

# Indigenous and Local Knowledge of the Nepali Tharus: National Scenarios and International Perspectives

Ram Prasad Chaudhary, Tribhuvan University, Kirtipur, Nepal  
Email: ram.chaudhary53@gmail.com



# Quotations from Villagers and a Professor

*“Sanrakshanke bhaw hamare apan manme jagai, Banya-Jantu Jadi-Buti Sakahu Bachai, ....*

- **Bhadai Tharu**, Bardiya, Nepal



## Indigenous Peoples' and Climate Change

A Tibetan villager warns, *“If the snow disappears [from our sacred mountains], people will disappear from the earth.”*

*(Source: Jan Salick and Anja Byg 2007)*



Peter Raven 'Biodiversity keeps the planet habitable'

# What this presentation will cover

- **Objectives & Methodology**
- **Concepts – IPLCs and ILK**
- **Tharus – Status (sanpshot)**
- **Tharus – Why rich in ILK?**
- **Contribution of ILH (health sector)**
- **Biopiracy – International context**
- **ILK – National scenarios**
- **ILK – International perspectives**
- **Take home messages**
- **Conclusions**

# ILK – Objective, Methodology & Limitations

## Objective

- To highlight indigenous and local knowledge (ILK) in general, and of the Tharus in specific.
- To protect the ILK and use.

## Methodology

- *Literature search*
- *Interaction with IPLCs*
- *My own experience*

## Limitations

- Presentation in both Nepali & English Language
- No interaction on the Tharus Language
- No interaction on the Tharus Religion
- Not extensive systematic search
- Some examples come from Biological sciences (STEM)

# Conceptualization of IPLCs & ILK (Hill et al. 2020)

**IPLCs** (Indigenous Peoples and Local Communities)-“Self identification is the key requirement”

**Indigenous peoples** include communities, tribal groups and nation, who self identify as indigenous to the territories they occupy.

**Local communities** are groups of people who maintain inter-generational connection to place and nature through livelihood.

**ILK** (Indigenous and local knowledge) systems are in general understood to be bodies of integrated, holistic, social and ecological knowledge, practices and beliefs pertaining to the relationship of living beings, including people, with one another and with their environment.

**ILK** is highly diverse, and is continuously evolving through the interaction of experiences, innovations and various types of knowledge (written, oral, visual, tacit, gendered, practical and scientific).

**ILK** is at the interface between biological and cultural diversity.

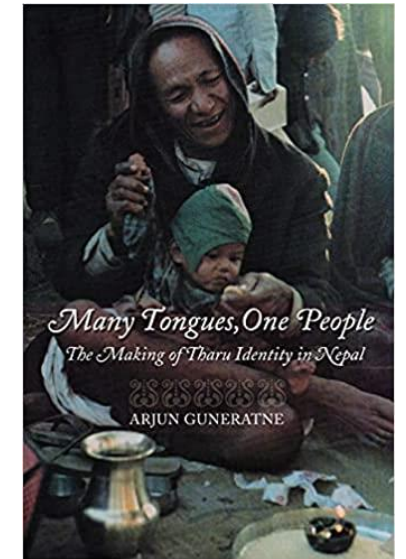
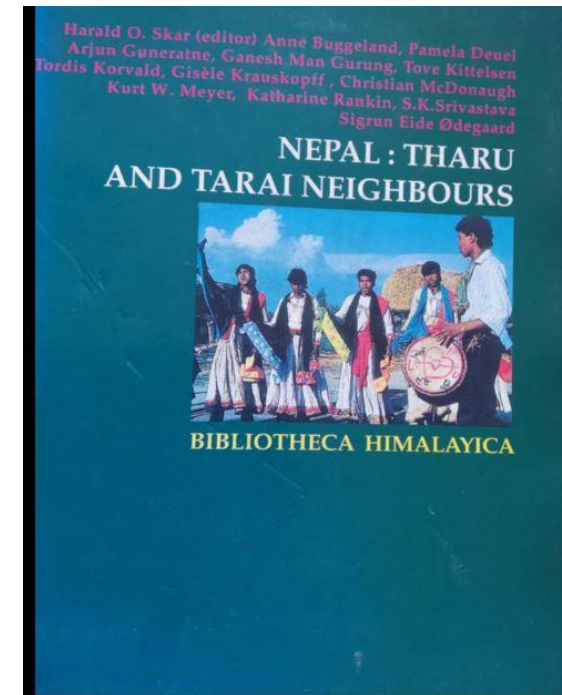
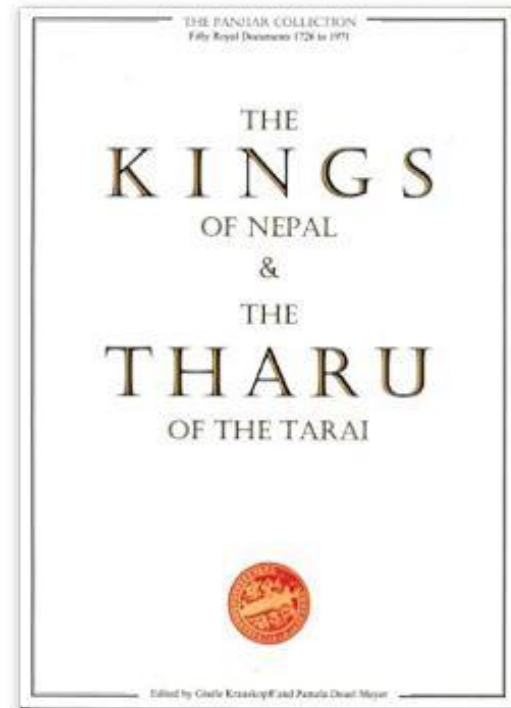


