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India's Nagoya Protocol Leadership — 56% of Global IRCCs and Biodiversity Governance

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WHY IN NEWS

India has issued 3,561 of the 6,311 Internationally Recognised Certificates of Compliance (IRCCs) globally under the Nagoya Protocol on Access and Benefit Sharing — a 56.43% share, confirmed through MoEFCC data released March 31, 2026. Only 34 of 142 registered nations have issued any IRCCs, making India's dominance even more remarkable.

THE NAGOYA PROTOCOL — BACKGROUND

What Problem Does It Solve?

The Nagoya Protocol addresses **biopiracy** — the unauthorised use of a country's genetic resources (plants, animals, microbes, traditional knowledge) by foreign researchers or corporations without:

- 1 **Prior Informed Consent (PIC)** from the source country
- 2 **Mutually Agreed Terms (MAT)** for how benefits from any resulting products/discoveries are shared

Classic example of biopiracy India suffered: **Turmeric patent (1995)** – two Indians living in the USA patented the wound-healing properties of turmeric; India successfully challenged this at the US Patent Office in 1997, producing 32 published documents proving prior art. Similarly, **Neem** (EPO patent on fungicidal properties, challenged by India/Greenpeace, revoked 2005) and **Basmati rice** (US patent attempts, challenged successfully).

Nagoya Protocol – Key Provisions

- **Adopted:** October 29, 2010 at Nagoya, Japan (10th Conference of Parties to CBD)
- **Entered into force:** October 12, 2014
- **Parent treaty:** Convention on Biological Diversity (CBD), 1992
- **India ratified:** 2012

Core obligations on user countries:

- Researchers/companies accessing genetic resources must obtain PIC and conclude MAT
- Must comply with source country's domestic ABS legislation
- Record access in the **ABS Clearing-House** (managed by CBD Secretariat, Montreal)

Core obligations on provider countries:

- Establish clear PIC and MAT procedures
- Issue compliance certificates (IRCCs) on the ABS Clearing-House
- Share benefits with local communities

INDIA'S FRAMEWORK — BIOLOGICAL DIVERSITY ACT, 2002

Three-Tier Structure

India's ABS implementation operates at three levels:

National Level — National Biodiversity Authority (NBA):

- Statutory body; established 2003; headquartered Chennai
- Approves access to biological resources for foreigners, foreign-invested entities, and Indian companies for commercial/research purposes
- Issues IRCCs on the ABS Clearing-House
- Manages benefit-sharing negotiations

State Level — State Biodiversity Boards (SBBs):

- 33 SBBs (one per state + UTs)

- Regulate access by Indian citizens for non-commercial local use
- Advise on conservation of biodiversity in their states

Local Level — Biodiversity Management Committees (BMCs):

- Mandatory at every local body (panchayat, municipality, corporation)
- Maintain **People's Biodiversity Registers (PBRs)** — local documentation of biodiversity
- ~2.7 lakh BMCs established across India

India's IRCC Performance

Why India leads (56.43% of global IRCCs):

- 1 **Megadiverse nation:** India is one of 17 globally recognised megadiverse countries — hosting ~7-8% of global biodiversity despite covering only 2.4% of land area
- 2 **Functional NBA:** Unlike many countries that ratified but never built functional institutions, India's NBA has been operationally active since 2003
- 3 **Proactive approach:** India actively encourages legitimate access under PIC/MAT rather than blocking all foreign research
- 4 **Benefit sharing enforcement:** ₹216.31 crore mobilised (2017-2025); ₹139.69 crore disbursed

Other top IRCC issuers (2026): France (964), Spain (320), Argentina (257), Panama (156), Kenya (144)

BIODIVERSITY AND THE KUNMING-MONTREAL GLOBAL BIODIVERSITY FRAMEWORK

From Aichi to Kunming-Montreal

The **Aichi Biodiversity Targets** (2010-2020) set goals under the CBD for the decade — India largely underperformed on targets related to habitat restoration and sustainable use, though it did well on protected area expansion.

