



# Trade Notes

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Protection of Genetic Resources and associated Traditional Knowledge in Kenya is a subject matter of the constitutional provisions on protection of right to property, culture and environment. The main challenge facing Kenya is the development of a knowledge based and innovation driven economy that beneficially participates in the international economy, generating prosperity and self fulfilment for the citizen. Science, Technology and Innovation have a key role to play in tackling the above challenge, particularly in sustainable utilization of traditional knowledge associated with genetic resources. This bulletin highlights Kenya's protection of Genetic Resources and associated Traditional Knowledge

## Protecting Genetic Resources and Associated Traditional Knowledge in Kenya

By Stanley Atsali

### 1 Background

Protection of Genetic Resources and associated Traditional Knowledge in Kenya is a subject matter in the new constitution of Kenya, under clauses touching on the protection of right to property<sup>1</sup>, culture<sup>2</sup> and environment<sup>3</sup>. Article 40(5) of the new constitution provides that the state shall support, promote and protect the intellectual property rights of the people of Kenya<sup>4</sup>.

From 2003 - 2007, Kenya has been implementing the Economic Recovery Strategy for Wealth and Employment Creation. The main goal of this strategy was to lift the economy and place it on a path for sustainable growth, with notable improvements in the quality of life for the citizens. This strategy has

made remarkable achievements; with the economy growing by 6.0% in 2006; revenue and grants growing from 203.4 billion in 2002 to 304.7 billion in 2005, as indicated in the Kenya Economic Survey Report of 2006. Further, the measures implemented under this strategy have resulted in 2.3 million Kenyans being lifted out of poverty.

These achievements notwithstanding, Kenya recognises that it needs to implement a robust long-term growth strategy that will ensure sustained economic growth. It is in this context that the country developed the Vision 2030 Strategy that aims to transform Kenya into a newly industrialising, middle income country providing a high quality of life to all citizens by the year 2030.

It is important to note that Kenya's arable land is less than 15% of the total land mass, and that her forest cover has fallen below the minimum requirement of 10% of the total land mass. Global warming, climate change, human-wildlife conflict and land degradation have all coalesced to make environmental protection and conservation a high priority concern.

1. Article 40(5) of the new constitution-protection of the right to property  
 2. Article 11 of the new constitution - Culture  
 3. Article 69 of the new constitution - Environment  
 4. Constitutional provisions on protection of right to property



Further, Kenya's changing demographics place youth as the largest component of the population, and this has resulted in increased unemployment rates. In order to design and implement initiatives to meet all the development challenges, the country's economy needs to grow at an estimated rate of 10% per annum. Growth areas include our knowledge and resources, particularly traditional knowledge associated with genetic resources.

One of the biggest challenges facing Kenya in this century is the development of a knowledge-based and innovation-driven economy that participates in the economy, generating prosperity and self-fulfilment for the citizens.

The four pillars of a knowledge-based economy are education and training; information infrastructure; economic incentives and institutional regimes, and innovations systems. Science, Technology and Innovation (STI) have a key role to play in tackling the above challenges, particularly in sustainable utilisation of traditional knowledge associated with genetic resources.

It is inevitable that collaboration is needed between the government (central and counties), research and development institutions, indigenous and local communities, decision-makers, and traditional knowledge and genetic resources managers for sustainable development. This collaboration should take into account traditional knowledge associated with genetic resources, and the innovations and practices of local communities. All this should form part of an environmental, social and cultural impact assessment process, with due regard to ownership of and the need to safeguard traditional knowledge, innovations and practices.

## 2. Definition of Genetic Resources and Associated Traditional Knowledge

There is no universally accepted definition of Genetic Resources and associated Traditional Knowledge. However, the Convention on Biological Diversity (CBD) defines genetic resources as genetic material of actual or potential value, while genetic material is

defined as any material of plant, animal, microbial or other origin containing functional units of hereditary. The Akwe-Kon Voluntary Guidelines<sup>5</sup> define the traditional knowledge as the innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity.