# Tharus – Status (1)

**Population** 1.73 Million – 6.6% of the population (2011) - Living in the Tharuwan OR Tharuhat (Tarai & Bhitri Madhesh)

**In India:** About 170,000 (Verma 2010).

**Clans/Subgroups:** Kochila, Kotharia, Dangaura, Rana, etc.



# Tharus – Status (2)

## Researchers on the Tharus (a few examples)

- Ramanandan P. Singh; Tribhuvan Chaudhary; T.N. Panjiyar; Tilak Mahato; Sushil Chaudhary
- Dor B. Bista; Piers Locke (Hattisar); Gisele Krauskopff; K. Pamela; P. Deuel; Arjun Gunaratne; Joanne McLean (Chitwan Tharus); U. Muller-Boker; K. Pyakurel; Subhash C. Verma; .....
- Pashupati Chaudhary, Budhi Ram Chaudhary, W. Erskine, Greg Acciaioli; Gopal Dahit; Ram Lakhan Singh; Lait N. Mandar; Bamdev Subedi, Kalpana Ghimire and Rishi Bastakoti; Shiva Nandan Das; Shrawan Kumar Chaudhary , Shiva Kumar Rai; Sushma Bhattarai et al.; Anant Gopal Singh; Jessica P.R. Thorn et al. (UK Group); Barsha Lekhi; Malati Chaudhary; Sunita Chaudhary; Umesh Chaudhary; Neva Chaudhary; Ram Prasad Chaudhary; & many more.....
- Gyaneshwar Chaubey et al. (Estonia & India group) – Genetic survey of the Tharus (DNA and Y-Chromosome)

## Two common observations

- Diverse knowledge
- Nature lover

# Tharus – Status (3)

Genetic survey of the Tharus (Chaubey et al. 2014) – Tharus from Nepal and India

Using Mitochondrial DNA and Y-Chromosome) markers

Results: Tharus have dual genetic ancestry – (i) One half of their gene pool is of East Asian origin; (ii) north of the South Asian Subcontinent.



European Journal of Human Genetics (2014) 22, 1404–1412  
© 2014 Macmillan Publishers Limited. All rights reserved 1018-4813/14

[www.nature.com/ejhg](http://www.nature.com/ejhg)

