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# TKDL and the Fight Against Biopiracy — India-Brazil Deal Explained

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# TKDL and the Fight Against Biopiracy — India-Brazil Deal Explained

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## WHY IN NEWS

India's CSIR and Brazil's National Institute of Industrial Property (INPI) signed a cooperation arrangement on the Traditional Knowledge Digital Library (TKDL), enabling Brazilian patent offices to access India's database of traditional knowledge as prior art — strengthening biopiracy prevention across two of the world's largest biodiversity-rich nations.

## THE BIOPIRACY PROBLEM: WHAT TKDL WAS BUILT TO SOLVE

**Biopiracy** refers to the appropriation of biological resources or traditional knowledge of indigenous communities — often without consent or benefit-sharing — by corporations or researchers who then patent the knowledge as their “invention.”

India's experience with biopiracy in the 1990s created the urgency for TKDL:

### THE TURMERIC CASE (1997)

The United States Patent and Trademark Office (USPTO) granted a patent to two researchers at the **University of Mississippi** for using turmeric to heal wounds — knowledge that has been documented in Sanskrit texts and practised in Indian households for centuries. India challenged this patent before the USPTO, citing an **ancient Sanskrit shloka** from *Sushruta Samhita* as prior art. The patent was revoked in **1997** — a landmark victory, but a process that took years and significant legal expense.

### THE BASMATI CASE (1997–2001)

Texas-based company **RiceTec Inc.** received a US patent on basmati rice characteristics. India challenged it, and the company eventually withdrew most claims — but not before Indian basmati exports were threatened.

These cases demonstrated the vulnerability: patent offices worldwide lacked easy access to India's vast body of traditional knowledge. Examiners could not check what they could not read (Sanskrit, Arabic, Urdu, Tamil texts).

## WHAT IS TKDL?

The **Traditional Knowledge Digital Library (TKDL)** is India's solution — a **searchable, multilingual, digitised database** of India's traditional knowledge, created specifically for patent examiners worldwide.

## ESTABLISHED

**2001** — Joint initiative of **CSIR (Council of Scientific and Industrial Research)** and the **Ministry of AYUSH** (Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homeopathy).

## SCALE

~**9 lakh (900,000) medicinal formulations** documented

Covers **Ayurveda, Unani, Siddha, Sowa Rigpa, and Yoga**

**5 languages:** English, German, French, Japanese, Spanish (languages of major patent offices)

Sources include: *Charaka Samhita, Sushruta Samhita, Ashtanga Hridayam*, classical Unani texts, Siddha literature

## HOW IT WORKS: THE ACCESS AGREEMENT MODEL

TKDL operates through **bilateral access agreements** with international patent offices. These offices agree:

To use TKDL as prior art during patent examination

Not to make it publicly available (to prevent misuse — if the database were public, it could paradoxically help biopiracists find formulations to patent in jurisdictions without access agreements)

**Current access partners (patent offices):** USPTO (USA), EPO (European Patent Office), UKIPO (UK), Canadian IPO, Australian IPO, German Patent Office, and now INPI (Brazil).

## THE INDIA-BRAZIL SIGNIFICANCE

Brazil is one of the world's most biodiversity-rich countries — along with India, it contains a disproportionate share of global biological species. Brazil's **Amazon rainforest** houses approximately 10% of all species on Earth.

Both countries face similar biopiracy threats from corporations and researchers who patent traditional and indigenous knowledge from their territories. The TKDL-INPI cooperation arrangement:

**Gives Brazilian patent examiners** access to TKDL to reject patents on Indian traditional knowledge filed in Brazil

**Establishes a template** for mutual knowledge-protection arrangements — India may eventually access Brazilian traditional knowledge databases for reciprocal protection

**Strengthens South-South cooperation** on IPR — both countries are members of the BASIC group (Brazil, South Africa, India, China) in climate negotiations and share positions on technology transfer and IPR flexibilities

## THE INTERNATIONAL LEGAL FRAMEWORK

Several international treaties govern traditional knowledge and biopiracy:

### **CONVENTION ON BIOLOGICAL DIVERSITY (CBD), 1992**

The foundational treaty. Establishes that biological resources are the **sovereign property of the country** in which they originate. Provides for access and benefit-sharing (ABS). India ratified it in 1994.

### **NAGOYA PROTOCOL, 2010**

The ABS protocol under CBD. Requires users of genetic resources and associated traditional knowledge to:

- Obtain prior informed consent (PIC) from the source country/communities
- Share benefits equitably with them India ratified the Nagoya Protocol in **2012**.