The CBD requires that each contracting party shall, with respect to national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities. It further requires the approval and involvement of the holders of such knowledge, innovations and practices, and encourages the equitable sharing of benefits arising from their utilisation. Parties are also encouraged to protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements.

In the context of the International Treaty on Plant Genetic Resources for Food and Agriculture, Genetic Resources are defined as inherited "bio-properties" which are the building blocks inherent in all living things and are endowed with value in terms of environmental, developmental and bio-centric benefits. Well-managed biodiversity has long been viewed as an important vehicle towards achieving food security and every effort should be made to sustainably use and conserve them.

## 3. Policies relating to Genetic Resources and Associated Traditional Knowledge in Kenya

### 3.1 Science, Technology and Innovation Policy

An STI policy is important in attaining the Millennium Development Goals (MDGs). The MDGs are a set of universal development goals that United Nations member states have agreed to achieve by the year 2014. Kenya has been involved in STI activities since the pre-colonial period and thereafter, under the auspices of the East African Community (EAC). Following the collapse of the EAC in 1977, the Science and Technology Act Cap 250, under the laws of Kenya, was set up to guide Science and Technology policy strategies in order to promote socio-economic development. The vision of the STI policy is to ensure that a country

5. The Akwe-Kon Voluntary Guidelines for the conduct of cultural, environmental and social impacts regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters used by indigenous and local communities – page 7



uses STI to foster national development and global competitiveness.

In the current knowledge-based development era, it is globally recognized that for any nation to achieve a competitive socio-economic growth, it must utilize STI in all its key economic and social sectors. It is in this spirit that, in October 2006, the Government of Kenya launched Vision 2030 - a strategic step towards Kenya's attainment of a middle-income country status by the year 2030. With the development of the Vision 2030, the country is currently repositioning itself for prosperity.

The STI policy and strategy has been developed to focus on among other things, a governance framework, the generation and management of intellectual property rights and a performance assessment framework. In pursuing the goals of Vision 2030, the government recognises the key role of STI as an important element of national development. In this regard, the Government has prioritised STI in readiness for Kenya's social, political and economic take-off. Some strategies in this policy include establishing a defined national research system, specialized research laboratories, higher educational institutions and producing a highly skilled human resource.

It is expected that Kenyans will embrace and implement the STI policy strategies with total commitment.

### **3.2 The National Innovation Policy**

Innovation is the practical application of new ideas, leading to new products and services, which, in many cases, involve the introduction of inventions into the marketplace. If Kenyans find a better product, process, or procedure to accomplish a task, it is an innovation. There are two types of innovation: innovation through new products and innovation through new or better processes. Process innovations are changes that affect industrial production methods, while product innovations are changes in actual outputs (goods and services) of an enterprise or an organisation.

There being a general acceptance by many countries that technological change is the primary means of economic growth, the need for a national innovation policy becomes great. The aim of the national innovation policy would be to create conditions that will support both creativity and innovativeness throughout

Kenyan societies. Such an environment will consist of all individuals and organisations involved in creating and using a knowledge base to achieve Vision 2030, Kenya's long-term growth strategy. It constitutes a tacit recognition on the part of the Kenyan government and its people that rapid economic transformation will depend on how well Kenyans utilize knowledge to solve national problems. Thus, the national innovation policy, in its broadest conception, is the means through which Kenya seeks to create, acquire, distribute and put into practice new knowledge for the achievement of individual and collective goals.

### **3.3 The Traditional Medicine and Medicinal Plants Policy**

In an effort to add value to genetic resources associated with traditional knowledge, the Traditional Medicine and Medicinal Plants Bill (2010) has been presented to parliament for debate. The Bill makes provisions for the establishment of a council to spearhead the management of traditional medicine and to regulate traditional medicine practitioners. Some objectives of this policy are to:

1. Ensure that health care and access are considered as a basic human right not only for traditional herbal medicine but also for conventional medicine
2. Regulate the practice of traditional health practitioner's as well as traditional medicines with a view to protecting the population from quacks, fraudsters and incompetence
3. Provide a framework on proper actions for bringing traditional medicine and its practice into health sector development
4. Establish an institutional framework for the practice of traditional medicine
5. Develop and facilitate the use of traditional medicine in Kenya
6. Underscore the contribution of traditional medicine to health care delivery
7. Promote the safety, efficacy and quality of traditional medicine practices by providing guidance on regulatory and quality assurance standards
8. Increase access to, and affordability of, traditional medicine
9. Promote rational use of traditional medicine.

