

**Knowledge co-production between science and
traditional, indigenous and local knowledge
in global science-policy fora on biodiversity
(IPBES, CBD)**

Molnár, Zsolt
botanist, ethnoecologist



TAKE HOME MESSAGES

Science is not enough for transformative change

All knowledges of humanity are needed to manage the multi-crisis

'Western' science + indigenous/traditional knowledge

Relevance of knowledge: global vs. local?

Added value of looking through different eyes

More complex holistic understanding of the world

More relevant messages for practitioners and decision makers

Traditional knowledge systems Knowledgeable local land users



Often neglected, unrespected



**40% of the global land surface
is grazed**



**A key moment: turning plant biomass to meat biomass
(esp. on primary pastures not suitable for crop production)**



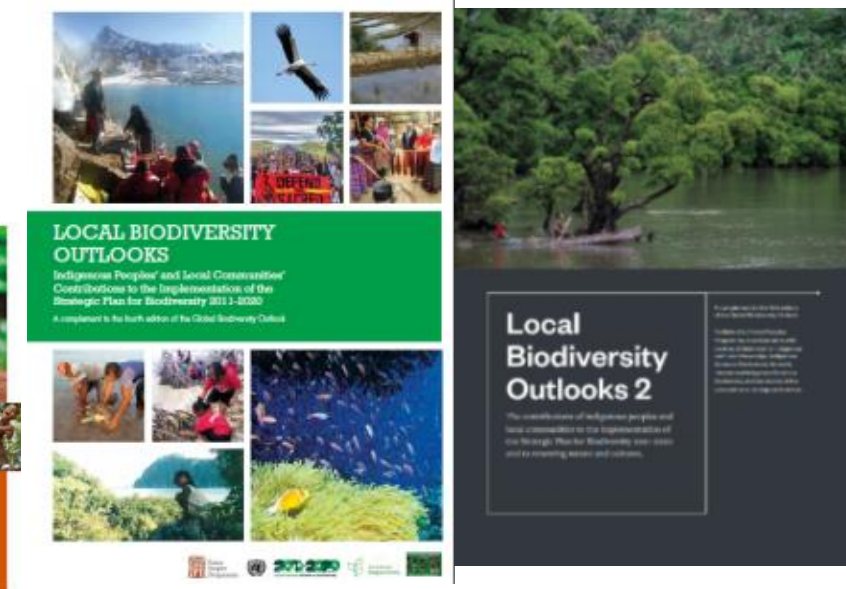
(videó: Budai, János)

>300 million pastoralists/herders
<50 scientific papers on this topic
knowledge gap (utilization / protection)

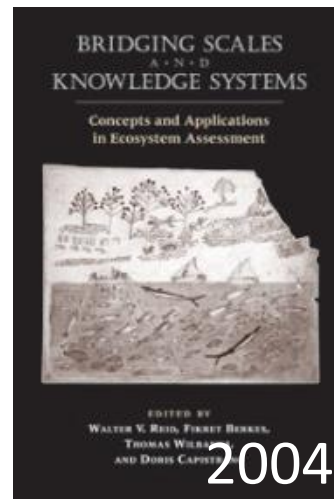
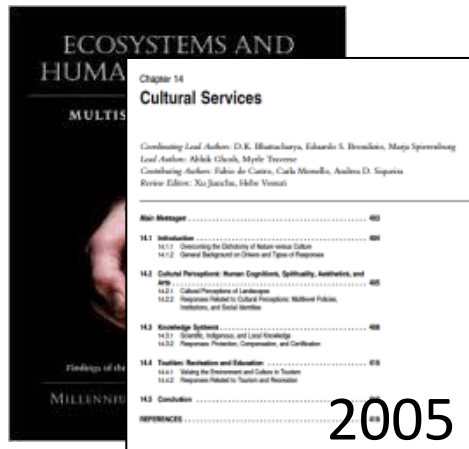
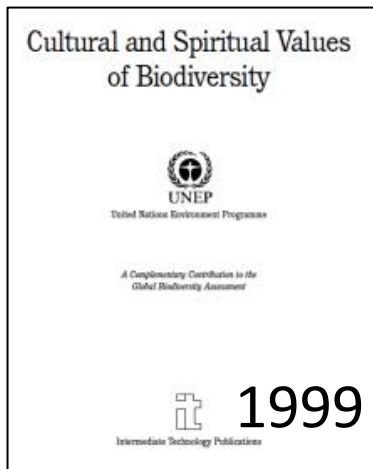
Global-scale knowledge co-production between science and traditional knowledge

IPBES Dialogues and assessments

Convention on Biological Diversity



Some pre-IPBES efforts



IPCC is late...



