

# Local and Indigenous Knowledge Systems UNESCO's LINKS Programme



Photo: Menuka Scetbon-Didi



United Nations  
Educational, Scientific and  
Cultural Organization

**LiNKs**  
Local and Indigenous Knowledge Systems

**Local communities and Indigenous Peoples Platform - Informal Technical meeting**

27-28 February 2017, Brussels  
Doug Nakashima & Jen Rubis

[www.unesco.org/links](http://www.unesco.org/links)

# UNESCO - LINKS programme

A cross-cutting initiative involving the sectors for:  
Natural Sciences  
Social and Human Sciences  
Culture  
Communication and Information  
Education

## LINKS

LOCAL AND INDIGENOUS KNOWLEDGE SYSTEMS

**UNESCO - United Nations Educational, Scientific and Cultural Organization**

**LINKS - Local & Indigenous Knowledge Systems programme**

- cross-cutting programme (since 2002)

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**INTERDISCIPLINARY** – drawing upon disciplines in the natural and social sciences and culture

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**TRANSDISCIPLINARY** –building dialogue across diverse knowledge systems

***Notably between indigenous peoples' knowledge systems and scientific knowledge.***



# An Indigenous Peoples' Platform

## Multiple dimensions:

- Indigenous Peoples' Rights
- Participation & Governance
- Capacity-building (across all sectors)
- Awareness-raising
- **Indigenous Peoples' Knowledge**

***Recognition of the essential role of  
Indigenous Peoples' knowledge,  
practices and worldviews  
in environmental decision-making,  
notably with respect to global climate change***

# From recognition to implementation?

Growing recognition of indigenous knowledge for climate change assessment, mitigation or adaptation.

***But how can indigenous knowledge contribute, alongside science, to improved decision-making?***

*Role of IK for achieving biodiversity conservation & natural resource management is well-established.*

- Convention on Biological Diversity (1992) - Article 8(j),
- In-depth documentation of IK in all regions and ecosystems,
- Joint or co-management regimes established for wildlife, fisheries, protected areas etc.

*.... although many challenges still remain.*

# Intergovernmental environmental assessments: IPCC and IPBES

**The Challenge:** ensuring assessments are based on the best available knowledge – both scientific and local & indigenous knowledge

- Intergovernmental Panel of Experts on Climate Change (IPCC) – created in 1988
- Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) - created in 2012

Intergovernmental science-policy processes – ***traditionally*** ...

- internationally-recognized scientific experts.
- dominated by the physical & biological sciences.
- restricted to reviews of the peer-reviewed scientific literature.

***Opportunities for considering indigenous peoples' experts and indigenous knowledge have been few or nonexistent***

# Towards IPCC's Fifth Report (5AR)

## **1. UNESCO-UNU workshop with IPCC:**

“Indigenous Peoples, Marginalized Populations and Climate Change”, Mexico, July 2011

- Vicente Barros, co-chair of IPCC Working Group II, and several IPCC authors of key chapters
- indigenous knowledge holders, and natural & social scientists with expertise on indigenous knowledge

## **2. Review of IK in the scientific and grey literature**

“Weathering Uncertainty: Traditional knowledge for climate change assessment and adaptation”, 2012, UNESCO and UNU

- To build awareness and facilitate inclusion of IK in the 5AR,
- Make IK literature accessible and intelligible for authors whose core expertise is not indigenous knowledge
- Explains key concepts related to indigenous knowledge

# **IPCC- 5AR: Outcomes for indigenous peoples' knowledge**

## **Summary for Policymakers 5AR Synthesis Report**

- ❖ Indigenous, local, and traditional knowledge systems and practices, including indigenous peoples' holistic view of community and environment, are a major resource for adapting to climate change ...**
- ❖ Integrating such forms of knowledge with existing practices increases the effectiveness of adaptation.**

**(IPCC 2014: 27)**

# Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)

Created in 2012 – modelled on the IPCC

IPBES Principles include a specific commitment to ILK:

- **Recognize and respect the contribution of indigenous and local knowledge to the conservation and sustainable use of biodiversity and ecosystems**

Busan Outcome: UNEP/IPBES.MI/2/9, Appendix 1, para. 2 (d)

Scientific & technical functions of the Multidisciplinary Expert Panel:

- **Explore ways and means to bring different knowledge systems, including indigenous knowledge systems, into the science-policy interface**

UNEP/IPBES.MI/2/9, Appendix 1, para. 15 (g)

To oversee this work on ILK, IPBES has created

**a Task Force on Indigenous and Local Knowledge Systems  
- UNESCO-LINKS serves as the Technical Support Unit (TSU)**

# Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)

## IPBES/5/4

- Proposed approach across all functions
  - Assessments
  - Knowledge and data
  - Policy support tools and methodologies
  - Capacity-building
- Institutional Arrangements
  - MEP
  - ILK liaison groups
  - Secretariat – TSU on ILK
  - Participatory mechanism – web platform, web consultations, dialogue workshops
  - Strategic partnerships

# Dialogue Workshops to reinforce Indigenous Knowledge (IK)

## Challenges for IPBES assessments:

- Designated assessment author teams have little or no expertise with indigenous peoples or indigenous knowledge,
- Unaware of the existing scientific or grey literature,
- Unfamiliar with fundamental issues e.g. IPRs, FPIC
- Lack of expertise addressing epistemological & ontological challenges from coupling indigenous & scientific knowledge.

## IK Dialogue workshops:

- Establish a face-to-face dialogue between IK holders, IK experts and IPBES Co-chairs + Authors
- Build capacities of both IK holders/experts and Authors.
- Collectively develop a rigorous, problem-solving approach to IK and its interface with Science (shared definitions & mutually-agreed cross-cultural understandings).

# IK dialogue workshops for IPBES assessments

IK Dialogue workshops organized in the framework of five IPBES assessments (pollination and regional assessments)

## Procedures:

- Call for proposals from IK holders & IK experts, widely-circulated in multiple languages.
- Selection committee (indigenous peoples, natural & social scientists) reviews submissions and selects submissions,
- Dialogue workshop (3-4 days) brings selected IK holders and IK experts (8-12) together with selected Assessment co-chairs and authors (8-12)
- IK holders and IK experts hold follow-up meetings to report back to their communities and fill gaps in relevant IK,
- Workshop proceedings published to allow citation in Report.

# IK dialogue workshops for IPBES assessments

## **Strengths:**

- Allows indigenous knowledge holders to engage directly with assessment Authors.
- Direct dialogue facilitates identification of knowledge, practices and worldviews that are shared, distinctive/unique, or contradictory.
- Similarities and differences can be mutually-acknowledged, understood and negotiated.

## **Limitations:**

- Restricted number of participants to allow dialogue
- Time (3-4 days) is short to address complex issues
- Costly

# UNESCO

## Community-based Observing Systems

**Subregional networks of Observatories based on indigenous knowledge and community observations:**

- Circumpolar Arctic network (reindeer herders and hunters)
- Sub-Saharan Africa network (pastoralists)
- Pacific (traditional seasonal calendars)

**Two regions where vulnerability is high and climate change impacts are expected to be severe.**

- Bridging Indigenous and Scientific Knowledge about Global Change in the Arctic
  - Reindeer pastoralists from Sweden (Sami) and Russian Federation (Even); and hunters (Inuit) from Alaska, Canada and Greenland.
- On the Frontlines of Climate Change project for Africa
  - Led by pastoral peoples - Burkina Faso, Chad, Ethiopia, Tanzania, Kenya, Uganda

# Coupling indigenous and scientific skills to forecast weather and climate

## Climate Frontlines in Africa

Dialogue platforms organized in Chad (2) and Tanzania (1):

- Bringing together pastoral peoples with meteorologists and climate scientists
- To compare, contrast and couple forecasting capacities and techniques
- To improve knowledge for decision-making

### **Pastoralist forecasting**

- Observation of many variables (bio-physical)
- Local scale
- High resolution knowledge sharing networks
- Qualitative measures

### **Scientific forecasting**

- Extrapolations based on few physical variables
- Regional/subregional scale
- Modeling with seasonal or annual averages
- Quantitative

# Conferences on indigenous peoples and knowledge at COP21 and COP22

The poster features a large, ancient tree with a person climbing its trunk. The background is a clear blue sky. The text is arranged in three columns, with the central column being the most prominent.