The economic goals of the policy include: reducing the use of foreign currency for the importation of conventional medicines and the provision of jobs in areas such as conservation and harvesting of medicinal



plants, pre-packaging, local production and manufacture of traditional medicines and building capacity in areas such as the utilization of traditional medicinal plants in accordance with Good Agricultural and Collection Practices, formulation, production, distribution and use of traditional medicines following Good Manufacturing Practices (GMPs), Good Clinical Practices (GCPs) and Good Distribution Practice (GDPs).

Should this Bill be passed into law, Kenya's traditional medicine sector will be regulated; meaning practitioners and traditional medicine users will be empowered to benefit from the sector.

The main principles guiding the policy are; Kenya's adherence to the 1978 Alma-Ata Declaration on primary health care strategy which recognized the use of traditional medicine and its practitioners as important actors for achieving Health-for-All; Kenya's adherence to the "Health-for-All" policy for the 21st century in the African Region: Agenda 2020; Kenya's adherence to the implementation of the Regional strategy on Promoting the role of traditional medicine in health systems (AFR/RC50/9)<sup>6</sup>; Kenya's adherence to the implementation of the plan of action of the African Union for the decade of African Traditional Medicine.

### 3.4 Laws Related to Traditional Knowledge and Genetic Resources

Kenya has approximately 42 ethnic communities, each with a very rich cultural heritage, including traditional literature, traditional arts and crafts, visual arts, ceremonies, dances and songs, and traditional forms of knowledge that are part and parcel of the day-to-day lives of these communities.

Traditional knowledge and cultural expressions are a body of knowledge which is passed down from generation to generation. This knowledge has contributed significantly to the present body of knowledge possessed by scientists such as botanists, pharmacologists and food technologists.

The fact that traditional knowledge is being commercially exploited, with only a small proportion of benefits flowing back to communities that "own" this knowledge, raises the question of equitable

sharing of the accrued benefits of its utilisation. The existing policies and legal framework in Kenya are not harmonised, and are inadequate in addressing issues of access and benefit sharing of traditional knowledge and genetic resources.

It was against this background that the Kenya's Attorney General appointed the Task Force for the Development of Laws for the Protection of Traditional Knowledge, Genetic Resources and Folklore. The proposed laws will enhance the inclusion of traditional knowledge systems into national development planning and decision-making processes.

The overriding goal of these proposed laws is to enhance the preservation and protection of traditional knowledge and genetic resources, and to promote their sustainable use. Some specific objectives of the proposed laws are to:

1. Provide a legal and institutional framework to support the integration of various aspects of traditional knowledge, genetic resources and traditional cultural expressions in national development plans and decision making processes
2. Promote, preserve, protect and develop traditional knowledge, genetic resources and traditional cultural expressions for multiple applications and use
3. Promote and foster documentation, use and dissemination of traditional knowledge, genetic resources and traditional cultural expressions, with mechanisms to acknowledge, protect and benefit their sources and/or custodians.

