Ancestral Knowledge and Education for Sustainable Development

Unnikrishnan Payyappallimana
United Nations University – Institute of Advanced Studies
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Sequence

• Overview of traditional knowledge

• Multilateral policy perspectives

• Traditional knowledge and ESD

• RCE experience
Overview

• Different cultures around the world with unique practices and ways of looking at life

• Traditional knowledge refers to the knowledge, innovations and practices of local communities around the world

• It plays a vital role in defining the identity of a community or a particular group.
Traditional knowledge

• Traditional Knowledge - “tradition-based literary, artistic or scientific works; performances; inventions; scientific discoveries; designs; marks, names and symbols; undisclosed information; and all other tradition-based innovations and creations resulting from intellectual activity in the industrial, scientific, literary or artistic fields.” (WIPO, 2001)

• Also known as Indigenous knowledge, Cultural knowledge, Local knowledge, Ancestral knowledge, Traditional ecological knowledge – but any of these terms may not capture the exact nature
Codified and Non-codified Forms

• Codified – Systematic epistemology, theoretical framework, codification of traditional wisdom from an emic perspective

• Non-codified – ecosystem and ethnic community specific and highly diverse

Though knowledge generation and transmission may vary in different cultures there are several similarities in the worldviews and value systems
Prominent Characteristics of TK

- Diversity, collective ownership guided by customary laws, combined with beliefs and values
- Largely undocumented and orally transmitted forms—many similarities between different communities
- Dynamic, adaptability to changing contexts
- Differing epistemology of traditional and contemporary knowledge
- Not just history, but high contemporary relevance
Role of TK

- Economic and social organization
- Promotes a sense of national cohesion and identity.
- Impacts human wellbeing through contributions to health, agriculture, food security, environmental and natural resource management, land use, livelihoods, disaster management, arts and culture among many others.
Role of TK – Contd…

• E.g. World Health Organization estimates that traditional medical practices cater to 80% of the world population health requirements.

• Components of local ecosystems (plants, animal and mineral/metal derivatives)

• Locally available, easily accessible and cost effective and highly relevant in primary health care in health access poor regions
## Multilateral Instruments and Policy Perspectives

<table>
<thead>
<tr>
<th>Policy</th>
<th>Year</th>
<th>Position</th>
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<tbody>
<tr>
<td>Indigenous and Tribal Peoples Convention (ILO)</td>
<td>1957</td>
<td>Due account shall be taken of the cultural and religious values and of the forms of social control existing among indigenous populations</td>
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<tr>
<td>The International Covenant on Economic, Social and Cultural Rights (OHCHR)</td>
<td>1966</td>
<td>Rights of individuals and peoples to self determination and means of subsistence</td>
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<tr>
<td>Indigenous and Tribal Peoples Convention (ILO) - Revised in 1989</td>
<td>1989</td>
<td>Rights of indigenous peoples to be actively involved in decisions related to their development and their right to continue with their ways of life and choose their priorities.</td>
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<td>Convention on biological diversity (CBD)</td>
<td>1992</td>
<td>Calls for the need to respect, preserve and maintain traditional cultures and encourage customary use of biological resources in line with principles of sustainable use and conservation; need to ensure equitable sharing of benefits among TK holders; and the need to obtain prior informed consent of providing parties to access biological resources and related knowledge on mutually agreed terms between the parties.</td>
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<td>UN Convention to Combat Desertification (UNCCD)</td>
<td>1994</td>
<td>Encourages the use and protection of TK related to ecological development - Subject to their respective national legislation and/or policies, exchange information on local and traditional knowledge, ensuring adequate protection for it and providing appropriate return from the benefits derived from it, on an equitable basis and on mutually agreed terms, to the local populations concerned.</td>
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<td>International Treaty on Plant Genetic Resources (ITPGR), FAO</td>
<td>2001</td>
<td>Farmer’s rights and TK which allows for benefit sharing and participatory decision making on use of plant genetic resources</td>
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<td>UNESCO-ICSU Declaration on Science and the use of Traditional Knowledge</td>
<td>2002</td>
<td>Co-existence of knowledge systems and suitable integration for contemporary needs</td>
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<td>World Summit on Sustainable Development (WSSD)</td>
<td>2002</td>
<td>Plan for implementation</td>
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<td>WHO Traditional medicine strategy 2002-2005</td>
<td>2002</td>
<td>Integration of traditional medicine in health systems, national regulation focused on quality, safety, efficacy, access, rational use</td>
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<tr>
<td>Policy</td>
<td>Year</td>
<td>Position</td>
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<td>World Intellectual Property Organization (WIPO)</td>
<td></td>
<td><em>Sui generis</em> model for protection of traditional cultural expressions, traditional knowledge and folklore.</td>
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<tr>
<td>UNESCO Convention for the Safeguarding of Intangible Cultural Heritage (ICH)</td>
<td>2003</td>
<td>Protection of oral expressions, performing arts, social practices and rituals, knowledge and practices concerning nature and universe and traditional craftsmanship.</td>
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<td>Convention on Protection and Promotion of the Diversity of Cultural Expressions (UNESCO)</td>
<td>2005</td>
<td>Reaffirms the importance of the link between culture and development</td>
</tr>
<tr>
<td>UN Declaration on Rights of Indigenous Peoples (UNPFII)</td>
<td>2006</td>
<td>Right to self determination, and to determine access to their cultures, resources and knowledge</td>
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<td>Rio + 20</td>
<td>2012</td>
<td>Reaffirms the role of traditional knowledge in sustainable development</td>
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Views on Integration

