



**A Study on Intellectual Property Environment  
in Eight Countries: Swaziland, Lesotho,  
Mozambique, Malawi, Tanzania, Uganda,  
Kenya and Ethiopia**

**African Technology Policy Studies Network  
WORKING PAPER SERIES | No. 66**

**Joseph M. Wekundah**





# **A study on Intellectual Property Environment in Eight Countries: Swaziland, Lesotho, Mozambique, Malawi, Tanzania, Uganda, Kenya and Ethiopia**

**Joseph M. Wekundah**

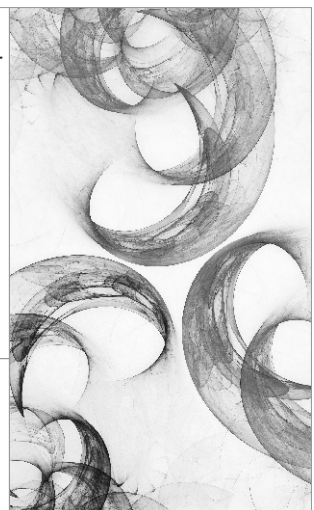
The African Technology Policy Studies Network (ATPS) is a multi-disciplinary network of researchers, private sector actors and policy makers promoting the generation, dissemination, use and mastery of science, technology and innovation (ST&I) for African development, environmental sustainability and global inclusion. ATPS intends to achieve its mandate through research, capacity building and training, science communication/dissemination and sensitization, participatory multi-stakeholder dialogue, knowledge brokerage, and policy advocacy.



Published by the African Technology Policy Studies Network  
P O Box 10081, 00100 GPO Nairobi Kenya

© 2012 Published by the African Technology Policy Studies Network

ISBN: 978-9966-030-36-8



# Table of Contents

Acknowledgement	4
List of Acronyms	5
1. Introduction	6
2. International Conventions, Protocols & Treaties/Agreements Covering IPRs	11
3. IPR Background Information of Target Countries	21
4. Analysis of the Regional IP Environment	58
References	65

# Acknowledgement

This paper was produced as part of the implementation of the ATPS phase VI Strategic Plan, 2008-2012 funded by ATPS Donors including the Ministerie van Buitenlandse Zaken (DGIS) the Netherlands, Rockefeller Foundation, Open Society Foundation, UNESCO, European Union, African Union, amongst others. The authors hereby thank the ATPS for the financial and technical support during the implementation of the Intellectual Property Program. The authors particularly thank the Executive Director of the ATPS Prof. Kevin Urama for his visionary leadership and all members of his team at the ATPS. We are also grateful to the Programme Coordinators including Mr. Joseph Wekundah of the Biotechnology Trust Africa, Dr. Maurice Bolo (ATPS), Dr. Nicholas Ozor (ATPS), Prof. Moni Wekesa (Mount Kenya University) for their technical supports to the Programme.

# List of Acronyms

ACE	Advisory Committee on Enforcement
AG	Attorney General
BRELA	Business Registrations and Licensing Agency
COSOMA	Copyright Society of Malawi
COSOTA	Copyright Society of Tanzania
CBD	Convention of Biological Diversity
CNRs	Copyright and Neighboring Rights
DUS	Distinct Uniform and Stable
IGC	Inter-governmental Committee
IPR	Intellectual Property Rights
ITM	Institute of Traditional Medicine
KEPHIS	Kenya Plant Health Inspectorate Service
KEMRI	Kenya Medical Research Institute
KIPO	Kenya Intellectual Property Organization
KIPI	Kenya Intellectual Property Institute
KNF	Kenya Neem Foundation
MIP	Master of Intellectual Property
NCST	National Council for Science and Technology
NEMA	National Environmental Management Authority
NMK	National Museums of Kenya
PBR	Plant Breeders Rights
PCT	Patent Cooperation Treaty
PVP	Plant Variety Protection
SCP	Standing Committee on Patents
TMMP	Traditional Medicine and Medicinal Plants
TRIPS	Trade-Related Aspects of Intellectual Property
OAU	Organization of African Union
SCCR	Standing Committee on Copyright and Related Rights
UPOV	Union for the Protection of New Varieties of Plants
WTO	World Trade Organization

# 1. Introduction

Intellectual Property Rights (IPR) refers to protection of inventions in all fields of human endeavor – scientific discoveries, industrial designs, Trade Marks, Service Marks, Literary, Artistic, Scientific Works, Performances, Sound recordings, broadcasts, etc. It is a protection against unfair competition and it is intangible. It rewards innovative activity and helps to recoup the costs of creating the invention and make profit. It also helps to acquire exclusive rights over the commercial exploitation of the creation.

Using Webster's New International Dictionary, a patent is defined as an official document issued by a sovereign power conferring a right or privilege on an individual or party with security to an invention for a period of years providing him/her the exclusive right to make, use and vend his/her invention. While expanding on the definition, Irving Keyton (1989) at George Mason University Foundation wrote: "patents are intensely practical, real life legal instruments with which an inventor or corporation can protect the investment in time, money, effort and other resources expended in order to create a new contribution to technology". He emphasized that patent law is a specialized field of endeavor and is a special form of the law that protects property without which the doctrine of "survival for the fittest" would reign. It is a legal system designed to provide government sanctioned remedies and means to protect the inventors' rights in his or her new contribution to society and is peculiarly effective in any society where private property is recognized. Legally, patents have attributes of personal property; in that, its owner has exclusive rights over the rest of the world which is safe for sovereignty, for its exploitation and dominion.

Patent rights enforcement is territorial while patent granting procedures,



although territorial has a universal effect. A patent once granted to an applicant, cannot be granted to another applicant in neither same nor different territory since it will lack novelty that is determined worldwide and the inventive step. A territory can reflect national, regional or international jurisdiction. Each territory has got its own procedures for grant, exploitation and litigation of patent rights, although there are efforts to harmonize them. These procedures are governed by patent laws and are highly depend on qualified personnel all of which differ from one territory to another. This means that there exist some risks e.g. one territory may grant and another may reject to grant the same patent because of non-uniformity of these procedures and capacities. For the same reasons, exploitation and litigation are subjects of the risk and thus, constitute unfairness in patent protection. This has been, and will continue to be, the case until a system is in place for obtaining, exploiting and litigating patent rights – the so called global patent system; until then, there continues to be an erosion of the real essence of granting patents rights which in turn is a challenge to the importance of patent law.

Given that patent law is vital in a society to the enhancement of social, technological and economic development, it demands fair practice. However, in practice, various factors effectively contribute to unfairness in the grant, exploitation and litigation of patent rights. Among them is the requirement for patentability and exclusions, thereof and relativity of doctrines like public order, morality and public health. Patentability posses challenges to fair patent practice mainly because of two of its three requirements for its validity – novelty and inventive step – whose analysis is difficult to do because they are subjective.

Patent laws provide for three conditions of patentability: novelty or newness, inventive step and industrial applicability. In substantiating the inventive step, patent laws provide that an inventive step is conceived to involve an incentive step if it is not obvious to a person skilled in the art. The inventive step as a requirement of patentability has remained a challenge to beneficiaries of the patent system and thus highly contributes to unfair patent protection.

An invention is new if it is not anticipated by prior art, and prior art is: everything made available to the public anywhere in the world by means of written disclosure in drawings or other illustration or by oral disclosure, use, exhibition or other non-written means. A disclosure of the invention shall not be taken into consideration if

it occurs not earlier than six months before the filing of the application.

An invention shall be taken to be capable of industrial application if according to its nature, it can be made or be used in the technological sense in any kind of industry, including agriculture, fishery, medicine or services.

The right to a patent shall belong to an inventor and if two or more persons have jointly made an invention, the right to the patent shall belong to them jointly. Secondly, if two or more persons have made the same invention independently, the earliest claimed priority date and leads to the grant shall have the right to the patent. The right to a patent of an invention made in execution of a commission or from an employment contract shall belong to the person having commissioned the work or to the employer. When an employment contract does not require the employee to exercise any inventive activity but the employee has made the invention by using data or means available to him through employment, the right goes to the employer. Lastly, where the employee has made the invention by using data or means available to him through his employment, he has the right to equitable remuneration taking into account the importance of the invention.

Currently, there are three classic Intellectual Property Regimes. These include: Industrial Property regime; Copyrights regime and Plant Breeders' Rights regimes. Industrial Property regime includes patents for inventions, utility models (petty patents), industrial designs, trade marks for identification of goods, etc., trade secrets, service marks for identification of services and topographies of integrated circuits. Copyrights includes protection of cultural, artistic and literary written works such as poems, books, articles, music works, paintings, cinematography works, photography, sculpture and computer programming. Plant Breeders' Rights mainly cover the protection of new plant varieties.

Allocation of IPRs to the creator balances the private interests; thereby, ensuring that he/she still has an incentive to create against those of the society at large in having the information available for use. Even though the information does not diminish once it is shared, the role of IPRs is to ensure that information providers do not lose their rights to the information by disclosing it. One of the philosophic underpinnings of IPRs is to ensure disclosure of the information, the assumption being that lack of such a 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 re-coursed to the originator of the idea.

### **1.1 Evolution of IPR Laws**

Historically, IPRs; particularly patents, were considered as tools that foster economic development by promoting innovation and inventiveness. However, the national views on the merits and demerits of IPRs were breaking down along the lines of who is developing new technologies and who needs them. In fact, existing conventions for IPRs favour those with needy access to economic and legal resources and this works unfairly against those who do not have such access. Hence, the patent regimes were intended to foster the technological and industrial progress of the state granting the patent. The rights of local inventors were only the corollary of the monopoly conditions deemed appropriate for such exploitation, while the rights of foreign inventors were disregarded. The law thus did not protect the property rights of the original inventor, but permitted the importer of the invention to exercise rights similar to those of the original inventor. Under these conditions, the patent law's objective was not to protect the inventor per se, but to promote the economic and industrial performance of the state.

One of the objectives of the developing countries is to achieve rapid economic development at minimal cost whereas the developed countries' objectives (which focus on the international aspects of the patent regime) is to establish markets on a global scale. These positions have become a source of tension and debate in overall evaluation of the international patent system. The positions have created divergent views on whether a classic intellectual property regime fosters or hampers economic development.

### **1.2 Arguments for the grant of IPRs**

- (i) IPR provides incentives for innovation and it also improves and maintains high rate of inventiveness which accelerates the rate of technological change.
- (ii) It also encourages information disclosure which allows persons to make use of the invention that would otherwise remain secret and unavailable to the public.
- (iii) It promotes transfer of technology, from those with the technology to those without.

- (iv) IPR has increased the role of the private sector in research and development. Without IPR, the private sector which is profit driven would not invest in research.

### **1.3 Arguments against the Grant of IPRs**

- (i) Knowledge and information are good for the public, therefore no need for protection.
- (ii) In theory IPRs hamper or restrict economic development due to the costs involved.
- (iii) Empirical data reveals that countries that do not produce patentable inventions or publish literary or artistic works have the main beneficiaries of IPR protection as foreign companies.
- (iv) Encourages monopoly.
- (v) Barrier to trade.

### **1.4 International Patent Systems**

Questions have arisen as to the desirability of the shift in the international patent system from a relative to an absolute novelty standard which ensures that patent protection is not granted at national levels for imitation products. The standards thus conforms to the objectives of patentees in developed countries who in most cases are multi-nationals with global trading interests. From the view point of developing countries, an absolute novelty (attained when an invention is new worldwide and is not anticipated by the state of the art) is inappropriate to the extent that it stifles the creation of local inventive capacity.

Secondly, internationalization of the patent system through WTO's agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) leads to unification and harmonization of the national patent laws. This has the effect of legally placing all nations on formal equality without regard to their different technological and economic levels of development. Their international patent system favors the developed countries which have advanced levels of technological capacity.

## 2. International Conventions, Protocols & Treaties/Agreements Covering IPRs

Intellectual Property Rights is an area of development as indicated in 1 (previous chapter); it has been instigated and heavily influenced by factors and developments from developed countries. In most cases, international agreements, conventions, multilateral treaties, protocols and other processes have been instrumental in triggering national legislative and policy responses. The protagonists and movers of these international processes have been mainly the governments from developed countries driven by the need to further national interests beyond their boundaries.

The results of these have been development of systems that lack the necessary cultural embedment in African Societies which leads to failure in realization of the full benefits envisaged under such systems. This leads to unsynchronized development of the relevant human and institutional capacities of the legal and policy frameworks which are uncoordinated. Therefore, meeting national obligations under such conventions and agreements remains problematic. However, opportunities and provisions exist in some of the conventions, treaties and agreements.

