nations Conference on Trade and Sustainable Development (UNCTAD) and Trade ad Industrial Policy Strategies (TIPS), 29 June-1July 2004, Cape Town, South Africa.

[33] Ibid.

[34] *See* Teljeur, *supra* note 13.

[35] See http://www.saiipl.org.za/members.htm accessed on July 15th 2004

[36] Ibid.

[37] See McDonald's Corporation V. Joburgers Drive-Inn Restaurant (1997) S.A. Law Reports 1.

[38] Personal communication with Rosemary Wolson, UCT Innovation, July 10 2004.

[39] Wolson, *supra* note 14 at p. 6.