• These range from
  – romantic (e.g., all practices are logical and sound)
  – Utilitarian (e.g., aspects have to be selectively studied to strengthen modern needs)
  – Pluralistic (should be allowed to co-exist and play a complementary role) views
Common challenges

• Declining social legitimacy (incl. government support)

• Lack of recognition of practices and practitioners, lack of self esteem

• Erosion of knowledge, lack of successors

• Self determination, rights to resources, traditional lands, ownership of knowledge and benefits from use of resources and knowledge, intellectual appropriation

• Incompatibility with mainstream knowledge systems, multiple worldviews of learners, pedagogical exclusion

• Peaceful existence and preservation of diversity
Reasons

• A hegemonic relationship between knowledge systems - TK in a position of having to prove itself through a positivist epistemology – dramatically devalues traditions by universalizing norms of action.

• Over emphasis on economic growth - relevance of culture has been examined through the lens of relevance to commercial activity.

• Prevailing view of TK as antiquated and non dynamic, relegating it to a status of a commodity that should be documented and preserved.

• Dominant discourse of protection of intellectual property rights while neglecting efforts to strengthen social and cultural processes of continuity.

• TK is considered exotic and confined to indigenous communities.

• A contested idea of relevance in certain sections of society where benefits from modern science and technology are not available or accessible – creating double standards in inequity especially in less developed countries.
Contd.

- Lack of sufficient theoretical approaches for understanding and assessing TK

- Institutionalization of TK - experience-based elements may not be secured

- A dichotomy exists between the formally trained ‘experts’ and the informal ‘knowledge holders’

- Shuttling between modernity and tradition - conflicts of social identity

- Integration into mainstream learning systems and production processes is a challenging task.
TK and ESD – Key Aspects

- Intergenerational, lifelong learning
- Collective, social learning
- Learning in totality
- Appropriate integration in formal learning, building institutional values and methods to provide choices in education
- Constant engagement on contemporary relevance and promotion as active social traditions in vital areas like agriculture, health etc.
- Strengthen linkages to wellbeing and livelihoods
Some questions relevant to ESD

• What is an epistemologically sensitive method to identify and integrate appropriate practices in learning?
• What mechanisms can drive effective social as well as institutional learning processes for ESD that integrates traditional knowledge and practices?
• What challenges are encountered in the institutionalization process of such knowledge systems?
• To what extent can local experiences and models be universalized and thus replicated?
• What is an appropriate intercultural approach in the current education system?
• Can and to what extent traditional knowledge holders participate in the formal educational systems?
RCEs and Traditional knowledge
UNU-Regional Centres of Expertise (RCE) Network

• An RCE is a network of existing formal, non-formal and informal education organisations, mobilised to deliver education for sustainable development (ESD) to local and regional communities.

• A network of RCEs worldwide constitutes the Global Learning Space for Sustainable Development.

• RCEs aspire to achieve the goals of the UN Decade on Education for Sustainable Development (DESD, 2005-2014), by translating its global objectives into the context of the local communities in which they operate.