#### The Main Challenges Facing Traditional Knowledge Associated with Genetic Resources include:

1. Lack of recognition and inclusion of traditional knowledge and genetic resources into national policies and decision-making processes.
2. Lack of a comprehensive database on traditional knowledge, genetic resources and traditional cultural expressions.
3. Inadequate capacity to document traditional knowledge, and the high associated costs.
4. Weak linkages between communities and institutions dealing with traditional knowledge
5. Inadequate capacities to collate and document the traditional knowledge, genetic resources and traditional cultural Expressions
6. Intellectual property rights: The challenge becomes how to protect the communal rights of the holders

<sup>6</sup> Promoting the Role of Traditional Medicine in Health Systems: A Strategy for African Region  
<sup>7</sup> Legal notice no.160; the Environmental Management and Co-ordination Act (no. 8 of 1999)

of traditional knowledge and genetic resources. The current intellectual property rights regime is inappropriate for the protection of traditional knowledge and cultural expressions. There is no mechanism for access, protection and sharing of benefits arising from utilisation of traditional knowledge and genetic resources.

## 4. Legislation relating to Genetic Resources and Associated Traditional Knowledge in Kenya

The Environmental Management and Coordination Regulations<sup>7</sup>, 2006, is the main national legislation on access to genetic resources and benefits sharing. The regulations are enforced by the National Environment Management Authority (NEMA).

The regulations define genetic material as any material of plant, animal, microbial or other origin containing functional units of heredity. Intangible components are defined as any information held by a person that is associated with or regarding genetic resources within the jurisdiction of Kenya.

Regulation 15 on terms and conditions of an access permit requires that an access permit shall contain such terms and conditions as the Authority may deem necessary to impose.

In addition to such terms and conditions as may be contained in an access permit, the following conditions shall be implied in every access permit:

1. Duplicates and holotypes of all genetic resources collected shall be deposited with the relevant lead agency
2. Records of all intangible components of plant genetic material collected shall be deposited with the Authority.
3. Reasonable access to all genetic resources collected shall be guaranteed to all Kenyan citizens, whether such genetic resources and intangible components are held locally or abroad
4. All agreements entered into with respect to access of genetic resources shall be strictly for the purposes for which they were entered into
5. The furnishing of quarterly reports to the Authority on the status of research, including all discoveries from research involving genetic resources and/or intangible components thereof

6. The holder of an access permit shall inform the Authority of all discoveries made during the exercise of the right of access granted under the access permit
7. The holder of an access permit shall provide the following reports:
  - i. A semi-annual status report on the environmental impacts of any ongoing collection of genetic resources or intangible components thereof.
  - ii. A final status report on the environmental impacts of collection of genetic resources or intangible components thereof, in the event that the collection is of duration of three months or less.
8. The holder of an access permit shall abide by the laws of the country.

In relation to material transfer agreements, regulation 18 states that, notwithstanding any provisions contained in the regulations, no person shall transfer any genetic resources outside Kenya unless such person has executed a Material Transfer Agreement (MTA). Regulation 19 requires that benefit sharing shall apply, subject to the laws in force relating to intellectual property rights. In Kenya, institutions responsible for intellectual property rights include the Kenya Industrial Property Institute (KIPI), the Kenya Plant Health Inspectorate Service (KEPHIS) and the Kenya Copyright Board (KECOBO).

## 5. The global debate on the protection of genetic resources and traditional knowledge

The main objectives of the CBD<sup>8</sup> are the conservation of biological diversity, the sustainable use of its components and the fair and the equitable sharing of benefits arising out of the utilisation of such genetic resources.

The Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS)<sup>9</sup> states in article seven that the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology to the mutual advantage of producers and users of technological knowledge

8. Article 1: Convention on Biological Diversity

9. Article 7: The TRIPS agreement.

10. Constitutional provisions on culture

and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.

Having in mind the objectives of the CBD and TRIPS agreement, it is important to note that Kenya has the sovereign right to exploit her own resources, pursuant to her own environmental policies. Kenya also has the responsibility to ensure that activities within her jurisdiction or do not cause damage to the environment of other countries.

At the national level, Article 11 of Chapter Two<sup>10</sup> of the new constitution recognises the value of our culture as the foundation of our nation, and as the cumulative civilization of the Kenyan people and nation. Among other points, this article states that the State shall promote all forms of national and cultural expressions through literature, the arts, traditional celebrations, science, communication, information, mass media, publications, libraries and other cultural heritage; recognize the intellectual property rights of the people of Kenya; and shall also promote the intellectual property rights of the people of Kenya. However, parliament shall have to enact legislation to enforce this article so that communities benefit from the commercialization of their traditional knowledge.