IPBES Operating Principles

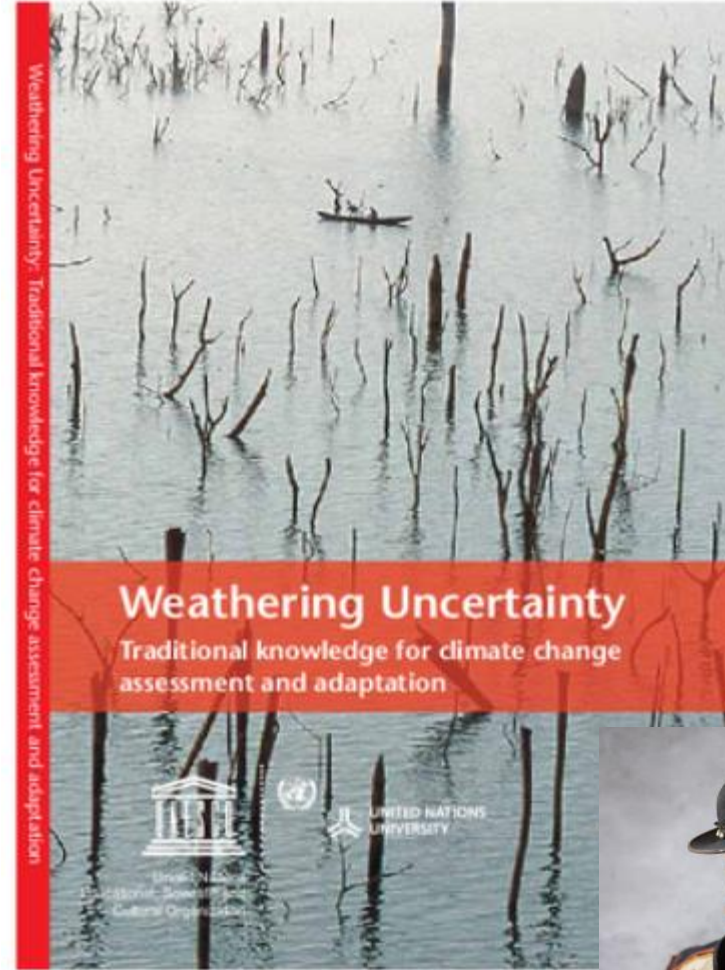
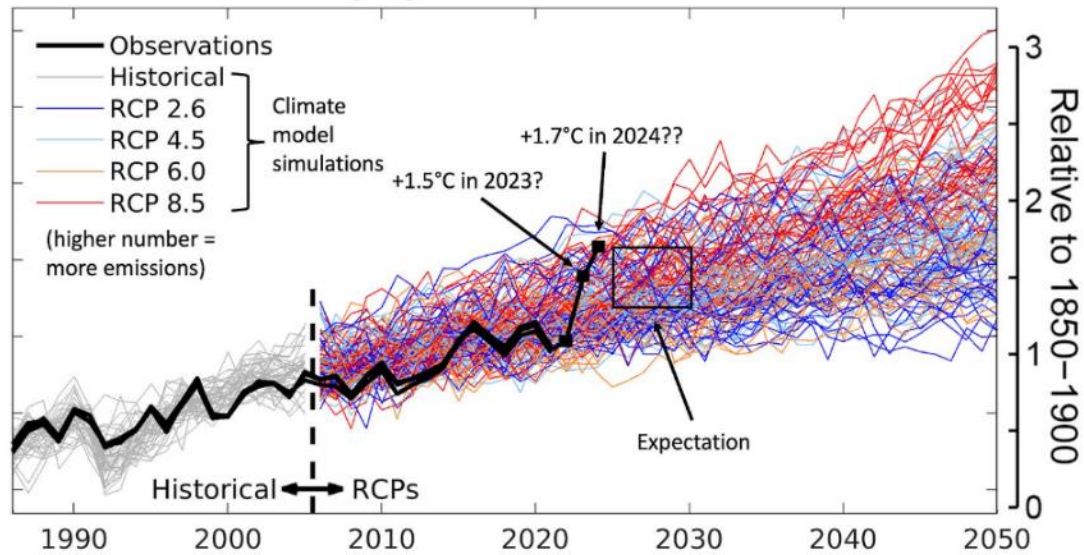
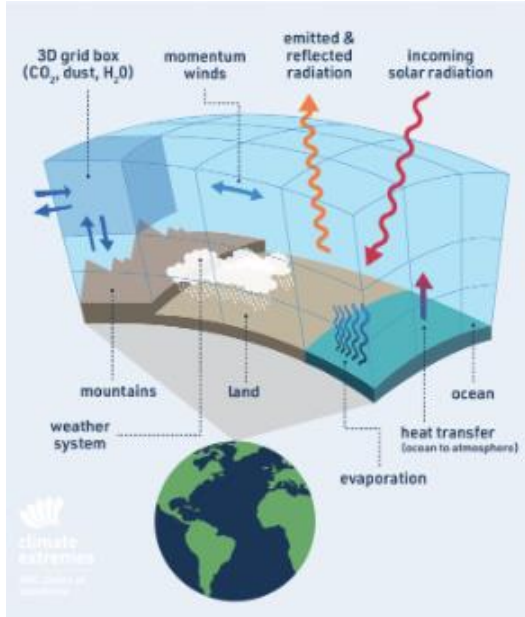
- Take an **interdisciplinary and multidisciplinary approach** that incorporates all relevant disciplines
- **Recognize and respect the contribution of indigenous and local knowledge** to the conservation and sustainable use of biodiversity and ecosystems