### **TRIPS AGREEMENT (WTO), 1995**

The Trade-Related Aspects of Intellectual Property Rights agreement. Establishes minimum global standards for IP protection. Its Article 27.3(b) allows patents on microorganisms and plants. Developing countries including India argue this enables biopiracy and have pushed for **TRIPS amendments** requiring patent applicants to disclose the origin of biological resources (mandatory disclosure requirement).

### **INTERGOVERNMENTAL COMMITTEE (IGC) — WIPO**

The WIPO Intergovernmental Committee on Genetic Resources, Traditional Knowledge and Folklore has been negotiating a **new international instrument** specifically on TK protection since 2000 — but progress has been slow due to developed country resistance.

## INDIA'S BIOLOGICAL DIVERSITY ACT

Domestically, India enacted the **Biological Diversity Act, 2002** to regulate access to India's biological resources:

- Established the **National Biodiversity Authority (NBA)** in Chennai
- State Biodiversity Boards (SBBs)** in each state
- Biodiversity Management Committees (BMCs)** at local level
- Requires **approval before accessing** India's biological resources for research or commercial use
- People's Biodiversity Registers (PBRs)**: community-level documentation of local biodiversity

The Biological Diversity (Amendment) Act, **2023** eased some compliance requirements while keeping the core ABS framework.

## UPSC RELEVANCE

*TKDL, CSIR, AYUSH, biopiracy, CBD, Nagoya Protocol, TRIPS, WIPO IGC, NBA, SBB, BMC, PBR, RiceTec, turmeric case, EPO, INPI. Mains GS-3: Intellectual property rights and traditional knowledge; biodiversity conservation and benefit-sharing; India-Brazil bilateral relations. GS-2: WTO and TRIPS flexibilities; India's negotiating positions. Essay: "Protecting traditional knowledge: the unfinished business of global IPR architecture."*

## ★ FACTS CORNER — KNOWLEDGEPEDIA

### TKDL — COMPLETE DATA:

Full name: **Traditional Knowledge Digital Library**

Established: **2001**

Created by: **CSIR + Ministry of AYUSH** (Government of India)

Entries: **~9 lakh formulations** from classical texts

Knowledge systems: **Ayurveda, Unani, Siddha, Sowa Rigpa, Yoga**

Languages: **5** — English, German, French, Japanese, Spanish

Sources: Charaka Samhita, Sushruta Samhita, Ashtanga Hridayam, Unani + Siddha classics

Access model: Bilateral agreements with patent offices (not publicly available)

### TKDL PATENT OFFICE ACCESS PARTNERS:

USPTO (USA), EPO (Europe), UKIPO (UK), Canadian IPO, Australian IPO, German Patent Office

Latest: **INPI (Brazil)** — added February 2026

### LANDMARK BIOPIRACY CASES:

**Turmeric (1997):** USPTO patent revoked after India cited Sanskrit prior art

**Basmati (RiceTec, 1997–2001):** Most claims withdrawn after India's challenge

**Neem (1994):** EPO patent by W.R. Grace revoked 2005 after India + NGO challenge

### INTERNATIONAL LEGAL FRAMEWORK:

**CBD (1992):** Biodiversity sovereign property of origin country; India ratified 1994

**Nagoya Protocol (2010):** ABS framework under CBD; India ratified 2012

**TRIPS (1995):** Article 27.3(b) allows life form patents; developing countries seek mandatory disclosure amendment

**WIPO IGC:** Negotiating international instrument on TK since 2000; not yet concluded

### INDIA'S DOMESTIC FRAMEWORK:

**Biological Diversity Act (2002):** Regulates access to India's biological resources

**NBA:** National Biodiversity Authority, Chennai

**SBBs:** State Biodiversity Boards (one per state)

**BMCs:** Biodiversity Management Committees (local level)

**PBRs:** People's Biodiversity Registers (community documentation)

**Amendment (2023):** Eased compliance; kept ABS framework

### CSIR:

Full name: Council of Scientific and Industrial Research

Founded: **1942**

Labs: **37 national laboratories** across India

Under: Ministry of Science and Technology

Notable achievements: TKDL, herbal formulations, NEERI (environmental research), NPL (National Physical Laboratory)

### OTHER RELEVANT FACTS:

BASIC group: Brazil, South Africa, India, China — coordinate on climate + IPR negotiations

India is a **mega-diversity country**: one of 17 globally; houses ~7-8% of world's species

Brazil Amazon: ~10% of all species on Earth; 40,000+ plant species documented

Sowa Rigpa: Traditional Tibetan medicine system; now formally recognised under AYUSH

Sources: PIB, CSIR, The Hindu

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