

Protecting Forest and Medicinal Plant Resources: A Legal Brief on *Prunus africana*

Emmanuel SUKA

P O Box 247 Buea, South West Region Cameroon

Email: emmanuelsuka@yahoo.com

Abstract

Access is open to forests in Sub Saharan Africa for collection of medicinal plants and other non timber products for commercial and local use. Most national legislatures do not have regulatory instruments for this sector due to inability or mere neglect. Activities in this sector are carried out illegally. This seriously degrades the natural resource base, ecosystem functions and loss of indigenous peoples' intellectual property rights and benefits. Among many medicinal plants supplied to cosmetic and pharmaceutical industries abroad is *Prunus africana* whose bark and root treats many ailments particularly human prostate cancer. The plant is endemic with high altitude characteristics known to exist only in few African countries including Cameroon, Kenya and Madagascar. The plant is exploited extensively and unsustainably to meet high demands by pharmaceutical companies in developed countries. The objective is to explain to African governments and trade partners the general international legal framework and obligations concerning access to genetic resources and benefit sharing, and trade under the CBD and CITES; procedure provided by CBD text for ratification, adoption and promulgation in to national legislation on the sustainable use and management of biodiversity and natural resources, and protection provided for by World Trade Organization for Intellectual Property Rights of Indigenous People's Knowledge and trade on genetic resources. Research methods included transferred best available technology on-farm integrated agroforestry systems cultivation of medicinal plants. Documents were consulted including texts of the 1992 Convention on Biological Diversity/protocols, 1973 Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and World Trade Organization (WTO). Government officials and local communities holding important traditional knowledge on medicinal plants were consulted. It is expected that contracting parties to CDB, CITES and WTO are obliged by stipulations therein, according to national legislative procedures shall ratify, adopt and promulgate in to national legislation and administrative policies its provisions for sustainable development.

Keywords: CBD, CITES, Indigenous knowledge, Medicinal plants, *Prunus africana*, WTO

FACTS

Developing countries forests in Sub Saharan Africa have open access for collection of medicinal plants and other non timber products for commercial and local use. Most of these countries are contracting parties to the Convention on Biological Diversity (CBD), and are heavily endowed with rich biodiversity and indigenous medicinal knowledge of plants for centuries used traditionally for treatment of many ailments. Exploitation of these medicinal plant resources is done illegally and not legislated by most State governments. This has caused serious damage to the resource base, destabilized ecosystems function, increased poverty, loss of indigenous rights and benefits etc. One of the medicinal plants greatly exploited is *Prunus africana* found in most highlands in Africa endangered to Cameroon, Madagascar and Kenya. *Prunus africana* belongs to the Rosaceae family, its bark and roots treats many ailments particularly Benign Prostatic Hyperplasia (Prostate Cancer). Many modern foreign pharmaceutical companies have obtained patents and want to have access to among other trade requirements. The plant is facing serious decline and threats including;

- over exploitation
- lack of adequate readily available regeneration technology
- high demand from pharmaceutical companies abroad
- wild bush and forest fires
- poor governance
- unsustainable bark harvesting methods
- deforestation and habitat fragmentation
- invasive alien species
- slash and burn agriculture and habitat loss
- natural disasters e.g mountain eruptions

OBJECTIVES

The objective is;

- to explain to African governments, other developing countries and trade partners the general international legal framework and obligations concerning access to genetic resources and benefit sharing, and trade under the CBD/protocols, CITES and WTO.
- to explain CBD procedure for ratification, adoption and promulgation in to national legislation on the sustainable use and management of biodiversity and natural resources, and protection provided by WTO for Intellectual Property Rights of Indigenous People's Knowledge, trade and access on genetic resources.

- to adopt and implement best available technology of Agroforestry on-farm cultivation systems to scale up production of valuable economic trees and medicinal plants.

RESEARCH QUESTIONS

Developing country governments want to know;

- a). the current international legal framework provided by CBD on access to genetic resources and benefit sharing and procedure for adoption of its text in to national legislation?
- b). the legal protection offered by World Trade Organization, and CITES on trade on genetic resources, ancestral traditions and rights of indigenous peoples' knowledge?
- c). the role of agroforestry farming systems to forest and medicinal plants e.g (*Prunus africana*) conservation and sustainable development?

HYPOTHESIS

Combined implementation of current international legal framework and best available Agroforestry technologies can greatly enhance forest and medicinal plant conservation, agricultural production and environmental services.