Challenges

- **Epistemological** challenges (diverse worldviews)
- **Procedural** challenges (participation of knowledge holders)



Global climate models vs. Local adaptations



2012



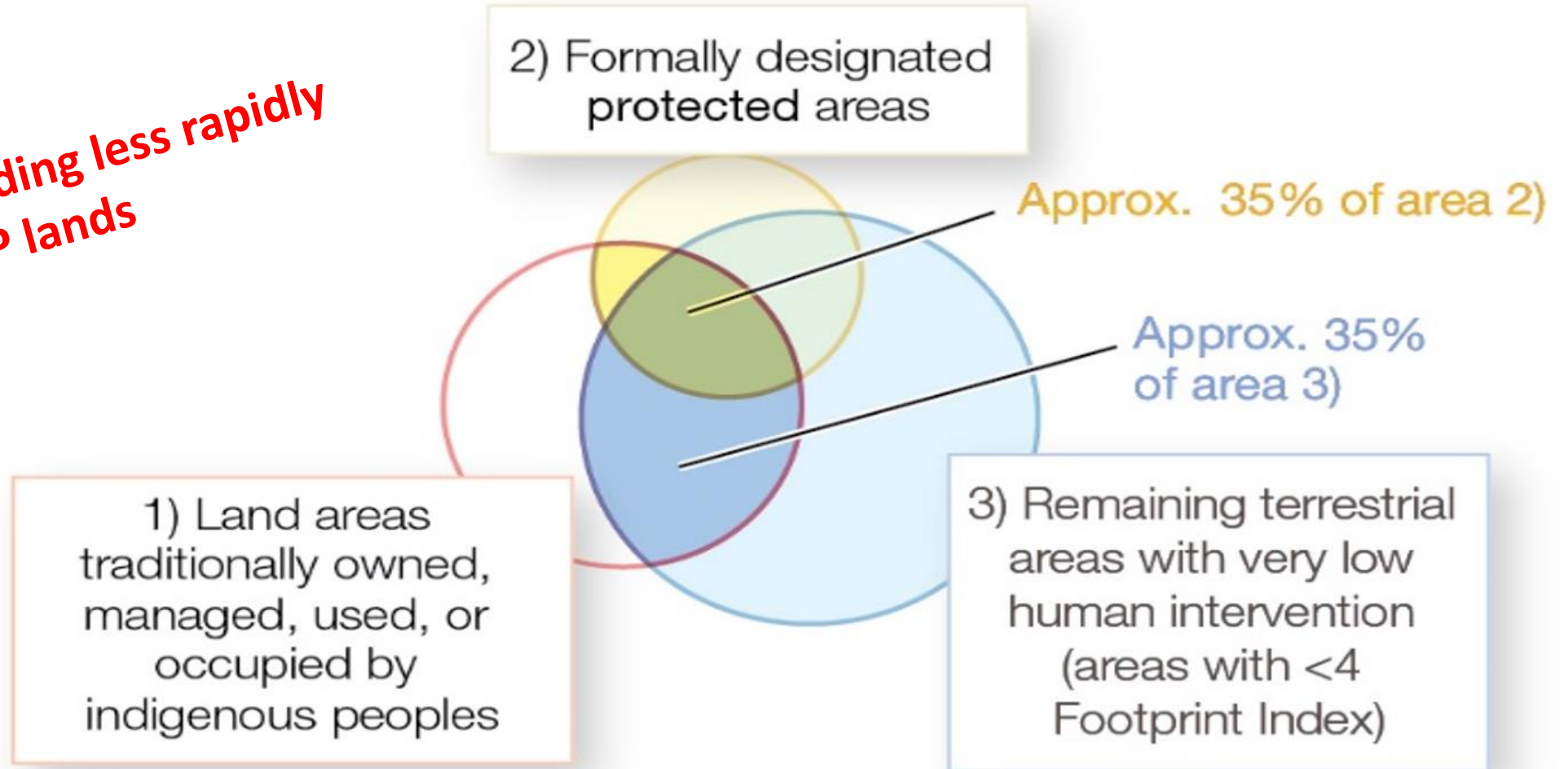
Sáfíán László



Barta Sándor

35-40% of nature protected areas and remaining 'natural' areas are on Indigenous Peoples' lands

Nature is degrading less rapidly on IP lands

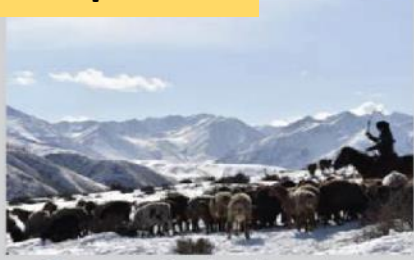


Contributions of Indigenous Peoples and local communities to the protection and conservation of biodiversity

Domestication, adaptation

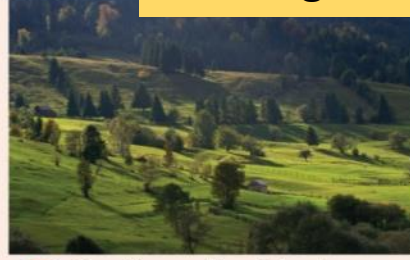


a Domesticating and maintaining crops...

