

INTELLECTUAL PROPERTY PROTECTION IN AFRICA

Status of Laws, Research and Policy
Analysis in Ghana, Kenya, Nigeria,
South Africa and Uganda

African Centre for Technology Studies (ACTS)

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1.0 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.

In recent times, very few subjects have generated as much literature and controversy with an ever rising profile, as have IPRs. This is especially so with respect to the interface of APRs with sustainable development as well as the numerous components in practically all fields of human activity — biological diversity, culture, health, food and agriculture or trade or economic development.

Controversies on intellectual property 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 intellectual property. The intellectual property laws such as those on patents were designed to protect the product of the inventive genius that worked on his project in the attic or basement; technological advances have now become the recluse of industry with well-equipped laboratories.

Intellectual property is intricately related to trade, competition, industrial growth and economic development. The creation of the World Trade Organization (WTO) in 1995 and the consequent formulation of the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS)² have generated new challenges for Sub-Saharan African (SSA) countries, particularly as far as IP protection in these countries is concerned. The TRIPS agreement is the most over-arching instrument on the regulation and protection of all types of intellectual property. The agreement sets minimum standards that all countries signatory to the WTO must comply with. This, Therefore, means that SSA countries are faced with the challenge of complying with the agreement, which necessarily means modelling their IP laws and policies along the provisions of TRIPS.

There exists paucity of literature that examines the status of IPR policy and law in Sub-Saharan Africa. There is also limited literature in the region

on the inter-phase between IPR and other developmental aspects such as industrial growth, economic development, acquiring and enhancing technological capability, trade and competition.

The African Centre for Technology Studies (ACTS) coordinated a study to review and analyze current IPR practices in select African countries, identifying the challenges for policy implementation and documenting the capacity available in select African countries and research institutions to deal with IPRs laws and policies. The guiding rationale for this project is that effective capacity in IPRs is an important factor in ensuring consistent and broad participation for African countries to negotiate effectively in the WTO and related activities. Further, some of the same capacities and technical expertise required for IPRs research are also important for sustainable development policy implementation at national and regional level in Africa.

This monograph provides a synthesis of the five country reports with the aim of identifying and exploring issues affecting the administration and enforcement of IP in these countries. It also incorporates the views and opinions of the participants to the regional workshop held in Nairobi, Kenya in August 2004. It has five chapters. The first chapter comprises the introduction, background to the study, synopsis of the problem, justification, methodology and scope and limitations of the study. The second chapter conceptualizes IP, putting the study within context. Chapter three provides a synthesis of the findings of the study drawn from the country reports of the case study countries. The fourth chapter concludes the IPR needs, recommendations and the conclusion.

Background to the study

IPRs have gained prominence in the post-industrial age, where the manufacture and manipulation of goods has given way to the production of knowledge and application of the same in innovation. In the knowledge economy, IPRs have assumed various roles. They act as incentive to invent and innovate, as a tool for ensuring equitable and fair utilization of genetic resources and finally as a tool for the promotion of the conservation of biological diversity and the sustainable use of their components.

Together with the above mentioned roles, intellectual property protection (IPP) is increasingly sought by firms as a source of competitive advantage, as a mechanism for market protection³, and as a bargaining currency to prevent being “locked-out” from using technology held by competitors.⁴ This trend in the use of IPR causes us to question whether they serve the

purpose of creating incentives to invent and to apply the knowledge in production. This is an important policy question especially for developing countries,⁵ such as those involved in this study, where using IPR as a tool for enhancing technological innovation may not necessarily work in the same way as developed countries.

There exists paucity of literature that examines the status of IPR policy and law in Sub-Saharan Africa. There is also limited literature in the region on the inter-phase between IPR and other developmental aspects such as industrial growth, economic development, acquiring and enhancing technological capability, trade and competition. This study coordinated by the African Centre for Technology Studies (ACTS), provides what can be perceived as background information on the status of IPR in Ghana, Kenya, Nigeria, South Africa and Uganda, which can then be used for further research in different aspects affected and influenced by IP. For instance an area that can be further investigated is the role of intellectual property in invention and innovation in Sub-Saharan Africa.

IP is intricately related to trade, competition, industrial growth and economic development. The creation of the World Trade Organization (WTO) in 1995 and the consequent formulation of the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS)⁶ have generated new challenges for SSA countries, particularly as far as IP protection in these countries is concerned. The TRIPS agreement is the most over-arching instrument on the regulation and protection of all types of intellectual property. The agreement sets minimum standards, which all countries signatory to the WTO must comply with. This therefore means that SSA countries are faced with the challenge of complying with the agreement, which necessarily means modeling their IP laws and policies along the provisions of TRIPS.

The IP debate has also assumed an increasingly significant role in the global arena. This has been occasioned by the emergence of new technologies that is referred to as cross-cutting technologies such as information and communication technologies (ICT) and biotechnology. The introduction and the use of these technologies has revolutionized the application of knowledge, which in most cases is proprietary in fields affecting basic human needs such as health and agriculture. It has been argued that property rights extended to these technologies will increase the costs of accessing these technologies and consequently increase the technological divide between developed and developing countries.

Of direct relevance to developing countries, especially SSA countries, is the debate on IP protection of indigenous knowledge. There is no doubt that

traditional knowledge is more useful in developing countries than it is in developed countries⁷. Indigenous/traditional knowledge is an important aspect of innovation systems in developing countries. Developing countries must therefore exploit this for invention and innovation. However, commercial exploitation of and use of traditional knowledge is not possible within the “conventional” IP regimes since this type of knowledge, which in most cases is tacit and held by communities or groups of people. IPRs as currently conceptualized do not protect traditional knowledge, as it does not fit the novelty criteria. However, under the TRIPS agreement there is flexibility to enable developing countries institute *sui generis* systems of IP protection for traditional knowledge.⁸

Failure to adequately protect traditional knowledge in African countries has in the past led to the loss of profits accruing from the development of products directly related to the knowledge. The following are good examples to illustrate this from Kenya and South Africa.

The South African example⁹ is the bitter *hoodia* plant, which the San community in South Africa chews when going on long hunting trips. In 1996, scientists from the Council for Scientific and Industrial Research (CSIR) isolated P57 as the hunger suppressing chemical from this plant and later patented it. CSIR later licensed a UK-based firm, Phytopharm, to further develop and commercialize the P57 component. Phytopharm then licensed Pfizer to develop and commercialize P57. This has been a source of conflict between the South African San Council and the CSIR.

The Kenyan example¹⁰ occurred in the 1970s when the US National Cancer Institute (NCI) collected the *Maytenus buchananii* plant from the Shimba Hills of Kenya. The NCI collected tons of the shrub based on the knowledge of the Digo community who predominantly live around this area and have used this knowledge for years to treat cancerous conditions. The shrub contains maytansine, which is considered as a potential treatment for pancreatic cancer. All the material collected was traded without the consent of the Digo, neither was there any recognition of their knowledge of the plant and its medicinal properties.

Another important issue as far as African countries are concerned in the IPR debate is the urgent problem of access to cheap and effective HIV/AIDS drugs and basic needs such as food. This debate has gained impetus because big multinational pharmaceutical companies deny developing countries affordable access to the much needed antiretrovirals used for HIV/AIDS treatment have used IP protection in the past. A good example is what happened in South Africa in 1998, where 39 pharmaceutical companies sued the South African government, objecting the government’s bid to provide

cheap generic drugs to the 4.7 million people with HIV/AIDS through parallel importation. Parallel importation is a mechanism that allows importers to buy goods from a foreign country for a cheaper price than they would ordinarily buy in their domestic market. There are deep philosophical concerns over the legitimacy of parallel importation, since on the one hand, it is believed to benefit consumers by offering them the cheapest choice of goods while on the other hand it undermines the valuable investment of IP owners in their IP assets.

Compulsory licensing is another contentious issue in providing cheap antiretroviral drugs for HIV/AIDS patients. Compulsory licensing is a mechanism through which 3rd parties are allowed to use patented inventions without the patentee's permission. This is a method that Brazil for example has adopted in their effort to address the AIDS menace. The use of compulsory licensing is not without controversy since MNCs feel that such a policy is likely to hurt innovation. TRIPS permits parallel importation in Article 6 and allows compulsory licensing subject to some procedural limitations¹¹, which include an expedited procedure for times when a government faces a public health emergency

Technology transfer is another important issue as far as IP management and procurement is concerned. This is because majority of the "enabling technologies" are proprietary. This makes it impossible for developing countries to learn from and catch up with developed countries through adaptive and imitative innovations.

Intellectual property rights (IPRs) are property rights in something intangible and protect innovations and reward innovative activity.¹² IPRs comprise a bundle of rights focusing on the physical manifestations of intellectual activity in any field of human endeavor. 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.¹³ 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.¹⁴ It is against this backdrop 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.¹⁵ 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 that 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 catalyzing and stimulating industrial and commercial growth has come into sharp focus in recent years.¹⁶ 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.¹⁷ 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).

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
<i>Total North America</i>		<i>29,671</i>			<i>43.8</i>
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
	<i>Total Western Europe/EU</i>		<i>27,286</i>	<i>34,526</i>	<i>40.7</i>
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
<i>Total East Asia and China</i>		<i>6,905</i>	<i>11,495</i>	<i>10.3</i>	<i>12.6</i>
Eastern Europe	Russian Federation	429	590	0.6	0.7
	Others	402	627	0.6	0.7
<i>Total Eastern Europe</i>		<i>831</i>	<i>1,217</i>	<i>1.2</i>	<i>1.3</i>
Australasia	Australia	1,048	1,627	1.6	1.8
	New Zealand	178	264	0.3	0.3
<i>Total Australasia</i>		<i>1,226</i>	<i>1,891</i>	<i>1.9</i>	<i>2.1</i>
<i>Total Middle East</i>		<i>707</i>	<i>925</i>	<i>1.1</i>	<i>1.0</i>
<i>Total Rest of Asia</i>		<i>146</i>	<i>473</i>	<i>0.2</i>	<i>0.5</i>
<i>Total Latin America/Carribbean</i>		<i>209</i>	<i>252</i>	<i>0.3</i>	<i>0.3</i>
<i>Total Africa</i>		<i>26</i>	<i>398</i>	<i><0.1</i>	<i>0.4</i>
<i>Total number of applications</i>		<i>67,007</i>	<i>90,948</i>	<i>100.0</i>	<i>100.0</i>

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

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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.

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 polarizing 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.¹⁸ 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 internationalization 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.

Synopsis of the problem

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) earlier this year 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 South African 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 of inter-university expertise sharing arrangement in intellectual property and technology transfer to be carried out by the South Africa Research Management Association (SARMA) in conjunction with the Association of Commonwealth Universities. 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.