RESEARCH METHODS

- concert with government officials and local communities holding important traditional knowledge on medicinal plants and forest.
- consult documents and texts of CBD 1992/Protocols, 1973 (CITES) and (WTO) to which States are party's.
- Participatorily develop and adopt policies and regulations and best available agroforestry on-farm farming system according to local environmental context.

ARGUMENTS

Arguments used included;

- texts of the 1992 Convention on Biological Diversity/Protocols,

- 1973 Washington Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and
- World Trade Organization (WTO).

INTRODUCTION

Many countries are a party to the 1992 Convention on Biological Diversity (CBD)¹ and its protocols² comprising the 2000 Cartagena Protocol on Biosafety³ and 2010 Nagoya Protocol on Access to Genetic Resources and Benefit Sharing⁴. They shall adopt and rely on the provisions of texts wherein on current international legal framework on access to genetic resources and benefit sharing, promulgate in to national legislation and administration according to national procedures, rules and regulations. Its texts/decisions shall be translated into National Strategies and Action Plans for implementation after which reports shall be sent to CBD⁵.

Countries intending to trade⁶ on medicinal plants particularly *prunus Africana*, with foreign pharmaceutical companies that want to get specimens of these plants must comply with CITES⁷ international legal instruments regulating the activity is explained below.

To ensure trade is legal and effective, party governments need to establish contracts and issue permits and patents to pharmaceutical companies to have access to genetic resources, indigenous knowledge and local traditions are regulated by WTO⁸ is discussed in detail.

All parties involved in medicinal plant trade must take necessary measures and comply with international legal instruments above to ensure sustainable use of, and conservation of biodiversity for sustainable development⁹.

¹ Text of the Convention on Biological Diversity, See <http://www.cbd.int/convention/text/>, 12 August 2012.

² <http://bch.cbd.int/protocol/text/> 6 September 2012.

³ Secretariat of the Convention on Biological Diversity (2000). Cartagena Protocol on Biosafety to the Convention on Biological Diversity: text and annexes. Montreal: Secretariat of the Convention on Biological Diversity.

⁴ See Booklet of Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity : text and annex / Secretariat of the Convention on Biological Diversity.

⁵ See CBD Text particularly articles 6 and 7 dealing with National Biodiversity Strategies and Action Plans, appointment of National Focal Point, article 18(3), implementation of measures and reporting to CBD-COP, article 26.

⁶ Trade defined by CITES is the movement of any CITES specimen across an international border for either commercial or non-commercial purposes, is the cause of threat and near extinction of species. An agreement is necessary to ensure control of such trade to secure global biodiversity, natural heritage (embodying traditional and indigenous knowledge), prevent the impoverishment and deprivation of producer countries of fabulous economic resources for sustenance of both trade and resources for the future.

⁷ CITES web site at www.cites.org/eng/disc/species.shtml.

⁸ See publication by Downes David.R, 1999, integrating implementation of the convention on Biological Diversity and the Rules of the World Trade Organization, pub by IUCN, Gland, Switzerland and Cambridge, UK.

BIODIVERSITY CONVENTION¹⁰

❖ PREAMBLE¹¹

CBD preamble is characterized with open natured crafted objectives and obligations that give contracting parties latitude to decide on how to implement CBD and achieve its goals, and free room to adopt protocols and annexes as well as conserve biodiversity for ecocentric and anthropocentric purposes. Paragraph 12 specially recognize the close and traditional dependence of many indigenous and local communities embodying traditional lifestyles on biological resources, and the desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices relevant to the conservation of biological diversity and the sustainable use of its components¹², shall be the focus of this legal brief.

❖ GOALS¹³

Contracting parties are obliged to fulfill objectives including,

- i. conservation of biological diversity,
- ii. sustainable use of its components,
- iii. fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding (Art 1).

Further to article 1, article 2 defines conservation of biodiversity to include insitu and exsitu conservation measures, moreso, sustainable use to be use of components of biodiversity in a way and rate that does not bring about deleterious effects thereof, but maintain its potential to meet the needs and aspirations of present and future generations, while the 3rd objective on access and benefit sharing (ABS) is addressed in article 15.

❖ PRINCIPLES¹⁴

National sovereignty over natural resources is utmost, but with the obligation to minimize harm to their environment and of States beyond borders while exploiting natural resources according to own environmental policies (Art 3).