Article 69 of Chapter Five<sup>11</sup> of the new constitution outlines obligations of the State with respect to the environment. It provides that the State shall:

1. Ensure sustainable exploitation, utilization, management and conservation of the environment and natural resources, and ensure the equitable sharing of the accruing benefits
2. Work to achieve and maintain a tree cover of at least ten per cent of the land area of Kenya
3. Protect and enhance intellectual property in, and indigenous knowledge of, biodiversity and the genetic resources of the communities
4. Encourage public participation in the management, protection and conservation of the environment
5. Protect genetic resources and biological diversity
6. Establish systems of environmental impact assessment, environmental audit and monitoring of the environment
7. Eliminate processes and activities that are likely to endanger the environment and
8. Utilize the environment and natural resources

for the benefit of the people of Kenya. It's an obligation of every person to cooperate with State organs and other persons to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.

At the regional level, it is important to note that Ministers of the African Regional Intellectual Property Organisation (ARIPO) recently signed the Protocol on the Protection of Traditional Knowledge and Expressions of Folklore. The document was signed at ARIPO's Diplomatic Conference held at Swakopmund<sup>12</sup> in Namibia's Erongo Region in August 2010. It provides for the protection of traditional knowledge holders against any infringement of their rights, as well as the protection of expressions of folklore against misappropriation, misuse and unlawful exploitation.

This Protocol is meant to empower the ARIPO to prevent the granting of patents based on pirated traditional knowledge. This is in an attempt to enable traditional knowledge holders to benefit from their contribution in the generation of intellectual property.

This move is of relevance in the enforcement of part IV of NEMA's<sup>13</sup> legal notice no. 160 of December 2006, on access and benefits sharing. Regulation 19 on Access and Benefits Sharing, shall apply subject to the laws in force relating to intellectual property rights. This has to be enforced in collaboration with national institutions managing intellectual property rights.

It is important to note that, under the standard tests for patentability, genetic materials are only patentable if they have been isolated from their natural environment, or have been synthetically produced. For example, deoxyribonucleic acid (DNA) or genes in their naturally occurring state are not patentable; however, DNA or a gene sequence that has been isolated may be patentable.

A fundamental requirement of the patent granting system is that patents are only granted for things that have not been done or disclosed before (novelty test)<sup>14</sup>. This is assessed by examining an invention to ensure that it has not been publicly used or published before. In terms of patents related to genes, particularly

11. Constitutional provisions on obligations in respect of the environment

12. Swakopmund- Protocol on Protection of Traditional Knowledge and Expressions of Folklore

13. The Environmental Management and Co-ordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefits sharing) regulation, 2006

14. Industrial Property Act Section 23

15. Industrial Property Act Section 24

16. WI/GC/W/564/Rev.2, TN/C/W/41/Rev.2, IPI/C/W/474, 5th July 2006

biotechnology patents, gene sequences and any isolated and purified biological material not previously published or used will usually satisfy the novelty test. If the sequence of a gene is already known, a person cannot claim a monopoly to the sequence itself. However, if the claimed invention refers to an unknown use, function or property of the gene (such as a new association with a particular disease), novelty may be satisfied.

The inventive step<sup>15</sup> requires that patents are only granted for inventions that advance technology beyond what is routine or obvious. In the case of a known gene, claims to uses or applications of the gene may be inventive if a new or unpredictable function is demonstrated for the gene.

The challenge regarding access to genetic resources and equitable benefits sharing has generated international debate on the need to disclose the origin of biological resources and associated traditional knowledge in patent application. It is because of this that the TRIPS 29<sup>16</sup> proposals were made. Some of the proposals are as follows.