### **2.1 World Intellectual Property Organization (WIPO)**

WIPO is one of the 16 specialized agencies of the United Nations. It was created in 1967 to encourage creative activity to promote the protection of IP throughout the world. Currently, WIPO has 184 member states and administers 24 international treaties. Almost all UN members as well as the Holy Sea are

members of WIPO. Non-members are the states of Kiribati, Marshall Islands, Micronesia, Nauru, Palau, Solomon Islands, Timor-Leste, Tuvalu, Vanuatu, Palestinian Authority, Sahrawi Republic and Taiwan.

WIPO was formally created by a convention which entered into force on April 26, 1970. Under article 3 of the convention, WIPO promotes the protection of IP throughout the world. WIPO became a specialized agency of the UN in 1974. Unlike other branches of the UN, WIPO has significant financial resources independent of the contributions from its member states. In 2006, over 90% of its income was generated from the collection of fees by the International Bureau under the IP applications and registration systems which it administers.

As with all UN multi-government forums, WIPO is not an elected body. It usually attempts to reach decisions by consensus, but in any vote, each member state is entitled to vote regardless of population or contribution to the funding. This factor has led to significant consequences over certain issues, due to the North-South divide in the politics of IP. During the 1960s and 1970s, developing nations were able to block expansions of IP treaties such as universal pharmaceutical patents which might have occurred through WIPO. In the 1980s, this led to the United States and other developed countries shifting IP standard setting out of WIPO and into general Agreement on tariffs and trade, which later evolved into the World Trade Organization (WTO) where the North has greater control of the agenda. This paid dividends to the North with the enactment of the Agreement on Trade-Related Aspects of IPR (TRIPS). Much of the important work at WIPO is done through committees, including the Standing Committee on Patents (SCP), the Standing Committee on Copyright and Related Rights (SCCR), the Advisory Committee on Enforcement (ACE) and the Intergovernmental Committee (IGC) on Access to Genetic Resources, Traditional Knowledge and Folklore, and the working group on reform of the Patent Cooperation Treaty (PCT).

Based on the fact that all member states are treated the same by WIPO, and the Geneva Declaration on the future of WIPO, Argentina and Brazil prepared a proposal for the establishment of a Development Agenda for WIPO. In October 2004, WIPO agreed to adopt the proposal and it was also well supported by developing countries. On this basis, a number of civil society bodies have been working on a draft on Access to knowledge treaty which they would like to see introduced.

WIPO has established WIPOnet, a global information network. This project has linked WIPO to over 300 IP offices in all WIPO member states. It also provides a means to secure communication among all connected parties. WIPOnet is the foundation for WIPO IP services, and has made patent search easy for various member countries including the developing countries.

## **2.2 World Trade Organization (WTO) and its Agreement on Trade-Related Aspects of Intellectual Property (TRIPS)**

The TRIPS agreement was a result of an initiative by developed countries to introduce more stringent IPR rules in trade to extend the security offered to the private sector through IPRs on an International level. It came into force on 1st January, 1995. Article 27.1 of the TRIPS agreement stipulates that “Patents shall be available for any inventions whether products or processes in all fields of technology” and the patents shall be available and patent rights enjoyable without discrimination as to the field of technology. Further, Article 27.3 stipulates that members shall provide for the protection of plant varieties either by patents or by an effective Sui-generis system (such as those of UPOV) or by a combination thereof. Article 27.3(b) explicitly indicates that nations or states could use an alternative system – Sui-generis to protect the plant varieties. Some countries combine the protection of plant varieties with measures to protect farmers' rights over genetic resources (including Traditional Knowledge). This provision further consolidates the position with regard to granting of IPRs in the field of biotechnology particularly as it relates to plant varieties. However, as countries may exempt plants and animals from patentability, it should be noted that the subject matter of protection is to some extent left to the discretion of national states and thus the scope of protection for products and processes, of new technologies is uncertain.

Secondly, different country exclude different subject matter from patentability and thus unification and harmonization of patent laws the world over is a remote goal. But the absence of criteria for patentability is favorable because each country with distinctive public interests shaped by its level of development is able to develop its national patent laws to correspond to its development goals. This enables developing countries to use infant industry arguments to protect certain sectors from competition or limit the application of the general patent system in certain fields such as pharmaceutical or food industries. It is however remarkable that even with the provision of the Sui-generis system, most African countries have not

devised Sui-generis regimes and some have quickly adopted UPOV provisions like Kenya, Tanzania and South Africa in Eastern and Southern Africa and yet a major conceptual argument against IPR regimes is that they are based on Western concepts of property rights and are therefore alien and impractical in the cultural, historical and institutional context of most developing countries.

### **2.3 International union for the protection of new varieties of plants (UPOV)**

The legal systems for the protection of plant varieties that were enacted in Europe from 1940 onward were harmonized through the convention for the protection of new varieties of plants (Paris 1961) (N.P. Louwaars et. al) which also established UPOV to support and expand a new system. The UPOV system provides protocols for assessing and describing the unique characteristics of a new variety ensuring that it is distinct, uniform and stable (DUS).

The UPOV system was revised three times: 1972, 1978 and 1991, gradually strengthening the rights of the breeder (N.P. Louwaars et al.). In 2004, about 55 countries had ratified the UPOV convention out of which 28 followed the 1991 convention and 25 the 1978 convention where Kenya, Tanzania and South Africa are part. An expansion of rights under the UPOV system took place in early 1990s, in the wake of the TRIPS agreement. Plant variety protection (PVP) provides a protection System that is rooted in the agricultural sector and has some key differences with the patent system. Nevertheless UPOV provides important harmonization functions. UPOV member countries may have quite different laws, based on different conventions (1978 or 1991) and interpretations, but almost all members use the same technical guidelines for DUS testing. Both conventions recognize the rights of individual plant breeders who have developed or discovered plant varieties which are new, distinct, uniform and stable. The convention (1978 and 1991) seeks to protect new varieties of plants both in the interest of agricultural development and of plant breeders. The rights granted in each member state are effective only within that territory and not internationally.

Both Conventions; the 1978 and the 1991 have breeders' exemption which is referred to as the cornerstone of plant breeders' rights. This means that every breeder is allowed to freely use any protected varieties for further breeding. The 1978 convention emphasizes the right of farmers to save seed from their harvests to plant the following season. In some countries like Kenya farmers are allowed to



re-use or save and re-plant their own seeds while others, like it was in the USA, farmers were allowed to not only save but also to sell seed of protected varieties to their neighbors as long as the sales accounted for less than half of the total farm income (N. P. Louwaars et al.); while the Act of 1991 only allows countries to specify crops for which seed can be saved and used hence, there were some restrictions. The process of farmers' privilege is seen as a way to reduce the revenues for seed companies. Hence, it's the most contentious aspect of PVP.

## **2.4 International Treaty for Plant Genetic Resources for Food and Agriculture (IT-PGRFA)**

The FAO conference adopted the international undertaking on plant genetic resources in 1983. The main objective was to ensure that PGRS are explored, preserved, evaluated and made available for plant breeding and scientific purposes. This relates to Plant Genetic Resources of all species of economic and/or social interest particularly for agriculture and refers particularly to food crops. IT-PGRFA accepted the principle that PGRS are a heritage of human kind which should be made available without restriction.

The emphasis on the free availability of PGRs spelt out in the “International Undertaking on PGRFA” of 1983 proved to be unacceptable in the light of the Convention on Biological Diversity in 1992. The reason for this was that the Treaty included within the ambit of free availability not only for traditional cultivars and wild species but also varieties developed by scientists in the North. Broader acceptance of the treaty was only achieved after interpretative resolutions were passed at the conference of the FAO in 1989 and 1991. These resolutions affirmed the sovereign rights of countries over their PGRs and qualified the principle of free availability by recognizing plant breeders' rights (PVP) and farmers' rights. The recognition of the sovereign rights implies the right to compensation for access to PGRs and associated products. Further revision of the Undertaking has been prompted by the growing importance of PGRs at the international level and the coming into force of the Convention of Biological Diversity (CBD) which raised the need to harmonize relevant provisions of the two regimes. The treaty was concluded in 2001 and became law in June 2004. It includes, among other things, a multilateral system for access and benefit sharing and it spells out Farmers' Rights.

## **2.5 Convention of Biological Diversity (CBD)**

CBD was ratified and effected in December 1993 and it requires parties to ensure that their IPR regimes are supportive of it and do not conflict with its own objectives. It also stresses the need to recognize and protect IPRs. It indicates that states have sovereign rights over their natural resources. This implies that states should develop legislative frameworks to regulate access to genetic resources, based on prior Informed Consent and Mutually Agreed Terms, and make provisions for the protection of rights of indigenous and local communities with regard to biological diversity and associated knowledge.

The discussions leading to the conclusion of the convention were characterized by major ideological differences between the developing and developed countries. Indeed, the question of IPRs almost threatened the outcome of the negotiations. The main issues of concern pertained to ownership of biological resources both within national boundaries and in gene banks and biotechnological innovations ensuring from those resources. Broadly, CBD seeks to promote the conservation of biodiversity, the sustainable use of its components and the fair and equitable sharing of benefits arising from the use of resources, including appropriate access to genetic resources and transfer of relevant technologies.

Therefore, it is concerned with the development of biotechnology – regulated in its “Cartagena Protocol”, access to both biodiversity and biotechnology and international equity.

Article 8(j) of CBD explicitly recognizes indigenous and local communities' contribution to biodiversity conservation, and calls for respect and support for their knowledge, innovations and practices, and confirms indigenous people's rights over the knowledge they hold. The article also calls for equitable benefit sharing.

But the convention also recognizes the sovereign rights of states to the biological resources found within their territories. Article 15 of the convention provides that the state concerned should exploit its resources and promote their sustainable utilization. The convention also seeks to ensure both the availability of biological resources for the scientific community and the enjoyment of the benefits accruing there from to the state providing the resources.

Article 16 regulates the access to technology and technology transfer including biotechnology; it provides for the transfer of technology at concessional and preferential terms to developing countries where mutually agreed. It also makes provision for cooperation between the developed and developing countries in the area of access to biodiversity and biotechnology innovations. Another issue relating to biotechnology and IPRs which the convention deals with is the knowledge of indigenous people regarding traditional uses of fauna and flora. The use of traditional knowledge leads in the search for cures to diseases and are viewed by developing countries as entitling them to a share of the proceeds that accrue to pharmaceutical companies from the sale of the drugs.

Finally, it recognizes the role of indigenous knowledge in biodiversity conservation but does not specifically provide for modalities of sharing benefits arising from such knowledge or the kind of property rights that holders of such knowledge can get.

## **2.6 African Regional Industrial Property Organization (ARIPO)**

ARIPO was created through an agreement known as the Lusaka Agreement in 1976 for the English Speaking African countries. In December 1985, the Lusaka Agreement was amended in order to open up membership of the organization to all African States, members of the Economic Commission of Africa and the Organization of African Union.

ARIPO was created to pull together the resources of member countries in industrial property matters in order to avoid duplication of financial and human resources and to facilitate effective and continuous exchange of information, harmonization and coordination of member countries' laws and activities in industrial property matters.

The specific functions relating to industrial property performed on behalf of member countries by ARIPO are mandated under two legal instruments: the Harare protocol and the Banjui protocol. Harare protocol of 1994 empowers ARIPO to grant patents and register utility models and industrial designs on behalf of member states. The Harare protocol was linked to the Patent Cooperation Treaty (PCT) application which may designate ARIPO. The Banjui protocol on marks was adopted in 1993 and it empowers ARIPO to register marks on behalf of member states.

Members of ARIPO in patents and PCT include seven of our target countries: Lesotho, Swaziland, Mozambique, Malawi, Kenya, Tanzania, and Uganda. On trade marks, members are Lesotho, Malawi, Swaziland, Tanzania and Uganda. Ethiopia is an observer state in patenting, other countries are: Botswana, Gambia, Ghana, Sierra Leone, Somalia, Sudan, Zambia and Zimbabwe. Ethiopia, Liberia, Mauritius, Namibia and Nigeria are on observer status, by 2002.

ARIPO has together with OAPI developed a legal instrument for Traditional Knowledge and Traditional expressions and folklore. Currently, it's the only instrument available for protection of Traditional Knowledge. The instrument has been formalized into a protocol and it is called Swakopmund protocol on protection of Traditional Knowledge and Expression of Folklore. It will act as a template for member countries and will enable ARIPO and OAPI offices to register Traditional Knowledge and expression of Folklore, that are transboundary and multicultural in nature. It will also empower custodians and holders of Traditional Knowledge and expression of Folklore to utilize the knowledge for socio-economic development. It is likely to reduce the misappropriation, bio-piracy and prevent illicit claims of traditional knowledge.

