


The ABC of

ABS

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UNEP-DELC


Access to resources and Human evolution

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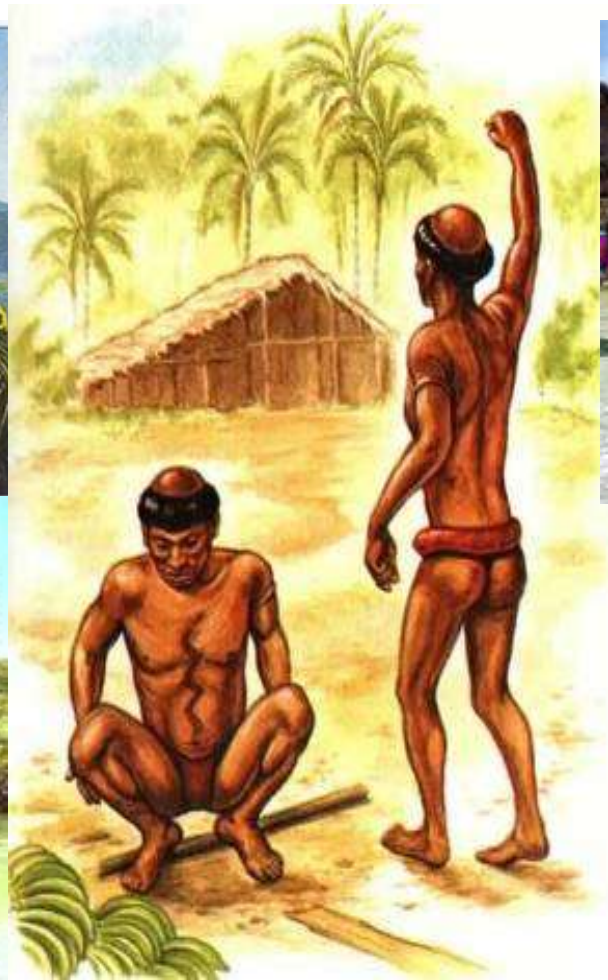
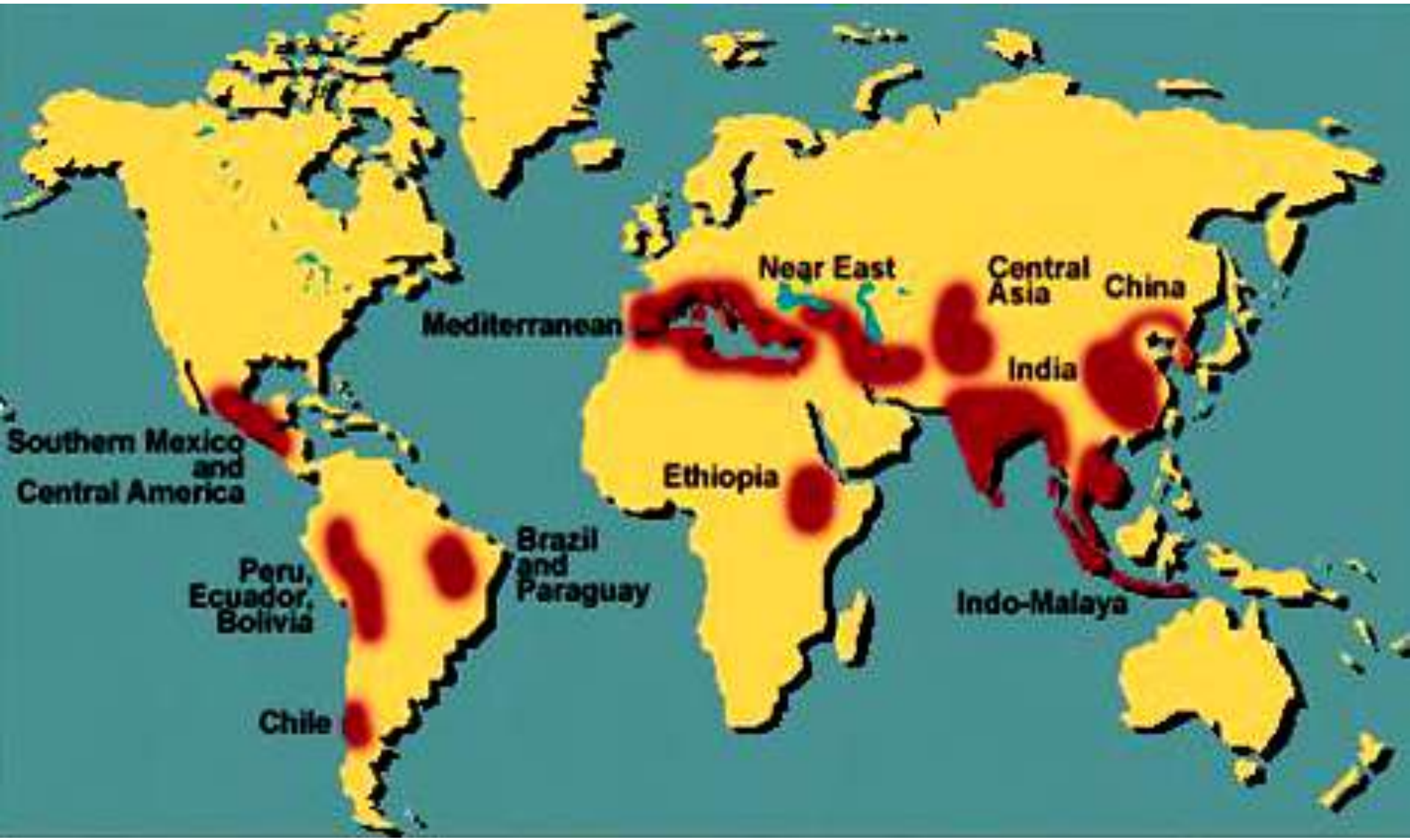
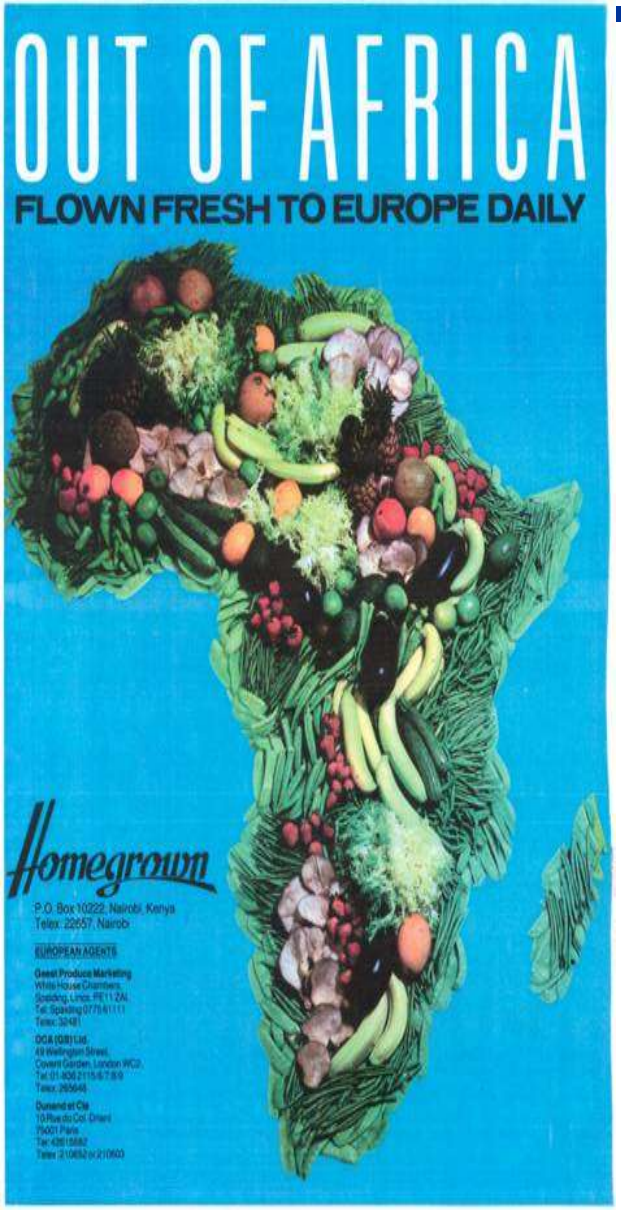