• There are currently 116 acknowledged RCEs worldwide.
• **RCE stakeholders**
  - Schools
  - Higher education institutions
  - Environmental NGOs
  - Scientists, researchers
  - Museums, zoos, botanical gardens,
  - Local governments
  - Local enterprises
  - Volunteers, media, civic associations or individuals etc.

• **Functions of an RCE**
  - Bring together institutions at the regional/local level to jointly promote ESD
  - Build innovative platforms to share information and experiences
  - Promote dialogue among regional/local stakeholders through partnerships for sustainable development
  - Create a local/regional knowledge base to support ESD actors
Traditional Knowledge and Biodiversity: Learning Contributions of The Regional Centres of Expertise (RCE) on Education for Sustainable Development (ESD)
Contents

• 16 RCEs, 18 case studies under sections
  1. Learning for Revitalization of Natural and Cultural Resources
  2. Ecosystem Services and Sustainable Use
  3. Co-engaged Learning Practices for Equity, Livelihoods and Development
  4. Monitoring, Documentation, Protection and Education
  5. Worldviews and Integration
Contributors

Africa
• RCE Makana and Rural Eastern Cape

Americas
• RCE Greater Sudbury, Canada
• RCE Guatemala, Guatemala

Europe
• RCE Espoo, Finland
• RCE Porto, Portugal

Asia
RCE Chandigarh, India
RCE Cha-am, Thailand
RCE Cebu, Philippines
RCE Chubu, Japan
RCE Greater Greater Dhaka, Bangladesh
RCE Greater Phnom Penh, Cambodia
RCE Kodagu, India
RCE Kyrgyzstan, Kyrgyzstan
RCE Penang, Malaysia
RCE Srinagar, India
RCE Yogyakarta, Indonesia
RCE Approaches/Methodologies of TK

- Situated social learning processes
- Learner led mediation processes
- Revitalizing traditional knowledge in life situations through a see-judge-act approach
- Integration of mother tongue education and reinforcing identity
- Bridging research
- Developing learning case modules for capacity development based on good practices
Case Study:
‘Developing Communication Strategy and Tools’ for Conserving Traditional Medical Knowledge and Medicinal Plants Diversity
Indian Himalayan Region (IHR)

RCEs Srinagar, Guwahati, Arunachal Pradesh
Help Conserve Medicinal and Aromatic Plants!

Know Them  Use Them  Cultivate Them

Jatamasi
Nardostachys grandiflora

Status: On the brink of extinction!
Found at: 3000 - 4000 metres
Rhizomes and roots used in medicines to treat stomach problems

Chirayata
Swertia chirata

Status: On the brink of extinction!
Found at: 1000 - 2000 metres
Whole plant used in blood purifying tonics and to treat stomach problems

Globaly Significant Medicinal Plants (GSMP)
Medicinal and aromatic plants that are vulnerable to destructive harvesting due to very high demands. A few of these species are also most difficult to cultivate on a large scale.

Flagship GSMP
Some priority species marked for conservation in an MPCA. Each of the 7 MPACs of Uttarakhand has a set of flagship species. All plants shown in this planner are flagship species.

Thuner
Tetra hircinata

Status: Becoming rare!
Found at: 2100 - 3000 metres
Leaves and bark used in anti-cancer medicines

Jeekav
Malaxis mucronata

Status: Becoming rare!
Found at: 300 - 1200 metres
Pseudostems used as Ashwagandha in Ayurveda

Amla
Emblica officinalis

Status: Safe!
Found over 1370 metres
Fruits, along with fruits of Neem and Arjun, used in making Tipula

Satwa
Paris polyphylla

Status: Becoming rare!
Found at: 2300 - 3500 metres
Roots used in medicines to treat asthma and industrious worms

Kutki
Pterocarpus karnou

Status: On the brink of extinction!
Found at: 3000 - 4000 metres
Rhizomes and roots used in medicines to cure jaundice and stomach aches

Hathajadi
Dactylorhiza hatagirea

Status: On the brink of extinction!
Found at: 3000 - 4000 metres
Tubers used in tonics to treat general weakness

Balchad
Anmomia benhamnii

Status: On the brink of extinction!
Found at: 3000 - 4000 metres
Roots used in hair and heart tonics

Look up these terms!

