



CAPTURING INDIGENOUS KNOWLEDGE FOR DEVELOPMENT WHILE RESPECTING INTELLECTUAL PROPERTY RIGHTS, ETHICAL AND MORAL INTEGRITY AND BIOSAFETY

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OVERVIEW OF ADDRESS

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6. Importance of Regional and Continental Collaboration
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INDIGENOUS KNOWLEDGE SYSTEMS: EARLIER DEFINITIONS

1. **Indigenous Knowledge is the local knowledge – knowledge that is unique to a given culture or society. IK contrasts with the international knowledge system generated by universities, research institutions and private firms. It is the basis for local-level decision making in agriculture, health care, food preparation, education, natural-resource management, and a host of other activities in rural communities (Warren, 1991)**
2. **Indigenous knowledge is used synonymously with ‘traditional’ and ‘local’ knowledge to differentiate the knowledge developed by a community from the international knowledge system sometimes called ‘Western’ system, generated through universities, government research centres, and private industry. IK refers to the knowledge of indigenous peoples as well as any other defined community (Warren, 1992)**

INDIGENOUS KNOWLEDGE SYSTEMS: MORE DEFINITIONS

3. Indigenous knowledge is (...) the information base for a society which facilitates communication and decision-making. Indigenous information systems are dynamic and are continually influenced by internal creativity and experimentation as well as by contact with external systems (Flavier et al, 1995)
4. The unique, traditional, local knowledge existing within and developed around specific conditions of women and men indigenous to a particular geographic area (Grenier, 1998)

INDIGENOUS KNOWLEDGE SYSTEMS: RECENT DEFINITIONS

5. An all inclusive knowledge that covers technologies and practices that have been and are still used by indigenous and local people for existence, survival and adaptation in a variety of environments. Such knowledge is not static but evolves and changes as it develops, influences and is influenced by internal and external circumstances and interaction with other knowledge systems. Such knowledge covers contents and contexts such as agriculture, architecture, engineering, mathematics, governance, and other social systems and activities, medicinal and indigenous plant varieties, etc. (Onwu & Mosimege, 2004)
6. Indigenous knowledge is an embodiment of a different and specifically African mode of thought – an African epistemology and therefore a means for thinking about development methods in areas like health, agriculture and natural resource management (World Bank, 2004)

DEVELOPMENTS IN IKS IN SOUTH AFRICA

1. Audit of Indigenous Technologies
2. Provision of ring-fenced funding at the National Research Foundation
3. Establishment of Interdepartmental Committee on IKS
4. Support in the establishment of IKS Trusts
5. Development of IKS Policy
6. Establishment of National Office on IKS (NIKSO)

IKS AND POVERTY

The Department of Science and Technology in South Africa has supported the following projects on IKS in relation to addressing issues of poverty:

- (i) Cashmere Farming (Indigenous Goats)
- (ii) Plant Fibre Beneficiation (Hemp, Sisal and Indigenous Grasses)
- (iii) Indigenous Foods
- (iv) Leather Beneficiation
- (v) Essential Oils
- (vi) Beekeeping
- (vii) Devil's Claw Propagation
- (viii) Mushrooms

These projects have either been completed or have been migrated to respective Science Councils and other related Organizations i.e. DST is not funding them in the same manner anymore

DEVELOPMENTS IN IKS IN OTHER PARTS OF THE CONTINENT

- IKS Centres have been established in countries such as: Burkina Faso, Ghana, Nigeria, Kenya, Zimbabwe, Tanzania, etc.
- The Centre for Indigenous Knowledge in Accra, Ghana, which was established in 2000, focuses on the following:
 - Record, preserve, and disseminate information on IKS
 - Serve as a clearinghouse for IKS from various communities inside and outside of Ghana
 - Support and advocate the use of IKS in the socio-economic development process in Ghana and the region of West Africa
- The Indigenous Knowledge Program at the World Bank has supported development of strategies in countries such as Malawi, Kenya, Uganda and Tanzania

IKS AND AGRICULTURE: EXAMPLES OF ARTICLES PUBLISHED IN THE INDILINGA: AFRICAN JOURNAL OF INDIGENOUS KNOWLEDGE SYSTEMS

- 1. Indigenous Knowledge Practices and Role of Gender in Rice Production in Ini, Nigeria (V2, (1), 45 – 52)**
- 2. The Usage of Indigenous Plant Materials among Small-Scale Farmers in Niger State Agricultural Development Project (V2, (1), 53 – 62)**
- 3. A Methodology for the Collection and Evaluation of Farmers' Indigenous Environmental Knowledge in Developing Countries (V2, (1), 99 – 113)**
- 4. A Theoretical and Empirical Model for Soil Conservation using Indigenous Knowledge (V2, (1), 25 – 35)**
- 5. Land Reform and Indigenous Knowledge: A Missing Link in the Fast Track Land Reform Programme in Zimbabwe (V3, (2), 134 – 146)**
- 6. Mr Napite's Botanical Knowledge: Bridging Farmers' and Scientists' Insights during Participatory Research (V2, (2), 45 – 58)**
- 7. Of our Forefathers' Seeds and Next Generation (V4, (1), 166 – 181)**