## ARTICLE

# Unravelling the distinct strains of Tharu ancestry

Gyaneshwer Chaubey<sup>\*1</sup>, Manvendra Singh<sup>2</sup>, Federica Crivellaro<sup>3,4</sup>, Rakesh Tamang<sup>5,6,17</sup>, Amrita Nandan<sup>2</sup>, Kamayani Singh<sup>2</sup>, Varun Kumar Sharma<sup>2</sup>, Ajai Kumar Pathak<sup>1,5</sup>, Anish M Shah<sup>2</sup>, Vishwas Sharma<sup>2</sup>, Vipin Kumar Singh<sup>2</sup>, Deepa Selvi Rani<sup>2</sup>, Niraj Rai<sup>2</sup>, Alena Kushniarevich<sup>1</sup>, Anne-Mai Ilumäe<sup>1,5</sup>, Monika Karmin<sup>1,5</sup>, Anand Phillip<sup>2</sup>, Abhilasha Verma<sup>2</sup>, Erik Prank<sup>1,5</sup>, Vijay Kumar Singh<sup>2</sup>, Blaise Li<sup>7</sup>, Periyasamy Govindaraj<sup>8</sup>, Akhilesh Kumar Chaubey<sup>9</sup>, Pavan Kumar Dubey<sup>10</sup>, Alla G Reddy<sup>2</sup>, Kumpati Premkumar<sup>8</sup>, Satti Vishnupriya<sup>6</sup>, Veena Pande<sup>11</sup>, Jüri Parik<sup>1,5</sup>, Siiri Rootsi<sup>1</sup>, Phillip Endicott<sup>12</sup>, Mait Metspalu<sup>1,5</sup>, Marta Mirazon Lahr<sup>3</sup>, George van Driem<sup>13</sup>, Richard Villems<sup>1,5,14</sup>, Toomas Kivisild<sup>1,15</sup>, Lalji Singh<sup>2,10,16</sup> and Kumarasamy Thangaraj<sup>\*2</sup>



# Tharus – Why rich in ILK?

- (i) The Tharus are located in natural resources rich areas (tropical forest)
- (ii) The Tharus remain in the region for many generations.
- (iii) The Tharus cultures have a tradition in which farmers/seniors/ knowledgeable persons/ healers transmit their knowledge from generations to generations, usually through kinship/apprentices.

• Cox and Balick (1994). *Scientific American*, 270(6): 82-87.



# Drugs Discovered from Ethnobotanical Leads

## DRUG

## MEDICAL USE

## PLANT SOURCE (Family)

Aspirin

Reduces pain & inf

Codein

Eases pain; Suppre

Ipecac

Induces vomiting

Pilocarpine

Reduces pressure in

Pseudoephedrine Reduces nasal con

Quinine

Combats malaria

Reserpene

Lowers blood press

Scopolamine

Eases motion passa

Theophylline

Opens bronchial

Vinblastin

Combats Hodgkin?

*Source:* Cox and Ballick, 1994



# Women's contribution

- In 1785 William Withering, a British Physician – ingestion of dried leaves from the Foxglove Plant (*Digitalis purpurea*) eased dropsy
- Withering credited "I was told... "  
".. this use of plant had long been kept secret by an old woman in Shropshire, who had sometimes made cures after the more regular practitioners had failed"

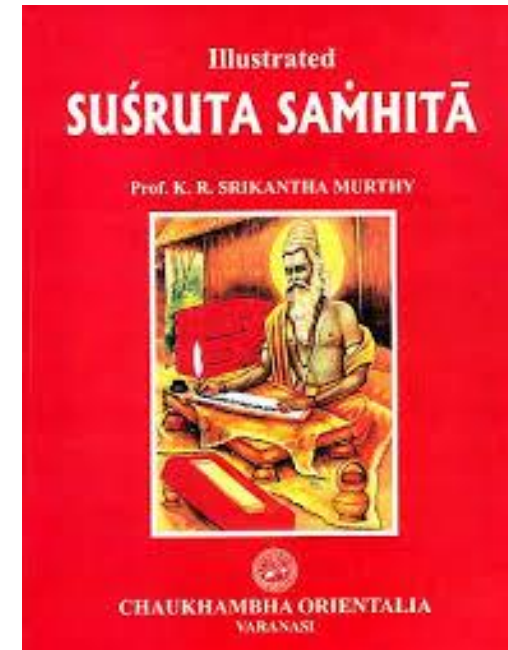
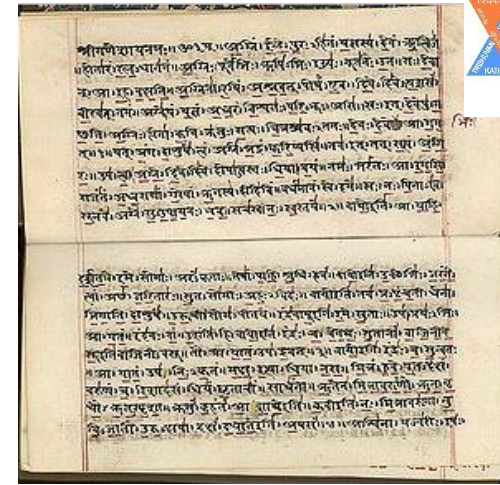
P.A. Cox and M.J. Balick (1994) in  
*Scientific American*





# Historical aspect Hindus Literatures

- Rigveda (ca. 4000-1500 B.C.)
- Atharveda (1500 B.C. )
- Mahabharat & Purans  
(700-400 B.C.)
- Ramayan (500 B.C.)
- Sushruta Samhita (ca. 500 B.C.)
- Charak Samhita (ca. 100 A.D.)