⁹ See page 97 of Kiss, A, Introduction to International Environmental Law, 2nd Revised Edition, UNITAR, Geneva, Switzerland, 2005, on international environmental instruments and sustainable development, See also page 11 of Michelot, Agnès (2007), Environment and Trade UNITAR, Geneva, Switzerland, on world trade theory and the stakes of environmental protection: sustainable development.

¹⁰ Refer to text of Multilateral Environmental Instrument of Convention on Biological Diversity of 5 June 1992, Also on convention website: www.cbd.int or <http://biodiv.be/convention/cbd-text>.

¹¹ Refer preamble of CBD text.

¹² See pages 19-49 of course 6, International Environmental Law: Biological Diversity (2010, 2nd edition), UNITAR, Geneva, Switzerland, 317pp, refer also to CBD Text.

¹³ See CBD text.

¹⁴ See CBD text.

The prevention and precautionary principles are highlighted on paragraphs 8 and 9 of the preamble, though not legally binding but are important to clarify interpretation of binding provisions of (CBD)¹⁵.

❖ SCOPE¹⁶

Each contracting party's rights in the case of conserving components of biodiversity, processes and activities are carried out within the limits of national jurisdiction as well as beyond national borders in certain cases (Art 4(a)(b)).

❖ COOPERATION¹⁷

Parties are obliged to possibly and appropriately cooperate, through competent international organizations, in respect of areas beyond national jurisdiction like the high seas and other matters of mutual interest, for the conservation and sustainable use of biological diversity (Art 5).

❖ GENERAL OBLIGATIONS¹⁸

Contracting parties and all other governments shall fulfill the following obligations;

- Adopt measures according to her specific conditions and capabilities for conservation and sustainable use of biodiversity through development of National Biodiversity Strategies and Action plans (NBSAP)¹⁹ or programmes and integrate in to sectoral, cross-sectoral plans, plans and policies for implementation as well as identify and monitor important biodiversity components, spelt out in Art 6(a)(b) and 7(a)(b)(c)(d).
- Cooperate scientifically/technically to establish Clean House Mechanism (CHM), article 18(3) from which National Focal Points (NFPs) are appointed to facilitate technical/scientific information etc is exchanged, and send reports to CBD-COP²⁰ concerning implementation of measures and biodiversity conservation targets and their effectiveness through national reports (Arts 16(1), 17,18 and 26).
- Mainstream biodiversity concerns through all sectors and national economy and decision-making framework connected to CBD provisions on Environmental Impact Assessments (EIA)²¹ on all development projects (Art 10(a)).

¹⁵ Refer to pages 69-89 on principles of international environmental law in Kiss, A, Introduction to International Environmental Law, 2nd Revised Edition, UNITAR, Geneva, Switzerland, 2005, p112.

¹⁶ See CBD text, and page 22 of course book, International Environmental Law: Biological Diversity (2010, 2nd edition), UNITAR, Geneva, Switzerland, 317pp.

¹⁷ See CBD text.

¹⁸ See CBD text and page 26 of international environmental law programme Course Book Six.

¹⁹ <http://www.biodiv.be/convention/strategic-plan-2011-2020/> 02 May 2012 , <http://www.cbd.int/nbsap> 12 June 2012.

²⁰ See CBD text articles 23, 24, and 25.

²¹ See CBD text article 14, see also page 29 on EIA in Shelton, D, Techniques and Procedures in International Environmental Law, 2nd Edition, UNITAR, Geneva, Switzerland, 2004, p143.