IKS AND AGRICULTURE: RESEARCH AT THE AGRICULTURAL RESEARCH COUNCIL IN SOUTH AFRICA

- The ARC developed an interest in IKS in 1997
- As a consequence it established an IKS Working Group to identify and establish the role that it could effectively play within the national IKS Programme
- By 2001, the ARC was already involved in the following IKS and IKS related research activities:
 - Indigenous Animal Breeding
 - Ethnoveterinary medicines
 - Animal Traction
 - Traditionally Fermented Milk
 - Development and Commercialization of Indigenous Knowledge and Plants
 - Plant Protection Research

IKS AND AGRICULTURE: RESEARCH AT THE ARC IN SOUTH AFRICA

- **As a result of this earlier involvement, the ARC established an IKS Research Programme whose aim was to ensure that naturally existing genetic diversity is commercially exploited, to the advantage of communities in South Africa and its economy, at the same time ensuring the conservation of dwindling species of biodiversity**
- **Some of the Objectives of this Programme are:**
 - (i) Ensure collective custodians get their shares from any commercialized IKS and resources**
 - (ii) Create awareness of IKS within scientific arena, specifically researchers at the ARC**
 - (iii) Promote working together of ARC scientists/researchers with indigenous communities and equitable sharing of outcomes from the indigenous resources and knowledge**
 - (iv) Develop new indigenous crops based on IKS and processing methods thereof**

IKS AND AGRICULTURE: RESEARCH AT THE ARC

Some of the current IKS projects that the ARC is involved in are:

- (i) **Medicinal Plant Incubator:** The incubator projects aim to address poverty alleviation and job creation in the Gauteng Province by transferring of knowledge to beneficiaries who are farmers and traditional health practitioners
- (ii) **Bophelo ke matla medicinal plant nursery:** This is a project in which 20 Traditional Healers in the Sasolburg area are assisted to start their own nursery for medicinal plants
- (iii) **Indigenous Farming Systems Project:** The aim of the project is to identify key aspects of indigenous knowledge and protection in such a way that they can be used to guide farmer-based research and training activities
- (iv) **Developing cropping systems for African vegetables:** This is a project in which the influence of different sources of manure and fertilizers on African vegetables like amaranth, corchorus, cleome and cowpea are investigated.

PARTICIPATORY RESEARCH

Warren and Rajasekaran (1993)

- (i) Conducting participatory on-station agricultural research (research scientists and farmers)**
- (ii) Conducting on-farm farmer oriented research (research scientists, extensionists and farmers)**
- (iii) Validating farmer experiments (farmers and extensionists)**

CENTRE FOR INDIGENOUS KNOWLEDGE FOR AGRICULTURE AND RURAL DEVELOPMENT (CIKARD)

- (i) CIKARD established by Dr Michael Warren in 1987 at University of Iowa, USA to provide mechanisms to strengthen the capacity of domestic and international development agencies involved in projects designed to improve agricultural production and the quality of life in rural areas in cost-effective and sustainable ways**
- (ii) It focuses its activities on preserving and using local knowledge of farmers and other rural people around the globe**
- (iii) CIKARD concentrates on the following IKS activities:**
 - Local soil taxonomies**
 - Knowledge of which crops are best suited to particular types of soil**
 - Farmer problem solving groups**
 - Local methods for pest control**
- (iv) By 1997 when Michael Warren passed away, CIKARD had grown into a worldwide Clearinghouse with 30 branches**

CHALLENGES RELATED TO INCREASED FOCUS AND DOCUMENTATION OF IKS IN AFRICA

The Challenge of Benefit Sharing Mechanisms and Models

Article 8 (j) of the Convention on Biological Diversity states:

- Each contracting party shall, as far as possible and as appropriate, Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices
- In the case of South Africa, the Department of Environmental Affairs and Tourism has been responsible for the drafting of the Biodiversity Act (assented to on 31 May 2004); DEAT has consulted extensively with other Departments in this respect

CHALLENGES RELATED TO INCREASED FOCUS AND DOCUMENTATION OF IKS IN AFRICA

The Challenge of Patenting Material from Developing Countries by Developed Countries

- (i) The appropriation by companies or institutions of local communities' knowledge on biodiversity use transforms the rights of the communities into the private and monopoly rights of these institutions
- (ii) The institutions that have already been granted the patents in their home countries can proceed to apply for similar patents in other countries including in the developing countries from where the knowledge originated
- (iii) If the patented or otherwise protected product is a seed, there could be situations whereby the farmers of developing countries may buy and use but not save and re-use the seed

CHALLENGES RELATED TO INCREASED FOCUS AND DOCUMENTATION OF IKS IN AFRICA

The Challenge of Coordination of IKS Efforts and Activities

1. Coordination of National efforts

Illustration with South Africa: It is crucial that the efforts of DST (IKS Policy) be coordinated with those of DEAT (Biodiversity Act); DOH (Traditional Health Practitioners Bill); etc.