# Historical aspect

## Christians Literature

- Christian Bible (1445 B.C.)

“...aloe vera, pomegranates, ”



## Muslims Literatures

- Holy Quran (632 A.D.)

(Camphire/henna tree)

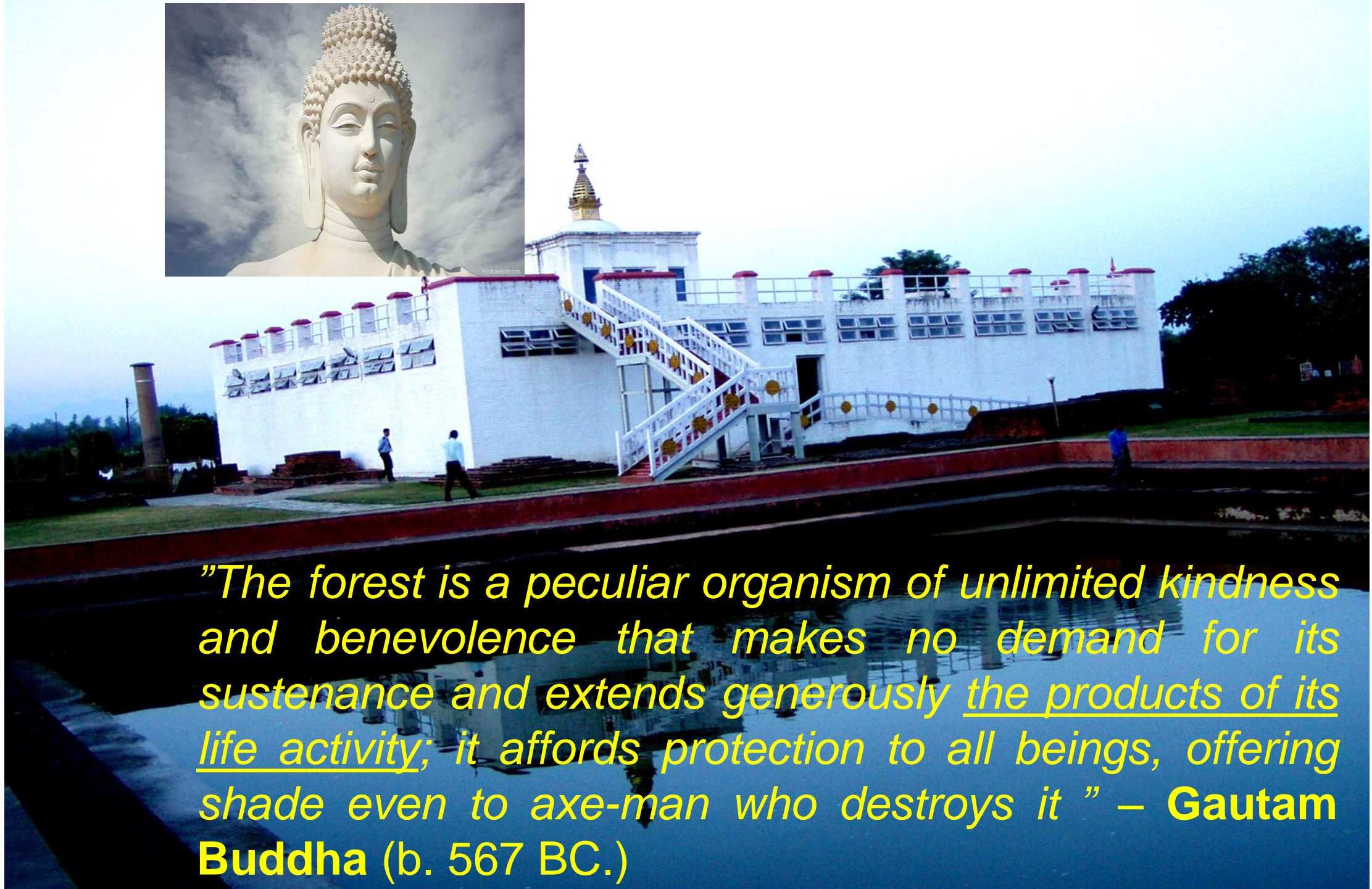


## Traditional Chinese Medicine (500 B.C.)

13,000 medicinal plants used in TCM;  
over 100,000 medicinal prescriptions  
recommended, ...