## **2.7 Organization of African Union (OAU) model law**

It is the only regional instrument defining a regime concerning biological resources and community rights on access to biological resources developed in the context of the OAU. It is mainly concerned with access to biological resources and not with the establishment of a property rights system. It provides a few pointers for the development of property rights over plant varieties and recognizes the need to protect the rights of local communities over biological resources and their knowledge innovations and practices. This implies at a minimum recognition in perpetuity of the fact that local communities are creators' users and custodians of their biological resources and knowledge. It accepts the principle that traditional ways of use or exchange of biological resources and knowledge between local communities will not be affected by the law in place and also recognizes the right of local communities to restrict access to their resources and knowledge. It further affirms local communities' inalienable right to keep, use, exchange and share their biological resources that sustain their livelihoods.

## **2.8 Analysis of some treaties, conventions, protocols etc.**

The introduction of patents in agriculture may have the potential to foster the development of high yielding varieties but this may be achieved at significant environmental and financial costs. For generations, communities have nurtured the available genetic resources and in the process selected certain plants and animals for domestication which have formed the basis for modern agriculture and have continued to provide the genetic material needed for the improvement of crops and livestock. All this effort is not recognized by the classic IPRs. Even UPOV 1978 provides for farmers exemption to use their own seed, but it does not allow for sale or exchange with others. However, the OAU model law affirms that local communities have the right to keep, use, exchange or share their biological resources that sustain their livelihood systems. Both CBD and IT PGRFA recognize farmers' rights and they have indicated that the responsibility of realizing farmers' rights rests with national states. This means that African States need analysis of the treaties so that they could develop appropriate policies and legal frameworks to benefit the communities and the states themselves through benefit sharing.

While IT-PGRFA emphasizes national sovereignty, but introduces some common heritage principles, UPOV and TRIPS have taken a more proprietary stance favoring private investors and reflect the position of northern countries. CBD on the other hand has attempted a compromise in this regard. However, it debunks the concept of common heritage, introducing a notion of common concern, which implies the recognition of the global importance of conserving biological diversity but not the diminishment of a state's permanent sovereignty over the natural resources. It seeks to facilitate and promote global cooperation forcing any one state to participate. The central idea is for access to a resource to be shared equally, but it does not state how it can be used.

As with human rights, reference to common concern is an acknowledgement that the state's management of its environment and resources is a matter of common understanding. It however recognizes potentially conflicting rights; for instance, the need to ensure equitable allocation of ownership rights and IPRs over biotechnology. But it does not say which rights should prevail in the event of a conflict, and does not address the rights of communities apart from a cursory mention of indigenous and local communities in article 15. The issue of farmers' rights is also left outstanding.

Countries have not been able to look at these treaties critically which would enable national governments to seize the opportunities provided to enact policies and legislation that can be for the benefit of local people. The programme should initiate documenting of indigenous knowledge and useful mechanisms not only for ensuring sustainable use but also ensure conservation of the existing genetic resources. Developing countries in the region stand to benefit if they are able to seize the opportunity to streamline their local policies and legislation through negotiations, as a block, by sensitizing both Government and the Civil Society in the region through its strong existing network, and interactions with COMESA, E.A. Community and SADC.

## 3. IPR Background Information of Target Countries

The background information provided by fourteen countries in Eastern and Southern Africa countries in 2002 provides a baseline on which the current information can be gauged. The information will clearly indicate whether there were changes made by the target countries since 2002. It will also provide the current focal points for IPR as compared to 2002.

### 3.1 Current IPR Background Information for the Kingdom of Swaziland

#### 3.1.1. Patent and Designs Laws in Swaziland

The Intellectual Property laws in Swaziland were administered by the office of the Registrar General under the Ministry of Justice and Constitutional Affairs in 2002. Currently, it is administered under the Ministry of Commerce, Industry and Trade in the office of the Registrar General – Intellectual Property office. This occurred since 2008, the plant varieties protection fall under the Ministry of Agriculture.

The IPR laws still rely on pieces of legislation in respect of Patents, Industrial Designs including Copy Rights. An Industrial Property law, in respect of patents and designs is governed by the Patents and Designs Act 72/1936 as amended in 1947 and 1955. However, in respect of Trade Marks, it is governed by Act 6/1981 which came into operation on 1st July, 1994.

#### (i) Patents

The 1936 legislation states that all patents granted in the United Kingdom or the Republic of South Africa are automatically protected in Swaziland as long as they

have effect in the United Kingdom and Republic of South Africa. The registered proprietor of a patent granted in the Republic of South Africa or United Kingdom on application to the Registrar in Swaziland and on proof of the registration in South Africa or United Kingdom and payment of the prescribed fee, obtains a certificate of registration which subject to the requirement of renewal confers the same rights in Swaziland as the patent in South Africa or United Kingdom.

## **(ii) Designs**

The Act provides for automatic protection, in Swaziland, of designs registered in the United Kingdom and for registration of designs registered in South Africa. The system is the same as for patents above.

## **(iii) Analysis of the Patents and Designs Laws in Swaziland**

The present patent system in Swaziland therefore depends on the industrial property laws or systems of two different countries – United Kingdom and Republic of South Africa. There is no possibility of obtaining protection without prior protection in one of these two countries. This means that Swaziland enterprises which wish to protect their inventions or designs in Swaziland first have to obtain protection in one of those countries which involves, among other things, additional expenditure. This means that Swaziland enterprises are at a disadvantage compared to enterprises in the United Kingdom or Republic of South Africa. The dependency on the systems of the two countries means that in order to ascertain the position of owners of patents and designs, it is necessary to refer back to the law in one of these countries. Thus the legal system is more complicated than it would be, if the protection were exclusively governed by the law in Swaziland.

In view of the disadvantages, the Swaziland Government strongly feels that there should be an independent legislation regarding patents and industrial designs. With assistance from World Intellectual Property Organization and ARIPO, the country is in the process of finalizing the patents, utility models and Industrial Designs Bill. The Patent office is at an infancy stage hence, it will only be able to conduct formal examinations only with regards to patents and industrial designs applications. However, for substantive examinations, the country might rely on ARIPO or International arrangements which provide such assistance, once the bill is enacted.



### **3.1.2 Service and Trademarks**

As indicated above the trademarks legislation came into operation on 1st July 1994, from the review of the 1981 Act. Under this, all applications are lodged directly to the trade marks office. The applications are examined and if they get accepted without any objections, they are advertised in the trademarks gazette for a period of three months for opposition purposes. The Act also provides that in the oppositions thus, if one of the parties is not satisfied with the decisions of the registrar in a hearing, the aggrieved party can always appeal to the high court. However, in cases where there are no oppositions, the applicant can always apply to the registrar with the prescribed fee for a certificate of registration. Again, all the new registrations, renewals, assignments, registered users and transmissions are published in the Trade Marks Gazette. The Gazette is published once every month. With implementation of the Trade Marks Act, registration fees have increased income tremendously. The term of the trade mark is 10 years subject to a renewal period of another 10 years.

Although the Trade Marks Act does not provide for criminal procedures and penalties for willful Trade marks counterfeiting as per TRIPS section 5 article 61. Section 3 of the merchandise legislation provides that it is an offence to forge a trade mark or falsely apply to goods any Trade Mark or any mark so nearby resembling a Trade Mark as to be calculated to deceive.

### **3.1.3 Copyrights and Neighboring Rights Legislation**

The copyrights and neighboring works are protected by the Act of 1912. Copyrights in Swaziland have literary, dramatic and artistic works, performances and sound recording first published in any part of the British Commonwealth. Nevertheless, a copyright bill of 2009 has been drafted which provides for criminal prosecution/sanctions for deliberate infringement for commercial gain. It also provides for the formation of a voluntary collective society for the administration of proposed copyright and neighboring rights. It also addresses the issues of audio visual works expressions of folklore and computer programmes. At present, there is a copyright steering committee which is primarily responsible for coordinating copyright issues among the stakeholders. It is also responsible for the public awareness campaigns in issues of proposed copyright and neighboring rights. This committee coordinates activities with the copyright office in government.

When the draft copyright bill of 2009 becomes law, Swaziland shall have a copyright society which shall be responsible for the promotion and protection of the interests of authors, artists and performers. There are already four main author societies; however, they require the government's financial support for existence. Copyright Bill 2009 has provisions on the “Expressions of Folklore”.

Piracy in this area of copyrights and neighboring rights is high; however, the copyright steering committees together with the police conduct occasional raids for pirated materials. The situation will improve if the proposed bill 2009 is enacted and a full-fledged copyright office is established.

#### **3.1.4 Plant Breeders' Rights (PBR)**

There is no legal framework or policy on Plant Breeders' Rights in Swaziland. This means that even the farmers' rights are not considered in the day to day management of seed. However, there is a Plant Control Act 8 of 1981 which is the main phytosanitary instrument in the country. It controls the importation and exportation of plants by requiring that all plant movement, into and out of the country, is given permits by the Ministry of Agriculture and Cooperatives which administers the Act. There is also the seed and plant variety Act 7 of 2000 under the same Ministry. It provides for the control of sale, importation and exportation of seeds by requiring inter alia registration of new varieties of seeds.

#### **3.1.5 Protection of Genetic Resources and Traditional Knowledge**

The kingdom of Swaziland does not have a legal framework on the protection of genetic resources and Traditional Knowledge. This is likely to render serious losses on genetic resources and Traditional Knowledge to foreigners. In view of this, the country is considering developing a sui generis type of legislation in respect of genetic resources including traditional knowledge. This legislation will go a long way in protecting the country's long history of the traditional values, as most of the time it is stolen and modified abroad and can only come back too expensive for the local people. A case in point is the Amarula tree and its products which are now being sold abroad.

The Act that is used in the protection of flora is the Flora Protection Act of 2001 under the Ministry of Agriculture. The Act governs the protection of indigenous flora listed in the schedules of the Act. It makes it criminal offence to cause damage to any of the species listed in the schedules. It covers the conservation of

indigenous species by stating a requirement for the environmental impact assessment for projects that would impact on indigenous species. It provides permits to pluck, cut or uproot indigenous plants as well as export for such resources. This helps in the case where proper legal framework and policies do not exist.

### **3.1.6 Swaziland international obligations and membership to international treaties and conventions linked to IPR**

Swaziland is a member of the following conventions and Treaties:

- > World Intellectual Property Organization (WIPO) and its related conventions such as: Paris convention for the protection of Industrial Property Rights; Patent Cooperation Treaty (PCT), Berne Convention for Protection of Literally and Artistic Works; and Madrid Union.
- > World Trade Organization (WTO)
- > African Regional Industrial Property Organization (ARIPO).
- > Trade-Related Aspects of Intellectual Property Rights (TRIPS).
- > Convention of Biological Diversity (CBD)

### **Conclusions**

Intellectual Property Rights System is weak and dependant on the systems of the United Kingdom or the Republic of South Africa. The situation was the same during the needs assessment by BTA in 2002. The only difference noted is the draft bill 2009 for the industrial property regimes. The IPR focal point has changed from the Ministry of Justice and Constitutional Affairs to the Ministry of Commerce, Industry and Trade under the Registrar General – Intellectual Property office.

This situation provides for clear opportunities for the IP project through the National Steering Committee in the Chapter to play a key role in influencing the changes required in IPR and protection of the genetic resources and Traditional Knowledge in Swaziland. Creation of awareness through roundtable workshops/meetings with policy makers, training sessions with other stakeholders especially at the grassroot levels will assist in influencing change in Swaziland. This should also provide opportunities to write proposals for assistance from public and donor resources.

For the National Steering Committee to effectively come up with the required

influence, working with or incorporating key Government representatives from key Ministries like Agriculture and Cooperatives for Plant Breeders' Rights, Ministry of Tourism, Environment and Communications for protection of genetic resources and Traditional Knowledge and the Ministry of Commerce, Industry and Trade for Industrial Property and Copyright and Neighboring Rights. This will also enable the NSC to work closely with the Government departments. It could also be useful if other stakeholders like NGOs or the Private sector could be involved from the beginning, particularly to participate in creation of awareness.

## **3.2 Current IPR Background Information for Kenya**

### **3.2.1 Industrial Property**

The Kenya patent law was administered by the Kenya Industrial Property Institute (KIPI) under the auspices of the Ministry of Trade and Industry in 2002 until 2008 when it moved to the Ministry of Industry. It is implemented under Industrial Property Act 2001. Trade Marks are still administered by KIPI but implemented under Trade Marks Act Cap 506. Trade Marks can be protected in Kenya but not official variety names. KIPI is also responsible for Geographical indications and trade secrets; however, they are still being developed into acts of parliament.

KIPI was established in 2001 after the Industrial Property Act 2001. Prior to that date it was known as Kenya Industrial Property Organization which was established in 1989 upon enactment of the Industrial Property Act Cap 509 of the Laws of Kenya. Before this enactment Kenya was dependent on the British Patent System whereby once a patent was granted in the United Kingdom, it was automatically applicable and registered in Kenya.

In 2004, KIPI had about 20 Patent Examiners, out of the 83 staff, with technical and legal staff holding at least a degree. The staff is highly trained in IP and information technology and with some holders of Masters of Intellectual Property (MIP). It is the best staffed IP office in Africa. Based on the staff strength, KIPI examines applications for and grants industrial property rights including patents for inventions and certificates for trademarks for identification of goods, service marks for identification of services, utility models, technological innovations and industrial designs. Furthermore, KIPI screens technology transfer agreements and licenses to facilitate appropriate technology transfer. The other mandate of KIPI is to provide patent information to the public for creation of awareness in IPRs. In

addition, KIPi promotes inventiveness in Kenya so as to encourage creativity to facilitate technological, industrial and socio economic growth of the country. Finally, KIPi was organized into three departments in 2002: administration, legal (trademarks and service marks) and technical (patents etc.). KIPi has an established patent information and documentation centre with over 14 million patent documents (by 2004) that are available to the public at a fee. It is well equipped to handle matters of Industrial Property using the strong IT section.

By 2004, KIPi had received 401 national applications of which 100 were granted. There were additional 243 applications through PCT of which 69 were granted. There were also 2033 ARIPO patent applications designating Kenya out of which 1103 were granted in Kenya. There were also 56 national utility model applications out of which 19 were registered. On industrial designs, there were 556 national applications out of which 216 were registered. There were also 86 industrial designs applications through ARIPO and 64 were registered.

The Kenyan law allows protection of both processes and product patents in biotechnology but excludes patents on plant varieties. Regulations for industrial property were ready by 2004.

### **3.2.2 Trademarks**

In Kenya, the Trademarks are administered in KIPi through the Trademarks Cap 506 of the laws of Kenya. A Trademark is a distinctive sign which distinguishes the goods or services produced or provided by one enterprise from those of another (KIPi). A mark includes any distinctive word, letter, slogan, device, band name, heading label, ticket, signature, etc.

The function of a Trademark is to enable consumers to identify a product of a particular company so as to distinguish it from other identical or similar products provided so as to buy or use the product again in the future. It enables companies to differentiate themselves and their products from those of the competitors. Trademarks play an important role in the advertising and marketing strategies of companies contributing to define the image, goodwill and reputation of the companies' products in the eyes of consumers. The image and reputation of a company built on the basis of the performance of its products in terms of meeting the needs of the consumers, creates trust. Such trust is the basis for establishing a loyal clientele. Consumers often have an emotional attachment to certain

trademarks as they are associated with a set of desired qualities of features embodied in the products bearing such trademarks. Although businesses realize the importance of trademarks, but they do not realize how important it is to protect them through registration. Protection gives exclusive right to prevent others from marketing identical or similar products under the same or confusingly similar mark. A registered trademark may be licensed to other companies thus providing an additional income which may also lead to franchise agreements.

In Kenya, the Trademarks are registered by filing the appropriate application form with KIPi which will require the following: the name of the company, or individual; the signature of the applicant; an invented word or words; a word or words having no direct reference to the character or quality of goods and any other distinctive mark. The registrar will reject it on application for a mark that is identical or which resembles a mark belonging to another proprietor and is already registered or pending registration. It may also be rejected due to having generic terms, descriptive terms, descriptive trade marks, marks considered to be contrary to public order or morality, etc.

The legal rights arising out of a trademark registration are limited to the territory within which registrations are normally done.

Protection of marks is very important to the business community. Like our own unique fingerprints that identify who we are, a company's trade mark identifies its products or services in the market place. Consumers know what products to reach for on the shelf or pass over the ones that do not meet their needs or expectation because they recognize their marks.

### **3.2.3 Copyright and Neighboring Rights (CNRs)**

This is administered by the office of the Registrar General under the Attorney General Chambers through the Copyright Act Cap 130 which was reviewed to Copyright Act 2001. The copyright and Neighboring Rights constitute literary (books, poems, etc.) and artistic (paintings, music, etc.) works as well as cinematographic works, performers' rights, broadcasting rights, rights of producers of phonograms, architectural designs, movies, sound records, graphics etc.

Copyrights law is to benefit authors and artists and provides rationale for giving incentives. Major incentives include the right to make copies and sell them. It also includes derivatives work like translation, play, music, movie and others and it involves seeking permission from original author.

There is a right to sell, import and distribute works to have financial benefits out of the Copyrights. There is also the right to perform the work, e.g. play music, device, etc. The right to broadcast the work of the author or artist by oneself or allowing others to do it or create IP thus can transfer by license to operate and royalty.

Copyright establishes revenue stream, royalty from books, music, and performance in public-offer opportunity for people to come together. Copyright may not reside in one person to sing, compose, produce, sell, copyright to lyrics and sound recordings.

The law is fairly new and it is based on international standards. It is evolving first with various institutions and boards being set up. It has a copyright board and music Copyright Society of Kenya. There is an inspection. Prosecution and infringement remedy. However, the law is weak because penalties allow for wide discretion by the judicial officers. There is also a lack of awareness to the public and finally whether money reaches the authors or artists or remains with the business is yet to be clearly understood. This means the system is very weak. But the copyright laws offer opportunities to create wealth, and help to create the culture of entertainment and publishing.

### **3.2.4 Plant Breeders' Rights (PBRs)**

In Kenya PBRs cover new plant varieties and is administered by the Kenya Plant Health Inspectorate Service (KEPHIS) under the Ministry of Agriculture through the seeds and plant varieties Act Cap 326 of the Laws of Kenya and it was amended to the seed and Plant Varieties Bill 2007 of UPOV 1978. Plant Variety Protection (PVP) is one of the services and regulatory duties performed by KEPHIS which employs about 4 examiners and 10 technicians (in 3 locations) to administer PVP applications. KEPHIS also carries out DUS tests on most of the agricultural crops that apply for PVP. More than 100 public varieties of 26 agricultural crops were submitted for testing and the majority varieties were submitted in 2001 when the amnesty was announced by the Minister of

Agriculture. Applications for ornamentals and horticultural crops came mostly from foreign entities and the DUS testing is usually done abroad and it is accepted by KEPHIS. KEPHIS has been renovating its infrastructure such as glasshouses and other facilities to assume more responsibility for the testing of ornamental and horticultural crops. A significant proportion of the applications for agricultural crops come from the Kenyan public sector and researchers are expected to provide their own descriptors as part of the application process. KEPHIS then confirms these descriptors in two years of testing in at least two sites (Note that DUS testing is also part of the variety release process in Kenya). There are a number of instances where breeders and KEPHIS dispute the nature or quality of the data provided and this undoubtedly slows the registration process in some cases. The majority of foreign applications are handled by local agents, either law firms or members of local flower growers. KEPHIS proposed to make the use of local agents for foreign applications mandatory since the exercise is demanding in terms of human resources and infrastructure.

Between 1997 and 2007, Kenya received over 600 applications for PVP. More than half of these were for ornamentals, with roses accounting for 41% of the total. Among field crops, maize had the highest number of applications accounting for 9% of the total, all of them being applications for hybrids. By end of 2009, 1015 PVP applications were received and 261 were granted and they were mainly for ornamentals, sugarcane, pyrethrum and Bailey. In the first four years, nearly three-quarters of the applications for Kenyan PVP were from foreign entities, but in the three most recent years about two thirds of the applications are from Kenyan public research and domestic firms. The rise in domestic applications are partly due to the amnesty granted to previously released public varieties that were allowed to apply for a full term of application. The fact that this amnesty is being contested and has yet to be gazetted is one of the explanations for the relative low number of PVP grants issued. One of the concerns was the ownership of the released varieties between Kenya Agricultural Research Institute and the Kenya Seed Company. By mid 2004 only 108 certificates had been granted.

The decision in Kenya to grant amnesty to released public varieties was responsible for a flood of applications from Kenya Agricultural Research Institute for protection of its crop varieties. The protection period for the varieties is 15 years. KARI has a separate agreement with Kenya Seed Company providing royalties for the use of its varieties; however it is free to advertise the varieties for



other companies to bid and use the varieties on royalty basis. Finally, the fact that KEPHIS is purchasing DUS reports on very old flower varieties in the Netherlands may imply that the amnesty is also available for varieties where protection has expired in Europe.

In Kenya, there haven't been major cases involving violation of the PVP law. However, there is a major example where there was a dispute between a small seed company and KEPHIS regarding the company's rights to market seed of an old KARI maize hybrid. The demand for PVP is determined by the level of fees. It all depends on whether companies and public institutes will be willing to pay application fees and yearly maintenance. This will depend on their experience in the market. Secondly, the fees are uniform regardless of the type of crop or seed market. This has made some seed companies shy away from PVP. Finally, the condition that KEPHIS keeps and maintains lines of the protected varieties have made seed companies similarly shy away from protecting their varieties. Instead, some of them have opted to use Trade secrets and Trademarks. KEPHIS is under the 1978 convention although it has a feeling that the convention is weak on protection of local varieties that may be slightly changed leading to loss of ownership. KEPHIS would like to advance to the 1991 convention but it is restrictive to Farmers' Rights.

### **3.2.5 Analysis of IP in Kenya**

Although the country is the most advanced, it has come up with laws that are based on international conventions, treaties, protocols, etc. Hence, the laws available consider the global environment rather than the local environment (communities, etc.). The laws were also made due to external pressure. The Industrial Property laws were developed due to pressure from patents between Oxford and Nairobi University on the development of a HIV-vaccine. Secondly, PVP was put in place due to the flower industry with pressure from breeders in Netherlands, etc. Hence it may appear as if Kenya is advanced but the benefits from the IP could be minimal.

The second problem experienced here is that Kenya was pressured to come up with laws but not policies. It is now that the policy on IP is being discussed. This means that the laws developed were not linked to policies guiding the development of the country.

### **3.2.6 Traditional Knowledge and Genetic Resources**

There is no law or policy for protecting Traditional Medicine. However, the government formed a Task force under the office of the Attorney General comprising of relevant lead agencies such as Kenya Industrial Property Institute (KIPI), National Museums of Kenya (NMK), National Environmental Management Authority (NEMA), National Council for Science and Technology (NCST), Kenya Medical Research Institute (KEMRI) and Kenya Plant Health Inspectorate Service (KEPHIS); to look into providing a suitable system that will protect traditional knowledge, genetic resources and folklore in the country. So far, a policy on Traditional Knowledge Genetic Resources and Traditional Cultural Expressions was produced and submitted to the AG awaiting procedures for it to be formalized into a national document.

Secondly, the government has formulated a draft policy on Traditional Medicine and Medicinal Plants (TMMP) under the Ministry of Health to address issues related to regulation of herbal medicine and associated knowledge in the country. However, based on the global recognition of the herbal medicine, several health groups have initiated production of various plants e.g. the Kenya Neem Foundation for neem products and others related to health foods from various indigenous plants in Kenya. These have not in any way been properly regulated or supervised.

### **3.2.7 Access and Benefit Sharing**

This is administered by the National Environmental Management Authority (NEMA) through the Environmental, Management and Coordination Act (conservation of biological diversity and resources, access to genetic resources and Benefit Sharing) Regulation 2006. It receives applications for accessing or exporting genetic resources. Fees are paid for access (importation) and (exportation) of the genetic resources.

This law is in place but NEMA indicates that it is difficult to coordinate ABS regulation with stakeholders. Some stakeholders doubted whether the law will ensure that local researchers based abroad do not carry the genetic resources with them and furthermore, it was felt that the preparation of the Bill was rushed and not all stakeholders participated fully hence the coordination problems experienced. It is now being reviewed to ensure that access and Benefit Sharing is ensured.

### **3.2.8 International obligation and membership of Kenya**

Kenya is party to the following Regional/International treaties, agreements, conventions and protocols.

- > World Industrial Property Organization (WIPO) and its related conventions protocols on Industrial Property (1967).
- > Paris Convention (1965), Nairobi Treaty (1982), Madrid Agreement (1998), Patent Cooperation Treaty (PCT) (1994), Bangui Protocol, Berne Convention (1984), Rome Convention, Geneva Convention (1976), Brussels Convention, WIPO Copyright Treaty (1996), WIPO Performance and Phonograms Treaty (1996), Budapest Treaty, Washington Treaty, Vienna Agreement and Nice Agreement.
- > World Trade Organization (WTO);
- > Trade-Related aspects of Intellectual Property Rights (TRIPS);
- > African Region of Industrial Property Office (ARIPO);
- > Lusaka Agreement (1982)
- > Harare Protocol (1984)
- > Convention of Biological Diversity (CBD);
- > International Union for Protection of new varieties of plants (UPOV) (1998);
- > International Treaty for Plant Genetic Resources for Food and Agriculture (IT-PGRFA) (2004).

### **Conclusions**

Just like other countries, Kenya has not made a lot of advances since 2002. The areas that have been improved include: policy development for IP, Traditional Knowledge and Folklore, and Traditional Medicine and Medicinal Plants. Secondly, the ABS law was developed however it's contested.

The area of coordination is slightly improved due to the taskforces for the policy development. However, it should be institutionalized to ensure that coordination of IP in the country is effective.

## **3.3 Current IPR Background Information for Ethiopia**

### **3.3.1 Industrial Property**

There was no specific legislation that dealt with patents, utility models and industrial designs in the country until May 1995. The first industrial Property Law was the proclamation concerning inventions minor inventions and industrial

designs and implementing regulations were issued on 10th May 1995 (proclamation) and 1997 for regulations. The objectives of the proclamation were to create favorable conditions in order to encourage local inventions and related activities thereby building up national technological capability and encourage the transfer and adaptation of foreign technology by creating a conducive environment to assist the national development efforts of the country. Ethiopia recognized the fact that IPR provide for and reflect the need and importance in promoting technological progress and the overall socio-economic development of the country.

### **(i) Patents**

Three modes of protection exist in Ethiopia: Patent, Patent of Introduction Utility Model Certificates and Certificates for Industrial Design. For an invention to be patented, for instance, it must be new, it must have an inventive step and it must be industrially applicable as stated in article 3 of the proclamation.

These requirements are commonly known as the criteria of patentability. Meeting these requirements is not enough to grant a patent. The invention should also not fall in the category of excluded subject matters listed in article 4 of the proclamation. One of the areas that is excluded from patent protection is invention related to plants or animals or essential biological processes for the production of plants or animals. Such exclusions are common in patent laws of different countries.

The Ethiopian law does not exclude all inventions involving life forms from being patented. Micro-organisms are not excluded but a biological invention product in the form of plants or animals are excluded. However, other biotechnological inventions such as vaccines and pharmaceutical products are protected.

Similarly, biotechnological processes as inventions can be patented. Specifically, the proclamation excludes: inventions contrary to public order or morality; plant or animal varieties; schemes, rules or methods for playing games or performing commercial and industrial activities and computer programmes; discoveries, scientific theories and mathematical methods; and methods for treatment of the human or animal body by surgery or therapy as well as diagnostic methods practiced on the human or animal body.

The rights of a patentee include: making, using and exploiting the patented invention. Any person who wants to use the patented invention has to get the authorization of the owner. The patentee does not have import monopoly right over the products of the patented invention in Ethiopia.

There is; however, certain limitations of rights of the patentee included in the proclamation. These are: acts done for non-commercial purposes; the use of patented articles on aircraft, land vehicles or vessels of other countries which temporarily or accidentally enter in to the airspace territory or waters of Ethiopia; Acts in respect of patented articles which have been put on the market in Ethiopia by the owner of the patent or with his consent; the use of the patented inventions for national security, nutrition, health or for the development of vital sectors of the economy subject to payment of an equitable remuneration to the patentee.

The duration of the patents is 15 years which may be extended for a further period of five years if proof is furnished that the invention has properly worked in Ethiopia.

#### **(ii) Patents of Introduction**

These are granted to inventions which have been patented abroad, and have not expired but not patented in Ethiopia; if protection is given it will be for 10 years.

#### **(iii) Utility Model Protection**

This is given to inventions which are new in Ethiopia and industrially applicable: The inclusion of utility model protection in the law is because most of the inventions in Ethiopia involve small adaptations of existing technologies which do not qualify for patent protection and these inventions could have a positive impact on the growth of productivity.

#### **(iv) Industrial Designs**

The criteria used for industrial designs are: originality; industrial applicability; and industrial designs and those which are contrary to public order and morality are excluded from protection.

The protection period for an industrial design lasts for a period of five years which may be renewed for two extensions of five years each. Most of the industrial designs in Ethiopia are for shoes and furniture.

### **3.3.2 Trade Marks**

A trademark is any visible sign capable of distinguishing goods and services of one person from those of other persons. It may include words, designs, letters, numerals, colours or the shape of goods or their packaging.

The law for the Trademarks in Ethiopia is referred to as directive and it was issued in 1986. The objectives for the law were: to centrally deposit trademarks which are used by local and foreign enterprises to distinguish their goods and services; to distinguish their goods or services; of one enterprise from other enterprises and prevent consumers from being victims of unfair trade practices; to provide information on trademarks ownership and right of use when disputes arise between parties and to provide required information or trademarks to government and individuals. Protection of trademark is only granted after publication of cautionary notice.

Ethiopia has an experience with its coffee. It filed trade mark applications in 36 importing countries and secured protection in 30 of them. It has negotiated agreements on this basis with 96 foreign coffee companies and 50 local companies and this has improved income to coffee farmers.

### **3.3.3 Copyright**

Copyrights such as literary and artistic works were recognized in Ethiopia since 1960. The 1960 civil code provides for the protection of literary and artistic creations but the provisions were not comprehensive. It was reviewed and now copyright is protected on the basis of the copyright and related rights proclamation which was issued in 2004.

The proclamation gives protection to literary, artistic and scientific works and these include: books, pamphlets, articles, computer programmes and other writings; speeches, lectures, addresses, sermons and other oral works; dramatic-musical works, pantomimes, choreographic works, and other works created for stage production; musical works with or without accompanying words; audio visual works and sound recordings; works of architecture; works of drawings, paintings, sculpture, engraving, lithography, tapestry and other works of fine arts; photographic and cinematographic works; illustrations, maps, plans, sketches, and three dimensional works related to geography, to topography,

architecture or science; derivative works; and collection of works, collection of mere data whether legible by machine or other form.

The proclamation further gives protection to: works of authors who are nationals of or have their habitual residence in Ethiopia. Works first published in Ethiopia or works first published in another country and published within thirty days in Ethiopia; audio-visual works whose producer has his headquarter or habitual residence in Ethiopia; and works of architecture erected in Ethiopia and other artistic works incorporated in a building or other structure located in Ethiopia.

The author of the work shall be entitled to protection for his work upon creation if it is: original, written down, recorded, fixed or otherwise reduced to any material form; copyright is protected for the life of the author plus fifty years and it is fifty years for the rights of performers and producers of sound recordings and finally its 20 years for the rights of broadcasting organizations.

### **3.3.4 Administration of Intellectual Property**

The Ethiopian office was originally under the Ethiopian Commission for Science and Technology in 2002. However, the Government has now established an autonomous office since 2003. The office was established: to facilitate the provision of adequate legal protection for and exploitation of Intellectual Property in the country; to collect, organize and disseminate technological information contained in patent documents and encourage its utilization to study, analyze and recommend policies and legislation on IP to the government; and to promote knowledge and understanding of intellectual property among the general public.

The office has six organizational units; Patent Directorate, Trademarks Directorate, Copyright Directorate, Information and Documentation Directorate, Law, Policy and Plan Directorate and Administration and Finance.

### **3.3.5. Plant Breeders' Rights (Plant Variety protection)**

There is no law that protects new plant varieties in Ethiopia. However, the 1992 national seed industry policy provides that the government prepare and promulgate a national seed act to regulate seed trade, control seed quality standards and protect users, plant breeders' and farmers' rights. This policy envisages the establishment of a plant protection scheme in the country. To this end, a national committee comprising of experts drawn from relevant

Government bodies, higher learning and research institutions, was set up under the national seed agency to draft a plant variety protection law in 1999. Since then the committee has been working to develop the draft legislation.

However, there has been heated legal and policy debate both at national and international levels. The major issues of the debate are as to who should have the right over the invention in a situation where a different person than the one who has come up with the invention nurtured the raw material used in the invention and how benefits arising from the inventions can be equitably shared. Ethiopia aims at getting a law that can address the issues.

### **3.3.6 Community intellectual property rights protection**

The need for protection of the achievement of communities is recognized and efforts are undergoing to come up with a proper scheme. The environment policy of Ethiopia, which was adopted in April 1997, acknowledges 'community intellectual property rights'. The policy states the need to create a system for the protection of 'community intellectual property rights'. The concept of community intellectual property rights is a new concept. It is very difficult to define the subject matter of protection and who the holders of such a right are? How the right will be exercised and enforced? Moreover, the concept of 'property' may be difficult to apply for community achievements that are not considered as commodity and are freely exchangeable. It may be due to this problem that the African model legislation for the recognition and protection of local communities, farmers and breeders deal with community rights and community intellectual rights alternatively without referring to property.

Moreover, the concept is different from the existing IPRs, which are private rights. The current IP regimes are basically designed to protect readily identifiable and new contributions to existing knowledge while community knowledge is gradually built over decades or centuries and often lack novelty in the sense of the requirement of the existing IPR regimes.

The community intellectual property rights envisaged in the environmental policy anticipate the development of a sui generis system that defines and safeguards such rights. In line with this, a committee consisting of experts from relevant institutions has been established for the purpose of drafting laws on access to genetic resources and farmers'/community rights.



The committee is expected to elaborate and develop the concept in the course of its work as well as study the implications and possible policy options with respect to plant variety protection.

The ongoing effort to develop a new scheme for protection and recognition of community achievements is in line with the CBD and ILO convention 169 as well as the draft declaration on the protection of indigenous people's rights, viz., the ownership, control and protection of cultural and intellectual property of indigenous people.

Ethiopia has played an active role in the formulation of a draft convention on access to biological resources and a model law for the recognition and protection of community achievements, knowledge and practice.

The draft proposals were submitted to the council of Ministers meeting of the OAU held in Ouagadougou in 1998. The council in its resolution recommends that the governments of member states "initiate a process of negotiation among African countries to formulate and adopt an African convention on biological diversity with emphasis on conditions for access to biological resources and protection of community rights".

### **3.3.7 International obligation and membership to Regional/ International conventions, treaties, protocols etc.**

In 2002, Ethiopia was not party to any of the international conventions or treaties on IPR except for the 1981 Nairobi treaty on the protection of Olympic symbols and the convention that established WIPO. It joined Nairobi Treaty in 1982 and WIPO in 1997.

Since then, it has now joined WTO, International Treaty on Plant Genetic Resources for Food and Agriculture (IT-PGRFA). Ethiopia has been an active participant in the negotiation of the newly adopted International Treaty on Plant Genetic Resources for Food and Agriculture. Ethiopia is also party to the Convention on Biological Diversity (CBD). It has been a very active participant in the negotiations and implementation of the convention.

## **Conclusions**

Ethiopia is endowed with enormous diversity of biological resources; studies show that the country is a center of origin and diversity of various flora and fauna. This presents a great potential for development. However, the existing system of IPR is still far from complete. It has various deficiencies in policy and legislation since it has not been a member of WTO and TRIPS. Therefore, there is need to amend existing IP legislation to be in line with TRIPS agreement and to come up with new areas of protection especially the areas of Traditional Knowledge and Access and Benefit Sharing.

On the basis of the earlier report in 2002, the level of awareness and knowledge of IP among the users is low and there is lack of institutional IP policies and finally weak institutional capacity in IP.

Based on the previous studies, Ethiopia has not advanced very much apart from establishing an IPR office in 2003 and joining of WTO and TRIPS. However, coordination of the Industrial Property is not an issue since the different IP regimes are under the same office.

## **3.4 IPR Background Information for Tanzania**

### **3.4.1 Intellectual Property Rights**

The Intellectual Property Laws in Tanzania are administered by the Business Registrations and Licensing Agency (BRELA) under the Ministry of Industry and Trade. The patent law (Registration) Act Cap 217 RE 2002 was revised from the Patent Act No. 1 of 1987. This was done to inter alia make the Act TRIPS compliant.

The functions of BRELA under the Act include: Granting of patents; promotion of inventiveness among nationals of the United Republic of Tanzania; establish and operate a patent documentation centre for the purpose of dissemination of information on patents; collaborate with other bodies whether local or international whose functions are related to patent matters; provide information on patented technologies so as to facilitate transfer, and acquisition of technology by the United Republic of Tanzania; and perform such other functions as are necessary for the furtherance of the objects of the Act. The patents registrar: maintains a register in which he/she records all matters required to be

registered under the act; provides patents' register on request and may take extracts from it on payment of a fee; and the details of the register are clearly prescribed by regulations.

An invention is patentable if it is new, involves an inventive step and is industrially applicable. The United Republic of Tanzania does not regard as inventions the following: discoveries, scientific and mathematic theories; plant or animal varieties; schemes, rules or methods for doing business, performing purely mental acts or playing games; methods for the treatment of the human or animal body by surgery or therapy as well as diagnostic methods; and mere presentation of information.

### **3.4.2 Trade and Service Marks**

The trade and service marks are administered by BRELA under the Ministry of Industry and Trade through Trade and Service Mark Act Cap 326 RE 2002. It was revised from Trade and Service Marks Act 1986 to comply with the TRIPS agreement.

The Deputy Registrar in BRELA has all the powers and privileges and has examiners and other officers to help in the administration of the Trade and Service Marks. The registrar has a zeal for the registration and maintains a register for all trade and service marks granted. He/she will provide the register on request and may take extracts from it on a fee. All fees including registration are collected and accounted for with the approval of the Minister for Finance.

The exclusive right to the use of a Trade and Service Mark shall be acquired by registration. The Trade and Service Mark is not considered valid until the application has fulfilled the conditions for registration as is contained in the act. The application for registration could be rejected based on the following: Trade and Service Marks; the use of which would be contrary to law or morality; if the Trade and Service Marks consists solely of the shape, configuration or colour of the goods or the container; Trade or Service Marks which are identical with or initiate the bearings of flags and other emblems; and trade or service marks which constitute reproductions in whole or part limitations, translations or transcriptions liable to create confusion of trade or services with business or company names.

The application for registration shall be made in writing to the registrar and the information will include: the name and address of the applicant; the trade or business description; a reproduction of the trade or service mark; particular goods for which the trade or service mark is applied for; applicant's address within Tanzania and a declaration that the applicant uses the trade and service marks in Tanzania.

Finally, the registration of Trade or Service Marks is for a period of seven years from the date of registration, and may be renewed from time to time.

### **3.4.3 Copyrights and Neighboring Rights**

The copyrights and neighboring rights are administered under Copyright Society through the Copyright and Neighboring Rights Act Cap 218 RE 2002. This was reviewed from Act 7 of 1999 which was still quite modern and TRIPS compliant. It includes: protection of Folklore, literary, artistic, etc. The Copyrights' management society was formed to oversee the Management of Copyrights and Neighboring Rights, under the Act.

### **3.4.4. Protection of New Plant Varieties (Plant Breeders' Rights) Act 2002**

The Plant Breeders' Rights are administered through a Registry in the Ministry of Agriculture. The Registrar of Plant Breeders' Rights is the overall in the administration of the Act. The functions of the Registrar will be as follows: grant Plant Breeders' Rights; establish a documentation centre for the purposes of dissemination of information on Plant Breeders' Rights; maintain a register and provide information on Plant Breeders' Rights issued in Tanzania; facilitate transfer and licensing of Plant Breeders' Rights; collaborate with local and international bodies whose functions relate to plant breeders' matters; and perform other functions as are necessary for the furtherance of the objects.

The register kept and maintained has the following: species and denominations of varieties; the full name and address of the original breeders, any other holder of Plant Breeders' Rights and each person to whom such right has been transferred or assigned; the date of inception of the Plant Breeders' Rights; and all other matters which are required and validity of the ownership of Plant Breeders' Rights.

The Plant Breeders Advisory committee is established comprising of the Ministry

of Agriculture representative – Chair; one representative from Plant Breeders Association; one representative from the seed growers; one representative of farmers; one representative from Institution of Higher Learning dealing with plant breeding; one representative from BRELA and one legally qualified person representing the AG and the Registrar who is the Secretary. The functions of the committee are to: advise the Minister on the efficient enforcement; receive reports of PBR applications from the Registrar; make expert consideration on Plant Breeders' Rights reports and on the registrars' tests results; and to advise the registrar on Plant Breeders' Rights.

Plant Breeders' Rights may be granted with respect to any variety which is new; distinct; uniform and stable.

A variety is distinct if it is clearly distinguishable from any other variety whose existence is common knowledge of the time of filing of the application for the granting of PBR. A variety will be deemed uniform if variations within the variety are describable, predictable and commercially acceptable and a variety is deemed to be stable if it is able to retain its descriptive characteristics with a reasonable degree of reliability after repeated propagation. The DUS test that was mentioned is conducted before the PBRs are given.

The applications for a Plant Breeders' Rights relating to a variety have the following: the name and address of the applicant; the name and address of the breeder of the new variety; the origin and denomination along with the descriptor of the variety; samples of propagation materials. A list of all countries in which application for PBR has been made; a list of other countries in which the variety is listed; a location at which plants of the new varieties will be available for inspection and any other information that will be needed by the registrar.

Together with PBR, there is a Seed Act which is administered in the Ministry of Agriculture through the Seeds Act, 2003 and its main function is to ensure seed quality importation, exportation and sales of seeds. It is managed by National Seeds Committee.

### **3.4.5 Genetic Resources and Traditional Knowledge protection**

Tanzania has no law enacted to protect Traditional Knowledge. However, the Traditional Medicine has a law enacted in 2002 – through the Traditional Medicine and alternative Medicine Control Act No. 23 of 2003. The national office was established as the Traditional Medicine section of the Department of Curative Services at the Ministry of Health and Social Welfare. Currently, there is a registrar of Traditional Healers at the Ministry. There is also an Institute of Traditional Medicine (ITM) which was founded in 1974 at the current Muhimbili University of Health and Applied Sciences.

Article 27.3(b) of TRIPS agreement has a provision for member states to consider protection of genetic resources and Traditional Knowledge using sui generis system of protection. These provisions are available but member states may require proper ways to enable them develop the alternative sui-generis system. This is where the IP Programme has the biggest opportunity.

### **3.4.6 Analysis of IPR in Tanzania**

Generally, IPRs are tools for monopoly as they confer to inventors' or creators' exclusive rights in return for disclosure of what is claimed to be created. On the other hand, the public during the lifetime of the protection is precluded from commercial exploitation of the created or protected works. Even after the lifetime of the invention, Tanzania has not endeavored to exploit the opportunity.

To improve on this, the IP Institution in Tanzania requires the designing and setting up of an IP framework for the purpose of articulating and implementing IP objectives within the context of the broader social, economic and cultural development strategies of the nation. This calls for a strong policy on IP and related protection in Tanzania.

Based on the current developments in IP arena, IP is a multi-sectoral activity and as such it does not belong to any one Ministry or Institution. However, for purposes of coordination it is under the Ministry of Trade and Industry, the PBR is under the Ministry of Agriculture while Copyrights and Neighboring Rights are under COSOTA. There is need therefore for coming up with a clear institutional set up that can enable central coordination. To come up with such, the IP stakeholders should be effectively involved in the actual setting up of the institution.

The Registrar General of BRELA strongly suggests that a national IP policy be formulated to guide the formation of a national intellectual property commission, which will encompass all the elements of IP including the protection of TK and genetic resources in future.

### **3.4.7 International obligation and membership to International and Regional Conventions, Agreements, Protocols, etc.**

Tanzania is a member of the following International and Regional Conventions Agreements and protocols.

- > WIPO convention since 1983 with its other related conventions – Paris Convention (1963), Berne Convention (1994), PCT (1999), Nice Agreement (1999), etc.
- > ARIPO in (1986) with Lusaka Agreement which established ARIPO, Harare Protocol on Patents (1999) and Banjui Protocol on Trade Marks (1999).
- > WTO
- > TRIPS Agreement
- > UPOV (1978)
- > CBD

### **Conclusions**

In comparison to the 2002 baseline, Tanzania has improved by reviewing the Industrial Patent Acts of 1987, Trade and Service Mark of 1986 and Copyright of 1999 to comply with TRIPS Agreement and they were all reviewed in 2002. Secondly, the Seed Act and PBR Acts were also completed in 2003 and 2002 respectively. In 2002, Tanzania was not a member of UPOV but it is now after establishing PBR.

The area that is still lagging behind is the protection of TK and genetic resources. Tanzania is virtually waiting for international community to assist; however, various opportunities exist including sui generis in TRIPS Article 27.3(b).

In conclusion, Tanzania has made clear advances unlike other African countries.

## **3.5 Current IPR Background information for Malawi**

### **3.5.1 Industrial Property**

The IP Laws in Malawi are administered by the Registrar General under the Ministry of Justice. There has been no change of office since 2002. The industrial property includes Patents, Trademarks and Industrial designs.

#### **(i) Patents**

In Malawi, Patents are administered through Patents Act 1958 (Cap 58.02). This was legislation for nationally independent system of patent protection. The legislation has since been reviewed to patents Act (Cap 49.02). Under the Act, invention will be patented if its new, has an inventive step and it must be industrially applicable. However, the Registrar is empowered to refuse an invention where: it is frivolous on the ground that it claims as an invention anything obviously contrary to well-established natural laws; the invention in respect of which application is made would be contrary to law or morality; it claims as an invention on a substance capable of being used as food or medicine which is a mixture of known ingredients possessing only the aggregate of known properties of the ingredients; and it claims as an invention a process producing such a substance by mere admixture.

Multinational cooperation such as Monsanto has registered their patents in Malawi, while the local players have slumbered on their rights. Out of 258 patents indexed under the title “human necessities in 2002, none of them were owned by Malawians.

However, the basic function and role of the patent system is to both encourage inventions in technology and the disclosures while at the same time securing the rights of the inventor so that he/she may reap full benefits of his inventions.

#### **(ii) Trade and Service Marks**

Trade and Service Marks are administered by the Registrar General through Trade Marks Act (Cap 49.01). The applications are lodged with the Registrar and are examined and if acceptable, they are gazetted and given out at a fee.

#### **(iii) Industrial Designs**

These are administered by the Registrar through Registered Designs Act (Cap



49.05). These are applied for like the trade marks above and the same procedures are followed.

### **3.5.2 Copyright Regime**

The copyright regime is administered by the Copyright Society of Malawi (COSOMA) through a Copyright Act (Cap 49.03) of 1989. It makes provision for copyright protection in literary, musical, artistic, audio, visual works, sound recordings and broadcasts and the establishment of (COSOMA) for the administration of Copyrights. The Act also defines folklore to include folktales, folk poetry, folk dances, plays, artistic forms of ritual and riddles.

Before that, Malawi Government passed the commercial advertising Act of 1978 (Cap 48.07) which was for the control of recording and reproduction for commercial advertising purposes of Malawi traditional music and dances.

### **3.5.3 Plant Breeders' Rights and Farmers' Rights**

There is no law on PBR; however, it is one of the emerging IP regimes in Malawi. It is likely to fall under the Ministry of Agriculture where there is Seed Policy and Seed Act.

### **3.5.4 Protection of Traditional Knowledge and Genetic Resources**

According to information from NSC of Malawi, the Traditional Knowledge is under the Registrar General; however, protection of Genetic Resources is under the emerging areas for IP protection in Malawi. However, there is no comprehensive framework for the protection of Traditional Knowledge. On this front, Malawi is currently a signatory to a SADC protocol on a sui-generis protection system of Traditional Knowledge. Currently, the legal framework is only embedded in articles of association and special interest NGOs. Furthermore, a Traditional Medicine Bill under the Ministry of Health was drafted but has not been passed in Parliament, clearly the existing regimes for protection of TK in Malawi is narrow in scope and fragmented. This impetus has come from various international obligations i.e. WTO, WIPO and CBD among others, now the Government is considering adopting a National IP policy to create a framework for re-examination of the entire IP landscape with a strong desire to make IP contribute to economic, social, cultural, scientific, industrial and technological development. Therefore, there is need to create legal and policy framework that protect TK and TCEs at the same time facilitate access. It is therefore important to

take advantage of this process in order to make policy input facilitate the protection of TK and TCEs from the IPR perspective.

## **Conclusions**

The status of IPR in Malawi has not changed; however, the current development is likely to change it in the next few years. The IP policy and legal framework development currently in draft form shows that the country is moving forward. Geographical indications legal framework is under review and Traditional Medicine policy and legal framework is in a Bill waiting for discussions in Parliament. The ARIPO legal framework for Traditional Knowledge and TCEs will be depended upon once it is formalized.

## **3.6 Current IPR Background information for Uganda**

### **3.6.1 Intellectual Property Rights**

The Intellectual Property Rights are administered by a Registrar General under the Ministry of Justice through four pieces of legislation in 2002. These are: the patent statute 1991; Trade Marks Act, Copyright Act and United Kingdom Designs Protection Act.

#### **(i) The Patent Statute of 1991**

It is the only legislation that is nearer what is desirable in Uganda through a review and repeal of the Patent Act Cap 82. It provides for the subsistence of a patent right; how to apply for it, how it is registered and enjoyed by the inventor of the property with which it is associated. The Registrar General's office grants patents, registers license contracts, assigns the right to a patent and furthermore provides patent information services to the public among other functions. It also maintains a register of patents where all patents granted are recorded. The Registrar also issues administration instructions relating to the procedure for the grant of patents. In 2002, the Registrar's office had ten professional staff (lawyers) and ten administrative staff (records clerks, etc).

According to the records available, limited numbers of applications for the patents are received and this means that the number granted are even fewer. The transactions in patents are mainly dominated by applications from abroad e.g. in 1998, 52 applications were received from overseas, but they were all sent to ARIPO since the registrar has no examiners to evaluate them. They are later sent

back to be recorded since Uganda is a designated office. From 1999 to 2000, only one patent was granted. In 2001 to 2002 four applications were submitted to ARIPO for novelty search, a facility the Registrar General did not have.

There is a draft bill of Industrial Property which combines the law of patents and that of industrial designs. The later law is at the moment simply for registration of designs in the U.K. providing practically little attention effectively to designs in Uganda as the process is countersome. Thus bringing the whole process home would therefore improve the law. The patent law had weakness and the bill will correct them. These were: no provision for compulsory licensing; complicated and protracted grant of application; patent right life is unreasonably short; dispute resolution is cumbersome; not in line with advances in technology and not conducive to Uganda's technological development and industry in general.

#### **(ii) The Trade Marks Act (Cap 83)**

The Act is concerned with the registration of trademarks used by owners in their businesses for purposes of distinguishing and protecting the product from that of another person. The act provides for the appointment of the registrar of Trademarks and the keeping of a register of trade marks. It is administered under the Ministry of Justice.

The Trade Marks system is the most active in Uganda, the available statistics in 1999 indicated that 805 trademarks were registered and only one third of them were local. The Registrar General under which Patents and Trade Marks are administered with registrars works closely with WIPO and ARIPO and also with WTO (TRIPS). A new bid is prepared based on many changes experienced in international business management innovations in business competitions for customers, methods of advertising commodities all among others.

#### **(iii) The United Kingdom Design Protection Act (Cap. 84)**

It is administered under the Registrar General's office. The purpose of this law is to provide for the protection, in Uganda, of designs registered in the United Kingdom. The draft bill of Industrial Property has combined together the law of patents and that of industrial designs.

#### **(iv) The Copyright Act (Cap. 81)**

This Act is administered under the Registrar General and it provides for protection

for literary, musical, artistic works, cinematography, pictures, broadcasts, which one has created. Under this law, infringement of a copyright is not a crime and that only civil action can result from such an infringement. The law reform is however making some attempts through the new bill to make infringements criminal. Because of the weaknesses in the current law, there is no enthusiasm.

This Act does not recognize the Neighboring Rights. However, the new Copyright and Neighboring Rights Bill has improved on these weaknesses. It brings in neighboring rights which were not part of the Copyright Act (Cap 81) and it brings the whole body of the law to an international level in content and enforcement. It introduces a moral right as an Intellectual Property Right and makes infringement of a copyright a criminal offence.

### **3.6.2 Plant Breeders' Rights**

In 2002, there was no law on the Plant Breeders' Rights. However, Plant Variety Bill was prepared with an aim of protecting both the breeders and farmers. The draft was based on the Organization of African Model law adopted in 1998 which leans towards the protection of Farmers' Rights. This included the right for farmers to save exchange and breed seeds on non-commercial basis. This created an inherent conflict between small farmers' rights and breeders' rights. Because of the conflict, it took time for the Cabinet to approve the Bill until the President intervened and corrected it to go the UPOV way. It was approved by Cabinet in 2007. It is not clear whether Parliament has now passed the bill to enact it into law.

### **3.6.3 Access and Benefit Sharing**

This is administered under the National Environmental Management Authority of the Ministry of Environment. The law on Access and Benefit sharing was passed to protect the genetic resources and ensure Access and benefit sharing of the proceeds.

### **3.6.4 Protection of Traditional Knowledge and Folklore**

There is a general recognition of the fact that there is a mine of knowledge unwritten but well preserved by individuals or local communities crossing all barriers of social activities. In order to preserve and promote this, a draft bill is in place. Its relevance in protecting and improving the importance of cultural heritage and national identity cannot be over-emphasized.

Under this, there is the Traditional Medicine Practice Bill which was developed based on worldwide recognition of alternative medicine and the mere fact that practically, all major drugs are derived from raw materials known and used by the local members of the society to treat various diseases in some cases quite successfully and this has necessitated to regulate practice in traditional medicine. It is with this awareness that the Uganda Law Reform Commission embarked as one of its current law reform activities, proposing legislation on traditional medicine practice. It is with this measure that conservation of medicinal plants is supported by the law.

### **3.6.5 International Obligations and Membership for Uganda**

Based on the information available Uganda is a member of:

- > WIPO with its convention, protocols and agreements
- > WTO
- > TRIPS
- > ARIPO and
- > CBD (1996)

### **3.6.6. Analysis of the IPR in Uganda**

The patent statute provides for the grant, registration and protection of patents and for other purposes incidental thereto. It also provides for the registration and protection of IP rights in patents and utility models. Aware of this the government, through the Uganda law reform, is amending or even repealing the patent statute to bring it in line with the international obligations under industrial property. It will however require a lot in terms of capacity building especially for patent examiners, policy development, which at the moment is lacking. It will also require the support of all stakeholder including NGOs to ensure that there is enough lobbying to have the Bills passed.

While the process of registering a trademark is a simple matter at the Registrar General's office, registering of a patent is more complex. An application is lodged at the office then it is sent to ARIPO in Harare. Secondly, some applications from overseas send their applications directly to ARIPO. It then searches to ascertain that the invention is new before the patent is given. This is a disadvantage since most of the fees are given to ARIPO and not to Uganda.

Apart from the Registrar General, the Uganda National Council for Science and Technology is supposed to provide technical expertise and the Uganda Law Reform Commission looking at the reform, however, there is no clear coordination among them.

## **Conclusion**

On the basis of the baseline in 2002, there has been a lot of effort put into the review of laws, but there has been little done on IPR policies. Although reforms or review of laws are done, it takes a long time for the Cabinet to approve and parliament to enact them into law. What has been there may have been insufficient but there are definitely moves to rectify the situation and bring IP regime in Uganda at par with internationally acceptable standards and in conformity with the country's obligations under WTO and other Treaties, conventions and protocols.

## **3.7 Current IPR Background Information for Mozambique**

### **3.7.1 Industrial Property and Copyright**

During the colonial period, Mozambique had an industrial Property based on Portugal legislation and protection could only be done in Lisbon, Portugal. After independence, in 1975, Mozambique could not get involved in industrial property. After a multi-party election in 1994, the government created the Ministry of Industry, Trade and Tourism in which the IP was identified as the dynamo of economic development. In 1998, the Government approved the law as a code of industrial property of Mozambique which came in force in July 1999. The code comprises of all industrial property right patents, utility model, industrial design, trademarks, commercial names, geographical indications and denomination of origin and logo. Immediately the code came into force, the registration process for trademarks, trade names, service marks, and their protection from unfair competition and false marking was started.

The code sought to encourage and stimulate research and inventions and the country recognized that an effective IP system is a vital tool of development. The system promotes economic growth, because it facilitates the transfer of technology, improving national capacity to attract foreign investment and ensure market access for the local products.

The system could also promote intellectual and cultural growth through the protection of the exclusive rights of scientists, inventors and other citizens to their Intellectual Property Rights and creation particularly when it is beneficial to the local citizens.

Mozambique has created an industrial property office run by the industrial property institute under the current Ministry of Industry and Commerce. It is responsible for Patents, Trade and Service marks, Industrial designs, Utility Model, Geographical Indications, Commercial Names and Denominations of origin and logo.

The Copyright and Related Rights are under the Ministry of Culture Youth and Sports and Administered by the National Institute of Book and Disc.

The authority enforcing or dealing with opposition in the Intellectual Property is the Tribunal, under the High Court of Mozambique.

Applications filed and registered since 1999 are as follows: Patents applications were 30 and only 3 were granted; Trade Marks had 5,500 applications and only 1,343 were granted; logo type applications were 79 and none was granted; commercial names had 42 applications none was granted; utility model had 11 applications and none was granted; and Industrial designs had 8 but none was granted. Applications sent to ARIPO were 303 but none was granted according to the reports. These were for 2002, I am sure the status is now different.

### **3.7.2 Analysis of IP in Mozambique**

Mozambique established patent laws in 1999 and since that time it has established Institutes responsible for the Industrial Property and Copyright. It has also received a lot of applications as compared to other countries and yet it only started recently. What is now needed is a strong IP Policy that can help strengthen the Institutes to move IPR forward.

### **3.7.3 International obligations and membership**

Mozambique is a member of the following:

- > WIPO with its related conventions and protocols such as Paris Convention, Patent Cooperation Treaty (PCT), Madrid Agreement and its protocol, Nice Agreement concerning the international classification.

- > WTO since 1994
- > TRIPS Agreement
- > ARIPO and its protocols – Harare and Banjui
- > CBD

### **3.7.4 Plant Breeders' Rights**

The country, has drafted a Bill to enact a law for PBR, however, it is yet to be enacted. Meanwhile, the seed act assists in seed distribution, exportation and importation.

### **3.7.5 Traditional Knowledge and Access to Benefit Sharing**

The country has no law on Traditional Knowledge and genetic resources. The country is waiting for international instrument after the negotiations are complete under the Inter-governmental committee on IP, genetic resources, Traditional Knowledge and Folklore in WIPO. It is also awaiting endorsement of the ARIPO and OAPI instrument on Traditional Knowledge and Folklore to be formalized so that they could make use of it.

## **Conclusions**

Mozambique has made some strides since 2002. The administration of the IP has been strengthened through the establishment of the Institutes to administer Industrial Property and Copyrights. It has also gone ahead to prepare a bill on PBR which could be made into law anytime.

## **3.8 Current IPR Background Information for Lesotho**

### **3.8.3 Industrial Property**

The Industrial Property was initiated in Lesotho in 1989 and it operates under Industrial Order No. 5 of May 1989. It covers the Patents, Trade Marks, Industrial Designs and Utility Model. It is administered by the Registrar general in the Ministry of Law and Constitutional Affairs.

#### **(i) Patents**

It is administered under the industrial property order No. 5 of 1989. Part II Patents sections 3 to 16 and it was in force in May 1989. Under patents, there was also the industrial property order commencement legal notice No. 84 of May 1989. Later, an amendment was done under Industrial Property order No. 22 of April 1993. It is



finally operating under the Industrial Property Amendment Act of 1995 and 1997. The implementation was guided by the Industrial Property Regulation legal notice No. 85 of May 1989 but it was in force in January 1990. The enforcement and settling of disputes is the responsibility of the Industrial Property Tribunal under the High Court of Lesotho.

Applications filed and/or registered in 2001 through ARIPO were: Lesotho residents had one application and it was not granted. Non-residents had 54 applications and 11 were granted.

## **(ii) Trademarks**

These are administered under Industrial Property Order No. 5 of 1989 Part V for Marks, Collective Marks, and Trade Names and it is covered under sections 26 to 33. It is now operating under Industrial Property Act of 1997 sections 3 and 4 and it came into force in April 1998. The Merchandise Marks Regulations were under the High Commissioner's Notice No. 83 of April 1937. The enforcement and settling of disputes is under the responsibility of the Industry Property Tribunal, under the High Court of Lesotho.

Applications filed and/or registered in 2001 for Trade Marks by ARIPO were: residence had none; while non residence had 19 applications and all were granted.

## **(iii) Industrial Designs**

The industrial designs are administered under Industrial Property Order No. 5 of 1989 part III: Industrial designs sections 20 to 25 and it is currently under amendment Act of 1997. Enforcement and disputes is the responsibility of the Industrial Property Tribunal.

Applications filed or registered in 2001 for industrial designs by ARIPO on behalf of Lesotho were: residence had none; while non residence had one application but was not granted.

## **(iv) Utility Models**

The models are administered under Industrial Order No. 5 of 1989 Part III: Utility Models certificates sections 17 to 19. It is assumed that it is now operating under the amendment Act of 1997. Enforcement and settling of disputes is the

responsibility of the Industrial Property Tribunal. There is no information on applications and registration of the models in Lesotho.

#### **(v) Copyright**

It is administered under the Copyright Order No. 13 of May 1989. It is administered under the office of the Registrar General of the Ministry of Law and Constitutional Affairs for the Industrial Property. Enforcement and disputes is the responsibility of the Industrial Property Tribunal of the High Court of Lesotho. There was no information on the registration.

#### **3.8.2 Plant Breeders' Rights**

Based on the information available, the Bill on Plant Breeders' Rights was developed in 2002 but up to now, it has not been enacted into law.

#### **3.8.3 Traditional Knowledge and Access and Benefit Sharing**

The country has no law on Traditional Knowledge and they are waiting for international negotiations under the Intergovernmental Committee on IP and Genetic Resources, Traditional Knowledge and Folklore in WIPO to come up with an Instrument to protect the Traditional Knowledge and Folklore and Genetic Resources. The country is waiting for the endorsement of the OAPI and ARIPO instrument for Traditional Knowledge and Folklore to protect their TK and ABS.

#### **3.8.4 International Obligations and Membership to Regional and International Conventions, agreements and Protocols**

Lesotho has obligations and is a member of:

- > WIPO and WIPO treaties – Paris Convention (1986), Berne Convention (1989), PCT (1995), Madrid Agreement (1999), Madrid Protocol (1999) and Rome Convention (1990).
- > WTO
- > TRIPS since May 1995
- > ARIPO and its protocols – Harare and Banjul (since 1987)
- > CBD
- > IUPGR

#### **3.8.5 Analysis of IP**

The challenge that faces Lesotho and other African countries is how to create an IP culture to encourage and promote creativity and innovation in an environment

subject to severe constraints such as limited experience, weak IP infrastructure and policy framework.

Lesotho relies on ARIPO and WIPO for guidance and expert assistance in the development and promotion of IP. The country requires an IP infrastructure that can allow for participation in exchange of valuable information at regional and international level. The capacities are still low however the National University of Lesotho under the Faculty of Law, is teaching Intellectual Property and this could build on the capacities. However, a strong policy is needed to guide future developments.

### **Conclusion**

On the basis of the baseline of 2002, no major changes have taken place. Therefore there is need to influence policy makers towards developing policies and legal frameworks on IP and more especially on TK and ABS using the sui generis system of protection instead of waiting for international instruments.

## 4. Analysis of the Regional IP Environment

### 4.1 Patents and Industrial Designs

The evolution of IP in Eastern and Southern Africa countries was due to global pressure to have IP in African countries to enable developed countries get markets for their products. Lesotho, Tanzania and Kenya initiated their IP laws in the late eighties and have since been reviewed to be TRIPS compliant. Ethiopia enacted their law in 1995 while Uganda had the IP law reviewed in 1991. Due to a late start, Mozambique enacted its current laws in 1998 but started functioning in 1999. Malawi enacted its law in 1958 but has since been amended. However, Swaziland still relies on the 1936 law which basically relies on the laws of the United Kingdom and the Republic of South Africa.

The laws are comparable except for Uganda and Swaziland which are not TRIPS compliant. Uganda and Swaziland have now come up with Bills that are TRIPS compliant but are not yet enacted into law. Apart from Kenya, Tanzania and Ethiopia who are examining and giving patents directly in addition to ARIPO, other target countries rely a lot on ARIPO to give patents due to inadequacy of capacity and infrastructure. The laws are also named differently: Swaziland refers to it as Patent and Designs; Kenya calls it Industrial Property Act; Ethiopia uses Proclamation; Tanzania uses Patent Act; Malawi calls it Patent Act like Tanzania; Uganda calls it Patent Statute; Mozambique calls it a Code of Industrial Property while Lesotho calls it Industrial Order. The differences may be due to the difference in circumstances and laws in each country. In some countries, the law only covers Patents and Designs while in others like Lesotho, the law covers all elements of Industrial Property – Patents, Designs, Trademarks, and Copyrights but appear under different parts and sections. Finally in about three countries:

Mozambique, Kenya and Tanzania, IP is administered by parastatal organizations while others are directly administered under their respective Ministries.

None of the target countries have IP policies. Most of them are planning to develop them while Kenya, has a draft policy under discussions.

Based on this comparative analysis of the target countries, gaps exist in terms of establishing proper legal frameworks and offices to administer IP. In terms of policy it is even worse since none of the target countries have IP policies. There is need therefore for the NSC to review the country situation before developing strategies as to how they can influence the development of proper legal frameworks including institutions to administer IP and policies that are guided by the countries' future plans or visions for the benefit of the countries' communities, etc. However most patents granted, apart from Kenya, are foreign.

#### **4.2 Trade and Service Marks**

Trademarks are functional in all target countries. They are the most understood and used in the target countries although those who apply for them are foreigners except for Kenya. In some countries the laws were enacted either at the same time or earlier than patents, but more trademarks are administered by the Industrial Property offices. Just like the patents and designs there are no policies developed to guide the trade marks. It is however assumed that the policies that will be developed for industrial property will include the issues on Trademarks. Trade and Service Marks laws are called the same in all target countries. There are still some gaps in terms of policy framework and NSCs have to bear this in mind.

#### **4.3 Copyright and Neighboring Rights**

Based on the assessment, some countries have both Copyright and Neighboring Rights however others do not. Swaziland has both Copyright and Neighboring Rights; similarly, Kenya has both, Ethiopia has only copyrights, Tanzania has both like Swaziland and Kenya, Malawi has what they call copyright regime, Uganda has a copyright act like Ethiopia, while Mozambique has a copyright and related rights and Lesotho a copyright like Uganda and Ethiopia. Some of the countries that have only copyright, have developed bills and they contain Neighboring rights. In terms of administration, most target countries tend to

establish copyright societies to administer the regime. Some of the countries with societies are Swaziland, Kenya, Tanzania and Malawi. The other four are administered directly through their Ministry offices. The laws vary slightly like Patents and Designs. Lesotho calls it Copyright Order, while Ethiopia calls it Proclamation. Other countries refer to the Copyright Acts.

In Swaziland and Uganda, there is no enforcement on infringements of the copyright since infringements are taken as civil rather than criminal. On the other hand, even if the infringement is criminal, the system is still weak since the responsibility lies with the judiciary. The benefits to owners are doubted even with the most advanced systems like that of Kenya. It is not clear whether the business or the authors and artists are the ones that benefit.

Hence, NSC has a task to analyze the systems and confirm whether or not the benefits really reach those that are protected. It may also be useful to determine the best institutions to administer copyrights and neighboring rights and finally, the issue of enforcement.

#### **4.4 Plant Breeders' Rights**

Only two target countries have Plant Breeders' Rights Laws under UPOV Convention 1978. These are Kenya and Tanzania. Uganda has a bill approved by Cabinet awaiting enactment and implementation. It will be under UPOV 1978. Lesotho also has a bill awaiting discussions for approval and enactment. The rest have no laws on PBR. They rely on seed acts for phytosanitary processes, importation and exportation of seeds.

The three countries decided on the UPOV 1978 because of the farmers' privilege where they can keep and plant their own saved seed in the next season. The 1991 UPOV only allows selected crops to be saved. Because of the advancement in biotechnology and the fact that UPOV 1978 may be weak on protection of local varieties that may be slightly changed leading to loss of ownership, Kenya has been contemplating of advancing to UPOV 1991. This may not necessarily be useful to the local communities. Concerning the benefits for protecting the varieties, foreign breeders are the major beneficiaries of the law especially in Kenya. Very few local breeders have benefited for protecting their varieties. The maintenance fees are high and the sales are low, and also the employers have no incentives for the breeders who have developed new varieties.

Apart from the above arguments, Ethiopia has the notion that breeders are not the owners of those varieties since they were developed from the communities' seeds or materials. As a result they have been arguing for community's rights and protection as opposed to breeders' rights. This argument is what led to the African Model law on protection of genetic resources.

Based on this analysis and comparative assessment, gaps exist in development of laws to protect new plant varieties whether through UPOV or through sui-generis system. Only three target countries are with UPOV and one has a bill but not sure under which system. The rest have no laws on PBR. NSCs have a big mandate to advise policy makers to develop laws that would protect plant varieties in general.

Just like Intellectual Property, there are no clear policies that guide the development of the seed sector and protection of varieties in the target countries. Countries yield to pressure to develop legal framework based on international obligations but they forget policies that will help the countries to focus more on their own development through such laws. NSCs should influence the policy makers on the need or importance of the policies before legal frameworks are enacted.

#### **4.5 Traditional Knowledge**

The target countries have no legal framework or policy for Traditional Knowledge in general. However, Ethiopia uses the environmental policy to address the protection of the communities TK, while Kenya has a draft policy to protect traditional knowledge, genetic resources and folklore, but the rest have none.

On Traditional Medicine, Tanzania has a legal framework under the Ministry of health, however it has no policy. Malawi and Uganda have draft Bills on Traditional Medicine and Practice under their Ministries of Health, and once again they have no policies for the same. Kenya on the other hand has no legal framework or pending bill but it has a draft policy on Traditional Medicine and Medicinal Plants. The other four have no policies or legal framework on Traditional Medicine (Ethiopia, Swaziland, Lesotho and Mozambique).

The global recognition of Traditional Medicine and Knowledge and the link to pharmaceutical companies provided pressure for Tanzania, Uganda, Malawi and

Kenya to develop policies or legal frameworks. Their main aim was to regulate herbal medicine and associated knowledge. Secondly, they aimed at controlling the exploitation of medicinal plants. These have encouraged various Foundations and NGOs to come up with various organic medicines especially in Kenya. Limited documentation and encouragement of growing medicinal plants has been noticed in countries like Kenya, Tanzania etc.

Based on the comparative analysis, there exist a lot of gaps in terms of developing policies and legal frameworks on Traditional Knowledge. NSC has a huge task of first influencing the policy makers towards developing sui-generis system that will help protect TK. The Regional or International instruments might not be good enough to address the individual country needs.

#### **4.6 Access and Benefit Sharing**

All Target countries have Environmental Management offices which were established to conserve and manage genetic resources. Some of these offices have pieces of legislations that address the access of genetic resources but limited on the Benefit Sharing. Kenya and Uganda have legal frameworks under the National Environmental Management Authorities however, it is not known whether there are clear structures for Access and Benefit Sharing. The other target countries except for Ethiopia which uses the Environmental Policy and Act to address the issues of Access and Benefit Sharing, do not have legal frameworks or policies for Access and Benefit Sharing.

NSC has a task to work closely with the Environmental Management offices to influence the development of policies and legal frameworks for Access and Benefit Sharing.



# References

Chikumbutso Namelo and Fred Nyondo (2002): Report on the National Consultations in Malawi for needs assessment and priority setting on IPR and Biotechnology.

Franklin Nsubuga Muyonjo and Fiona Bayiga (2002): Report on National Consultations in Uganda on Needs Assessment and Priority Setting on IPR in Biotechnology.

Getachew Mengistie (2009): Value extraction by strategic use of IPR in the Branding and Marketing of Agribusiness Products: Role of Trademarks, Certification Marks, Collective Marks and Geographical Indications. A paper presented at the National Seminar on IP and Competitiveness of Agro-foods industries organized by WIPO in Dar es Salaam.

Kabare J. N. and Wekundah J. M. (2002): Proceedings of a Regional Workshop on Biotechnology and IPR.

Kayton Irving (1989): Patent Practice, Washington D.C. (Patent Resource Institute).

KIPI (2005): Trade Marks.

Louwaars, N. P., Tripp, D. Eaton, V. Henson-Apollonio, R. Hu, M. Mendoza, F. Muhhku, S. Pal and J. Wekundah (2005): Impacts of strengthening Intellectual Property Rights regimes on the Plant Breeding Industry in developing countries (Kenya, India, China, Colombia and Uganda).

Mahingila, E. E. (2007): Building Intellectual Property Institution in Tanzania, a paper presented at an IP high level meeting at Kilimanjaro.

Republic of Kenya (2001): The Industrial Property Act.

Republic of Kenya (1982): Trademarks Act Chapter 506.

United Republic of Tanzania (1987): The Patent Act.

United Republic of Tanzania (1986): The Trade and Service Marks Act.

United Republic of Tanzania (2002): The protection of New Plant Varieties (Plant Breeders Rights).

Republic of Kenya (2005): The draft policy on Traditional Medicine and Medicinal Plants.

Republic of Kenya (2009): The draft policy on Traditional Knowledge, Genetic Resources and Traditional Cultural Expressions.

Wikipedia the free encyclopedia (2008): Ethiopian Intellectual Property Office.

Wondwossen, Belete (2004): The Intellectual Property System in Ethiopia, a presentation at a Workshop in Addis Ababa

Wynand, J. van de Walt (2005): FANPAN Economic Policy Research Study on Status of Plant Variety Protection in SADC Country reports for South Africa, Angola, Malawi, Mozambique, Zambia and Zimbabwe.





**The African Technology Policy Studies Network (ATPS) is a multi-disciplinary network of researchers, private sector actors and policy makers promoting the generation, dissemination, use and mastery of science, technology and innovation (ST&I) for African development, environmental sustainability and global inclusion. ATPS intends to achieve its mandate through research, capacity building and training, science communication/dissemination and sensitization, participatory multi-stakeholder dialogue, knowledge brokerage, and policy advocacy.**

**African Technology Policy Studies Network**

Contact the Executive Director  
The Chancery, 3rd Floor, Varsity Hall  
P.O. Box 10081, 00100-Nairobi, Kenya  
Tel: (254 020) 2714092, 2714093  
2714498, 2723800  
Fax: (254 020) 2714028

<http://www.atpsnet.org>

## Science, Technology and Innovation for African Development

ISBN: 978-9966-030-36-8