In danger!  - Vulnerable
Becoming rare! - Endangered
On the brink of extinction! - Critically Endangered

For further information please contact:
State Medicinal Plants Board (SMPB) Uttarakhand
Mr. Vasant Vilas, P.O. Box 8, New Delhi-110001, India
Tel: 91-11-27791313, Email: uniglobalmail@gmail.com, Web: www.herbalutarakhand.org

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V.K. Pandey
C.D. Shankar
R.K. Pandey
C.D. Sharma
N. Khandelwal

2013

27th June - National Youth Day
27th Feb - World Hello Day
25th Feb - National Science Day
27th Apr - World4a Day
27th May - World Water Day
27th July - World Population Day
27th Aug - International Day for World Indigenous People
27th Nov - Universal Children's Day
17th Dec - International Mountain Day
Sustainable Harvest of Medicinal Plants

Medicinal and Aromatic (MAPs) are in high demand. However, there is not adequate supply. In order to bridge this gap, MAPs from the wild are being over-extracted for higher profits. This is threatening the existence of the plants. Slow-growing plants with poor regeneration potential are especially being pushed to the brink of extinction.

Therefore, MAPs need to be harvested wisely, meeting our needs of the present and ensuring adequate supply in future. If we harvest plants in a scientific, sustainable and responsible manner, we will have plenty left for the future.

Here are some useful tips for sustainable and scientific harvesting:

**For Roots & Tubers**
Do not uproot a plant entirely, leave the younger roots and tubers intact so the plant can continue to grow.

**For Twigs/Branches**
Do not cut the tree trunk or big branches. Collect only twigs. Allow the tree to regenerate.

**For Seeds**
Leave some ripe seeds behind. These will germinate to give more trees.

**For Bark**
Stripping the bark completely exposes a tree to infection, decay, death and stunted growth. Remove the bark only in patches.

**For Young Trees**
Do not harvest and uproot young trees. Allow them to grow. They will yield higher returns when they are older.
JOURNEY OF A MEDICINAL & AROMATIC PLANTS CULTIVATOR

1. Wish to cultivate medicinal and aromatic plants?

2. Visit Jadi Booti Shod Sansthan (HRDI), Chamoli. HRDI provides information, training, seeds & saplings of medicinal plants free of cost. HRDI has a master trainer available in every district. Call the HRDI, Chamoli office for information on local trainers.

If a cultivator wishes to purchase planting materials from other sources, HRDI offers a 50% subsidy on the total planting costs (includes planting material, water, labour cost etc.). Planting costs for all species are fixed by the State Government.

Center for Aromatic Plants (CAP) and Bhesaj Vikas Ikai also provide planting materials and related services. CAP provides training and planting materials for aromatic plants. Bhesaj Vikas Ikai has coordinators in every district.

IMP: Before leaving, collect registration forms from HRDI as they need to be filled in later and sent back for registration purposes.

3. Take the planting materials home and plant them as advised during the training.

4. Within one month, HRDI / CAP / Bhesaj Vikas Ikai will verify if at least 75% of planting materials have been planted in the fields.

If everything is declared to be in order, send the filled-in registration form to HRDI for registration. No other organization is authorized to give registration certificates.

5. Are you ready to send the registration form? Don't forget to hand the duly.

6. Resume farming

7. One month prior to harvest, apply to HRDI for Transit Pass. Either HRDI or CAP will visit to determine the expected quantity of harvest

8. Engage in scientific harvesting of produce as directed during the training.

9. Once the Transit Pass has been obtained, the cultivator has 4 options to market the produce.

- Add value to raw materials (for higher profits) before selling the products to private buyers.
- Sell the raw material directly to a private buyer.
- Carry the raw material directly to one of the mandis for auctioning.
- Approach the Van Nigam / HRDI / CAP / Bhesaj Sangh / SMPB for guidance regarding markets / interested buyers for both raw material and processed products.
Conclusion

- Continuous dialogue process and collective social learning with mutual respect

- Formal and informal educational programs have to be developed for systematic study of local worldviews, perceptions and practices in the wider framework of ESD.

- The formal learning could have a sectoral approach to TK in areas such as in medicine, agriculture, veterinary sciences and so on.

- Informal learning should also focus on means of intergenerational transmission.

- Issues of integration of TK to be addressed at different social levels such as communities, civil society groups, nongovernmental organizations, formal and informal education institutions, local administrative structures, and national and international multilateral and policy forums.
Thank you!

For further information, please visit:

www.ias.unu.edu/efsd

payyappalli@ias.unu.edu