1. For the purposes of establishing a mutually supportive relationship between this Agreement (TRIPS) and the CBD, in implementing their obligations, Members shall have regard to the objectives and principles of this Agreement and the objectives of the CBD.
2. where the subject matter of a patent application concerns, is derived from or developed with biological resources and/or associated traditional knowledge, Members shall require applicants to disclose the country providing the resources and/or associated traditional knowledge, from whom in the providing country they were obtained, and, as known after reasonable inquiry, the country of origin
3. Members shall require applicants or patentees to supplement and to correct the information, including evidence provided under paragraph 2 of the Article in light of new information of which they become aware.
4. Members shall put in place effective enforcement procedures so as to ensure compliance with the obligations set out in paragraphs 2 and 3 of the Article. In particular, Members shall ensure that

administrative and/or judicial authorities have the authority to prevent the further processing of an application or the grant of a patent and to revoke, subject to the provisions of Article 32 of the TRIPS Agreement, or render unenforceable a patent when the applicant has, knowingly or with reasonable grounds to know, failed to comply with the obligations in paragraphs 2 and 3 of the Article or provided false or fraudulent information.

This disclosure requirement, coupled with provisions of Article 6<sup>17</sup> of the WIPO Performances and Phonograms Treaty (WPPT)<sup>18</sup> on Economic Rights of Performers in their Unfixed Performances, where performers enjoy the exclusive right of authorizing, as regards their performances including:(i) The broadcasting and communication to the public of their unfixed performances except where the performance is already a broadcast performance; and(ii) The fixation of their unfixed performances; will provide protection to Traditional knowledge, Genetic Resources and Traditional Cultural Expressions of our communities.

## 6. How These Policies Offer Protection to Genetic Resources And Traditional Knowledge In Kenya

These policies will help in developing national<sup>19</sup> strategies and measures aimed at defensive protection of genetic resources, and in addressing intellectual property issues in mutually agreed terms for the fair and equitable sharing of benefits arising from the use of genetic resources.

It is proposed that an inventory of existing periodicals, databases and other information resources which document disclosed genetic resources and associated traditional knowledge, be compiled. Similarly, an online portal of registries and databases could be extended to include existing databases and information systems to enhance access to information on disclosed traditional knowledge and associated genetic resources.

It is also recommended that guidelines for search and examination procedures for patent applications should ensure that they take into account disclosed genetic resources.

17. WPPT's provisions on protection of unfixed performance

18. WIPO Performance and Phonograms Treaty (WPPT)

19. WIPO/GRTKF/IC/11/8(a)



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Trade Information Programme  
5th Floor, ACK Garden House  
P.O. Box 53989 - 00200  
Nairobi, Kenya.  
Tel: +254-20-2721262, +254-20-2717402  
Fax: +254-20-2716231  
Email: [admin@ieakenya.or.ke](mailto:admin@ieakenya.or.ke)  
Website: [www.ieakenya.or.ke](http://www.ieakenya.or.ke)

**Written by:**

Stanley Atsali

**Editors:**

Edwin Mudoga and Irene Kinuthia

**Board of Directors:**

Betty Maina, Lynne Wanyeki, Duncan Okello, John Kashangaki, Charles Onyango Obbo

**Design & Layout:**

Sunburst Communication

## 7 Conclusion and Recommendations

In the new constitution of Kenya, provisions in Chapter Two, Article 11 on Culture, and Chapter Five, part two on the Environment and Natural Resources, coupled with national obligations under the ARIPO's Swakopmund Protocol for the protection of traditional knowledge and Expressions of Folklore, shall provide harmony in the management of traditional knowledge, genetic resources traditional cultural expressions.

KIPI's Industrial Property Act of 2001 and KEPHIS's provisions on plant variety protection as provided for in the Seeds and Plant Varieties protection Act (Cap 326), should be amended to be mutually supportive of regulation 19 of NEMA's legal notice number 160 of December 2006, on intellectual property and access to knowledge and intangible resources.

Finally, it is recommended that Kenya ascends to the World Intellectual Property Organization's Performances and Phonograms Treaty (WPPT), to provide protection to our traditional cultural expressions, as provided for in Article 6 of the WPPT.