All developments related to livelihoods occurred around areas with better environment



Changing needs brought loss of diversity

Changing attitudes bought loss of trust !



Consumerism

Globalisation

Inter-
dependence

Era of Sharing of Genetic Resources

Daruma
(Japanese semi-dwarf)

X

Fultz
(U.S. winter wheat, high yield)

Fultz-Daruma
(semi-dwarf, high yield)

X

Turkey Red
(U.S. winter, high yield)

Norin 10
(semi-dwarf, winter, high yield)
(Dr Gonziro Inazuka in 1935)

Locals
(adapted to
U.S. Northwest)

X

Gaines
(semi-dwarf, winter,
U.S. adpted)

X

Local Strains

New Wheats
(semi-dwarf, high yield, adaptable,
rust-resistant, fast-maturing,spring)

History of ABS

Late 1940s – United Nations Food & Agriculture Organization (FAO) – food security

1971 – Consultative Group on International Agricultural Research (CGIAR) – gene banks for plant genetic resources to hold material 'in trust'

1983 – FAO International Undertaking on Plant Genetic Resources for Food and Agriculture – Farmers' Rights

1980-1990 Era of Biotechnology and IPRs

1992 – CBD – Sovereign Rights and ABS

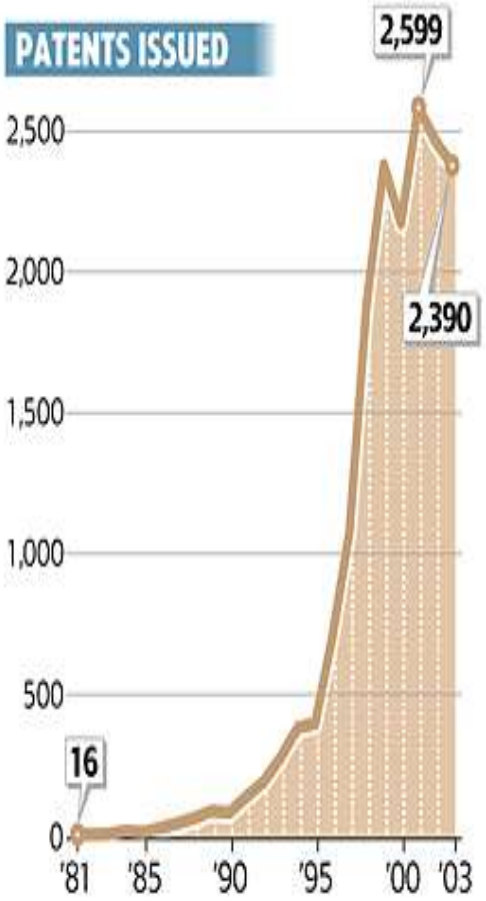
2001 –International Treaty on PGRFA

Key Drivers of ABS debates

U.S. biotech patents

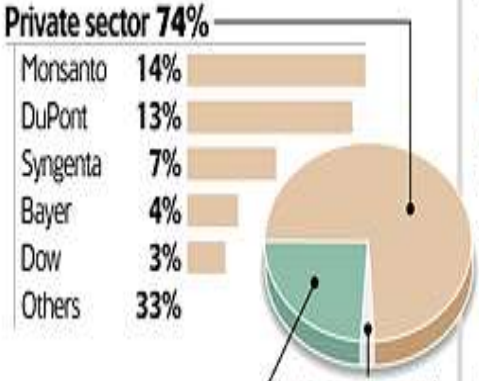
The proliferation of agricultural biotech patents can have a chilling effect on biotech innovation because companies and universities often can't afford to license fundamental technology – including technology developed by public research.

PATENTS ISSUED



PATENT OWNERSHIP

Patents granted from 1982 to 2001:



University of California	1.7%
U.S. Dept. of Agriculture	1.2%
Cornell University	0.9%
Iowa State University	0.8%
Michigan State University	0.7%
All others	18.4%

PATENT LOGJAMS

Patents often complicate the efforts of small companies and universities to create their own products.