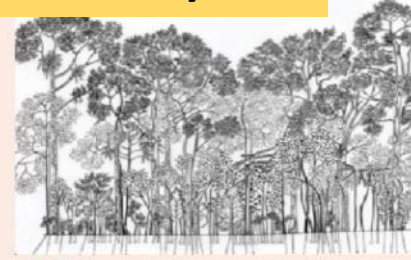


b ... and animal breeds

Creating new rich ecosystems



c Creating cultural landscapes with enhanced habitat heterogeneity

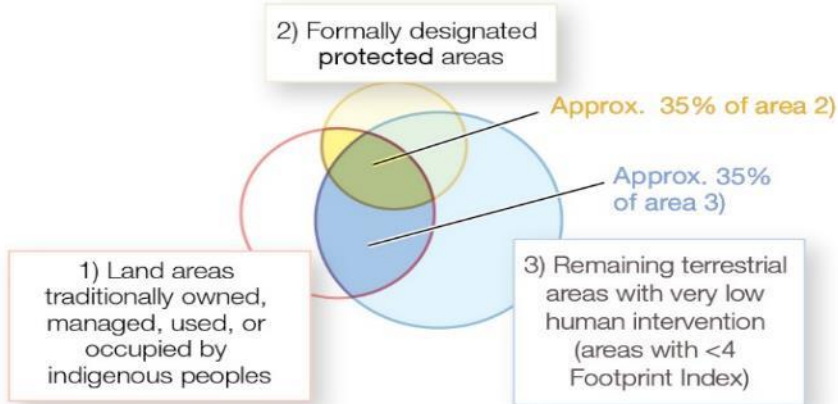


d Developing production systems with a multitude of domestic and wild species

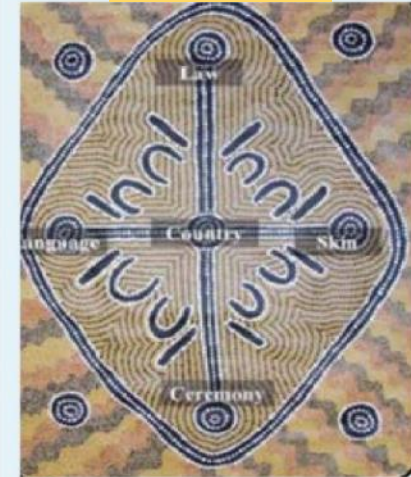
Protection



h Preventing forest loss



Concepts



i Alternative values and worldviews

idits: (e) ©FAO/Sandrio Cespo
3 permission, (e) ©Rabecca B

Sustainable use, management and monitoring



e Habitat management



f Wild species management



g Restoration

Annual Review of Environment and Resources

Locally Based, Regionally Manifested, and Globally Relevant: Indigenous and Local Knowledge, Values, and Practices for Nature

Eduardo S. Brondízio,^{1,2} Yildiz Aumeeruddy-Thomas,³ Peter Bates,⁴ Joji Carino,⁵ Álvaro Fernández-Llamazares,⁶ Maurizio Farhan Ferrari,⁵ Kathleen Galvin,⁷ Victoria Reyes-García,^{8,9} Pamela McElwee,¹⁰ Zsolt Molnár,¹¹ Aibek Samakov,¹² and Uttam Babu Shrestha¹³

Working with Indigenous and local knowledge (ILK) in large-scale ecological assessments: Reviewing the experience of the IPBES Global Assessment

Pamela McElwee¹ | Álvaro Fernández-Llamazares² | Yildiz Aumeeruddy-Thomas³ |
Dániel Babai⁴ | Peter Bates⁵ | Kathleen Galvin⁶ |
Zsolt Molnár⁹ | Hien T. Ngo¹⁰ | Victoria Reyes-C
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of Sciences, Budapest, Hungary; ⁵IPBES Technical Support Unit for Indigenous and Local
UNESCO, Paris, France; ⁶Department of Anthropology and Geography, Colorado State U
Programme-World Conservation Monitoring Centre, Cambridge, UK; ⁸Center for Systems
Michigan State University, East Lansing, MI, USA; ⁹Centre for Ecological Research, Hunga
Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), IPBES Secretari