Justification

This study is based on the premise that it will take stock and provides a conceptual review of the information on current IP practices, research and policy analysis capacity in selected African countries. We will also address the flexibilities allowed by TRIPS and the approach that select African countries have taken to these especially in the realm of plant variety protection. While the results of the study may form a basis for future IDRC programming work in the area of IP, the most immediate aspect of it is to inform the Trade, Employment and Competitiveness (TEC) Program Initiative of the IDRC on the state of the art in this area.

Methodology

This study relied on both primary and secondary sources of data. A range of key informants from various organizations and government departments whose work relates directly to IPR regulation and policy in the respective countries were contacted and interviewed (see annex of list of interviewees). The interviews were structured along the terms of reference designed and provided by the African Centre for Technology Studies (ACTS). Our partners involved in the country case studies also referred to documents and published material providing relevant information for this study. This data was then analyzed and synthesized by the experts to produce country reports, who used their professional interpretation of the research results and their understanding of the research subject to develop specific recommendations on capacity requirements for IPR in Africa.

Scope and limitations

The scope of the study was on trends in IPR protection, administration, enforcement and research in five selected African countries including Kenya, Ghana, Nigeria, Uganda and South Africa. The main forms of IPR protection covered by this study include patents, trademarks, copyrights, industrial designs and plant breeder's rights. The focus on these types of IPR is mainly because these are the commonly used types of IP protection in the study countries. Other emerging areas of IP protection such as layout

designs of integrated circuits and geographical indication are only mentioned in a very general way. This study also looked into and analyzed the status of the law and policy, the administrative and management institutions and the challenges that each of the five countries faces in implementing international treaties for the protection of IP.

2.0 Conceptualizing Intellectual Property

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.¹⁹ Another area in which this debate has been raised is that of biological resources.²⁰ Existing IPR regimes ascribe greater value to germplasm that has been transformed through biotechnology than to land races.²¹ While the latter are designated as primitive cultivars, the former are characterized as elite varieties. This characterization 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.²² Indeed the value of these resources is lowered by the standardization of systems of production, knowledge and institutions across the world. While such standardization 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.²³

IPR are essentially established to perform two functions namely to create incentives for innovative behaviour and to help diffuse knowledge. It is presupposed that the monopoly power created by competition, which improves the appropriability of knowledge through IPRs is what acts as incentive to invent and innovate.²⁴ The trade off between the incentive to innovate and monopoly power lies in the non-rival nature of knowledge²⁵ as an economic asset, and the cheap transmission costs of information as argued by Arrow.²⁶ Article 7 of TRIPS states that the objective of IPR is to:

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“...contribute to the promotion of technological innovation and to the transfer and dissemination of technological knowledge in a manner conducive to social and economic welfare, and a balance of rights and obligations.”

IPRs make it possible for innovative firms to appropriate the benefits of their innovative activity. However they are not the only appropriation method available to firms, other methods such as lead-time advantages and technological complexity can be used. It therefore becomes a policy question to ensure that an innovation system adopts an optimal IPR regime. An optimal IPR regime in this case would be one that achieves both goals of encouraging innovative activity and also knowledge dissemination without breeding an unhealthy monopoly that interferes with the diffusion of new knowledge and innovations.

Following the argument above that information transmission costs are low, it would be hoped that developing countries might get benefits for producing innovations cheaply by accessing this knowledge. However this is not the case since developing countries might not afford the costs of absorbing this knowledge e.g. investing in developing the necessary human capital.²⁷ In addition to that, patents are increasingly being used as a means for consolidating of restrictive trade monopolies “...a restrictive function which extends far beyond the exploitation of patented inventions.”²⁸ This was clearly evidenced in South Africa in the case of the 39 multinational pharmaceutical companies vs. the South African government²⁹. One way to deal with such monopoly problems would be compulsory licensing, which is not a readily applicable remedy due to the conditions accruing under the TRIPS agreement.

Intellectual property rights (IPR) enable the private appropriation of economically useful knowledge³⁰ and thus are commonly viewed as stimuli for invention and innovation. IPRs exist in various different forms and serve to protect different aspects of knowledge. The most prevalent forms of IPRs include patents, trademarks, copyrights³¹, trade secrets, utility models, designs and plant breeders' rights.

Copyrights protect original works of authorship and usually protect the original expression of an idea.³² The advantages of copyrights include the fact that they give the owner the right to reproduce the same work and a derivative of the same, to distribute copies of, and to publish, display and perform original works of authorship. Copyrights last the duration of the life of the author plus an added 50 years.

Trademarks extend protection to brand names and symbols adopted and used by a company to identify its products in the market. The primary purpose of trademarks is to prevent consumers from being confused about the source/origin of the product. As consumers become familiar with

particular trademarks and the goods they represent, the trademarks then become an indicator of quality. For this reason, the well-known trademarks of reputable companies are valuable business assets, worthy of legal protection.

A patent provides its owner a monopoly of limited duration (usually 20 years), for exploiting the patented invention as an incentive for disclosure. Patents on the other hand protect inventions in processes and products. For an invention to be patentable it must be novel, must constitute a non-obvious improvement to previous inventions and must have an industrial application. The advantage of patent protection is that it gives the owner an exclusive right to make, use and sell the invention. Patents are advantageous too when an invention can be easily copied and thus acts as a deterrent from reverse engineering.

Trade secrets protect a variety of confidential and business information. They only protect the improper acquisition of this information, which must generally not be known in the industry. One advantage of a trade secret is that it does not require disclosure and that it involves less cost than acquiring and defending a patent.

Over the last few decades IP protection has gained prominence since they are viewed as a tool through which countries can attain industrial and technological development. There has also been a shift in the locus of research activities from lone inventors and non-profit labs to organized in-house R&D facilities.³³ This shift to organized in-house R&D led to a change in the nature of innovation within firms and consequently the way IPRs are procured. The interface between IPR and trade, economic development and competition have taken centre stage especially as far as developing countries are concerned since they are not viewed as innovators in the global arena but as adapters.

The emergence of new forms of property has brought about enormous pressure to bear on existing forms of property rights. Some of these have not fitted properly into the “dominant” property rights’ regimes, for instance the protection of traditional knowledge, and as a result questions have been asked as to the appropriateness of the “dominant” property notions in regulating such knowledge. Technological advancements have also led to the questioning of the capability of existing IP regimes to adequately protect IP and at the same time enhance knowledge diffusion. This has especially been the case with the rapid developments in the information and communications technology (ICT) sector, where copyright laws are deemed to be ill-suited to protect IP in the sector and at the same time ensure that information flows are not hampered with.³⁴ Another area where there is a similar debate is that of the protection of biological resources.³⁵

Therefore it is clear that the implementation of an IPR 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 increased need for the judiciary and legal practitioners to be aware of developments in IP law and the role of enforcement agencies such as the police, customs and revenue authorities cannot be over-emphasized.

For African countries to fully exploit IPRs and to harness technological and economic development flowing from IP regimes it is imperative that individual countries enact IP laws and policies that link property protection to other national imperatives such as trade, economic growth and competitiveness. This can only be done successfully if countries have the necessary capacity in terms of legal and policy experts, technological and infrastructural.

3.0 An Analysis of the Findings of the Study

This Chapter presents the status of intellectual property rights (IPR) in the five Sub-Saharan African (SSA) countries namely Ghana, Kenya, Nigeria, South Africa and Uganda. It explores and examines issues affecting the administration and enforcement of intellectual property (IP) in these countries; analyses the laws and policies regulating IPR in the countries and identifies crosscutting themes. In addition to providing an insight into the challenges that these countries face in the bid to implement an effective IPR system, the chapter also highlights the similarities and differences among the study countries in the establishment and enforcement of an IPR regime.

The individual country reports-the basis for the synthesis paper provided insights into the:

- existing analytical capacity in both research institutions and government departments to manage a satisfactory domestic IP regime and to engage in international discussions;
- institutional, financial, organizational and human capacity to research and conduct policy analysis in IPRs available;
- status of research on IPRs and IP protection and the direction it is taking;
- current IPR practices in the study countries;

- conceptual issues and challenges for policy formulation and implementation of an effective IPR regime in the respective countries;
- IPR capacity focusing on laws, policies and institutions;
- human resources capacity;
- convergence and divergence between IPR laws and policies and national development imperatives;
- areas requiring in-depth research in each of the five selected countries; and
- areas that require additional capacity to enhance effectiveness of research institutions in Africa.

This Chapter has also benefited from the regional workshop, which sought to review the study findings, prioritize recommendations and provide forward looking strategies for an effective IPR regime. The Nairobi workshop brought together scholars, practitioners, policy makers and stakeholders in various government ministries, sub-regional bodies, organizations and private sector in Eastern and Southern Africa.

The historical context of IPR in the study countries

The five countries involved in this study have an unlucky coincidence to all have been colonized by the British at one time or another. As a result the British imported their IPR laws into the colonized countries, with the resultant effect being that indigenous inventions and innovations were not regarded as worthy of protection hence they were not encouraged. The colonized countries did not have power to grant any patents and thus there was no need to establish examination offices or even develop a local capacity to procure patent applications. The patent offices within the African countries merely registered the patents, once granted in Britain. Details of the historical context of IPR and its subsequent evolution in each of the study countries are briefly discussed below.

*Ghana*³⁶

The patent system was introduced into Ghana by the colonial authorities through Ghana, the Patents Ordinance No. 1 of 1899 making UK patent law applicable to the Colony. Subsequently, patents could only be registered in the UK and re-registered in Ghana. Up till 1992, the patent system in Ghana

was only a re-registration system governed by the Patents Registration Ordinance, 1925, and the Patents Registration (Amendment) Decree, 1972, which excluded pharmaceutical products from patentability and cancelled all such prior patents. Thus, in order to protect in Ghana an invention made in Ghana, it was necessary to have it first registered in the UK and thereafter re-register it in Ghana. However, since the enactment of The Patent Law, 1992, PNDCL.305A, it is possible to obtain a Ghanaian patent directly or through the Patent Cooperation Treaty (PCT) under WIPO as well as through African Regional Intellectual Property Organization (ARIPO).³⁷

One of the problems of the Patents system under the re-registration system was that despite the sovereignty of the country after independence, it could not grant compulsory license under the re-registration of UK patents system. This was addressed by the 1972 amendment Act, which granted the Ghanaian government and its agencies powers similar to those vested in the Crown under the UK Patents Act, 1949, to grant compulsory license for Crown use. Although the re-registration laws had provisions that the privileges and rights under the UK law could be subject to local laws, no law to limit these rights were ever passed, except for the provision in the 1972 amendment act precluding patents over pharmaceuticals.³⁸ This state of affairs persisted until 1992.

The re-registration system could be said to have worked adversely for Patents in the country because it primarily shows the low value placed on patents and IP issues generally. A system where local inventors obtain local protection by first obtaining a UK patent can hardly encourage local innovation or research and development,³⁹ which is a key rationale for intellectual property rights protection. This situation could also be said to have contributed to the little awareness and general misunderstanding of patents and IPRs by possible users of the system and by the general public.