- **The "gene gun,"** which allows scientists to shoot genetic material into cells, was developed at Cornell University, which sold technology rights to DuPont.
- The use of ***Agrobacterium tumefaciens*** as a tool for inserting DNA into plant cells was invented by universities, but a key patent was licensed exclusively to Syngenta.
- Monsanto owns the **35S promoter**, a snippet of a common plant virus, which is widely used by researchers because of its proven ability to "turn on" genes in transgenic plants.

STALLED PRODUCTS

- Emeryville-based DNA Plant Technology Corp. was barred from commercializing a **tomato engineered for extended shelf life** in 1995 when Monsanto sued, alleging patent violations.
- The California Strawberry Commission stopped funding UC research of a **fungus-resistant strawberry** in the late 1990s when it realized how complex, costly and time-consuming it would be to license the biotech tools it needed to commercialize the variety.

- Before scientists could expand development of a **vitamin-enriched "golden rice"** for malnourished people, they had to negotiate more than 60 patents or other contracts.

Sources: Cambria, U.S. Patent and Trademark Office, Nature Biotechnology journal, Bee research

Sacramento Bee/Nathaniel Levine

The InBio- Merck case

10,000 Samples provided

Benefit sharing deal

- **USD 1 Million upfront payment**
- **USD 130,000 equipment to InBIO**

3. **% of Royalties of ALL sales of products developed**
   With 50% of the same going for Conservation

The Kani case

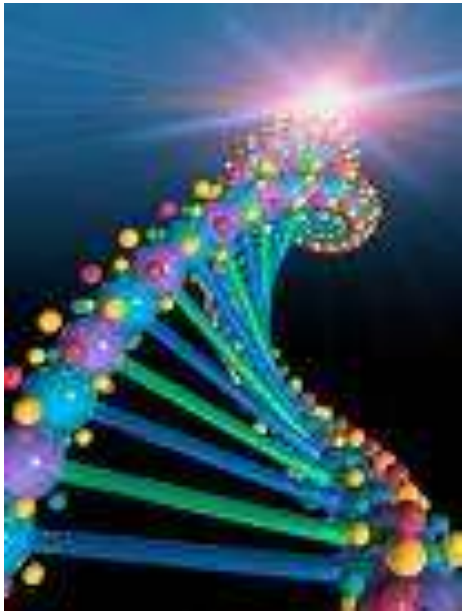
Local community provided the knowledge Resource

Trychopus zeylanicus
Anti-fatigue property;
Associated
Traditional Knowledge

Commercial Product
JEEVANI
USD 5000 licensing fee;
2% Royalty on sales
For 10 years

The XA 21 Case

Rice Blast is a serious disease
Yield losses 2-74% per crop
Serious food security problem



XA 21 Gene isolated from rice from Mali by Univ. of Corness;
Rights sold to Monsanto;
USD 10,000 scholarship established;
Mali contesting

Solving Food Security for Africa

UNEP

Cassava Mealy Bug; Food Crisis

1990s

icipe

Biocontrol agent from Paraguay; Control of Cassava Bug; World Food Prize

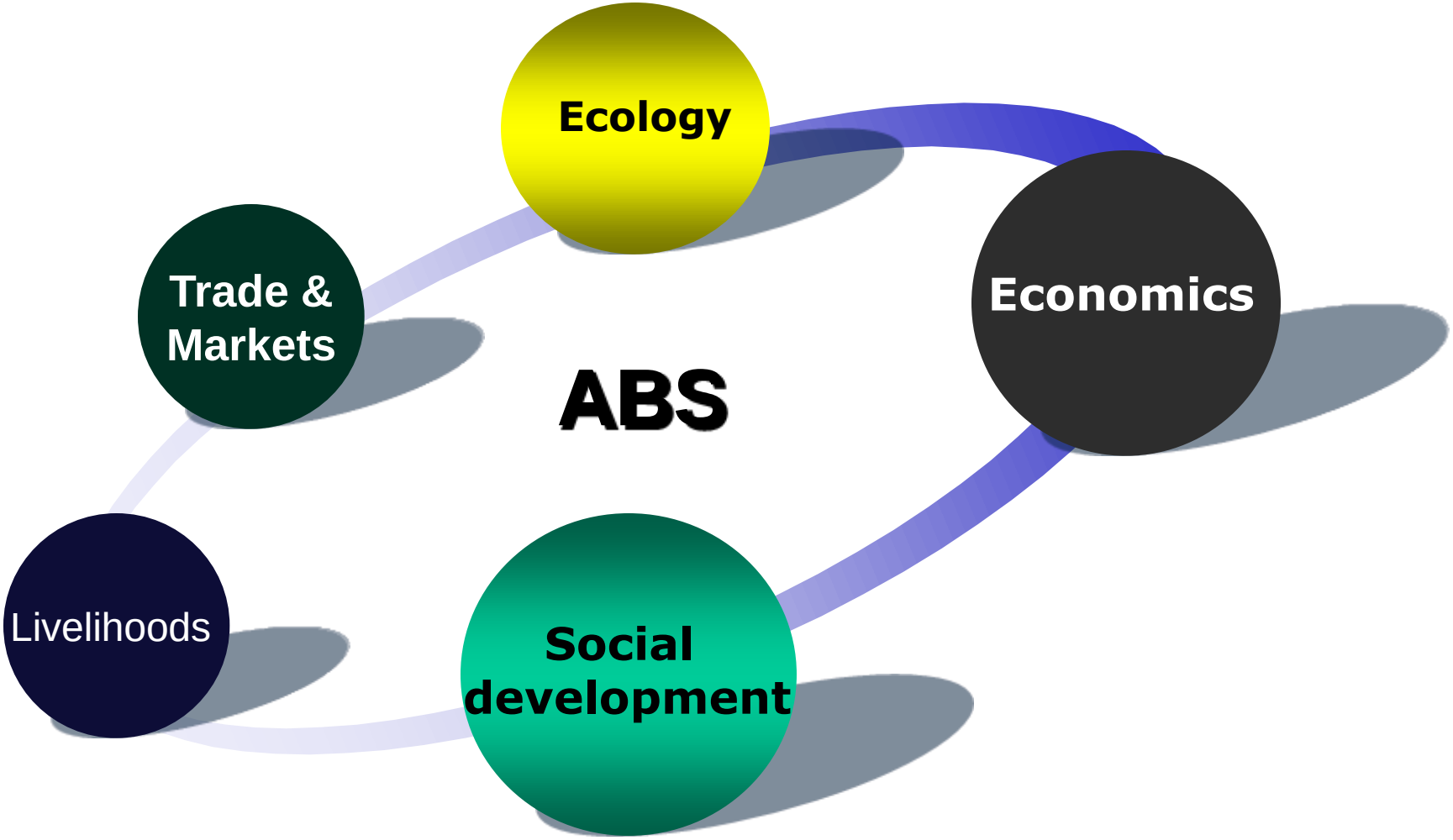
Economic and Nutritional Security - Africa