- Commit to regulate or manage such processes and activities deemed could have significant adverse impact on biodiversity by carrying out environmental impact assessment (EIA) of such projects (Art 8(I) and (Art. 14).
- Specifically undertake Insitu conservation of biodiversity according to provisions of Article 8 that has listed 13 types of activities and measures and Exsitu conservation as well to complement Insitu conservation Art 8(a)(b)(c)(d)(e)(f)(j)(k) and (Art 9).
- Take necessary steps according to Article 8(g) to regulate, manage or control risks linked with the use and release of Living Modified Organisms (LMOs) resulting from biotechnology is tightly connected to Article 19 on the handling of biotechnology and distribution of its benefits. These two articles and by virtue of Article 28, provided foundation for negotiating and adopting the 29 January 2000 Cartagena protocol on Biosafety which entered into force on 11 September 2003²². The protocol addresses issues among safe transfer, handling and use of LMO that may have adverse effect on biodiversity with particular focus on transboundary movements, therefore States need to secure their rich biodiversity by ratifying the protocol and adopt the legal instruments stipulated by the Cartagena agreement.
- Provide for research, training, general education and promote awareness, in relation to measures for the identification, conservation and sustainable use of biological diversity (Arts. 12 and 13).
- Provide, in accordance with their individual capabilities, financial support for the fulfillment of the objectives of conservation and sustainable use of biological diversity (Arts. 20 and 21).
- Prevent intentional or accidental introduction of exotic species or invasive alien species (IAS) that threaten ecosystems, habitats or species (Art 8 (h)).
- Adopt economically and socially sound measures that act as incentives for the conservation and sustainable use of components of biological diversity (Art 11).
- Respond promptly to emergencies through transboundary cooperation, mutual basis, notification, exchange of information and consultation under its jurisdiction or control judged can cause measurable damage on the biodiversity of other States. Bilateral, regional or multilateral agreements can be adopted for its realization (Art 14(1)(c)-(e).
- Achieve CBD 2nd objective by ensuring sustainable use of biodiversity and components through strict application of provisions (Art 6, 7, 10, 11, 12 and 13).
- Parties are subjected to national legislation to preserve, respect and maintain traditional knowledge; promote its wider application with the approval and involvement of the holders of the knowledge, and encourage the equitable sharing of the benefits arising from the utilization of such knowledge (Art 8(j)).

²² The Biosafety Protocol is based on the principles of prevention and precautionary approach, established on the concept of advanced informed agreement that sets out procedures relating to import and export of living modified organisms, obliging parties to this respect is vital to above request, Website: <http://www.biodiv.org> 20 August 2012, See pages 57-65 of International Environmental Law: Biological Diversity (2010, 2nd edition), UNITAR, Geneva, Switzerland, 317pp.

❖ ACCESS AND BENEFIT SHARING (ABS)²³

Provisions of Articles 15 and 8(j) carry obligations central to achieving CBD's 3rd objective of ABS. As defined in Article 2 above, each State has the sovereign power over its genetic resources and access pursuant to Article 15(1) of CBD and due to functional units of heredity of genetic resources which are used mainly for research and development, contracting parties would have to take measures including legislative, administrative and policy, as far as possible and as appropriate with the aim of fair and equitably sharing the results of research and development and the benefits arising from the commercial and other utilization of genetic resources with the contracting parties providing such resource.

Contracting parties providing the genetic resource shall fulfill ABS required basic elements including prior informed consent (PIC) and mutually agreed terms (MAT). Conditions on Access and Benefit Sharing make up the content of MAT which are negotiated by the competent authority of the resource provider with the private person, company or research institution, (in this case are pharmaceutical companies), upon fruitful agreement, the former issues latter PIC in the form of a permit. The resource providers range from private individuals, judicial person, indigenous or local community to State authority. MAT generally is a contractual agreement but when one of the negotiating parties is a State, its content is spelt out as a licence²⁴.

Genetic resource benefits spelt out by CBD are research results and development, transfer of technologies, participation in biotechnological activities, and monetary benefits in the form of royalties from patented products of genetic resources. CBD provisions that relate to the sharing of these benefits are stipulated in Articles 15, 16(3), 19(1)(2) involving access, participation and transfer of technology and biotechnological research and activities and results of and benefit sharing from the use of genetic resources while Article 8(j) that require parties to share any benefits that arise from the use of biodiversity-related traditional knowledge²⁵ is very vital and complements the ABS.

Pursuant to CBD conference of the parties (COP) provisions Article 23(4.c) in accordance with Article 28 on adoption of protocols enabled the adoption of the Nagoya, Japan protocol on Access and Benefit Sharing by CBD COP-10 meeting on 29 October 2010²⁶, though not yet in force have as objectives to the fair and equitable sharing of benefits arising from the utilization of genetic resources, thereby contributing to the conservation and sustainable use of biodiversity. It provides a transparent legal framework for the effective implementation of the third goal of CBD, in establishing more predictable conditions for access to genetic resources, and helping to

²³ See CBD text, see <http://www.cbd.int/abs/text/> 25 June 2012, see pages 37-39 of International Environmental Law: Biological Diversity (2010, 2nd edition), UNITAR, Geneva, Switzerland, 317pp.