The Copyright Ordinance of 1911 made all laws in the UK, the colonial power, applicable to the colony of the Gold Coast as Ghana was then called. Upon independence, the Ghanaian Copyright Act of 1961 was enacted but was essentially a re-enactment of the existing law in the UK then providing somewhat limited protection for authors in their works. This Act was subsequently updated in 1985 when the present law, which regulates copyright matters in Ghana, PNDC Law 110, was enacted. The Act extended protection to a wide range of works such as paintings, maps, diagrams, sculptures, architectural models or buildings, photographs, works of applied arts such as handicrafts and jewellery, etc. Other works protected include literary works, choreographic works, derivative works, and programme carrying signals.⁴⁰

Outside these developments, IPRs laws, except for copyrights, have remained largely static in Ghana.

Kenya⁴¹

Intellectual property laws in Kenya, like most other laws, are a colonial heritage. It has been argued that British IP law was introduced into Kenya to advance general imperialist interests as at the stage at which it was introduced, the levels of literacy and technological advancement among the natives was relatively low and local innovation virtually non-existent.⁴² On becoming a British colony in 1897, the substance of the British common law, the doctrines of equity and the statutes of general application in Britain were extended to the colony. For instance, the 1897 East Africa Order in Council extended the application of the 1842 English Copyright Act, the International Copyright Act of 1844, the Fine Arts Copyright Act of 1862 and the Copyright (Musical Compositions) Act of 1888. The Copyright Act of 1842 comprised the main body of the law with the others supplementing it in the specialized areas.⁴³ The amended Copyright Act passed in 1956 was extended to Kenya by the 1963 Order in Council. It is important to point out here that copyright laws applied to Kenya by the colonial authorities were designed to protect the monopoly rights of British publishers in Kenya, restrict the growth of the publishing industry in the country, provide censorship for publications that colonialists termed seditious, blasphemous, immoral or contrary to government policy and propagate the ideology of colonial superiority among the natives.⁴⁴

The 1956 Act was superseded by the Copyright Act, chapter 130 of the Laws of Kenya, which came into operation in April 1966. While the enactment of a new legislation comprised an important political step of yoking out of colonial legal instruments, the substance of the law did not change much.⁴⁵ The 1966 law was amended in 1975,⁴⁶ 1982⁴⁷ and 1989.⁴⁸ The main thrust of these amendments were to make the Kenyan law better suited to Kenyan circumstances by for instance reflecting the economic situation in Kenya in fixing fees and also aligning the law to emerging international treaties on subject matter of coverage, enhancing penal sanctions for copyright infringement and providing for civil remedies for infringement. The most radical review of copyright law in Kenya however only happened in 2001 when a new Copyright Act was passed with a view to modernizing copyright law in Kenya to make it compliant with international treaties to which Kenya is a party and especially the Agreement on Trade related aspects of Intellectual Property Rights.

Intellectual Property Protection in Africa

With regard to patents, it is notable that, even though the first registered patent in Kenya dates as far back as 1932, Kenya had no independent intellectual property protection system until 1989. Registration of patents was carried out by the Department of the Registrar General within the office of the Attorney General under the Patents Registration Act Cap. 508. Under Section 54 of this statute, only a person who was a grantee of a patent in the UK or a person deriving his right from a grantee by assignment or any other operation of law could apply to have his patent registered. Application had to be made within three years from the date of the UK grant and the patent would remain in force only as long as the patent remained in force in the UK.⁴⁹ This limited patent grant to persons with access to registration in the United Kingdom. It also made the process expensive and time-consuming. Moreover, the registration process did not address the criteria for obtaining protection or entail examination of applications.

It is against this background that the National Council for Science and Technology (NCST) and the Legal and Patents Committee were mandated to draw up guidelines for the best way in which the patent system could operate in Kenya, harmonize patent, trademarks and standards policies in Kenya and make recommendations pertinent to national patenting policy formulation and implementation. The Committee was convinced of the need to have an independent patent system. It pointed to the need for trained personnel and infrastructure for carrying out the examinations and processing applications. The Industrial Property Act Cap 509 was thus enacted in 1989 to replace the Patent Registration Act. It came into force in 1990. The Act was amended a number of times and finally replaced by the Industrial Property Act No. 3 of 2001 which reflects the current position of IP law and came into force on the 3rd of August 2001.

With regard to plant variety protection, Kenya has had a Seeds and plant Varieties Act since 1942. This was, however largely dormant until the 1990s when a plant breeders' registration office was established.

*Nigeria*⁵⁰

The first industrial property law in Nigeria was in respect of trademarks — the Trade Marks Proclamation 1900 by which the UK Trade Marks Act was made applicable to the then Protectorate of Southern Nigeria. This was extended to the entire country following the amalgamation of the Southern and Northern Protectorates in 1914. The next law was the Trade Marks Ordinance No. 13 of 1926 and finally the Trade Marks Act 1965, which is still the current law, albeit based substantially on the UK Trade Marks Act of 1938. The Act came into force in 1967 when the Trade Marks Regulations Order, 1967 was instituted for the administration of the system.

In respect of patents, in the late 19th and early 20th centuries patents registered in the UK were by Order-in-Council made applicable in Nigeria. The colonial masters first introduced the patent system in the former colony of Lagos and Southern Nigeria in 1900 by the Patents Ordinance No. 17 of 1900 and the Patents Proclamation Ordinance No. 27 of 1900 respectively.⁵¹ The Patents Proclamation Ordinance No. 12 of 1902 introduced similar legislation in Northern Nigeria. The respective instruments provided for a full-fledged patent office headed by a registrar. However, according to Yankey, the introduction of patent administrative institution was “never meant to encourage either indigenous inventive activity, local research and development, innovation or to accomplish an effective transfer of technology [but instead] it was geared towards the protection of property rights in machinery technology relevant for the exploitation of gold and other mineral and human resources in the Colonies.”⁵²

Following the amalgamation of Southern and Northern Nigeria in 1914 the separate legislation for the different regions were repealed and substituted by the Patents Ordinance No. 30 of 1916, which was amended in 1925 to become the Registration of United Kingdom Patents Ordinance No. 6 of 1925. The new law only provided for the registration in Nigeria of patents already granted in the UK, an anomaly that persisted even long after Nigeria became independent in 1960. Effectively, Nigerians or other applicants had first to apply to the UK patent office to be granted a patent for an invention before proceeding to Nigeria to have it registered. It also meant that it was the UK law that substantively applied to patent applications and grant in Nigeria up till 1970.

In 1970, the Patents and Designs Act No. 60 was enacted repealing the Registration of UK Patents Ordinance of 1925, the Patents Rights (Limitation) Act 1968 and the UK Patents Acts 1949 in so far as it was in force in Nigeria. The Act was modeled on the draft law prepared in 1965 by the United International Bureau for the Protection of Intellectual Property (BIRPI), the precursor of the World Intellectual Property Organization (WIPO). Beyond just nationalizing the patent application and grant process, there appeared to be no policy rationale or consideration as such behind adopting the model given that there was no national policy with regard to its industrial and technological development. However, despite the fact that the country had since articulated its industrial and technological development policy and plan, these have not yet been reflected in the IP laws as the 1970 Act is still in force.

*South Africa*⁵³

South Africa's IPR system is traceable to the Patents, Designs Trade Marks and Copyright Act of 1916.⁵⁴ 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.⁵⁵ Statutes in South Africa are guided by the equivalent British and European Patent Convention legislation.⁵⁶ There have been attempts recently to bring the various Acts in line with each other. The 1996 Intellectual Property Laws Rationalization Act seeks to integrate IPRs subsisting in some parts of South Africa to the entire Republic.⁵⁷ Further the Intellectual Property Laws Amendment Act brought South Africa's IPR legislation in conformance with TRIPS.⁵⁸

*Uganda*⁵⁹

Uganda was declared a British Protectorate in 1894. Thus the common law legal system was introduced in Uganda to replace the indigenous legal system based on unwritten customary rules. This happened in the context of the overall design of British colonial policy to replace African systems with British systems. However, in Uganda the customary law system was not entirely abolished.

The colonial government established administrative and legislative systems through legal instruments known as Orders –In – Council. The first legal instrument for Uganda as a protectorate was the Uganda Order –In – Council promulgated in 1902. This legal instrument set up the administrative structure of Uganda. The Uganda Order-In-Council of 1920, established the legislative Council as the legislative arm of the colonial government to help in exercising legislative powers. The legislative council consisted only of Europeans until 1926, when through protracted agitation; only one seat was reserved for an Indian. At the time, Africans were still considered too backward to make meaningful contribution to the governance of “their country”⁶⁰ (emphasis added). It was as recent as 1945 that the first Africans were allowed to sit in the Legislative Council.⁶¹ To the extent that the entire system of Uganda as a nation state was shaped by the colonial administration, the history of Uganda's legal system, in the modern sense of the concept, can be traced from 1894. Noteworthy also is the fact that the capacity of Ugandans to integrate and utilize the new legal system remained limited for all this period.

By independence, Uganda was not signatory to any of the international conventions on intellectual property protection and was therefore not party to the international intellectual property system.⁶² However, there was national legislation for the protection of intellectual property rights. The national IP system in the colonial government, which is comprised in various IP laws in force, incorporated certain provisions of international conventions. After independence, Uganda ratified the Paris Convention⁶³ but no domestic law was enacted to implement it until 1991 when the new patent law was passed. The WTO Agreement on Trade Related Aspects of Intellectual property Rights (TRIPS) incorporates some sections of the Paris Convention and Bern Convention. These provisions will automatically be domesticated as Uganda revises her laws to comply with TRIPS agreement.

Policy, legislation and administrative framework

The policy, legislative and administrative frameworks for the 5 countries are summarized in tabulated form (see Annex 1 for details). The table provides an overview of the different IP laws, their contents and a list of different institutional stakeholders involved in managing and administering the policies and laws. A number of issues identified in the country studies as well as the regional workshops are summarized in Box I below.

Intellectual property statistics

While the intellectual property statistics from Case study countries In do not provide a complete and comprehensive picture of the status and practice of IPR, they do provide insights into what may be going on in the generation of IPR in these countries. For instance, these statistics show that industrial designs and Plant Breeders Rights (PBRs) are not very common in the countries, while trademarks and patents are common in all the study countries. The statistics also reveal that foreign applicants dominate domestic applicants.

This is an issue if the number of foreign and domestic applicants is anything to go by. The low levels of domestic applicants of all types of IP can arguably be indicative of a low level of indigenous innovation, which requires urgent redress. It is prudent to mention here that the data presented in this table should not be read and interpreted wholesome since the data provided is not for the same period for all countries and the fact that the

accuracy of the data is not definite. Some of the factors affecting data accuracy include poor record keeping practices and lack of technical capacity and infrastructure in the IP registries of some of the study countries for example Uganda and Ghana reported poor record keeping capability.