*"The forest is a peculiar organism of unlimited kindness and benevolence that makes no demand for its sustenance and extends generously the products of its life activity; it affords protection to all beings, offering shade even to axe-man who destroys it "* – **Gautam Buddha** (b. 567 BC.)





# Triphala





# Some potential products





## Tharus losing their indigenous knowledge

- **Loss of ILK along with natural resources**
- Ram Lal Tharu, a native in Bangadhi municipality of Bardiya district, says: "Our ancestors trained us to craft bamboo products, but we have almost forgotten our craft" (Anuj Tharu/Bardiya, 16 Jan 2020)
- **Lack of integration of ILK and Science.**
- **Lack of protection of intellectual property rights**
- **Lack of documentation**
- **Loss of indigenous language**
- **Biopiracy**



# Biopiracy Issues - Examples

## Neem (*Azadirachta indica*) derivatives

- Environmental friendly pesticide in Indian subcontinent and Africa
- Used to treat Malarial fever and intestinal worms
- Used to make soap (PJ Morgo), contraceptive, fuel diseasl engines
- A US company, W.R. Grace & Agrodyne in 1990 (US Patent No 4946681, US Patent No 5124349)
- Synthetic derivative of “Azadirachtin”
- Stable form of modified “Azadirachtin”
- Global market - \$ 50 million
- The seed itself -- being a product of nature - is not patentable unless considerably modified





## What happened with Neem?

**Patent of antifungal properties of Neem has also been rejected.**

Because its use has been documented in many literatures, as well as it has been in use for various purposes in Indian and African continents.

**Neem – also Win !**

Source:BBC News, March 8, 2005

# Biopiracy Issues – Examples...

## The Turmeric Patent

In 1995, the US PTO - number 5401504 for the use of powdered turmeric to speed the healing of wounds

The patent was held by the University of Mississippi Medical Center

CSIR of India filed a challenge to the patent in October 1996

In August 1997, the US PTO rejected the patent



## Biopiracy Issues – Examples...

### Basmati rice

- Ricetech – the largest exporter of US rice
- Basmati-867 (can be grown outside of the traditional Basmati growing areas) to granted in 1997
- The rice line can produce softer or firmer rice grain
- Possess higher level of 2-acetylene-pyrroline (typical taste and aroma)
- Semi-dwarf plant gives higher yields, and better cooking quality

## Biopiracy Issues – Examples...

### Guaymi Indian Woman (GIW)

- Panama's largest indigenous population
- 1990, US government researcher collected DNA (blood) samples containing unique *virus*
- Antibodies could prove useful in AIDS and leukemia research
- 1993, a protest against US government application for a patent on human cell line of GIW was made by Guaymi General Congress & World Council of Indigenous Peoples

## Biopiracy Issues – Examples...

### Ureu-Yawu-Yawu (a nationality in Brazil)

- Bark extract of a plant *tiki uba* used in hunting
- Arrow was smeared with extract to kill animals including Tapir
- The extract prevents bleeding from wound (an enzyme preventing blood clotting)
- Merck company became interested to do research with the hope to discover drugs that could be used in open heart surgery when a paper was published by Jesco Von Putkamar in National Geographic Magazine (1988)
- An example of biopiracy of traditional knowledge



## Free Prior Informed Consent (FPIC)?- Case

### Philippines

- Govt agreed to a Biodiv Res. Project (USD 60 million) on drugs and medical products with US National Institute of Health
- In 1995, Indigenous Peoples confiscated sacks of plant specimens by researchers from Philippine National Museum
- Not obtained PIC under exe order 247
- Put fine: 8 water buffaloes, 27 chickens, 8 m clothes, USD 3

## Formal Research is Important!

- **India:** All India Coordinated Research Project on Ethnobotany for communities benefit
- **Laos:** Ministry of Health, TM practice of tribes and TM knowledge of the tribes
- **China:** Two foreign companies (USA & France) joined in 2000 with one of mainland Chinese (Lerentang from Tienjin to invest USD 9 million)
- **Nepal:** A university professor from Illinois, USA collected Dhobini (*Musaenda* sp.) from Gurung community of Chhamdila without any arrangement of benefit sharing

# Benefit Sharing Models

(Based on International Workshop on Benefit Sharing with Indigenous People, organized by Centre for Science and Environment, New Delhi, 28-30 August, 1996)

## The Tropical Botanical Garden Research Institute (TBGRI)

*Trichopus zeylanicus* - a plant with immuno-enhancing, anti-stress and anti-fatigue quality

Kani communities (Kerala and TamilNadu)

TBGRI negotiated with Arya Vaidya Pharmacy for commercialization of herbal formulations

Weakneses: (i) Benefits do not go directly to the Kani

(ii) Some Kani communities around Tamilnadu state do not obtain benefits (?)

# ILK – National Scenarios

**Constitution of Nepal (2015) – Article 263. Tharu Commission.**

**18. Right to equality**

**42. Right to social justice**

(Right to social justice: (1) Socially **backward** women, Dalits, Adibasi, Janajati, Adibasi Janajati, Madhesi, **Tharu**, minority groups, persons with disability, marginalized groups, Muslim, **backward classes**, gender and sexually minority groups, youths, peasants, laborers, the oppressed and the citizens of backward regions, and economically poor Khas Arya shall have the right to employment in state structures on the basis of the principle of inclusion).

---

The Fifteenth Plan (2019/20 – 2023/24)

## **10.6 Inclusion**

### **1. Background**

The Constitution of Nepal provides for the right to participate in State institutions based on the principle of proportional inclusion of economically, socially, politically, and administratively backward groups (women, *Dalits*, indigenous communities, Madhesis, **Tharus**, Muslims, marginalized groups, minorities, people with disabilities, gender, and sexual minorities, farmers, workers, citizens in remote areas and economically deprived Khas

# ILK – National Scenarios

## Access to Genetic Resources and Benefit Sharing (ABS) Bill 2076 (Draft)

- Right to ownership on GR (Article – 4)
- Right over ILK (Article 5 )
- Documentation of GR (Article 6)
- PIC (Article 7 & 10)
- Research, biological material collection – Permission from National Authority (Article 11)\*
- ***GR and benefit sharing mechanism (Article 25)***





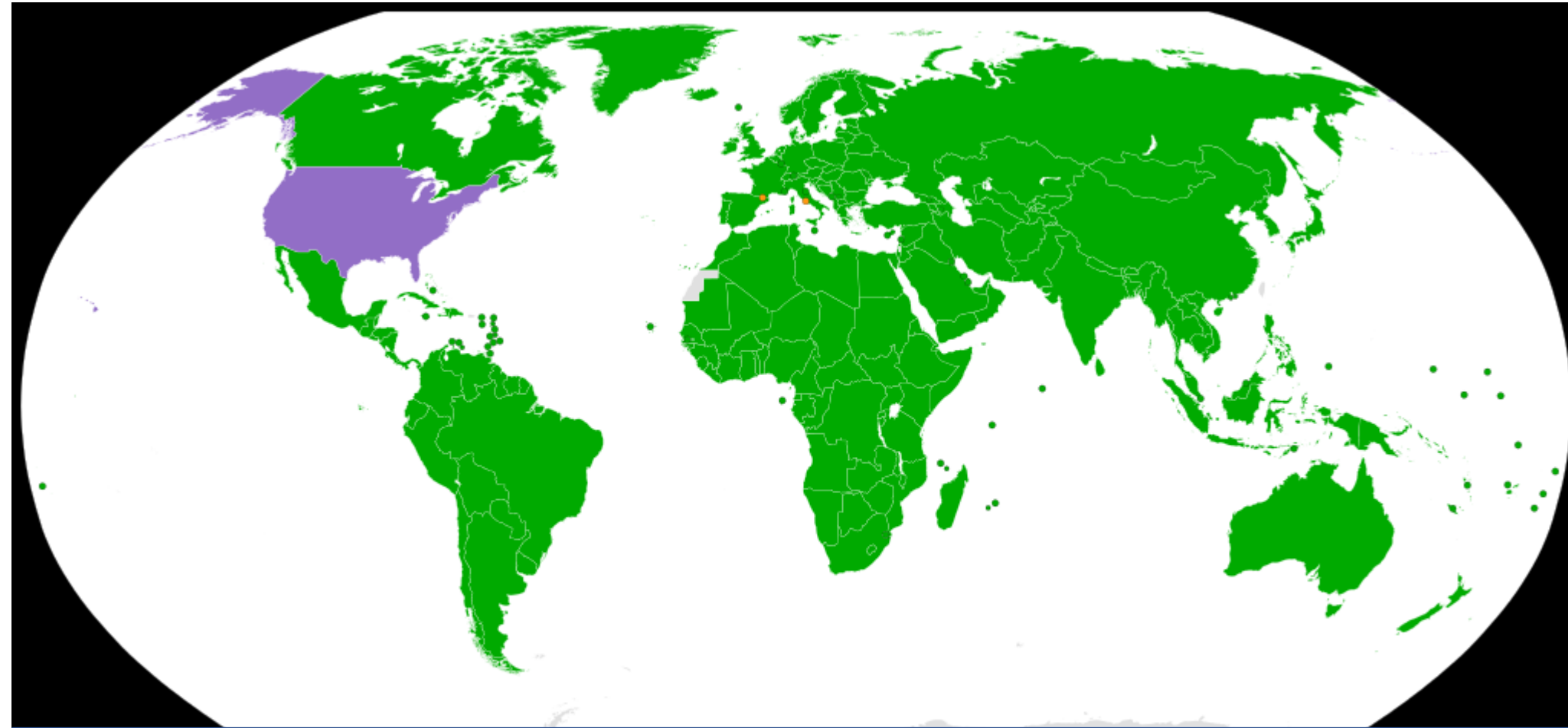
Source: Google Chrome

# ILK International Perspectives

- UN Declaration on the Rights of Indigenous Peoples (2007) “IPLCs have the right to be meaningfully engaged in decision making processes that impact their livelihoods, cultures and societies”.
- Indigenous and Tribal peoples Convention, 1989 (No. 169) – PART II – LAND: Articles 13, 14, 15, 16, 17, 18 & 19 – special importance and respect to culture and spiritual values.



# Part - I CBD: Parties



## NEPAL

- Nepal signed on 12 June 1992
- Ratified 23 November 1993
- Party to the CBD 21 Feb 1994

**Convention signed 5 June 1992. Effective 29 December 1993**

**Total 196 Parties (Total signatories 168)**

**Two supplementary agreements: (1) Cartagena Protocol & (2) Nagoya Protocol**

## Articles of CBD...

### Article 8- *In-situ Conservation*; (8j) - ..respect, preserve and maintain knowledge, innovations and practices of IPLCs

- ✓ Active support and participation of local communities
- ✓ The basic philosophy is that it rejuvenates the ecological and economic basis of the resources
- ✓ National Biodiversity Registration (NBR) is proposed



Source: Google.com

## Take Home Messages

- **Link indigenous and local knowledge** for human well-being
- **Need for ensuring political commitment** – mainstreaming ILK into country's policy and planning
- **Improved Science-policy interface** (understandable language for politicians, bureaucrats, and policy makers)
- **Mainstreaming ILK and Scientific knowledge** – (i) Awareness raising; (ii) Education and research; (iii) Social-economic valuation.
- **Increased national and transboundary relationships among the Tharus**

# Conclusions

- Tharus are disproportionately rich in indigenous and local knowledge – perhaps the best ‘indicator value’ of the integrity of the **Tarai** and **Bhitri Madhesh**.
- Promote ILK and use – Disseminate information and collaborative research.
- Promote ILK through integrated holistic approach.
- Link ILK with human well-being.
- Strengthen relationship among the between Tharus – both within the country and between Nepal and India.
- Enhance academic discussion on Tharus.
- Ensure national political commitment.
- Discuss Tharus rights and duties in international fora.



# Look ILK of the Tharus from the eyes of future generations



THANK YOU



# ACKNOWLEDGEMENTS

- Tharus and Friends Association (TFA)
- Tribhuvan Chaudhary
- Tilak Mahto
- Sushil Chaudhary
- Ram Lakhan Singh
- All Tharus who have supported me in the field by extending their warm hospitality and sharing ILK knowledge