Soft fruit attack;
East and Southern Africa;
Economic loss of USD 50 M per year

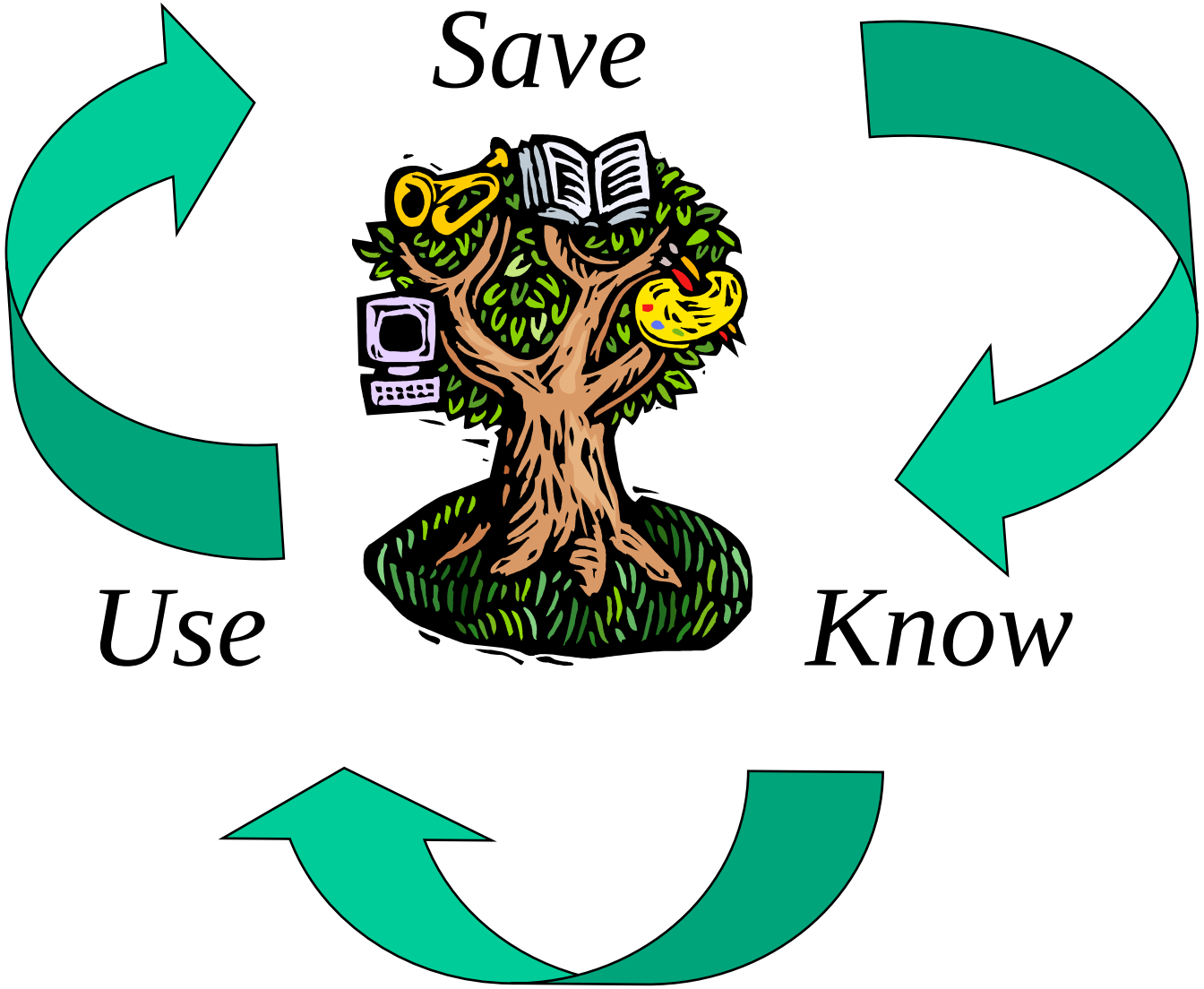
2000s

Natural control agent from
<u>Sri Lanka</u>;
Inability to secure the germplasm for further research due to unclear ABS issues

ABS is about Sustainable Development



The Premise



The Bioprospector's Motto …

"*Valuable life is sometimes discovered in the most unexpected places !!!*"

What is '*Biopiracy*'?

"... the ***unauthorized*** and ***uncompensated*** taking of biological resources and associated proprietary knowledge ..."

Where is ABS discussed ?