Box. 1: Intellectual Property Statistics in the Study Countries

Country	Patents	Trademarks	Industrial Designs	PBRs
Uganda ⁶⁴	<ul style="list-style-type: none"> • 150,406 Foreign applications • 2 domestic applications 	<ul style="list-style-type: none"> • 14 Foreign applications (3 granted) 	<ul style="list-style-type: none"> • 9 Foreign applications (2 granted) 	
Nigeria ⁶⁵	<ul style="list-style-type: none"> • 1458 foreign applications • 986 domestic applications 	<ul style="list-style-type: none"> • 4613 foreign applications • 8694 domestic applications 	<ul style="list-style-type: none"> • 2241 applications 	
Ghana ⁶⁶	55 foreign applications 2 domestic applications 21 foreign grants		9 foreign applications 4 foreign grants nil domestic application	
Kenya ⁶⁷	<ul style="list-style-type: none"> • 89 Foreign applications • 29 domestic applications 	<ul style="list-style-type: none"> • 1303 foreign applications • 539 domestic applications 	<ul style="list-style-type: none"> • 46 foreign applications • 193 domestic applications 	<ul style="list-style-type: none"> • 326 foreign applications • 252 domestic applications
South Africa ⁶⁸	<ul style="list-style-type: none"> • 98,832 applications (1982-2002) 	<ul style="list-style-type: none"> • 23103 applications (for 2003) 	<ul style="list-style-type: none"> • 1400 applications (for 2002) 	<ul style="list-style-type: none"> • 934 foreign applications • 669 domestic applications

Source: Data Compiled from Case Study Reports

International agreements and arrangements

The establishment of the World Trade Organization (WTO) with the consequent adoption of the TRIPS agreement has in effect meant the establishment of a global standardized IP regime as far as it laid down minimum standards to be met by each WTO member-country. However, before the introduction of TRIPS there were other international agreements and arrangements that provided frameworks for the regulation of IP. The following table shows different agreements that the case study countries are signatories to /members of. Table 2a below provides information on international agreements and international membership, while Table 2b provides information on regional institutions and membership.

Table 2a: International Agreements and Arrangements

International Agreements/Bodies	Kenya	Uganda	Nigeria	Ghana	South Africa
WIPO Membership	✓	✓	✓	✓	
Paris Convention on the protection of Industrial Property Rights	✓	✓	✓	✓	✓
Berne Convention for the Protection of Literary and Artistic works	✓	✓	✓	✓	✓
Rome Convention on Performers, Producers of Phonograms and Broadcasting Organizations	✓	Membership not clear	✓		
World Trade Organization	✓	✓	✓	✓	✓
Universal Copyright convention (UCC)			✓	✓	
Patent Cooperation Treaty	✓			✓	✓
Patent Law Treaty				✓	
Madrid Agreement concerning the International registration of Marks	✓				
Trademark Law Treaty	✓				
International Union for the Protection of New Plant Varieties (UPOV)	✓				✓
Geneva Convention for the Protection of Producers of phonograms against unauthorized duplication of their phonograms	✓				
Brussels convention relating to the distribution of programme carrying signals transmitted by satellite	✓				
WIPO copyright Treaty	✓				
WIPO Performers & Phonogram Treaty	✓				
Budapest Treaty on the international recognition of the deposits of micro-organisms for the purpose of patent procedure	✓				
Hague agreement concerning the international deposit of industrial designs	✓				
Strasbourg agreement concerning the international patent classification	✓				
Nice agreement concerning the international classification of goods and services for the purposes of the registration of marks	✓				
Vienna agreement establishing an international classification of the figurative elements of marks	✓				
Lorcano agreement establishing an international classification for industrial designs	✓				
Madrid agreement for the repression of false or deceptive indications of sources of goods	✓				
Washington treaty on intellectual property in respect to integrated circuits	✓				
International treaty on plant genetic resources for food and agriculture	✓				
Nairobi Treaty on the Protection of the Olympic Symbol	✓				

Source: Data Compiled from Case Study Reports

Table 2b: Regional institutions and membership

Regional Body	Kenya	Uganda	Nigeria	Ghana	South Africa
ARIPO ⁶⁹	Member	Member	Observer	Member	-
Treaty establishing EAC ⁷⁰	Member	Member	-	-	-
SACU	-	-	-	-	Member
Harare Protocol for the protection of Patents and industrial designs	„				
Banjul protocol for the registration of marks	„			„	
OAU Model law ⁷¹	„		„	„	
African Intellectual Property Organization (OAPI) ⁷²			Affected by	Affected by	

Source: Data Compiled from Case Study Reports

While Tables 2a and 2b reveal that the Case Study countries belong to several of the international and regional arrangements with IPR implications, a number of crosscutting issues affect the realization of effective sub-regional or regional IPR regimes. These issues include:

- Inadequate/limited strategies for increasing information flow and awareness on IPR;
- Absence or limited networking and coordination at national and regional level;
- Absence of harmonized administrative frameworks at regional level– Secretariat to coordinate IPR in the region; and
- Absence of regional management of IP in regional economic communities (RECs) such as-the EAC, SADC and COMESA.

International processes

1. Participation and negotiations

The findings in all the 5 countries reflect similar experiences on the participation of the individual countries in international processes and negotiations. A low level of participation and very little impact on the negotiation process generally typifies the experiences in international fora. This is usually resulting from:

- Lack of capacity. Issues on IP are very technical and require people who are well skilled and knowledgeable in the subject. All countries are reported to have experienced problems with having adequate personnel who have a good grasp of the issues at stake and have the ability to negotiate knowledgeably on the issues. Negotiators from these countries, who are usually ministry representatives, lack

technical support and back stopping from competent experts, and thus weakening their negotiating capacity. To address this issue there is need to develop awareness creation programmes among IP enforcers and policy makers. People requiring these programmes would include IP officers/agents, policy makers, the judiciary, legal practitioners and law enforcers.

- Scarcity of resources (human and otherwise) for effective participation. There is need to develop and maintain infrastructure e.g. IT support which facilitates expedited access to information, reliable record keeping methods and effective communication. It was reported in this study that developing countries are at a very vulnerable position since they get technical assistance from developed countries, which assistance may come pegged to something. In some instances it was reported that programmes initiated to enhance effective participation by governments have failed due to poor funding.
- Absence of consistent policy. The absence of a consistent and coherent national policy on IP issues as far as they relate to other developmental imperatives. For instance it is not surprising to find that with the exception of South Africa, which adopts a national system of innovation approach, countries do not address IP issues in their national developmental plans. IP in most countries is still divorced from national economic-planning goals. Part of the reasons why countries lack consistent and coherent policies on IP is that most countries inherited colonial laws and policies at independence, without any examination of the “spirit and intent” of these laws and their implications on developing indigenous inventive and innovative capacity or even an examination of their effect on aspects such as industrial growth, preservation of biodiversity and use of genetic resources.

Another issue that relates to the lack of a consistent national policy is that countries go to negotiations without a properly articulated national position, leaving countries very vulnerable to positions taken by developed countries; this was clearly evidenced at the Uruguay Rounds. This unfortunate situation can be blamed on the lack of a national mechanism for the formulation of positions on critical issues in the negotiations.

- Slow bureaucratic legislative processes. All countries are in process of either revising or drafting a new law. The process was reported to be very long and tedious thus a need to expedite the enactment into legislation the different bills that have been drafted.

Other factors contributing to limited participation in international processes include:

- Either lack of or inadequate interdisciplinary team on IPR in the region
- Lack of continuity and sustenance of the negotiating teams. Also, the negotiations are closely linked to the political arena
- Negotiation at international level is still being pursued by countries individually
- Existing curricular in institutions of higher learning are yet to integrate negotiating skills in their teaching programmes
- Lack of or limited training for both negotiating and technical skills for back stopping negotiation teams
- Inconsistency in use of negotiating skills/applied skills--sectoral ministries like agriculture, foreign affairs, environment
- Low participation of professional societies such as Law societies in the region

New regulatory approaches

TRIPS agreement obligates all countries to amend their laws to comply with its provisions. The countries are therefore in the process reviewing their laws with the aim of meeting this obligation by either drafting and enacting new legislation, amend existing ones or repeal existing laws. Kenya has moved towards TRIPs compliance by revising its Industrial Property Act, Trademarks Act and Copyright Act.⁷³ For example, section 58, of the Industrial Property Act allows for parallel importation by limiting patent rights 'in respect of articles put on the market in Kenya or in any other country or imported into Kenya'. This provision was intended to facilitate access to essential drugs especially for HIV AIDS. Uganda a Low Developed Country has up to 2006 to implement the TRIPs Agreement, except in respect of pharmaceuticals where pursuant to the Doha Declaration on TRIPs and Public Health they have up to 2016. To-date, Uganda is in the process of revising its intellectual property laws and regulations to comply with the TRIPs Agreement.

Beginning 2002, Nigeria has made attempts to address revise the IPR related laws, ostensibly because of external pressures as well as the obligations hanging over the country as result of the provisions of the TRIPs Agreement. As a starting point, the Minister of Commerce inaugurated a committee to fashion out the necessary framework for the establishment of

the National Intellectual Property Commission as a body to effectively administer intellectual property law. The Committee came out with a number of recommendations including the structure and institutional arrangement for a proposed Intellectual Property Commission and prepared a draft bill to that effect. In its report, the Committee recognized the urgent need to review and update the substantive laws on Intellectual Property with a view to provide for recent developments and ensure compliance with the requirements of TRIPS. Pursuant to this a multi-disciplinary, multi-stakeholder task force was set up to come up with the necessary drafts bills in respect of all categories of industrial property rights including, for the first time, plant variety protection. This has been done and the drafts have already undergone extensive stakeholder review and are currently awaiting the approval of the National Executive Council (Cabinet) before being forwarded to the National Assembly for consideration and enactment into law.

Legislative work for the adoption of new intellectual property legislation is at an advanced stage in Ghana as the necessary bills already before the parliament although there have been some delay in debating and enacting them into law. The delay is said to be due to several factors, including the complexity of subject matter of the legislation; the fairly recent change of government and the assumption of office by a new ruling party, which meant that all the proposed bills were subjected to fresh and thorough review; as well as the pressure of overloaded legislative work. These new bills covering practically all categories of IP are expected to ensure compliance with the TRIPS Agreement as well as respond to some of the development needs of the country. Some of the notable changes in the new Bills stated

4.0 Assessment of Needs and Recommendations

This Chapter from the onset begins with the note that there is need for African countries to have a basic premise for fostering IPR⁷⁴. The basic assumption is that IPRs are unavoidable in the current global context. What the African countries need is a consideration of their historical, cultural, and socio-economic as well as resource endowment with a view to having alternative approaches to IP rather than the current regime that constrains

them. The search for the alternative IP should be driven by compatibility with the indigenous alternative rights/systems. These need not be predetermined, but need to be well thought out and articulated outside the fixed IP categories. Flexibility should guide the process where the African countries are able to mould IPR regimes that work for them and the region as a whole. This should be issue specific and calls for prioritization based on what works for each country or sub-region.