The **Kunming-Montreal Global Biodiversity Framework (GBF)** — adopted at CBD COP15 in December 2022 (Montreal, Canada) — replaced Aichi with 23 targets including the landmark **“30×30” target:**

- **Target 3:** Protect at least 30% of land, inland water, coastal areas, and oceans by 2030
- India's current protected area: ~5.03% of land (National Parks + Wildlife Sanctuaries)
- India's stated goal under National Biodiversity Action Plan: 30% by 2030 — extremely ambitious given current baseline

ABS and the Digital Sequence Information (DSI) Question

A major unresolved issue at CBD: **Digital Sequence Information (DSI)** — genetic data uploaded to public databases (like GenBank). When a pharma company uses the sequence data of a pathogen from India to develop a drug, should India receive benefit-sharing even if no physical sample was ever accessed?

India's position: Yes — DSI is an extension of genetic resources and should attract ABS obligations.

USA and industry position: No — DSI is freely available scientific data; imposing ABS would impede research.

This debate will define CBD COP16 negotiations and has direct implications for India's pharmaceutical and biotech royalty interests.

UPSC RELEVANCE

Nagoya Protocol (adopted 2010, Nagoya; entered force 2014); IRCC; ABS; CBD (1992); NBA; BMC; PBR; 30×30 target (Kunming-Montreal GBF); India's 3,561 IRCCs (56.43%).

MAINS GS-3:

“Access and Benefit Sharing under the Nagoya Protocol — has India's Biological Diversity Act framework been effective?”

MAINS GS-2 (IR):

“Digital Sequence Information and biodiversity governance — analyse the North-South divide at the CBD.”

INTERVIEW:

“India claims to be a biodiversity-rich nation and a global ABS leader. Yet over 50% of its land is degraded. How do you reconcile these realities?”

★ FACTS CORNER — KNOWLEDGE PEDIA

INDIA & NAGOYA PROTOCOL (2026):

IRCCs issued: 3,561 (56.43% of global 6,311)

Only 34 of 142 registered parties have issued any IRCCs

Next: France (964), Spain (320), Argentina (257), Panama (156), Kenya (144)

Benefit sharing mobilised (2017-2025): ₹216.31 crore

Benefits disbursed: ₹139.69 crore

NAGOYA PROTOCOL:

Adopted: October 29, 2010 (COP10, Nagoya, Japan)

Entered force: October 12, 2014

Parent: CBD (Convention on Biological Diversity), 1992

India ratified: 2012

Key concepts: PIC (Prior Informed Consent), MAT (Mutually Agreed Terms), ABS (Access and Benefit Sharing)

INDIA'S BIODIVERSITY FRAMEWORK:

Biological Diversity Act: 2002

National Biodiversity Authority (NBA): established 2003; Chennai; statutory body under MoEFCC

State Biodiversity Boards (SBBs): 33

BMCs: ~2.7 lakh (at panchayat/urban local body level)

People's Biodiversity Registers (PBRs): local documentation of biodiversity

INDIA'S BIODIVERSITY STATUS:

One of 17 megadiverse countries

~7-8% of global species (despite 2.4% land area)

4 biodiversity hotspots: Himalayas, Indo-Burma, Western Ghats-Sri Lanka, Sundaland

Forest cover: 25.17% of geographic area (FSI 2023)

Tiger count: 3,682 (2022 census); leopards: ~12,000-14,000; one-horned rhino: ~4,000

KUNMING-MONTREAL GBF (2022):

Adopted: COP15, December 2022, Montreal, Canada

23 targets; key: “30×30” — protect 30% land+ocean by 2030

India’s current protected area coverage: ~5.03% (far below 30×30 target)

CBD Secretariat: Montreal, Canada

HISTORIC BIOPIRACY CASES:

Turmeric (1995): patented by NRI; India challenged; revoked 1997

Neem (1994): EPO patent on fungicidal use; India + Greenpeace challenged; revoked 2005

Basmati (1997): RiceTec patent on “basmati-like” rice; challenged; partially revoked

OTHER RELEVANT FACTS:

ABS Clearing-House: CBD-managed online registry of all PIC/MAT agreements worldwide

DSI (Digital Sequence Information): genetic data in databases — hot-button ABS issue at CBD COP16

India submitted first National Report on Nagoya Protocol implementation: March 2026

Traditional knowledge: India’s TKDL (Traditional Knowledge Digital Library) has 34 million pages of prior art in 5 languages — prevents biopiracy patents

Sources: [PIB](#), [MoEFCC](#), [CBD ABS Clearing-House](#), [GKToday](#)

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