²⁴ See page 55 on Licensing and Permitting in Shelton, D, Techniques and Procedures in International Environmental Law, 2nd Edition, UNITAR, Geneva, Switzerland, 2004, p143.

²⁵ See CBD text, Discussions on Traditional and Indigenous Knowledge took place first during the forth COP meeting COP-4 from 4-15 May 1998 in Bratislava, Slovakia (<http://www.biodiv.org/8j-indig.html> 17 August 2012).

²⁶ Visit website: www.cbd.int/abs/about/ 8 September 2012, on Nagoya protocol, and see text of Nagoya protocol on access to genetic resources and the fair and equitable sharing of benefits arising from their utilization to the convention on biological diversity text and annex secretariat of the convention on biological diversity Montreal.

²⁷ see publication by Laurence Boisson de Chazournes, CONVENTION ON BIOLOGICAL DIVERSITY AND ITS PROTOCOL ON BIOSAFETY, United Nations Audiovisual Library of International Law, with definition of biodiversity and usefulness to the human environment, negotiating a universal legal framework the CBD, its objectives.

ensure benefit sharing when genetic resources leaves the contracting party providing the genetic resources.

Dint to the ABS requirements of CBD and Nagoya protocol, contracting parties shall ratify, adopt and promulgate texts according to national procedures and implement legal instruments thereof through legislative, administrative and other appropriate measures taken at the national level pertaining to prevailing circumstances²⁷.

❖ DISPUTE SETTLEMENT²⁸

The question of liability and redress for damage to biological diversity relates to provisions of Article 14(2). However, if a dispute occurs between parties, it shall be resolved through dispute settlement mechanisms comprising negotiation, mediation, arbitration or submission to the International Court of Justice (ICJ) in accordance with procedures set out in Article 27 and Annex II.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington, DC, 1973) (CITES)²⁹

CITES is a global legal instrument to regulate transfrontier trade of wild fauna and flora specimens between countries, was adopted in Washington DC on 3 March 1973 and entered in to force on 1 July 1975³⁰. The survival of wild animal and plants is threatened by international trade of its specimens was what prompted the development of a framework to ensure international cooperation to regulate the activity. CITES's obligation is to establish a mechanism for facilitating, regulating and monitoring trade to ensure it's equitability for sustainable future/development, is relevant in the case where parties are engaged in such activity³¹.

CITES's aims to protect species traded³² as live and dead specimens, or parts/derivative such as root, seed, bark, wood, flower, bulb of plant, wooden sculpture, traditional medicine etc of wild flora.this case limits us only to trade in plants, otherwise the same holds for trade in fauna.

²⁸ See page 63 on dispute settlement mechanisms in Kiss, A, Introduction to International Environmental Law, 2nd Revised Edition, UNITAR, Geneva, Switzerland, 2005, p112, and page 17 of Michelot, Agnès (2007), Environment and Trade UNITAR, Geneva, Switzerland, 164 pp, in the topic Dispute settlement/environmental agreements and peaceful means of dispute settlement, see CBD article 27 and annex II.

²⁹ Website: www.cites.org/ 16 August 2012, See page 92-110 of international Environmental Law: Biological Diversity (2010, 2nd edition), UNITAR, Geneva, Switzerland, 317pp.

³⁰ Refer page 38 of Michelot, Agnès (2007), Environment and Trade UNITAR, Geneva, Switzerland, 164 pp.

³¹ Refer to CITES text objectives and obligations and particularly Article IV3 on sustainable development which is strongly related to CBD's overall objectives, shall be very important for governments that want to engage in international trade of plants.

³² CITES provides a mechanism for facilitating trade while regulating and monitoring trade to ensure it is sustainable and can be maintained for future generations to contribute to sustainable development.

The protection of species endangered by trade is listed³³ in CITES's appendices I, II&III, subject to regulation by States to meet the requirements thereof using CITES's Permits, is implemented through legislation, national laws, and adoption of stricter domestic measures (Art XIV(1)(a))³⁴.

States are obliged to designate one or more management authorities to grant CITES's permits and one or more scientific authorities whose function will be to assess scientific information about populations status of species that are traded and advice management authority who inturn forwards it to CITES (Art IX).