Therefore, this Chapter identifies and analyses the different needs for the effective implementation of IP law and policy in the Case study countries. The needs range from national infrastructure, human resources capacity (institutional capacity and legal practice), educational institutions and training, judiciary and judicial process, international negotiating capacity, and status of intellectual property research.

Assessment of IPR needs

National infrastructure

The national IP facilities are faced with the serious challenge of having to manage and administer IPRs with inadequate infrastructure, insufficient human resources, inadequate funds and scarce basic necessities like (information technology facilities). The lack of computers for example impacts on their ability to maintain good record keeping practices and provide accurate statistical data. The lack of internet access is a major handicap to these bodies as it limits their ability to access relevant and much needed information as well as their ability to disseminate information. The World Intellectual Property Organization (WIPO) is offering technical assistance, especially in library development, training of human resources and the provision of computer hardware and software, to these countries albeit inadequate to cover all their needs. The lack of funds impacts on their ability to hire and maintain competent personnel, who prefer to work with well paying international organizations.

Human resources capacity (institutional capacity and legal practice)

Institutional

The staffing of IP management and implementing institutions is a major challenge and as such countries are experiencing institutional resource constraints in terms of trained personnel to manage the volume and complexity of work envisaged under the new IPR regime promulgated by

TRIPS. It is a major hurdle for the institutions to attract and maintain a multi-disciplinary work force with a good grasp of IP issues and how they relate to developmental goals. Another shortcoming is that, historically scientists who have limited or no understanding of the law has manned these institutions, thus the existing staff are not satisfactorily trained to effectively implement and administer IP. Such staff needs training to bring them up to date with the latest concepts, issues and technologies in IP regulation and administration, current practices and interpretation of IP law in line with evolving international regimes and ensuing national obligations. Together with that the training of enforcement officers such as police inspectors, customs and revenue officers is critical for the effective implementation of the law.

Legal practice

In terms of IP legal practise, South Africa is doing better than the rest of the countries involved in this study. South Africa has a specialized body of IP law practitioners, namely the South African Institute of Intellectual Property law. The other 4 countries have no firms dealing exclusively on IP issues. Copyright law was found to be generating most of the activity in the 5 countries, arguably due to the presence of active authors and songwriters in the countries. There is very minimal academic or research oriented practise as most activities are focused on routine procedural aspect and negotiated settlement of disputes. The lack of a robust and litigious constituency leads to a very sluggish development of IP law and practise. There is a general lack of awareness even among legal practitioners of new developments in IP especially as they relate to genetic resources; biotechnology and traditional knowledge, thus a need for training and awareness raising programmes for them, to enable them handle the complex issues related to IP practise and law.

Educational institutions and training

All the 5 countries have law schools offering IP courses. Some countries such as South Africa and Nigeria have more schools, while Ghana and Kenya have only one school offering IP courses. However, it must be mentioned here that the mere presence of many law schools offering IP courses should not be taken to mean that there is an existence of relative strength or awareness of IP issues across the board. This is because most often than not IP courses are offered as optional courses, there is inadequate infrastructure and a paucity of published literature. There is therefore a need to bolster the academic programmes in the law schools as well as within the

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academic community generally. It is a shortcoming that IP is taught only in law school leaving other disciplines ignorant of IP issues, even when IP issues are central to their work e.g. engineering and life sciences. Most universities are faced with significant deficiency in staff strength as well as a major lack of up-to-date teaching material. Most universities lack technology transfer offices, though a few are at the early stages of setting them up and establishing IP policies. The absence of university IP policies creates a vacuum whereby university researchers transfer knowledge and biological material without adequate consideration of IP implications. Researchers are generally not conversant with the issues or procedures for protecting their knowledge and therefore most times do not protect it.

Judiciary and judicial process

As earlier mentioned South African IPR jurisprudence and litigation is more advanced than the other countries involved in this study. For instance the South African Institute of Intellectual Property Law (SAIIPL) has a digest for unreported cases and Law Reports for IPR. Generally for all countries, litigation on IPR is low, thus denying judges the opportunity to develop expertise through practice. It goes without saying then, that very few judges are versed with IP law. There is a need to create greater awareness in the judiciary, carry out training and strengthen the capacity of the judiciary to understand and interpret the relevant laws, both statutory and common laws.

International negotiating capacity

As a result of its obviousness and importance, there is an often-repeated need and, therefore, recommendation for the strengthening of the institutional and negotiating capacity of developing countries. This need is critical and immediate in all the study countries and cannot, therefore, be overemphasized. The TRIPS Agreement, as well as other relevant international agreements on IP, was signed without any public debate or thorough analyses of the obligations being undertaken or the wider implications of their provisions and how they relate to the broader development goals of the countries. There was obviously not a level playing field in the negotiation of these agreements, weak negotiating capacity being a major contributory to that situation.

However, the existing reality indicates developing countries must adopt very pragmatic and proactive approaches in their participation in the international processes particularly within the context of the ongoing negotiations on TRIPS review and the new round under WTO; the Intergovernmental Committee on IP, Genetic Resources, Traditional

Knowledge and Folklore (IGC), and the Substantive Patent Law Treaty (SPLT) discussions under WIPO; and International Regime on Access and Benefit Sharing under CBD as well as other relevant fora. In effect, they need to ensure that issues of concern to them are fully factored into the negotiations and that new commitments focus on those issues and take into account the current expertise and existing implementation capacity at the national level. The initial steps will necessarily involve a clear understanding of the how the international system operates and then seek to take advantage of the opportunities it presents while avoiding the pitfalls. This can only happen through concerted efforts at training negotiators and enhancing their support systems including putting in place effective mechanisms for gathering and delivering information.

There is currently minimal consultation process and feedback process involving all the major sectors and stakeholders in the preparation for and participation in international processes. Enhancing participation and negotiating capacity will entail, amongst other things, the inclusion and accommodation of all critical interest groups and stakeholders at the national level. Linked to this is the need for detailed sectoral studies to clearly appreciate the circumstances of the relevant sectors/stakeholders in order to develop national priorities and then articulate national positions based on those priorities. For example there must be the direct involvement of the relevant line ministries and departments like Agriculture, Environment and Health, at the sectoral level in the preparatory process as well as in the negotiations themselves. There is the need therefore, to expand the existing inter-ministerial processes in all the countries involved in this study and indeed in Sub Saharan Africa, to involve sectoral and sub-sectoral groups that would articulate the respective country's negotiating positions on all issues.

Status of intellectual property research

The main arguments put forward for instituting IPRs in a country are that they spur technological growth, encourage innovation, promote trade and contribute to overall development in a country. However, there is no research going on in any of the 5 countries to establish whether IP laws and institutions have contributed to the overall development of the study countries. Though, it was not possible to establish the status of IPR research in South Africa, current activities around intellectual property protection, seems to suggest that research is going on in areas including 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. In Kenya, despite investments in IPR, much of the research carried out has been on the regimes of IPRs and their implications on sectors such as biotechnology, entertainment (e.g. music) and information communication technologies. The implications of the IPR laws and policies for foreign investment, technology transfer and dissemination of information technology, promotion of indigenous research and development, promotion of trade (both locally and internationally) remains unmapped. In Uganda, Scientific research for innovation is very minimal. Innovative capacity is still in infant stages.

There is very minimal applied research going on in the universities or other research institutions. This is probably because of the very low funding allocated for scientific research. Together with that there is also very little policy research and as it is recommended that the findings of this study be used for further investigations. For example, the assertion that IPRs are a necessary stimulus for economic growth is yet untested in the African context and this would be a good starting point as a follow-on activity for this study. The implications of IPR law and policies for foreign investment, technology transfer, and IT, promotion of indigenous research and development, promotion of trade remain still at supposition level without any research having been conducted and conclusions drawn there from. It would be interesting as suggested in the Kenya study for example, to investigate the following aspects:

- a) The patenting of living organisms as opposed to man-made products and processes
- b) the modification of protection regimes to accommodate new technologies, particularly biotechnology and ICTs
- c) extension of protection to nascent areas such as software and business methods
- d) the focus on the relationship between IP protection and traditional knowledge, folklore and genetic resources, the geographical extension of minimum standards through bilateral and regional trade and investment agreements
- e) widening of exclusive rights and extension of duration of protection and strengthening enforcement mechanisms

Kenya Agricultural Research Institute (KARI), Kenya Forestry Research Institute (KEFRI), Kenyan Medical Research Institute (KEMRI) Kenya Trypanosomiasis Research Institute (KETRI), and Kenya Marine and Fisheries Research Institute (KEMFRI) are undertaking research with IP implications. For example, KEMRI is conducting research, particularly the research on traditional medicine and drugs. The research is both for their

potential as phytomedical products and for more sophisticated pharmaceutical products. This area is likely to expand rapidly with the drafting of a traditional Health Practitioners Bill published by the Ministry of Health in late 2002.

The region also boasts of regional and international organizations whose mandates vary but do have IPR implications. These organizations include the Consultative Group on International Agricultural Research (CGIAR); International Plant Genetic Resources Institute (IPGRI), International Livestock Research Institute (ILRI), for research on livestock and, the World Agroforestry Centre (ICRAF) for agro-forestry. The activities of these institutions have IPR implications. The Centres have individually and as a collective under the CGIAR formulated IP policies to guide their investment in research. The main thrust of these policies is developing public goods and putting all IP generated in the public domain, building the capacity of partners such as the Genetic Resources Policy Initiative (GRPI) established by IPGRI to strengthen the capacity of national policy makers in southern countries to develop comprehensive genetic resources policy frameworks. The GRPI is currently focusing its work in six countries. In Africa it is focusing on Ethiopia, Egypt and Zambia. IPGRI has also promoted awareness of international laws on genetic resources among the participating governments. For example, IPGRI in consultation with the African Centre for Technology Studies (ACTS) has produced a report on the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) in a bid to inform countries of the provisions of the treaty and assist governments that have ratified it to domesticate its provisions.

The United Nations Food and Agriculture Organization (FAO) is also supporting some initiatives in the region with regard to reviewing local phytosanitary laws in order to bring them to conformity with the International Plant Protection Convention (IPPC) and the revision of the seeds and Plant Varieties Act. For instance, Kenya's new Draft Bill combines the Crop Protection Act (cap 324) and the Suppression of Noxious Weeds Act (Cap 325).

