

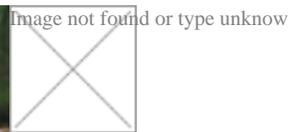
Food Systems of Indigenous People

Globally there is increasing acceptance of the need to develop new agri-food system models that can feed the more than 700 million hungry people in a sustainable manner. Transforming current agri-food systems towards sustainability implies that the current high levels of food waste are either eliminated or substantially reduced. At the same time, agri-food systems must be reinvented to put the environment at the centre and reduce the current environmental footprint that is resulting in rapid water loss, deforestation, soil erosion and destruction of habitats across the globe. Sustainable agri-food systems should expand the currently narrow food base upon which commercial food systems base their intensive production schemes. The expansion of the food base provides the unique opportunity to incorporate micronutrient-rich edibles that could improve the nutrition of millions. These are some of the reasons that have made some scientists, experts and policymakers look at Indigenous Peoples' food systems with new eyes this year, considering them as game-changing.

Marginalised, neglected, and non-understood for years, Indigenous Peoples' food systems today are some of the oldest agri-food systems that have been generating food for thousands of years while preserving biodiversity. Despite this, policymakers, researchers, and society usually see Indigenous Peoples' Food and Knowledge Systems as inferior (The Global-Hub on Indigenous Peoples' Food Systems, 2021). Meanwhile, dominant nutrition and food security approaches have been criticized for designing diets based on specific foods and failing to accommodate cultural preferences and utilize local resources (Damman et al., 2008). To illustrate, 20 crops contribute to 90% of the world's foods requirements and only three major crops, e.g., wheat, maize and rice contribute to 60% of our diets (Chivenge et al. 2015). In contrast to these intensive-commercial agri-food systems, jhum-fields managed by Indigenous Peoples under shifting cultivation in forest areas can contain over 250 different species (FAO, 2021b). This richness of biodiversity is linked to the cosmogony, and holistic worldview Indigenous Peoples hold.

Indigenous Peoples represent over 476 million people globally, living in 90 countries, and speaking over 4,000 languages (ILO, 2020). They live across diverse territories, from Arctic lands to mountains and plains, and generate food by combining fisheries, hunting, shifting cultivation, harvesting and gathering (FAO, 2020). Their territorial management practices, ancestral governance mechanisms, cosmogony, social fabric and culture are intrinsically related to the environments where they live. Their food and knowledge systems, developed in a dynamic way over hundreds of years of cumulative observation of nature, can provide food and nutritional security whilst restoring ecosystems and maintaining genetic diversity (FAO, 2021a). Evidence shows that linkages between healthy environments, biodiversity, and nutritious and diversified Indigenous Peoples' Food and Knowledge Systems can generate nutritious foods in a sustainable and resilient manner.

Kuhnlein, Erasmus & Spigelski (2009) points at a divergence in nutrition levels between Indigenous Peoples who can still rely primarily on their traditional bio-diverse food systems and those who are transitioning to market economies and refined foods to meet their nutritional needs. The former group is often marked by being healthier and well-nourished, while those in the latter group often find themselves suffering from malnutrition and other health problems.



Treasures from shifting cultivation in the Himalayan's evergreen forest: Jhum, fishing and gathering food system of the Khasi people in Meghalaya, India.

Credit: ©FAO/NESFAS

Understanding the contribution of Indigenous Peoples' food systems to nutrition requires describing their food systems. Because of their food systems' complexity, there is no standard definition, and instead, the FAO (2021b) has defined five pillars to characterise them.

First, they are linked to the cosmogony of Indigenous Peoples; they are multifunctional, holistic and biocentric. Indigenous Peoples are guardians to approximately 80% of global biodiversity (Garnett et al., 2018). Their natural environment generates food, medicines, shelter, energy and supports their culture, identity, social and spiritual lives. Thus, talking about nutrition and health is linked not only to an individual's health (physically, mentally, and spiritually) but also to the health of their environments that allows them to live.

Second, they have a complex understanding of their territory. Indigenous Peoples' Food Systems contain both food generation and production activities; they are low in carbon emissions and based on renewable energy and resources within their territory. They have adapted their living patterns and food practices through environmental knowledge and seasonality. In the Arctic, eating patterns are adjusted for little sunlight to increase intake of Vitamin D in winter; in the desert of Arizona, they harvest fruits of Saguaro to obtain energy in the driest season of the year.