These permits indicate approved trade, allow for monitoring of trade at the national and global level and for action to be taken if necessary, and to determine illegal trade according to listings on its appendices, are useful control mechanisms for compliance and meting trade sanctions (Art VIII).

Appendix I is made up of endangered species that are threatened with extinction and international trade can seriously affect them, therefore trade of specimens of these species are strictly prohibited and regulated, authorized exceptionally on non-commercial trade but subject to ruthless control, and shall require import or export permit or re-export certificate (Art II (1)).

Appendix II comprises of species that presently are not threatened with extinction but may became endangered in the near future if trade is not regulated. Trade for commercial purposes is allowed but is regulated by CITES export permit or re-export certificate. In this case *prunus africana* is listed here (Art II (2)).

Appendix III involves species that may became endangered in the State responsible for the listing if trade is not regulated (Art II(3)). Trade for commercial purposes is allowed but is regulated requiring CITES export permit from the State that listed the species or certificate of origin from the exporting State if it did not list the species.

Requirements of appendix I & II specifically relates to countries that want to engage in international trade in *prunus africana* bark among other medicinal tree species, must do so with strict application of CITES provisions to protect/preserve her natural heritage, conserve, and sustainably use biodiversity and wild flora.

WORLD TRADE ORGANISATION (WTO)³⁵

³³ For the list, refer to the CITES web site at www.cites.org/eng/app/index.shtml (20 August 2012).

³⁴ It is a management strategy to list species as on the CITES Appendices in order to first of all regulate and monitor species endangered by trade, apply the Non-detriment finding concept which obliges parties to implement conservation management initiatives to monitor trade and species population levels to determine if trade in those species is sustainable thereby ensuring that trade in wild species is legal and sustainable, and the use of CITES permits and documents such as import, export, and re-export to authorize and approve trade in CITES species as control measures.

³⁵ Refer to WTO text on <http://www.wto.org> 11 August 2012.

The World Trade Organization (WTO) was created on January 1, 1995 in the auspices of the Marrakesh agreement, substituted the 1948 General Agreement on Tariffs and Trade (GATT). Its ambition is to supervise, regularize, and enable free international trade among member countries. WTO's function is to provide a framework for negotiating and formalizing trade agreements, resolve trade related issues, and enforce ratification of WTO agreements by parliaments of member government³⁶.

WTO offers protection³⁷ in the joint revised text with CBD under the Committee on Trade and Environment (CTE)³⁸ provisions of Trade-Related aspects of Intellectual Property Rights (TRIPS) Agreement; TRIPS Council of Article 27.3(b) together with the implementation of the TRIPS Agreement pursuant to Article 71.1, protects traditional knowledge and folklore, recognize the role of intellectual property rights in encouraging access to genetic resources and the sharing of benefits from the use of those resources. Moreover, the scope of Article 27.3(b) has been extended to include issues such as biodiversity, traditional knowledge, benefit sharing, and the ethics of patenting of life forms is harmonized in the TRIPs Agreement with the CBD³⁹.

WTO strengthens institutional coordination at international, regional and national level in accordance with WTO Agreements on Technical Barriers to Trade (TBT Agreement) and on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) paragraph 27), on control of invasive alien species and gives mutual support to the Cartagena Protocol on Biosafety⁴⁰.

WTO dispute resolution agreement by members was adopted and signed in Marrakesh 1994, is set on the Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU)

³⁶ Most of the world's trading nations negotiate and sign the WTO agreements which provide the legal ground rules for international commerce. These documents are contracts that bind governments together to keep their trade policies within agreed limits. It also enables governments to achieve its goal by helping producers of goods and services, exporters, and importers conduct their business, and at the same time permit governments to meet social and environmental objectives. Furthermore, the rules generally are 'transparent' and predictable in character

³⁷ WTO negotiations doesn't only help to open markets but also in some cases, its rules protect consumers or prevent the spread of disease thereby support maintaining trade barriers.

³⁸ <http://www.cbd.int/incentives/coop-wto.shtml> 2 July 2012, <http://en.wikipedia.org/wiki/world-trade-organization> 20 July 2012, See also pages 30/31, 70 and 71 dealing with principles of international trading system GATT/WTO system, trade and environment report of GATT trade regulations, quotas and cooperation, WTO agreements: the progressive but restricted consideration of the environment In Michelot, Agnès (2007), Environment and Trade UNITAR, Geneva, Switzerland, 164 pp.