Among the regional institutions, we have ACTS, an international policy research organization based in Nairobi. It was formed in 1988 to conduct policy research on issues of critical importance to Africa's development. ACTS provides affiliation to researchers working on science, technology and environment. ACTS was very instrumental in the promulgation of the independent industrial property law in Kenya in 1989.⁷⁵ The organization also contributed significantly to the debate on technology and IPR in the negotiations on the Convention on Biological Diversity and has contributed

to discussions on the relationship between TRIPS and the CBD on the question of IPRs and specifically on the issue of plant variety protection. More recently ACTS' research has focused on the place of IPRs in the national innovation system in the context of agricultural biotechnology development in African countries. It has also organized meetings for African diplomats in Geneva to meet various stakeholders in Africa and discuss African positions at international meetings.

Non-Governmental Organizations (NGOs) such as Econews Africa; Actionaid; African biotechnology Stakeholders' Forum; Biotechnology Trust Africa; African Technology Policy Studies (ATPS) and Kenya Association for Access to Essential Medicines have joined the fray on IPRs in terms of informing governments in the region what positions to take at international meetings as well as pushing for favourable provisions in IP laws.

However more specific research issues include:

- Low levels of indigenous participation in IPR;
- Interface between IPR and economic development in Africa is unknown;
- Inability to exploit existing patent information-access and benefit sharing;
- Strategies for raising awareness on IPP;
- Cost-effective methods for technology transfer not only from north to south but also south-south;
- Public private partnership-models to enhance PP development and promotion of IPR; and
- Effects of Free trade agreements on economic development and its IPR implications.

Recommendations

Considering the issues related to IPR in the previous Chapters recommendations on furthering IPR in the Case Study countries and in the African region in particular should centre on three specific themes including administrative frameworks and enforcement for intellectual property, negotiating capacity and research and crosscutting issues.

1. Administrative frameworks and enforcement for intellectual property
 - Need for strengthening existing institutional set up for IPR and where it is lacking establish one
 - Need for streamlining the coordination of IPRs at national level with the different arms of government with IPR responsibility under one coordinating body

- Need to establish database on IPR, which is freely accessible and available to the general public
- Need to develop effective communication strategies tailored to specific targets and needs
- Need to synchronize the Private sector or civil society participation in IPR issues at national/regional level
- Need to enhance collaboration and networking on IPR not only among the different arms of government, but also at sub-regional and regional level

2. Negotiating capacity

- Build an interdisciplinary negotiating team IPR in the region
- Ensure continuity and sustenance of the negotiating team for sustained engagement at the international fora. This has to be de-linked from the political arena
- Negotiate as a regional block for purposes of having a common negotiating position on IPR in the international fora.
- Institutions of higher learning in the region should integrate negotiating skills in their respective curricula
- Enhance training in both negotiating and technical skills for back stopping the regions negotiating teams
- Ensure consistency in use of negotiating /applied skills in relevant sectoral ministries including trade, agriculture, foreign affairs and environment
- Professional societies such as the Law societies in the region should design continuing legal education on emerging issues including IPR.

3. Research

If IPR regime is to be furthered in the region, the focus should be on the integration of IPR aspects in existing sectoral priority areas.

- a. Sectoral: Detailed sectoral studies to clearly appreciate the circumstances of the relevant sectors/stakeholders in order to develop national and regional priorities and then articulate national/regional positions based on those priorities needs to urgently be undertaken in the following areas:
 - IPR and agriculture, GMOs, biosafety issues, etc
 - IP and traditional medicine
 - IP and technology transfer
 - IP and traditional knowledge

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- IP and free trade areas (FTA)
 - Biodiversity (which embraces technology transfer, agriculture, traditional knowledge, etc)
- b. The role of IP in economic development and planning. Specifically how should governments approach this in the context of globalization through IP?
- c. Policy and legislative frameworks with focus on the following:
- Protection of IPR issues and how this meets national priorities
 - Mechanisms for exploiting a regional approach to IPR in the different regional economic communities (RECs) such as EAC, SADC and COMESA
 - Mechanisms for measuring alternative rights as opposed to current IPR system that does not capture local innovativeness.
 - Appropriateness of the current IPR regimes to national development priorities
 - Cost-benefit analysis of the current IPR administrative frameworks in promoting IPR.
 - Why low levels of indigenous participation in IPR
 - Establish interface between IPR and economic development
 - Why existing patent information-access and benefit sharing is not exploited
 - Strategies for raising awareness on IPP
 - Cost-effective methods for technology transfer (not only from north to south, but also south-south)
 - Public - private partnership-models to enhance IP in the development and promotion of IPR
 - Effects of Free trade agreements on economic development and its IPR implications
4. Cross-cutting issues
- Need for effective strategies for increasing information flow and awareness on IPR at both national and regional levels
 - Enhance networking and coordination at national and regional level,
 - Harmonize administrative frameworks at regional level to coordinate IPR development in the region
 - Need for a regional approach on IPR to take advantage of the limited human and financial resources in the regional at different scales including regional economic communities like EAC, SADC and COMESA

Conclusion

It is generally accepted that a comprehensive system of law, which protects intellectual property rights by providing creators of ideas a safe and conducive atmosphere in which to develop those ideas, is the sine qua non of industrial and technological growth. While it is essential to adopt legal and policy measures in regard to IPRs in order to effectively address the existing challenges and emergent problems, the case study countries need to adopt a co-ordinated and multi-sectoral approach with the participation of all the relevant sectors and stakeholders. This should be pegged to the provision of adequate resources for implementing and training institutions to carry out the relevant administrative and capacity enhancing activities.

Investment alone in IP laws and institutions is not enough. It remains to be seen to what extent these laws and institutions have contributed to national development. As pointed out above, the link between IP and endogenous technology development and inventive capacity generally is not established in the studied countries. It is necessary to carry out sectoral in-depth studies to establish the role of the different categories of IP in development and to justify the investment of public resources in the normative and institutional frameworks for the protection of these rights. This is especially urgent given that the available statistics on IP registration indicate that most IP holders are mainly foreigners.

It is clear from the country case studies as well as the workshop outcome that the strategic linkage between innovations, IP and economic development has not been fully appreciated not only in these countries but also in Sub-Saharan Africa as region. There is need therefore to appreciate the strategic importance of IPR to social economic development, which in turn will help countries to design policies that address their national development goals and to draw appropriate action plans for implementation.

Notes

1. US Council for International Business, 1985, at p. 3.
2. TRIPS Agreement constitutes Annex 1C to the Marrakech agreement establishing the World Trade Organization (the WTO Agreement).
3. Davis, 2004, Vol.13(5), July, pp. 399-415.
4. Kingston, 2001, 403-423.
5. Correa, 2000.
6. TRIPS Agreement constitutes Annex 1C to the Marrakech agreement establishing the World Trade Organization (the WTO Agreement).
7. Lundvall, et al. 2002, 31: 213-231.

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8. As provided under Article 27 of the TRIPS Agreement.
9. <http://www.corpwatch.org/news/PND.jsp?article=6210>.
10. Juma, 1989.
11. Under Article 31 of the TRIPS agreement.
12. US Council for International Business, 1985, at p. 3.
13. Baer, 1995.
14. Musungu, 2004.
15. It is argued that IPRs in their present form do not serve the interests of developing countries with little technological innovation capacities..
16. Kameri-Mbote, 1994.
17. Drahos, 2003.
18. Swanson, 1995.
19. Barlow, 1994.
20. Barton, 1995.
21. Wilson ed., 1988.
22. Shiva, 1993; Barton & Christensen, 1988; Shiva:1994.
23. Swanson, *supra* note 5.
24. This presumption is based on the neo-Schumpeterian economics of innovation
25. Romer, 1990,71-102.
26. Arrow, 1962, pp. 609-625.
27. Eckaus, 1996, pp98-109.
28. An argument clearly made by Polanyi (1944).
29. Referenced above under the Introduction section.
30. Lundvall & Johnson, 1994 provide a classification of economically relevant knowledge.
31. This study establishes that this is the widely applied mode of IP protection in the case study countries.
32. Brittin, 1982, 144 ff.
33. Freeman, 1982.
34. Barlow, 1994 and Radin, (mimeographed).
35. Barton, 1995.
36. Nnadozie, 2004, pp8-9
37. See section 7.3 below for further details on ARIPO.
38. Bankole, 1997.
39. Id.
40. Mould-Iddrisu, 2000.
41. Kameri-Mbote, 2004.
42. Sijthoff, 1976.
43. Chege, 1978.
44. *ibid.*
45. *Ibid.* at p.102
46. Act No. 5 of 1975.
47. Act No. 5 of 1982.
48. Act No. 14 of 1989.
49. Kingarui, 1989.
50. Nnadozie, 2004, pp7-8.
51. For Ghana, the Patents Ordinance No. 1 of 1899.
52. Yankey, 1987.
53. Kameri-Mbote, 2004.
54. Act No. 9 of 1916.
55. Teljeur, 2003.
56. Wolson, 2001.
57. Act No. 107 of 1996
58. Intellectual Property Laws Amendment Act 1997.

59. Mpeirwe, 2004.
60. Kanyeihamba, 1975, pp 14.
61. Only three seats were reserved for Africans and were taken by Mr. M.E Kawalya –Kagwa, P.Nyangabyaki, and Y.Zirabamuzale.
62. The International Intellectual Property system prior to the Trips Agreement consisted of among others The Paris Convention for the Protection of Industrial Property, The Bern Convention, The Rome Convention.
63. This ratification was done in 1965.
64. WIPO, 2001.
65. data is for the period between 1999-2002.
66. ARIPO, 2000.
67. KIPI, 2004.
68. CIPRO, 2004.
69. This is the African regional industrial property organization, which is made up *vide* a Treaty (Lusaka Agreement) and a Protocol to the Treaty. The Lusaka agreement sets out the objectives of ARIPO as:
 - a) the promotion of the harmonization and development of the industrial property laws, and matters related thereto, appropriate to the needs of its members and of the region as a whole
 - b) the establishment of common services or organs and development of the industrial property activities affecting its members
 - c) assisting its members in the development and acquisition of suitable technology, and
 - d) the evolution of a common view in industrial property
70. Under this treaty member countries agree to harmonize policies in commercialization of technologies as well as the protection of intellectual property.
71. This is a model law developed by the Organization of African Unity (OAU) now African Union (AU) for the recognition and “protection of the rights of local communities, farmers and breeders and for the regulation of access to biological resources”. This model law was adopted by the OAU summit of Heads of State and Government in 1988 and recommended that member states use it as a basis for the development of national laws on the relevant issues.
72. OAPI was established by the Bangui Agreement in March 1977 to foster the harmonization of IP laws in French speaking African countries. Though not members, Ghana and Nigeria are directly affected by the activities of OAPI due to the region wide political and policy aspects of IPR as well as due to developments within OAPI and the AU.
73. Kameri-Mbote, P. 2003, pp 8-15.
74. From the Workshop participants.
75. *See* Calestous Juma & J.B.Ojwang, *supra* n. 15.