1. Coordination of regional efforts and continental efforts

REGIONAL AND CONTINENTAL COLLABORATION: EXAMPLE OF THE HOODIA

- **The San community has traditionally eaten the Hoodia Cactus to stave off hunger and thirst on long hunting trips. Other uses of Hoodia are:**
 - **Hoodia sap can be used to treat eye infections**
 - **the brew of boiled Hoodia pieces can be used to treat severe stomach pain**
 - **Extracts from the Hoodia plant have shown in clinical trials on obese subjects to reduce caloric intake by 30% - 40%. Significant weight loss has resulted from such a drop in caloric intake.**
- **1995: CSIR (after many years of research and interaction with the San community in the Kalahari) patented the Hoodia's appetite-suppressing elements**
- **1997: CSIR licensed to Phytopharm, a UK biotech company**
- **1998: Pharmaceutical Company Pfizer acquired the rights to develop and market P57 as a potential slimming drug**
- **March 2003: CSIR signed an agreement with the San Community about benefit sharing and royalties emanating from the patenting and licensing and royalties from the Hoodia.**
- **This benefit sharing case study is still inconclusive**

HOODIA PLANT



IMPORTANCE OF REGIONAL AND CONTINENTAL COLLABORATION IN IKS ACTIVITIES

- **Most of the Hoodia debates and Agreements have focussed on the San Community in the Kalahari, South Africa. However, the San Communities are also found in Botswana, Namibia, and Angola**
- **At a workshop at the University of Botswana in November 2003 it was reported that an incorrect Hoodia plant had been harvested and sold to a US based company which discovered that it had obtained the incorrect Hoodia plant.**
- **In June 2004 it was reported in a Namibian Newspaper that Namibia has sent a request to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) to have one of its natural flowers, the Carrion flower or the Hoodia, classified to allow it to be sold in controlled commercial trade.**
- **Based on the example of the Hoodia in the region, it is clear that without collaboration in IKS we are likely to lose greatly in terms of monetary benefits and intellectual property. We can only benefit if we stand together as the SADC region and the Continent.**
- **Collaboration at the IGC Meetings at WIPO has ensured that the Continent is able to withstand the pressure of the developed countries in the negotiations on Indigenous Knowledge. This collaboration needs to be initiated, encouraged, ad promoted.**

CHALLENGES RELATED TO INCREASED FOCUS AND DOCUMENTATION OF IKS IN AFRICA

Intellectual Property Challenges Related to Agricultural Research

1. Who should be entitled to plant variety if the farmers also contribute to developing new varieties?
2. The traditional free exchange of genetic material and related information has contributed a great deal to dissemination of varieties. Would the existence of an IPR regime not restrict the freedom to innovate and operate?
3. Due to the decrease in public funds for agricultural research new partnerships with private sector has emerged. Does this not lead to the research Agenda being determined or largely influenced to fulfill the needs of the private sector?

INTERGOVERNMENTAL COMMITTEE (IGC) ON INTELLECTUAL PROPERTY (IP) AND GENETIC RESOURCES, TRADITIONAL KNOWLEDGE AND FOLKLORE

- IGC established by the WIPO General Assembly in October 2000
- IGC has met on 10 occasions in Geneva, Switzerland: The 11th Session is scheduled to take place from 05 – 12 July 2007

Some of the work of the IGC:

1. A study on the operational definitions relevant to TK
2. A review of existing national systems of IP for TK
3. An analysis of the elements for a possible *sui generis* system for the protection of TK
4. The use of database to promote defensive protection
5. The development of an IP management toolkit for the documentation of TK

COLLABORATION IMPORTANT AT INTERNATIONAL LEVEL

The work on IKS at international cannot be an exclusive drive of one UN Agency. Collaboration and a common understanding about challenging IP issues need to be looked at collectively.

The IGC of WIPO is still engaged in discussions, they have not yet found a solution

Article 8 (j) of the CBD still calls upon countries to work on specific legislation related to Biodiversity and related IKS issues. I do not know the extent to which Article 8 (j) is still a subject for discussion at the COP meetings

The Cartagena Protocol on Biosafety (CPB) has very important implications for the transfer of IKS material

The International Union for the Protection of New Varieties of Plants (UPOV) is critical to IKS related material

**THANK YOU FOR YOUR
ATTENTION**