UNEP

ABS Issues

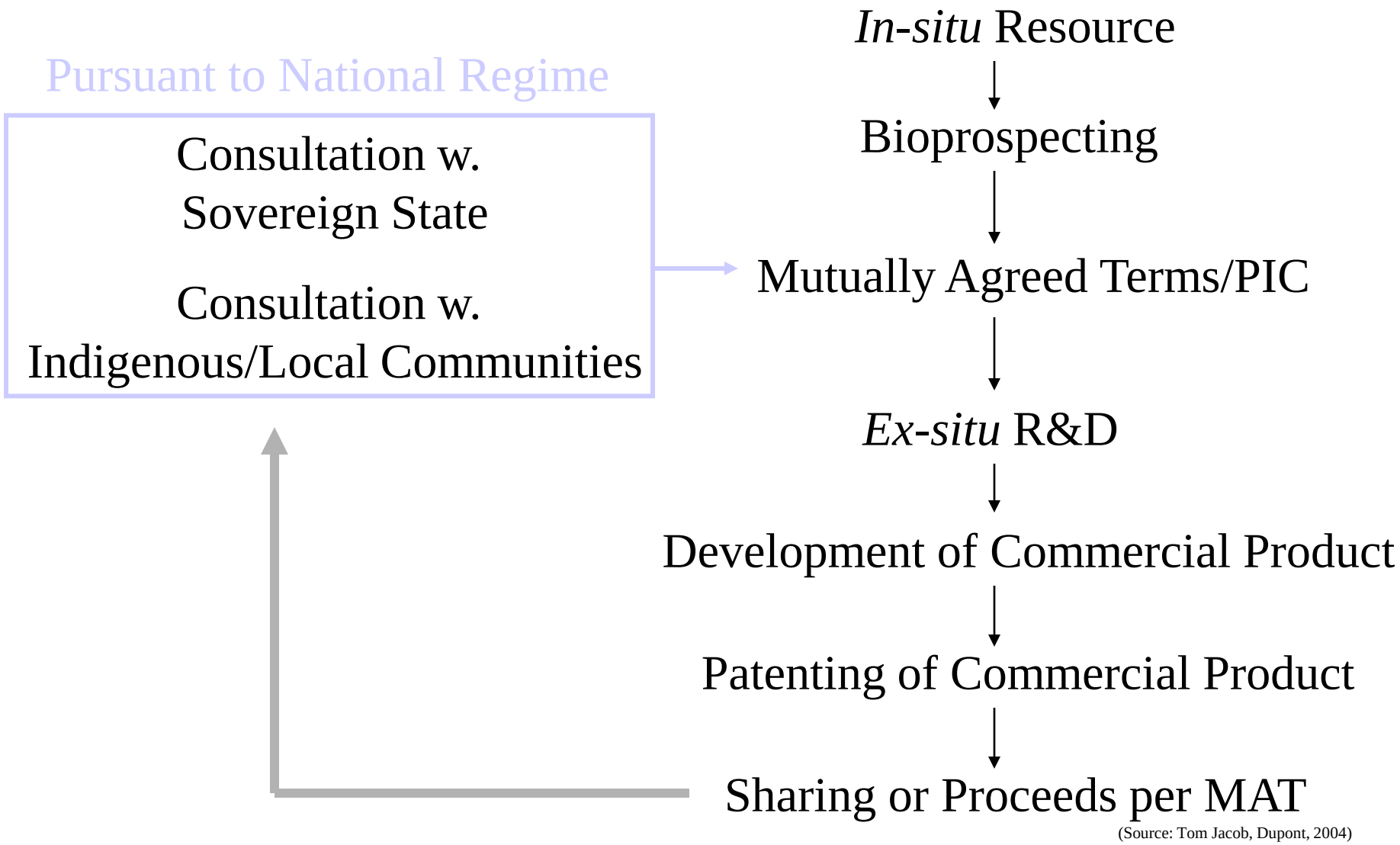
1. ABS issues for providers of GR

2. ABS issues for users of GR

3. ABS issues for policy makers

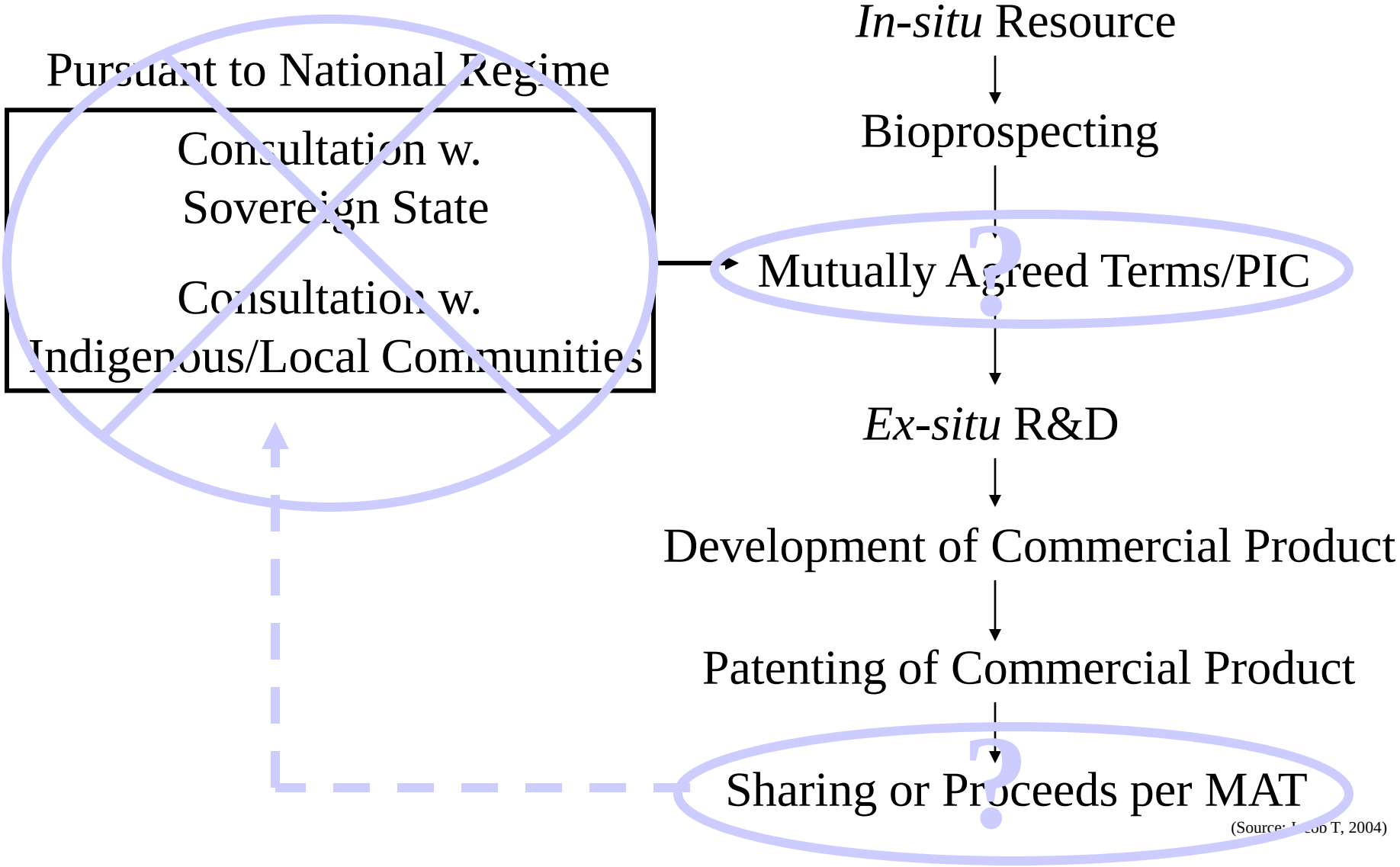
4. ABS issues for implementers

Conceptual Model of CBD ABS



(Source: Tom Jacob, Dupont, 2004)