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of Geography, Clark University, Worcester, MA, USA; ¹⁴Aigine Cultural Research Center,
Studies, Kathmandu, Nepal; ¹⁸Instituto Multidisciplinario de Biología Vegetal (IMBIV) and
Nacional de Córdoba, Córdoba, Argentina and ¹⁷Department of Anthropology, Indiana Un



ELSEVIER

Working with Indigenous, local and scientific knowledge in assessments of nature and nature's linkages with people
Rosemary Hill¹, Çiğdem Adem², Wilfred V Alangui³,
Zsolt Molnár⁴, Yildiz Aumeeruddy-Thomas⁵, Peter Bridgewater⁶,
Maria Tengö⁷, Randy Thaman⁸, Constant Y Adou Yao⁹,
Fikret Berkes¹⁰, Joji Carino¹¹, Manuela Carneiro da Cunha¹²,
Mariteuw C Diaw¹³, Sandra Díaz¹⁴, Viviana E Figueroa¹⁵,



Trends in Ecology & Evolution

Opinion

Inviting ecologists to delve deeper into traditional ecological knowledge

Zs. Molnár^{1,*} and D. Babai²

Ecologists and conservationists increasingly acknowledge that traditional ecological knowledge (TEK) is vital for a better understanding and conservation of biodiversity; for example, for a more complex socioecological understanding of long-term processes, ecosystem resilience, the impacts of traditional management practices, and the worldviews underpinning these practices. To gain a deeper understanding of the ecological dimensions of TEK, ecologists and conservation biologists should conduct participatory long-term collaborative research on TEK. To conduct TEK research properly, however, ecologists need to familiarize themselves more deeply with the methodologies of social sciences, further develop their links with social scientists, and adopt new approaches, such as strengthening respect towards other knowledge systems and being inclusive in research and open to new types of validation.