³⁹ <http://www.wto.org/english/tratop-e/trips-e/intel2-e.htm#patents> 18 August 2012, <http://www.wipo.int/globalissues/igc/documents/index.htm> 18 August 2012, Publication by David R. Downes, Integrating implementation of the Convention on Biological Diversity and the Rules of the World Trade Organization, published by IUCN, Gland, Switzerland and Cambridge, UK, XVII 189pp, refer to pages 90, 94, 96 and 98 concerning TRIPS Agreement; TRIPS Agreement, the CBD and the laws of patents; Sui generis systems; Committee on Trade and Environment in Michelot, Agnès (2007), Environment and Trade UNITAR, Geneva, Switzerland, 164pp.

⁴⁰ <http://biodiversity-1.iisd.org/new/mutual-support-between-cbd-wto-urged/> 16 July 2012, <http://www.ciel.org/publications/doha-cbd-10oct02.pdf> 20 July 2012, See pages 79 and 81 of Michelot, Agnès (2007), Environment and Trade UNITAR, Geneva, Switzerland, 164 pp dealing with sanitary and phytosanitary measures (SPS) Agreement, and Agreement on Technical Barriers to Trade.

annexed to the "Final Act"⁴¹, has dual consideration by WTO, first of all as the fulcrum of the multilateral trading system, and as a "unique contribution to the stability of the global economy". This system of dispute settlement mechanism by WTO is based on a multilateral system and not the obvious unilateral approach, is applied to fellow-members believed to have violated trade rules. The dispute settlement process is rigorous including bodies, *inter alia*, Dispute Settlement Body (DSB) panels, the Appellate Body, the WTO Secretariat, arbitrators, independent experts and several specialized institutions. Enforcement of judgments by trade embargoes is severe, reliable and effective is important protection for developing countries since they are resource owners.

SOLUTION

Contracting parties to CDB are obliged by prescriptions stipulated therein, according to national legislative procedures shall ratify, adopt and promulgate in to national legislation and administrative policies its provisions.

Governments shall acquire protection through CITES species status listing and permit system, and protection from WTO's Committee on Trade and Environment, Council for Trade-Related Aspects of Intellectual Property Rights, Committee on Sanitary and Phytosanitary measures and on Technical Barriers to Trade, and Understanding on Rules and procedures Governing the Settlement of Disputes, to secure the rights of local communities, indigenous knowledge and trade on genetic resources.

Recommended **Internal policies and regulations** to be implemented include;

- Contracting agreements that warrant payment of relatively high prices per unit weight of bark to villagers, and train collectors with sustainable harvesting methods.
- Create Village Natural Resource management committees to monitor harvesting, control and prohibit cutting down of medicinal trees.
- Partnership with ICRAF, World Conservation Monitoring Centre (WCMC, 1999) and FAO Panel of Experts on Forest Gene Resources listings.

⁴¹ See WTO text and website: <http://www.wto.org/> 14 September 2012, refer to page 63 concerning Dispute Settlement Mechanism in Kiss, A, Introduction to International Environmental Law, 2nd Revised Edition, UNITAR, Geneva, Switzerland, 2005, p112, page 17 of Michelot, Agnès (2007), Environment and Trade UNITAR, Geneva, Switzerland, 164 pp, dealing with Dispute settlement/environmental agreements and peaceful means of dispute settlement-The dispute settlement system of WTO. See also page 55 of Shelton, D, Techniques and Procedures in International Environmental Law, 2nd Edition, UNITAR, Geneva, Switzerland, 2004, p143, that elaborates on Licensing and Permitting, Parties shall enjoy trade privilege from WTO as the CBD Secretariat cooperates with the WTO Secretariat participating on a regular basis in meetings of the committee on Trade and Environment (CTE), and Council for Trade-Related Aspects of Intellectual Property Rights (TRIPS Council) in regular and special sessions, moreover, the DSU mechanism favors producer countries.

- Carryout enrichment planting through reforestation and on-farm cultivation agroforestry systems.
- Establish a national *prunus africana* management plan to include creation of seed banks and adopt vegetative propagation methods as conservation strategies for outreach extension programs.

CONCLUSION

It is necessary for developing countries especially Sub Saharan African countries to adopt on-farm agroforestry technologies as a method through which to implement and comply with international legal agreements particularly commitments stipulated in CBD's objectives, for sustainable development.

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