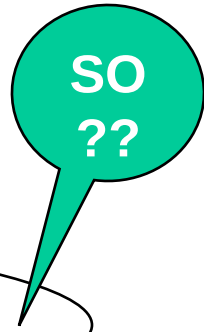
Complication: No/unclear National Regime(s)



(Source: Loss T, 2004)

How "Big" is Conservation ?

Measures / Sectors	Revenues (USD Bio)	Capital Employed (USD Bio)	People Employed
Automobiles[4]	$ 1,882 Bio	$2,217 Bio	4.4 Mio
Steel[4]	$ 530 Bio	$ 588 Bio	4.5 Mio
IT Services & Software[4]	$ 942 Bio	$ 179 Bio	5.7 Mio
Protected Area Conservation	$ 5,000 Bio[1]	$ 125,000 Bio[2]	1.5 Mio[3]



1. Balmford et al, 2002, "Economic Reasons for Conserving Wild Nature", Science 297, estimates Protected Areas could produce goods and services valued at between $ 4,400 billion - $ 5,200 billion per annum
2. Natural Capital : Present Value (PV) of a constant service annuity of $ 5,000 billion per annum, discounted @ 4% per annum
3. Estimate of the number employed directly in the maintenance, protection, and oversight of Protected Areas globally
4. Global Business Sector estimates from Global Markets Centre ("GMC"), Deutsche Bank

(Mis)conceptions about biodiversity and ABS

- ✓ All biodiversity can be valued and assessed to be converted into monetary gains
- ✓ Provision of access guarantees benefits
- ✓ Benefits are about monies that can be secured
- ✓ ABS regimes should restrict and ‘stop’ access to ensure benefit sharing is possible
- ✓ Having an ABS regime is the only way to deal with biopiracy
- ✓ ABS regime is/will impede research and development

History of ABS

2002 – Bonn Guidelines

2002 – WSSD Outcomes Para 44 (o)

2004 – 2006 CBD COP Decisions

2006 – CBD COP 8 Decision

2008 – CBD COP 9 Decision

2010 – International regime expected to be ready

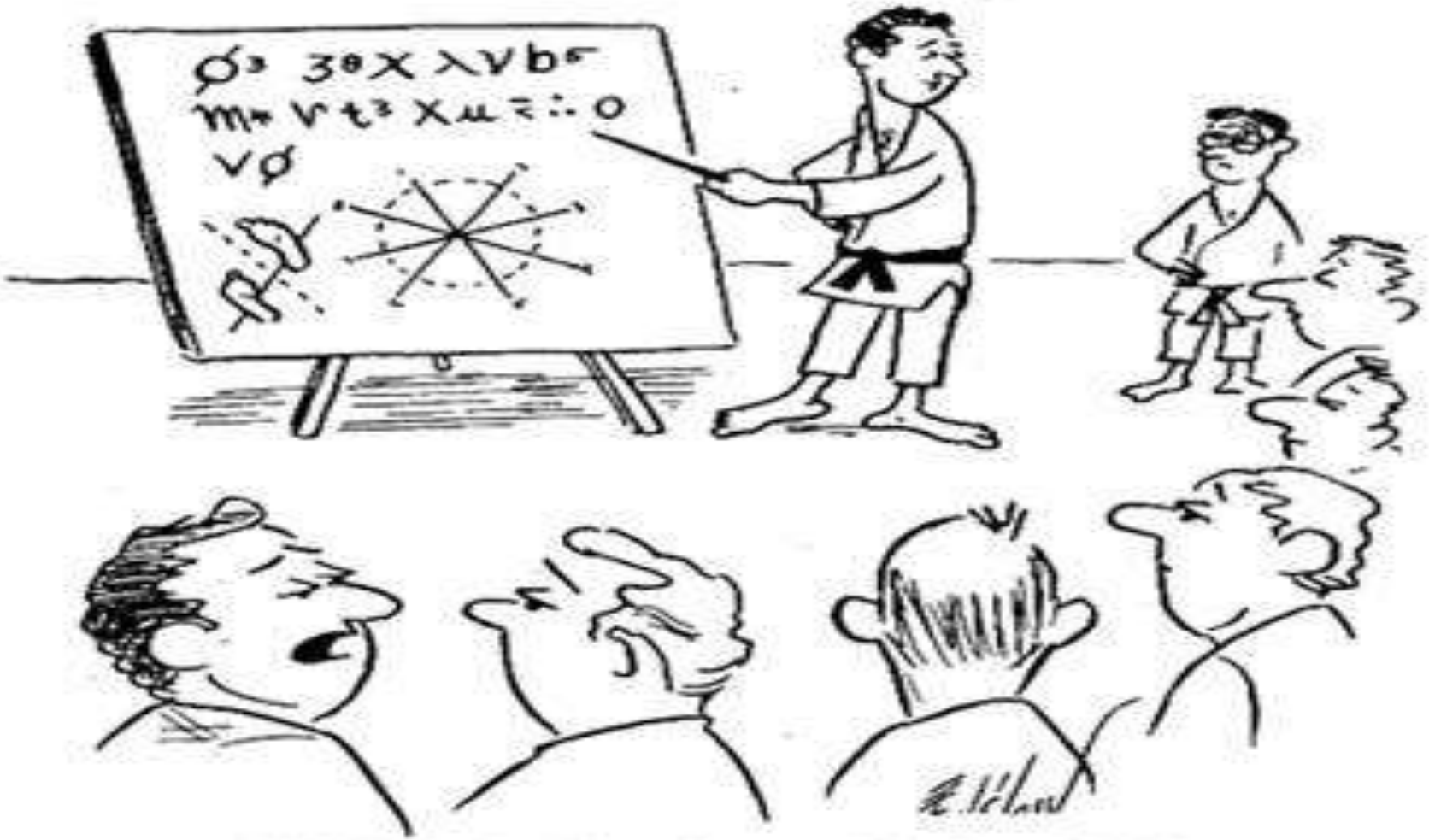
Access and Benefit Sharing

- Sovereignty
- Access –
  - –Prior Informed Consent (PIC)
  - –Mutually Agreed Terms (MAT)
- Benefit-Sharing
- Traditional Knowledge associted

Some Key Issues under Negotiation

1. ABS, PIC, MAT, compliance – especially with PIC of communities and associated TK
2. Issues of derivatives
3. Certificates of origin and legal provenance
4. Disclosure requirements on patent applications
5. Protection of community rights over TK and customary law
6. Instruments to ensure benefit sharing with communities
7. Compliance, monitoring, dispute settlement
8. Linkages to international processes

Status of Negotiations

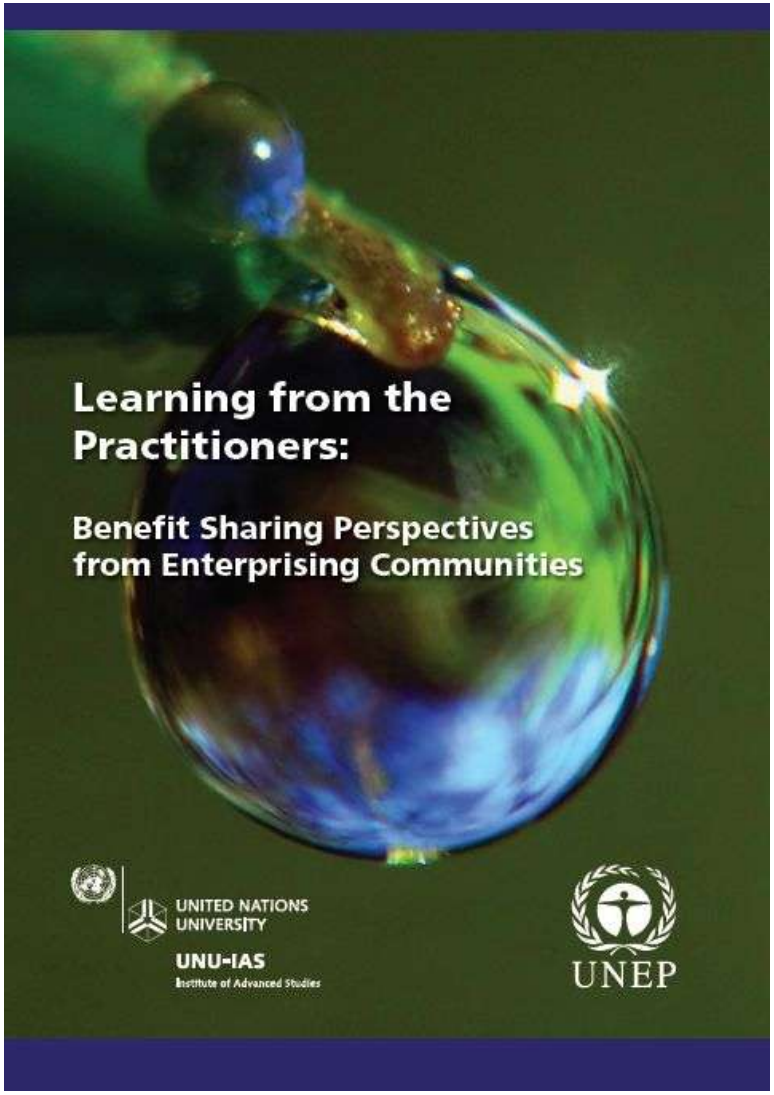


"He's what I call a perfectionist."

ABS in UNEP

- Technical Papers/ Reports – Compliance, Financing, Architecture, Trade and markets, Equity and ethics, Benefit sharing guidelines, Learning from practitioners….
- Regional consultations – GRULAC, Asia, Pacific, CEE
- Support to SCBD and Co-Chairs for ABSWG 9
- Inter-regional consultations
- ABSWG sessions (7, 8 and 9) with atleast 2-3 side events
- Knowledge hub
- GEF projects on ABS

Learning from Practitioners



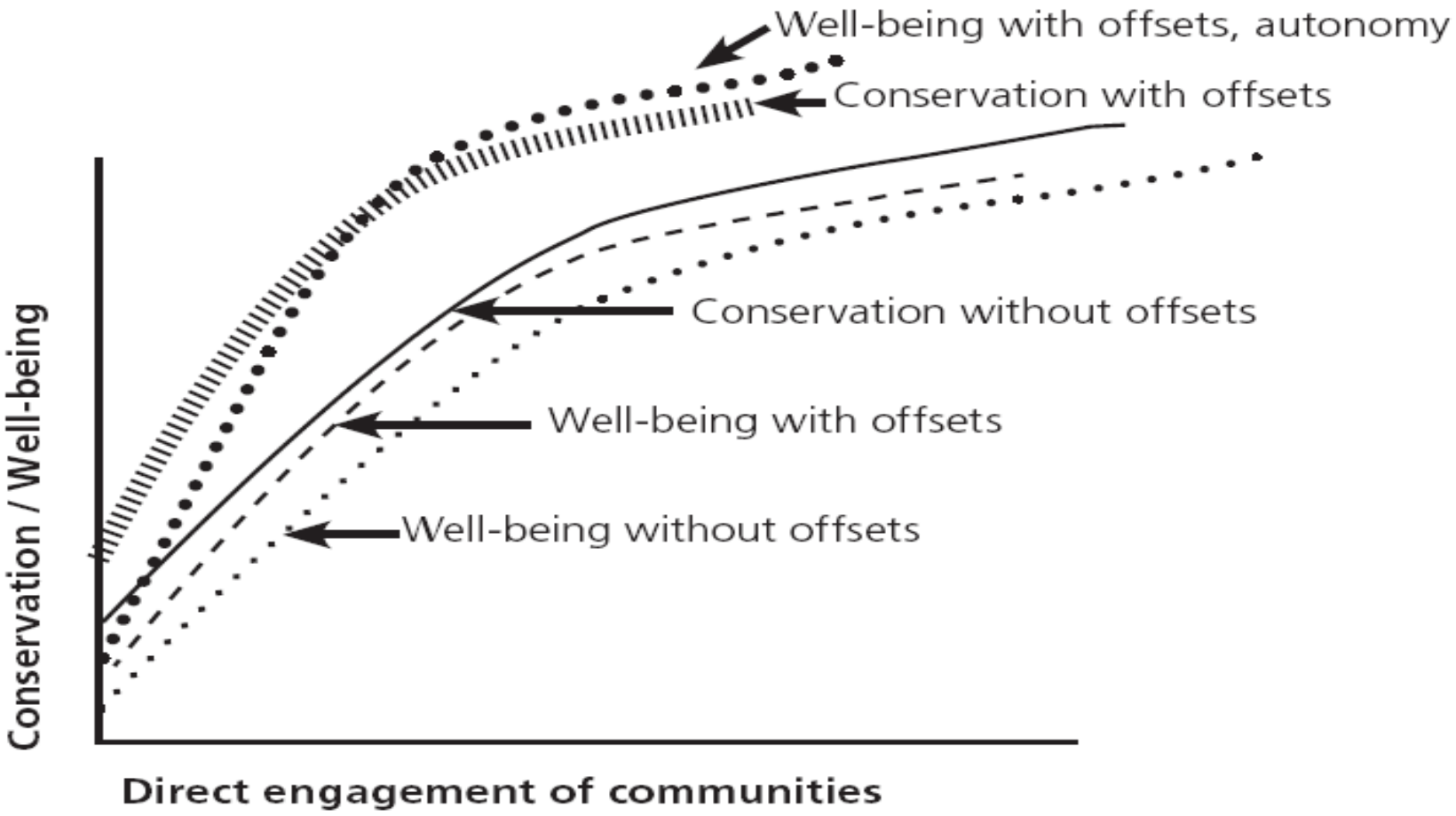
UNEP study on how communities are dealing with ABS

Used the ‘Capabilities Approach’

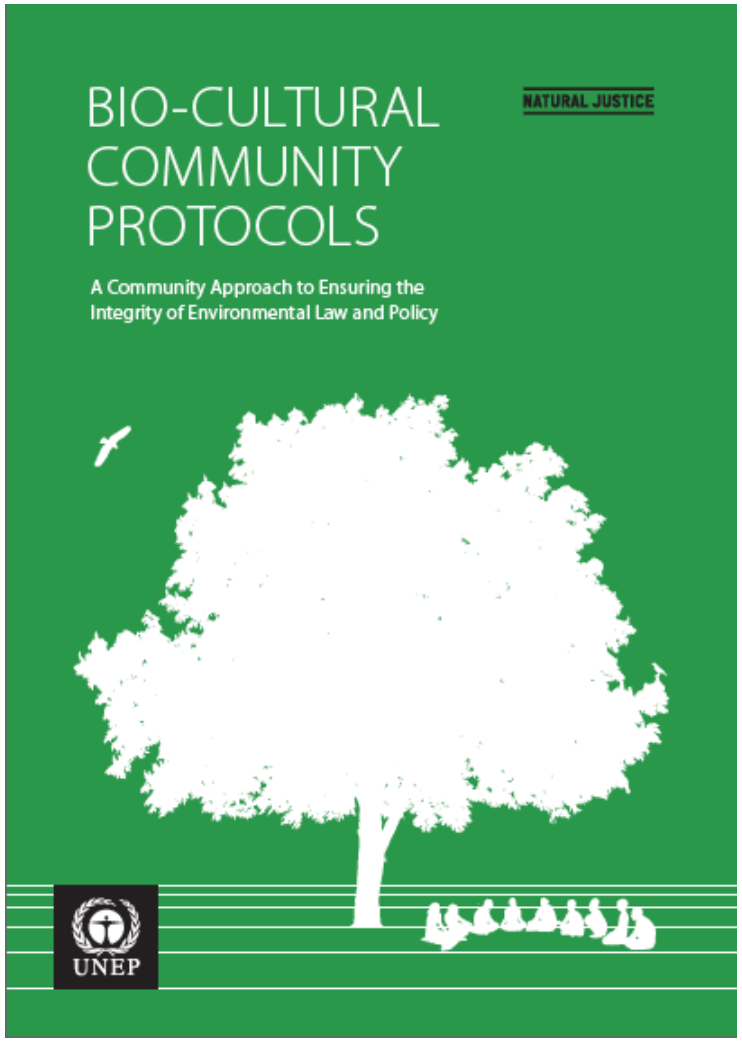
Study being scaled up for a full report to be launched at CBD COP 10

The ‘Capabilities Approach’

Figure 1: Impact of engaging communities in benefit sharing on conservation and well-being



Implementing ABS principles at local level



Community Protocols

Developed for specific sites

- Protected Areas
- World Heritage Sites
- Biosphere Researves
- Community conserved areas

Developed for Sectors

- CBD
- REDD+

ABS within UNEP's POW

- Operationalising the results of TEEB
- Making 'Green Economy' work
- Implementing work under terrestrial and marine ecosystems
- Governance
- Implementing the MEAs
- 'Biodiversity for development'

ABS as a Rights Issue

Peoples' rights over the material they provide have to be balanced with the rights of those who add value to it

CBD and ABS

CBD provides a minimum framework for regulating ABS

- Facilitate access to genetic resources
- Secure the consent of the provider before access is granted (PIC)
- Negotiate mutually acceptable terms for access and subsequent use (MATs)
- Compensate for access with cash and/or in-kind transfers (MTAs)
- Equitably share with all providers any benefits the use of genetic resources may generate (BS).

Currently under CBD an international regime on ABS is being negotiated. It is expected that the regime in the form of a 'Protocol' will be adopted at CBD COP 10 meeting in October 2010.