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Annexes

Annex 1: Policy, legislative and administrative framework

Country	The Act	Institutions	Contents	Status/ Comments
Kenya	The Industrial Property Act, Cap 509 of the Laws of Kenya, 2001	The Industrial Property Act provides for the establishment of KIPi and sets out its statutory functions as being to grant original industrial property rights, screening technology transfer agreements and licenses, provide to the public industrial property information for technological and economic development and promote inventiveness in Kenya. Board of directors includes the Attorney-General's Chambers, Ministries of Finance and Education Science and Technology, (KEMRI), (KIRDI), (KAM) and the Jua Kali Association.	<p>Patents, utility models, industrial designs and technovations.</p> <p>It excludes discoveries, scientific theories, mathematical methods, schemes, rules or methods of doing business, performing purely mental acts or playing games, mere presentation of information among others from the ambit of patent protection as not being inventions. Plant varieties and invention contrary to public order, morality, public health and safety, principles of humanity and environmental conservation are also excluded from patentability.</p>	Revised to align it to the provisions of the WTO's Agreement on (TRIPS). At section 58, the Act allows for parallel importation by limiting patent rights 'in respect of articles put on the market in Kenya or in any other country or imported into Kenya'. This provision was intended to facilitate access to essential drugs especially for HIV AIDS
	Trade Marks Act, Cap. 504 of the laws of Kenya	Kenya Industrial Property Institute (KIPi) through the Industrial Property Act Cap 509 and the Trademarks Act cap 506 and under the general rubric of the Ministry of Trade and Industry.	<p>Registration of trade marks and service marks.</p> <p>It excludes Marks that are likely to deceive or cause confusion, contrary to law and morality, scandalous, identical to or resembling registered trade marks.</p>	A proposal to amendment it is in Progress

	The Copyright Act, Chapter 130 of the Laws of Kenya, 2001	<p>Sources of copyright law in Kenya are the Copyright Act, 1966, the Copyright (Amended) Act, 1975 (Act No. 5 of 1975), the Copyright Act Cap 130 of the Laws of Kenya, 1983 and revised in 1991 and the Copyright Act 2001. The English common law also provides a source of Kenyan copyright law.</p> <p>Source: The Attorney-General's Chambers' Office of the Registrar General.</p> <p>Administered by the Kenya copyright board</p>	Literary works, musical works, artistic works, audio-visual works, sound recordings and broadcasts. Kenya's copyright law also provides for protection of folklore.	
	The Seeds and Plant varieties Act, Cap. 326 of the Laws of Kenya	KEPHIS under the Ministry of Agriculture and Rural Development through The Seeds and Plant Varieties Act, Cap 326 of the Laws of Kenya deals with PBRS which it grants for a limited period of up to 25 years.	Phytosanitary requirements as well as the grant of plant breeders' rights (PBRs).	Kenya is only a signatory to the International Convention for the Protection of New Varieties of Plants (UPOV), 1978.
Nigeria	Merchandise Marks Act, Cap. 223 Laws of the Federation of Nigeria 1990.		Prescribes the penal sanctions for cases of fraudulent activities relating to use of trade marks and trade descriptions, and stipulates penalties for offences.	
	Trade Marks Act, 1965 (Cap. 436 Laws of the Federation of Nigeria 1990).	Federal Ministry of Science and Technology through the Patent and Trade Marks Office under a Patent and Trade Marks Registrar seconded from the Federal Ministry of Justice	Makes provisions for the registration of trade marks. It provides for the requirements of registrability, effects of registration and non-registration, the validity of registration, the procedure and duration of registration, the assignment and transmission of trade marks, the removal of trade marks from the register for non-use, ratification and correction of register, certification of trade marks, international arrangements on trade marks, the powers and duties of the registrar and legal proceedings in respect of trade marks.	

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	<p>Patents and Designs Act, 1970 (Cap. 344 Laws of the Federation of Nigeria 1990).</p>	<p>Federal Ministry of Science and Technology through the Patent and Trade Marks Office under a Patent and Trade Marks Registrar seconded from the Federal Ministry of Justice</p>	<p>Makes provisions for the granting of Patents and the registration of Designs. It deals, <i>inter alia</i>, with the patentability of inventions, the rights to patent, the application procedure, the examination and grant of patent, the rights conferred by patent, the duration, surrender and nullity of patent, compulsory and contractual licences, assignments and transfer of rights, the infringement of rights, legal proceedings and foreign priority, the nature and registration of industrial designs and the effect of registration. Currently, there is only formal, not substantive, examination of applications for the grant of patents.</p>	<p>Nigeria does not provide protection for plants either through patents or <i>sui generis</i> as required by Article 27.3b of the TRIPS Agreement. However, a draft bill on some form of protection for plant varieties has already been prepared and in the course of going through the legislative process. No law currently provides for protection of layout-designs of integrated circuits. However, a new draft bill contains provisions for the protection of layout-designs of integrated circuits in accordance with Article 35 of TRIPS Agreement. Also, there is no law providing for appellations of origin/geographical indications/indications of source but the new bill covers geographical indications as well.</p>
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	National Office of Industrial Property Act No. 70, 1979 (amended by Decree No. 82 of 1992).	Federal Ministry of Science and Technology	The law was designed to examine and register transfers of industrial property rights with a view to ensuring that the interests of Nigerian transferees to such rights are protected and to assist them in the selection of suitable technology and in other related matters.	The result at present is that the registration of contracts concerning the transfer of foreign industrial property rights to Nigerians and related matters are being administered by NOTAP while the creation, identification and registration/grant of industrial property rights in Nigeria are administered by the Ministry of Commerce. This separate administrative coverage of different aspects or components of IPRs has, in many cases, resulted in obvious but unnecessary conflicts and the entrenchment of "turf mentality" which has proven to be counter-productive.
	Trade Marks Regulations 1967			
	Copyright Decree No. 47, December 1988 (Cap. 68, Laws of the Federation of Nigeria, 1990). Copyright (Amendment) Decree No. 98, December 1992. Copyright (Amendment) Decree No. 42, May 1999	Copyrights and related issues are being administered by the Nigeria Copyright Commission under the Federal Ministry of Culture and Tourism Copyright matters are governed in Nigeria by the Copyright Act, 1988 as amended by the Decrees 98 and 42 of 1992 and 1999 respectively		Copyright is the most prominent in Nigeria, having undergone the most legislative progress and witnessed the most judicial activity as well as the active and direct involvement of the varied stakeholders. On the other hand, while there is very little activity going on in respect of patents and designs, a considerable volume of activity goes on in respect of trade marks.

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	<p>Customs and Excise Management Act Cap 84 Laws of the Federation of Nigeria, 1990. (This Act prohibits importation of infringing goods into Nigeria).</p>			
Ghana	<p>The Patents Registration Ordinance, Cap. 179, Ordinances Nos. 21 of 1922, No. 36 of 1924, No. 21 of 1932, No. 6 of 1933, No. 30 of 1935 (revised edition 1954)</p> <p>Patents Registration (Amendment) Decree, N.R.C.D. 81, June 1972.</p>	<p>Ministry of Justice through the Registrar General's Office under a Registrar</p>		
	<p>Patent Law of 1992 (P.N.D.C.L. 305A).</p>		<p>Makes provisions for original registration of patents upon satisfaction of the criteria of absolute novelty, inventive step, and industrial application. The law also establishes a system of utility certificates to encourage local inventiveness. Ghana has joined the Patent Cooperation Treaty (PCT) and the Law makes provision for international applications.</p>	<p>Currently, Ghana has excluded certain categories of inventions from patentability thereby protecting certain areas of their national industrial and economic sectors. Patents will not be granted for pharmaceutical products, although this can no longer hold as result of the provisions of the TRIPs agreement requiring patents in all fields of technology. There is however a new Patent Bill due to be laid before Parliament in order to comply with international obligations</p>

	<p>Provisional National Defence Council (P.N.D.C.L.) Law No. 137: Protocol on Patents and Industrial Designs within the Framework of the Industrial Property Organization for English-Speaking Africa (ESARIPO) (Ratification) Law 1985, November 1985 (in force in April 1984).</p>			
	<p>Investment Code (P.N.D.C.L. 116), July 1985.</p>			
	<p>Merchandise Marks Act No. 253 of 1964.</p>			
	<p>Trade Marks Act No. 270 of 1965.</p> <p>Trade Marks Regulations, 1970, L.I. 667, December 1970, as amended in December 1972, July 1980 and July 1988.</p>	<p>Ministry of Justice through the Registrar General's Office under a Registrar</p>	<p>Provides for the registration of original marks which are able to distinguish goods of applicants. It enables marks to be registered in Part A or B of the Register depending upon their distinctiveness.</p>	<p>The present legislation does not make provision for service mark registration and does not recognize well - known marks. This Act entered into force only after the passage of the Implementing Regulations in 1970. The 1964 Merchandise Marks Act relates to fraudulent marks on merchandise and stipulates penalties for offences under the Act. There now a new Trademark Bill which is due to be laid before Parliament.</p>

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	<p>United Kingdom Designs (Protection) Ordinance, Cap. 182, Ordinances Nos. 23 of 1928, No. 22 of 1932, No. 41 of 1949.</p> <p>---Textile Designs (Registration) Decree N.R.C.D. 213, September 1973</p> <p>---Textile Designs (Registration) Regulations, L.I. 512, June 1966, as amended in July 1980.</p>			<p>Presently, Ghana has no original industrial designs legislation. So, the United Kingdom Designs (Protection) Ordinance of 1928 (Chapter 182) applies and provides automatic registration of all designs registered in the United Kingdom. The Textile Design (Registration) Decree of 1973, NRCD 213 protects only textile designs. It provides for the registration of both local and international textile designs. This law specifically excludes well-known designs such as Ghana's kente. There is however a composite Industrial Designs Bill which is before the Parliament for enactment into law.</p>
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	<p>Provisional National Defence Council (P.N.D.C.) Law No. 110, March 1985.</p>	<p>Matters of copyright in Ghana are presently regulated by the Copyright Law of 1985 PNDC Law 110.</p> <p>The Copyright Law of 1985 established the Copyright Office. Section 41 provides for the appointment of the Copyright Administrator and supporting staff to implement and administer the Copyright Law, which covers the following works, <i>inter alia</i>: musical, literary, artistic, broadcasts and folklore.</p>	<p>This Law provides protection to authors for the list of protected works under the Law, <i>inter alia</i>: musical, literary, artistic, broadcasts and folklore, for a period of the life of the author and 50 years after his death. The Law also provides for the protection of sound recordings and folklore and the establishment of a system of collective administration of authors rights. The Law also establishes a Copyright Office and stipulates criminal sanctions for the infringement of copyright. However, technological changes, new international obligations and the need for enhanced enforcement provisions led to the drafting of a new Copyright Bill which is already before the Parliament for enactment into law.</p>	
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5.0. Major institutional frameworks