Highlights

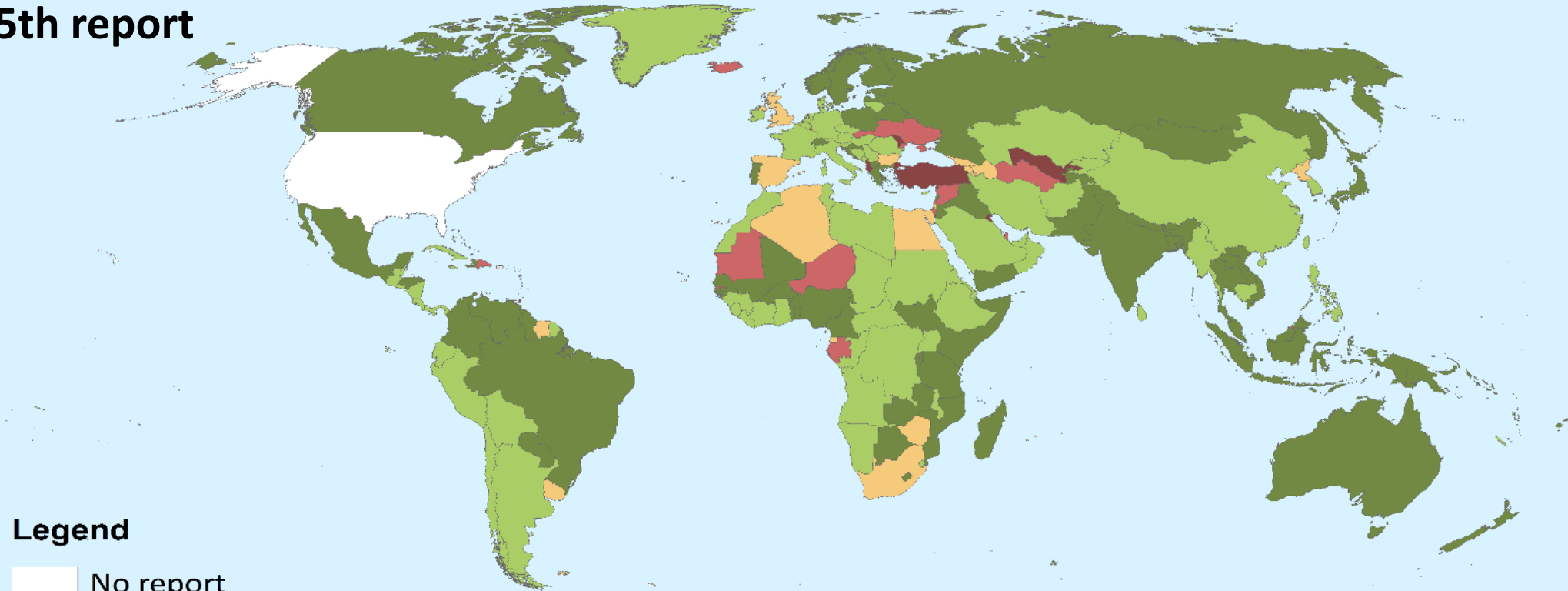
Ethnobiological and cultural anthropological literature shows that traditional communities living in close interaction with nature (Indigenous communities, traditional farmers, pastoralists, fishers) possess a deep ecological understanding of nature.

Conservationists increasingly acknowledge that traditional ecological knowledge (TEK) is vital for the conservation of biodiversity, especially in cultural landscapes where humans and nature have coevolved over millennia.

kawa¹⁸,
²¹,
Oteng Yeboah²⁴,
Perez²⁷,
fer Rubis³⁰,
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olicy Research, Kumamoto City, Japan
tion National Museums of Kenya, Nairobi, Kenya
reen Economy Development, Nepal
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nal de la Recherche Scientifique, MHNH, Paris, France
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States
te Fund, Incheon 22004, Republic of Korea
ns University Institute for the Advanced Study of
Tokyo, Japan
and Environmental Science, Minzu University of China,

Inclusion of traditional/indigenous knowledge of Indigenous Peoples and local communities in the Convention on Biological Diversity **country reports**

5th report

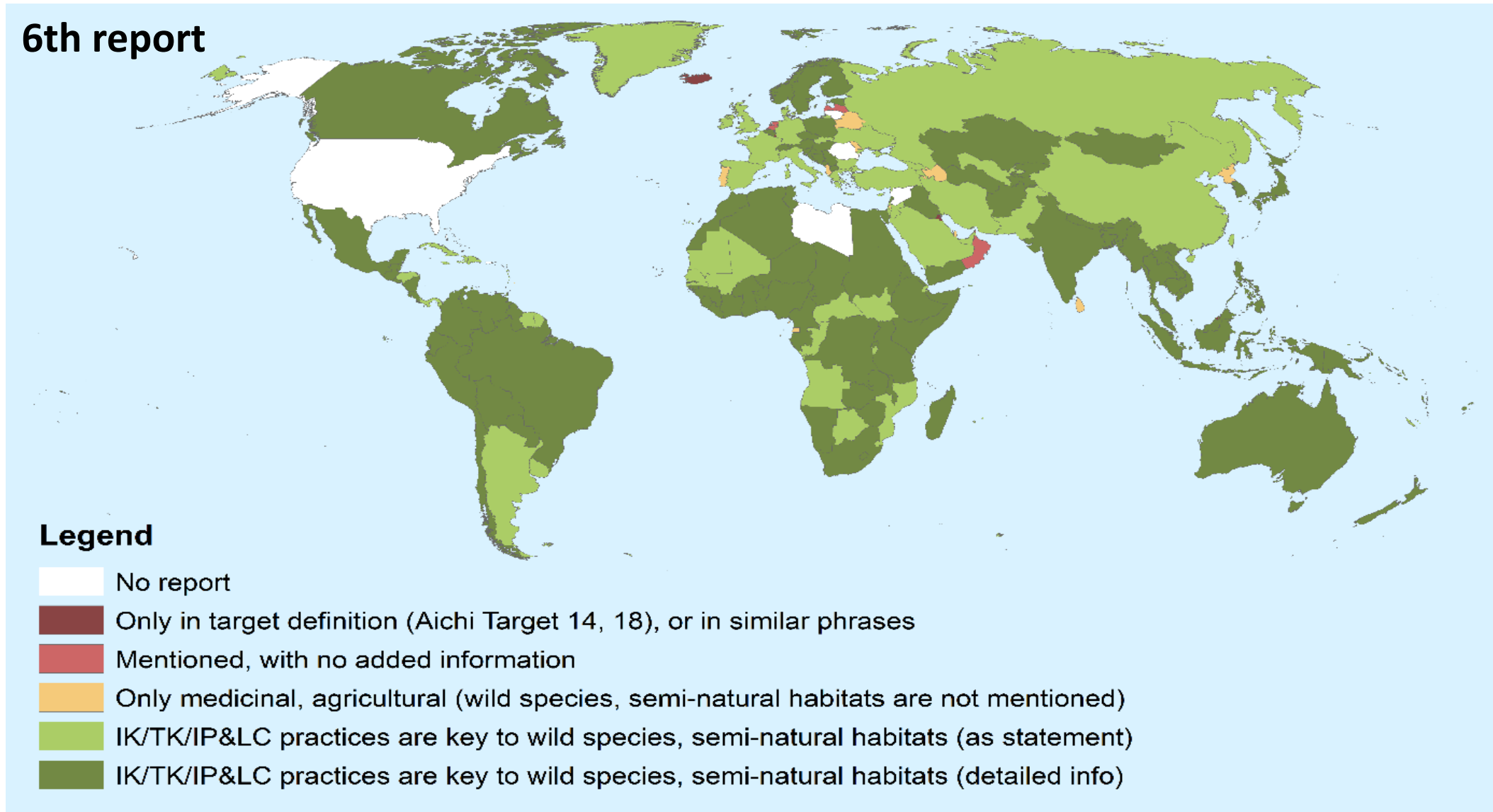


Legend

- No report
- Only in target definition (Aichi Target 14, 18), or in similar phrases
- Mentioned, with no added information
- Only medicinal, agricultural (wild species, semi-natural habitats are not mentioned)
- IK/TK/IP&LC practices are key to wild species, semi-natural habitats (as statement)
- IK/TK/IP&LC practices are key to wild species, semi-natural habitats (detailed info)

Inclusion of traditional/indigenous knowledge of Indigenous Peoples and local communities in the Convention on Biological Diversity **country reports**

6th report



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