Third, Indigenous Peoples' knowledge has been passed orally for generations regarding eating, medicine, housing, spirituality and more. This form of knowledge transmission does not correlate with what we call modern science. Indigenous Peoples' knowledge is dominantly registered and passed on through orality, therefore keeping their languages alive is crucial for maintaining valuable knowledge.

Fourth and fifth, Indigenous Peoples' governance systems and their value systems of balance and reciprocity are crucial to protect their ecosystems and resources and seek the common good. For example, the Nuxalk peoples in Canada use food sharing as a symbol of social status, showing that affection to the community is linked with the ability of an individual to share their harvested and gathered food (Kuhnlein et al., 2009).

Indigenous Peoples' food and knowledge systems have the potential to contribute, not only to nutrition and food security but also to building an equitable and sustainable planet. Despite being neglected mainly due to the lack of understanding of their complexity, Indigenous Peoples' food systems are now attracting more attention as true game-changers capable of informing the transformation of agri-food systems towards sustainability and resilience. This transformation can only occur by expanding the prevailing food base by incorporating nutritious foods currently discarded by commercially intensive agri-food systems. More intercultural processes of co-creation of evidence and dedicated applied research are necessary to increase the understanding of Indigenous Peoples' food and knowledge systems. Dedicated policies must be put in place to recognise and preserve Indigenous Peoples' food systems, a mission we are committed to within the Global-Hub on Indigenous Peoples' Food Systems and in FAO. In the aftermath of the United Nations Food Systems Summit in 2021, the creation of a new Coalition on Indigenous Peoples' food systems with countries and indigenous leaders offers the opportunity to co-design some of these policies.

Global-Hub on Indigenous Peoples' Food Systems, by

Yon Fernández-de-Larrinoa, Head, FAO Indigenous Peoples Unit

Tania Eulalia Martínez-Cruz, Indigenous Peoples' food systems and water expert, FAO Indigenous Peoples Unit and Global Hub on Indigenous Peoples' Food Systems

Ida Strømsø, Former Indigenous youth and food security specialist, FAO Indigenous Peoples Unit

Contact: indigenous-peoples@fao.org

References

Chivenge, Pauline, Tafadzwanashe Mabhaudhi, Albert T. Modi, and Paramu Mafongoya. 2015. "The Potential Role of Neglected and Underutilised Crop Species as Future Crops under Water Scarce Conditions in Sub-Saharan Africa." *International Journal of Environmental Research and Public Health* 12(6): 5685–5711.

Damman, S., Eide, W. B., & Kuhnlein, H. V. 2008. Indigenous peoples' nutrition transition in a right to food perspective. *Food Policy*, 33(2), 135-155.

The Global-Hub on Indigenous Peoples' Food Systems. Rethinking hierarchies of evidence for sustainable food systems. *Nat Food* 2, 843–845 2021. <https://doi.org/10.1038/s43016-021-00388-5>

FAO. 2020. *Indigenous Peoples and FAO: Allies for Sustainable Development in the Context of Climate Change*. Rome.

FAO. 2021a. *Indigenous Peoples and the Koronivia Joint Work on Agriculture*. FAO, Rome. URL <https://www.fao.org/3/cb6411en/cb6411en.pdf>

FAO. 2021b. The White/Wiphala Paper on Indigenous Peoples' food systems. Rome.

<https://www.fao.org/documents/card/en/c/cb4932en/>

Garnett, S.T., Burgess, N.D., Fa, J.E. et al. 2018. A spatial overview of the global importance of Indigenous lands for conservation. *Nat Sustain* 1, 369–374. <https://doi.org/10.1038/s41893-018-0100-6>

ILO. 2020. Implementing the ILO Indigenous and Tribal Peoples Convention No 169: toward an inclusive, sustainable and just future. International Labour Organization. Geneva, Switzerland. URL

https://www.ilo.org/global/publications/books/WCMS_735607/lang--en/index.htm

Kuhnlein, H., Erasmus, B., & Spigelski, D. 2009. Indigenous Peoples' Food Systems: the many dimensions of culture, diversity and environment for nutrition and health. Rome, FAO. (URL

<http://www.fao.org/3/i0370e/i0370e00.htm>)