United Nations Educational, Scientific and Cultural Organization  
climate frontiers  
Local and Indigenous Knowledge Systems programme  
MUSEUM  
PARIS 2015  
A United Nations Conference  
COP21 - CMP11

Summaries/Résumés/Resúmenes

**RESILIENCE in a time of UNCERTAINTY**  
Indigenous peoples and climate change

**RESILIENCIA en tiempos de INCERTIDUMBRE**  
Los pueblos indígenas frente al cambio climático

**TEMPS D'INCERTITUDE et RESILIENCE**  
Les peuples autochtones face aux changements climatiques

Logos at the bottom include: United Nations Educational, Scientific and Cultural Organization, SORBONNE UNIVERSITÉ, SWITZERLAND, UIN UIP, CONSERVATION INTERNATIONAL, and others.

[www.indigenous2015.org](http://www.indigenous2015.org)

The poster features a photograph of two women in traditional blue and patterned clothing and conical hats working in a rice paddy field. The background is a deep red color.

**INDIGENOUS KNOWLEDGE and CLIMATE CHANGE**  
**Summaries/Résumés**  
**SAVOIRS AUTOCHTONES et CHANGEMENTS CLIMATIQUES**

**2-3 November 2016**  
**Marrakesh, Morocco**

**2-3 novembre 2016**  
**Marrakech, Maroc**

Logos at the bottom include: United Nations Educational, Scientific and Cultural Organization, climate frontiers, Local and Indigenous Knowledge Systems programme, CIRS, IRACC, and others.

[www.indigenous2016.org](http://www.indigenous2016.org)

# Difficulties aligning IK and science: Insights from a case study in Mongolia

Pastoralists in Mongolia report major degradation of pastures since 1999 (Marin 2010: 167) due to:

- change in the **quality** of rains
  - less soft rains (*shivree boroo*) that penetrate soils,
  - more hard rains (*shiruun boroo*) that run-off.
- increase in **localized patchiness** of rainfall
  - no longer rains over large areas
  - ‘silk embroidery’ rains (*torgnii hee boroo*) fall in limited areas with extensive areas left devoid of pasture

***However scientific data for the same area and period show no significant change – Quantitative measures of average annual precipitation over large territories***

# Challenges for a Climate Change Platform

## 1. Bridging scales – gap between local & regional/global

- Challenges may be global, but solutions need to be local
- Platform to work at different scales, with different tools and actors at the different scales
- Science technologies (remote-sensing, ocean monitoring, seasonal outlook) provide valuable data,
- But scales are often too broad for local decision-making,
- Regional forecasts miss patchiness of rainfall.

## 2. Connecting qualitative and quantitative measures

- Quantitative data may miss critical qualitative information
- Total and mean rainfall (vs when and type of rain)

## 3. What to monitor?

- Standardized scientific measurements may ignore factors essential for local livelihoods
- Indigenous peoples lead in identifying priorities for adaptation

# References

- IPBES, 2017. Indigenous and local knowledge systems (deliverable 1 (c)). IPBES/5/4  
<http://www.ipbes.net/sites/default/files/downloads/pdf/ipbes-5-4-en.pdf>
- Marin, A. 2010. Riders under storms: contributions of nomadic herders' observations to analysing climate change in Mongolia. *Global Environmental Change*, 20: 162–76.
- Nakashima, D.J., Galloway McLean, K., Thulstrup, H.D., Ramos Castillo, A. and Rubis, J.T. 2012. Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation. Paris, UNESCO, and Darwin, UNU, 120 pp.  
<http://unesdoc.unesco.org/images/0021/002166/216613e.pdf>

# Related websites

Indigenous Peoples, Marginalized Populations  
and Climate Change [www.ipmpcc.org](http://www.ipmpcc.org)

IK & CC conferences @COP21 and 22  
[www.indigenous2015.org](http://www.indigenous2015.org) and  
[www.indigenous2016.org](http://www.indigenous2016.org)

Climate Frontlines in Africa:  
[www.climatefrontlines.org/africa](http://www.climatefrontlines.org/africa)

Arctic-BRISK: [www.arcticbrisk.org](http://www.arcticbrisk.org)

UNESCO-LINKS [www.unesco.org/links](http://www.unesco.org/links)

IPBES ILK publication series  
[www.unesco.org/new/links/ipbes-pubs](http://www.unesco.org/new/links/ipbes-pubs)

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