Country	Institutions	Mandate
Kenya	Kenya Industrial Property Institute (KIPO)	KIPI aspires to be the one-stop shop for intellectual property rights and makes provision in its establishment for copyright officers even as its main remit is industrial property. Further, while section 26 of the Industrial Property Act excludes plants from patentability in Kenya, parts of plants and the processes and products of biotechnology are patentable. In this regard KIPI has already received applications for plant biotechnology products although not from local investors. KIPI is also set to deal with ABS (Access and benefit sheeting) problems before granting a patent. This means that the applicant must disclose the origins of the materials and knowledge encapsulated in the invention. This is a step forward towards curbing biopiracy. In terms of biosafety, KIPI is also involved and was involved in the negotiations leading to the conclusion of the Cartagena Protocol on Biosafety. KIPI is also a member of the National Biosafety Committee (NBC) and liaises closely with the National Environmental Management Authority (NEMA), the implementing agency of the Environment Management and Coordination Act, 2000 to safeguard the environment.
	Kenya Plant Health Inspectorate Service (KEPHIS)	To establish a plant variety protection office to liaise with the International Union for the Protection of New Varieties of Plants (UPOV); and To register and deregister seed merchants, seed growers, agents and any other person required by the Act to be registered and deregistered.
	Attorney General's Chambers i. The Office of the Registrar General ii. The Copyright Board	
		A section of the Attorney General Chambers handles copyright. An officer, the only full time employee of the section, works with WIPO and other international copyright organizations in the work. This office is more focused on law reform than on the day-to-day administration of copyright although, the AG's office is represented in the Music Copyright Society of Kenya (MCSK).
		The Copyright Board was inaugurated in July 2003. While the intention under the Act is to have the board delinked from the Attorney-General's chambers, the process of delinking has no occurred as yet. The Board has developed implementing regulations for the Act but has not yet begun to perform its functions in earnest.

	<p>The National Council for Science and Technology</p>	<p>It is mandated to regulate research activities in Kenya. It is charged with the responsibility of granting research licences for research carried out in Kenya. Some of these research activities may generate IPRs. Indeed the Council is represented in the KIPI board.</p>
	<p><u>Public Research Institutions</u> Kenya Agricultural Research Institute (KARI)</p> <p>The Kenya Forestry Research Institute (KEFRI)</p> <p>The Kenyan Medical Research Institute (KEMRI)</p> <p><u>Others</u> Kenya Trypanosomiasis Research Institute (KETRI) Kenya Marine and Fisheries Research Institute (KEMFRI), Pyrethrum Board of Kenya and other organizations focussed on Tea and Coffee production</p>	<p>It is renowned for breeding new varieties of food crops such as tissue culture bananas and other disease free planting materials. In the past KARI has concentrated on conventional breeding techniques such as crossing and tissue culture. One of the main projects at KARI has been the development of tissue culture banana. This project has been successful and by June 2003, over 5,000 local farmers were growing tissue culture bananas.</p> <p>Recently, KARI set up a Biotechnology Centre which is working on three genetic engineering projects. The projects are still in the field stage and concrete results are yet to be realized. The genetic engineering project involves the development of Bt maize, Bt cotton and transgenic sweet potatoes</p>
		<p>KEFRI conducts extensive activities that have IP implications. It catalogues and conserves medicinal plants. The cataloguing of medicinal plants has proved problematic as in the absence of any regime regarding the ownership of this knowledge; the catalogue cannot be made public without risking the loss of any IPRs whether they are individual, communal or national.</p>
		<p>KEMRI's research has IP implications, particularly the research on traditional medicine and drugs. The research is both for their potential as phytomedical products and for more sophisticated pharmaceutical products. This area is likely to expand rapidly with the drafting of a traditional Health Practitioners Bill published by the Ministry of Health in late 2002.</p>

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	Public Universities	Some of these institutions have begun to work towards establishing technology transfer offices with intellectual property policies guiding activities in such offices. Local universities which have faculties of engineering, medicine and agriculture can potentially develop technologies warranting protection as IP. The joint project between the University of Nairobi and the University of Oxford on the development of an AIDS vaccine where there was contestation between the two institutions on who should be the owner of the IP has highlighted the need for clear IP policies in Universities.
	Seed Companies Flower Companies STAK (The Seed Trade Association of Kenya) Collecting Societies	
	<u>International Institutions</u> Consultative Group on International Agricultural Research (CGIAR) United Nations Food and Agriculture Organization (FAO) The African Centre for Technology Studies (ACTS) Non-Governmental Organizations (NGOs)	The mandate of these institutions includes promotion of the conservation and sustainable use of plant genetic resources for the benefit of present and future generations International Plant Genetic Resources Institute (IPGRI) and research on livestock-- International Livestock Research Institute (ILRI) and agro-forestry World Agroforestry Centre (ICRAF). The work of these institutions has IPR implications. The centres have individually and as a collective under the CGIAR formulated IP policies to guide their investment in research. The main thrust of these policies is developing public goods and putting all IP generated in the public domain.
		There have been indications that FAO funded the review of local phytosanitary laws in order to bring them to conformity with the International Plant Protection Convention (IPPC) and the revision of the seeds and Plant Varieties Act. Specifically the new Draft Bill combines the Crop Protection Act (cap 324) and the Suppression of Noxious Weeds Act (cap 325). FAO has also supported workshops on the understanding of the International Treaty on Plant Genetic Resources for Food and Agriculture held under the rubric of the research liaison office at the Ministry of Agriculture.

		<p>ACTS was very instrumental in the promulgation of the independent industrial property law in Kenya in 1989. ACTS also contributed significantly to the debate on technology and IPR in the negotiations on the Convention on Biological Diversity and has contributed to discussions on the relationship between TRIPS and the CBD on the question of IPRs and specifically on the issue of plant variety protection. More recently ACTS' research has focused on the place of IPRs in the national innovation system in the context of agricultural biotechnology development in African countries. It has also organized meetings for African diplomats in Geneva to meet various stakeholders in Africa and discuss African positions at international meetings.</p>
		<p>Non-governmental organizations have also joined the fray on IPRs in terms of informing Kenya's position at international meetings as well as pushing for favourable provisions in IP laws. Some of the NGOS are: Econews Africa; Actionaid; African biotechnology Stakeholders' Forum; Biotechnology Trust Africa; African Technology Policy Studies (ATPS) and Kenya Association for Access to Essential Medicines (KAEM).</p>
Nigeria	Patents and Trademarks Registry	<p>The Registry is a mere department in the Ministry of Commerce. Although, the Office generates a significant amount of revenue for the Ministry the funding and support for the Office has not been adequate. Consequently, due to financial constraints, the Office has not been able develop to its full capacity in terms of human resources, equipment and Office space as well as in the processing of applications.</p>
	National Office for Technology Acquisition and Promotion	<p>Formerly the National Office of Industrial Property (NOIP) was established by Decree No. 70 of 1979. NOTAP is a parastatal under the Federal Ministry of Science and Technology.</p> <p>The major functions and activities of NOTAP include:-</p> <ul style="list-style-type: none"> • Registration of all contracts and agreements for the transfer of foreign technology to Nigerian Companies, involving for example, the use of Trademarks or Patents; • Encouragement of more efficient process for the identification and selection of foreign technology; • Development of negotiating skill of Nigerians, to ensure best contractual terms and conditions in any agreement for transfer of foreign technology; • Monitoring the execution of registered Technology Transfer Agreements; • Promotion of locally generated technologies; • Dissemination of IP and technology information; • Collation and Documentation of all R&D results and inventions; • Promotion of IPR awareness among researchers and inventors; • Facilitating the patenting of viable R&D results from both publicly funded projects and private initiatives; • Establishment of technology data bank for researchers; • Commercialization of all valuable R&D results and inventions.

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	Nigerian Copyright Commission (NCC)	The Copyright Decree of 1988 established the Nigerian Copyright Council, later elevated to the Nigerian Copyright Commission through subsequent amendments. The law also vested it with the responsibility, amongst others, to monitor Nigeria's position in relation to the relevant international conventions, enlighten and inform the public on matters relating to copyright and maintain an effective data bank on authors and their works.
	<p><u>Other Stakeholder</u></p> <p>Performing and Mechanical Rights Society (PMRS)</p> <p>Reproduction Rights Organization of Nigeria (REPRONIG).</p>	There is, however, some conflict with respect to the music industry as a rival collecting outfit has been set up and has been the subject of major frictions and protracted litigation.
	<p><u>Professional organizations and guilds</u></p> <p>Performing Musicians Association of Nigeria (PMAN)</p> <p>The Industrial Property Law Interest Group (IPLIG)</p>	<p>Lobby for stronger and more effective copyright legislation and administration.</p> <p>To educate the public and lobby on behalf of industrial IPR interests. IPLIG has sponsored several conferences throughout Nigeria and credits itself for initiating an intellectual property rights course at the law school in Lagos. It has also held several programmes aimed at sensitizing the judiciary on IP legal developments and issues. The Group was subsequently transformed into the Intellectual Property Law Association of Nigeria (IPLAN) and has also been actively involved in the lobby for IP law and administration reforms.</p>
Ghana	Registrar General's Department	Deals with matters concerning Trademarks and Patents and Designs. The Registrar-General's Department which is under the Ministry of Justice and, as is the case in Nigeria, the Department has not also been able develop to its full capacity in terms of human resources and infrastructure due to financial constraints
	The Copyright Office	<p>As part of its mandate the copyright office performs the following functions, <i>inter alia</i>:</p> <ul style="list-style-type: none"> • Formulate appropriate policies for the effective protection of all intellectual works eligible for copyright protection; • Register copyright works; • Provide advise on copyright issues; • Organize seminars, conferences and workshops to educate the general populace and copyright owners on their rights and obligations under the law; • Arbitrate on copyright disputes; • Administer works of Ghanaian folklore with the guidance of the national folklore Board of Trustees; • Ensure and supervise the establishment of Authors Societies and provides guidance for their effective functioning; • Conduct activities to combat piracy of copyright works; • Administer works in the public domain

	Others Ghana Book Publishers Association, and Ghana Association of Writers.	To protect the interests of major copyright owners
	The Council for Scientific and Industrial Research (CSIR)	Its main mandates include: <ul style="list-style-type: none">• to pursue the implementation of government policies on scientific research and development;• to encourage co-ordinated employment of scientific research for the management, utilization and conservation of the natural resources of Ghana in the interest of development;• to encourage scientific and industrial research of importance for development of agriculture, health, medicine, environment, technology and other service sectors and to this end to encourage close linkages with the productive sectors of the economy;• to encourage and promote the commercialization of research results:• to undertake or collaborate in the collation, publication and dissemination of the results of research and other useful technical information: