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Discussion on the theme "Traditional knowledge: generation, transmission and protection"

Traditional knowledge: generation, transmission and protection

Note by the Secretariat

Summary

The present note provides a brief overview of the situation with regard to indigenous peoples and the promotion and preservation of their traditional knowledge and the challenges faced in the context of those efforts. It provides background information for the deliberations of the 2019 session of the Permanent Forum on Indigenous Issues, which will focus on the theme "Traditional knowledge: generation, transmission and protection". The present note contains a brief exploration of the various facets of indigenous knowledge, key intergovernmental actions and relevant international standards, as well as recommendations of the Permanent Forum on the theme.

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I. Introduction

1. The identities, practices, languages and cultures of indigenous peoples are embedded in their unique bodies of knowledge, developed over millennia.

2. Generating knowledge about indigenous peoples' lives and surroundings, refining and using that knowledge and passing it on to future generations has been practiced since the beginning of time. Societies develop their own knowledge systems in response to the specific characteristics of and challenges in their environments. Although Western systems of knowledge have dominated global scientific discourse since the eighteenth century, indigenous peoples have continued to maintain, use and develop their own bodies of knowledge.

3. There are various definitions of "traditional knowledge". The term is usually understood to refer to complex bodies and systems of knowledge, know-how, practices and representations maintained and developed by indigenous peoples around the world, drawing on a wealth of experience and interaction with the natural environment and transmitted orally from one generation to the next.[1] Traditional knowledge systems are based on values, beliefs, rituals and community laws and practices, as well as concepts and methods for land and ecosystem management. Some knowledge is of a highly sacred nature and therefore sensitive and not publicly available, even to members of the community or people concerned.

4. Traditional knowledge tends to be collectively owned, whether taking the form of stories, songs, beliefs, customary laws and artwork or scientific, agricultural, technical and ecological knowledge, as do the skills to implement those technologies and knowledge. Not only does traditional knowledge provide indigenous peoples with tremendous possibilities for daily life and sustainable and collective development, it also reflects their holistic worldviews, which are considered a significant source of cultural and biological diversity.[2]

5. Indigenous traditional knowledge is contained in indigenous languages, community practices, institutions and relationships and is a fundamental element of indigenous peoples' identities. Therefore, the transmission of traditional knowledge is a practical process of perpetuating and sharing knowledge, as well as a way of preserving their cultures and identities.

6. Traditional knowledge has often been undermined and destroyed by colonial and post-colonial States that have applied discriminatory ideologies when imposing their own systems of laws, knowledge and worldviews on indigenous peoples.

7. There is increasing recognition of the unique value of indigenous peoples' traditional knowledge and its potential to contribute to addressing some of the most significant challenges faced today, including achieving sustainable development, mitigating climate change, managing conservation areas and helping in the development of new technology and medicine, such as pharmaceuticals.

8. In addition, there is growing recognition of the rights of indigenous peoples to maintain, control, protect and develop their own traditional knowledge and of the duty of States to ensure that those rights are respected. The adoption by the General Assembly of the Declaration of the Rights of Indigenous Peoples (resolution 61/295, annex), which includes specific provisions, including in article 31 thereof, to protect indigenous peoples' rights to their traditional knowledge, was a significant milestone in that regard.

[1] *State of the World's Indigenous Peoples*, vol. I (United Nations publication, Sales No. 09.VI.13), p. 64.

[2] Ibid., pp. 64–65.

9. That recognition notwithstanding, indigenous peoples face threats and challenges in protecting their cultures and traditional knowledge. The growing appreciation of the value of traditional knowledge brings attention to the possible ramifications of the widespread use of indigenous traditional knowledge by non-indigenous actors. Increased extraction of natural resources required for the practice of some methods of traditional knowledge may have an impact on indigenous peoples who have always relied on the availability of those resources. Additionally, financial profits, such as those from the development and marketing of pharmaceutical drugs, health-care products and beauty products, may have political, social, economic and cultural impacts. For indigenous peoples, traditional knowledge is part of their collective heritage and is particularly vulnerable to misappropriation.

10. Since its establishment in 2000, the Permanent Forum on Indigenous Issues has made a number of recommendations to Member States, as well as to United Nations entities and other stakeholders, to address indigenous peoples' rights in relation to traditional knowledge. The eighteenth session of the Permanent Forum on Indigenous Issues will focus specifically on the issue, including on the generation, transmission and protection of traditional knowledge, and will provide an opportunity for indigenous peoples, Member States and other stakeholders to take stock of progress made, to analyse ongoing and emerging challenges, to highlight and promote good practices and to identify potential policy and programmatic recommendations on how to better protect and promote indigenous peoples' rights to maintain, control, protect and develop their traditional knowledge.

A. Indigenous languages

11. Languages are fundamental for the continuation and transmission of indigenous peoples' culture and knowledge systems. They are not only a tool for communication but also an expression of identity and a system of values and beliefs, as well as a storage space for wisdom, however, indigenous languages are disappearing at alarming rates. It is estimated that there are between 6,000 and 7,000 oral languages in the world, with only a few speakers remaining for some of them. Most indigenous languages are in danger of extinction in the coming decades.

12. Indigenous languages are under threat as a result of globalization, ongoing marginalization and assimilation strategies, dispossession and displacement from ancestral lands and territories and urbanization, all of which negatively impact the sense of identity and culture. Discrimination and social exclusion are also a significant threat to indigenous languages. The legacy of educational policies in colonized countries where indigenous children were forcibly removed from their families is well documented and has effectively alienated many indigenous children from their languages, cultures and identities. As stated by the Prime Minister of Canada, Justin Trudeau, the "Indian residential school system, one of the darkest chapters in Canadian history, has had a profoundly lasting and damaging impact on Indigenous culture, heritage, and language".[3]

13. The loss of indigenous languages signifies the loss of traditional knowledge as well as the loss of cultural diversity. Indigenous languages are treasures of vast traditional knowledge concerning ecological systems and processes and how to protect and use some of the most biologically diverse ecosystems in the world (see E/C.19/2008/3). In the same way, indigenous languages are not only means of

[3] Canada, Office of the Prime Minister, "Statement by Prime Minister on release of the Final Report of the Truth and Reconciliation Commission" (October 2015). Available at https://pm.gc.ca/eng/news/2015/12/15/statement-prime-minister-release-final-report-truth-and-reconciliation-commission.

communication, they have their own intrinsic value, including in cultural practice and ceremony, literature, music and other forms of artistic expression.

14. Acknowledging the threat to indigenous languages, in its resolution 71/178, the General Assembly proclaimed 2019 as the International Year of Indigenous Languages. To commemorate the International Year, there will be a range of events worldwide to celebrate the diversity of indigenous languages, draw attention to the critical situation of thousands of indigenous languages, support efforts for language revitalization and capacity-building and mobilize action to preserve, protect and revitalize indigenous languages.

B. Sustainable development and biological diversity

15. Indigenous peoples' territories are also the areas in which the majority of the world's genetic resources are found. Indigenous peoples have conserved, developed, managed and used those biological resources for millennia. Many traditional practices enhance and promote biological diversity and help to maintain healthy ecosystems, however, the contribution of indigenous peoples to conservation and biodiversity extends beyond their role as natural resource managers. With increasing evidence of climate change, indigenous peoples' traditional knowledge is gaining focus as a source of robust solutions to remedy ongoing species extinction and environmental harm. "Their knowledge, innovations and practices provide valuable information to the global community and can be useful for biodiversity policies. Furthermore, as on-site communities, with extensive knowledge of local environments, indigenous and local communities are most directly involved with conservation and sustainable use."[4]

16. Many indigenous peoples practice shifting cultivation, which involves clearing land (forests) for growing crops for a limited time and then moving on to new sites, allowing the soil and the forest to recover and regain its fertility. This practice has often been disparaged, referred to also as "slash and burn" or "rotational agriculture", and is in some cases restricted or prohibited on the grounds that it is unsustainable and leads to deforestation. However, recent scientific studies have confirmed what the indigenous peoples themselves have known for a long time, that shifting cultivation is sustainable, ecologically sound and intrinsically linked to the way of life and cultures of indigenous peoples. A key facilitating factor for maintaining sustainable livelihood and food security is the rich traditional knowledge of the natural environment and the land use and management practices that have been developed over generations and are well adapted to the environment.[5]

17. Traditional indigenous forest management is increasingly recognized as a valuable tool for reducing greenhouse gas emissions. It is estimated that 2 billion tons of greenhouse gases are released into the atmosphere every year from wildfires, and many wildfires have proven to be extremely difficult to control. In Australia, an indigenous peoples-government partnership for forest management that builds on indigenous traditional knowledge and may reduce emissions by as much as 50 per cent is practiced.[6]

[4] Convention on Biological Diversity, *Tkarihwaié:ri Code of Ethical Conduct to Ensure Respect for the Cultural and Intellectual Heritage of Indigenous and Local Communities Relevant to the Conservation and Sustainable Use of Biological Diversity* (Montreal, 2011), p. 1.

[5] Food and Agriculture Organization of the United Nations (FAO), International Work Group for Indigenous Affairs and Asia Indigenous Peoples Pact, *Shifting Cultivation, Livelihood and Food Security: New and Old Challenges for Indigenous Peoples in Asia* (Bangkok, 2015), p. 22.

[6] Sam Johnston, "Indigenous innovation could save a billion tonnes of greenhouse gases", The Conversation. Available at https://theconversation.com/indigenous-innovation-could-save-a-billion-tonnes-of-greenhouse-gases-57720.

18. At the international level, the Convention on Biological Diversity contains the clearest recognition of the links between traditional knowledge, sustainable customary use and the preservation and protection of biological diversity, setting out responsibilities of Parties, under article 8 (j), to respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge innovations and practices, and under article 10 (c), to protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements.

19. The efforts of the Working Group on Article 8 (j) and Related Provisions of the Convention on Biological Diversity, established in 1998 at the fourth meeting of the Conference of Parties to the Convention, has led to important advances in analysis and recognition. Most notable among them are the Akwé: Kon Voluntary Guidelines for the Conduct of Cultural, Environmental and Social Impact Assessment regarding Developments Proposed to Take Place on, or which are Likely to Impact on, Sacred Sites and on Lands and Waters Traditionally Occupied or Used by Indigenous and Local Communities.

20. The Working Group also developed the Tkarihwaié:ri Code of Ethical Conduct to Ensure Respect for the Cultural and Intellectual Heritage of Indigenous and Local Communities Relevant to the Conservation and Sustainable Use of Biological Diversity, as adopted by the Conference of the Parties to the Convention on Biological Diversity in its decision X/42, and the plan of action on the customary sustainable use of biological diversity, as endorsed by the Conference of the Parties in its decision XII/12. In 2010, the tenth meeting of the Conference of the Parties, in its decision X/2, adopted a revised and updated Strategic Plan for Biodiversity, which included the Aichi Biodiversity Targets for the 2011–2020 period. Of particular relevance to indigenous peoples is Aichi Target 18:

> By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

21. The Conference of Parties, in its decision XIII/18, adopted the Mo'otz Kuxtal Voluntary Guidelines, which are voluntary guidelines for the development of mechanisms, legislation or other appropriate initiatives to ensure the "prior and informed consent", "free, prior and informed consent" or "approval and involvement", depending on national circumstances, of indigenous peoples and local communities for accessing their knowledge, innovations and practices, for fair and equitable sharing of benefits arising from the use of their knowledge, innovations and practices relevant for the conservation and sustainable use of biological diversity, and for reporting and preventing unlawful appropriation of traditional knowledge. The Voluntary Guidelines should assist with the achievement of Aichi Target 18.

C. Climate change

22. Indigenous peoples, in particular those who live on small islands, in deserts or in the Arctic region, have been experiencing the effects of climate change for a number of years. The traditional knowledge of indigenous peoples offers valuable insights into the effects of climate change. As indicated by the Inter-Agency Support Group on Indigenous Issues, in depth, site-specific knowledge can be coupled with broader scientific data and forecasts to provide enhanced understanding of already-occurring changes and predicted impacts upon men and women on the frontlines of climate change. Traditional knowledge also greatly contributes to adaptation measures to enhance resilience and food security. The traditional knowledge of indigenous peoples can also support carbon mitigation efforts, such as the enhanced programme on reducing emissions from deforestation and forest degradation (REDD+), and other efforts to address climate change. For example, the Government of Australia has reported on its savanna fire management project, which combines traditional knowledge and practices with scientific approaches. The project undertakes emission reduction projects in northern Australia and has achieved over 1.5 million tons of emissions reductions, while supporting more than 300 jobs for Aboriginal and Torres Strait Islander peoples per year for over 10 years.[7]

23. In 2016, the twenty-third Conference of the Parties to the United Nations Framework Convention on Climate Change established the Local Communities and Indigenous Peoples Platform for the exchange of experiences and sharing of best practices on mitigation and adaptation, recognizing the need to strengthen the knowledge, technologies, practices and efforts of indigenous peoples in addressing climate change. It will promote the exchange of good practices, the development of capacity and the translation of traditional knowledge into specific policies and actions. Further operationalization of the platform will continue in 2019, including the establishment of a working group to facilitate the process and the development of a workplan for the implementation of the platform's functions.[8]

D. Education

24. Research has demonstrated that teaching children indigenous knowledge in traditional ways conserves the communities' cultures, reduces school drop-out rates, helps with disciplinary problems and leads to economic growth.[9] Indigenous education takes a holistic approach to ensuring that children can adapt and respond to the challenges and demands of the world today.

25. In western Canada, a community-based training programme for specialists in early childhood care and development has shown success. The generative curriculum model is a two-year training course from and for First Nations members that combines indigenous knowledge and practices with Western research and knowledge. The unique aspect of the model is that the curriculum and its outcomes are not predetermined but generated anew each time, thereby reflecting the community's particular needs and circumstances.

26. The programme, which has served members of 55 First Nations communities, has numerous benefits. It is driven and developed by the community concerned, thereby enabling it to take full control over the curriculum. The community is actively

[7] Australia, voluntary national review submitted in 2018 to the high-level political forum on sustainable development.

[8] Information retrieved from https://unfccc.int/10475#eq-1.

[9] Jørgen Klein "Indigenous knowledge and education: the case of the Nama people in Namibia", *Education as Change*, vol. 15, No. 1, (2011).

preserving indigenous knowledge, practices, culture and languages, while benefiting from the Western pool of research and science. Development conditions for First Nations children are also significantly improved, because they benefit from the increased number of individuals trained in childhood care. Those who are trained are subsequently able to be employed full-time as professional childhood care specialists in indigenous and non-indigenous environments.[10]

27. Numerous other multicultural and interdisciplinary projects that focus on a dual education and include indigenous, as well as European and Western, knowledge in curricula have been successfully implemented in Canada. Such courses may teach both perspectives of knowledge or use alternative or indigenous teaching methods.[11] The education system in Norway follows a similar approach and now offers several courses on Sami culture and provides education in the Sami language up to the doctoral level.[12]

E. Health care and medicine

28. Indigenous peoples worldwide have cultivated and maintained traditional knowledge about healthcare and medicine that is vital for the success of their local communities. Traditional healers play important roles in communities and are the first point of contact for many, including those that often do not find a remedy for their ailment in Western medicine. They are also first responders to emergencies in their communities. Traditional healers and health-care providers often rely on natural resources to cure common health problems using their traditional knowledge and skills. Indigenous peoples' healing practices often follow a holistic approach, which includes physical, social, emotional and spiritual dimensions, to tailor remedies to the specific circumstances.

29. Millions of indigenous peoples live in remote and isolated areas. This poses a serious challenge in terms of access to and the provision of adequate health care by the national services, and, as a result, indigenous peoples frequently receive poorer quality health care and have little or no access to health-care services. In many situations, traditional indigenous health-care providers fill this gap and can provide health care that is localized and culturally appropriate.

30. Even in places where access to public health services is provided to indigenous communities, traditional indigenous health-care providers may be the preferred providers and are critical for those communities that are hesitant to avail themselves of public services, due to language and location issues. Indigenous midwives are often the health-care providers of choice in many communities, due to their knowledge, skills, experience and ability to work in the local indigenous language. In its report on the seventeenth session, the Permanent Forum on Indigenous Issues recommended acknowledging the cultural and clinical knowledge of traditional indigenous midwives and their contributions to the well-being and positive health outcomes of indigenous peoples (E/2018/43-E/C.19/2018/11, paras. 49–51).

31. Although indigenous traditional health care has not been given due recognition, and is frequently denigrated and vilified, there is increasing recognition of such practices in some countries, including Australia, of aboriginal health workers,

[10] Nuffic, and the United Nations Educational, Scientific and Cultural Organization (UNESCO), *Best Practices using Indigenous Knowledge* (The Hague, 2002), p 198. Available at www.ecdip.org/docs/pdf/bestpractices.pdf.

[11] *State of the World's Indigenous Peoples*, vol. III (United Nations publication, Sales No. E.17.IV.3), p. 152–154.

[12] *State of the World's Indigenous Peoples*, vol. III.

Canada, of aboriginal healing practices, and Ecuador and the Philippines, of the practice of traditional medicine.

32. From a practical perspective, it is especially important to recognize that health needs must be addressed within peoples' social and cultural context and that health services should integrate respect for cultural traditions and be provided in the local and/or indigenous language, while also incorporating elements of Western medicine. Such an approach is sometimes referred to as intercultural health-care. The Jambi Huasi (Health House) in Otavalo, Ecuador, provides such services in the Quechua language, and traditional healers there rely on thousands of native plants for medicinal purposes.[13]

33. In Suriname, shamans provide their communities with health care and medicine as needed. Shamans hold precious knowledge about healing practices and the medicinal plants growing in their local environment. However, many shamans are not able to transfer their knowledge to younger generations before they die, thereby putting all their traditional wisdom at risk. To counter such issues, a clinic for shamans and apprentices was established in Kwamalasamutu in 2000, where shamans provide medical training to younger novices. Their instruction includes how to identify the correct plants to use for various health-care concerns and how to apply them.

34. The clinic is managed solely by community members and collaborates with a government-run clinic that provides primary health care. There are plans for increased cooperation between the shamans' and apprentices' clinic and the government clinic and for creating a garden for medicinal plants. The clinic has been a great success for all participants and has been accepted and used by the communities. The project has demonstrated that the combination of traditional medical knowledge with Western scientific knowledge has increased the overall quality of health care in the community. Plans are under way to extend initiatives and programmes such as this one to other remote areas in the interior of Suriname.[14]

35. Traditional medical practices have contributed greatly to the development of new pharmaceuticals. Indigenous peoples' knowledge about the effects of plants and herbs has been studied by generations of scientists and has led to significant discoveries and inventions. Unfortunately, few communities have benefited from the wealth that the pharmaceutical industry has amassed through its use of traditional knowledge and genetic resources. The ongoing negotiations under the auspices of the World Intellectual Property Organization (WIPO) on an international legal instrument to ensure the protection of traditional knowledge, traditional cultural expressions and genetic resources reflect the need to address this problem and to protect indigenous traditional knowledge and cultural expressions from misuse and misappropriation.

F. Food sovereignty and traditional livelihoods

36. The Food and Agriculture Organization of the United Nations (FAO) defines food security as a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. On the basis of that definition, four food security dimensions can be identified: food availability, economic and physical access to food, food utilization and the stability of the other three dimensions over time.[15]

[13] United Nations Population Fund, "Working with indigenous communities in Ecuador" (26 January 2006). Available at www.unfpa.org/news/working-indigenous-communities-ecuador.

[14] *Best Practices using Indigenous Knowledge*, p 180.

[15] FAO, *The State of Food Security and Nutrition in the World 2017: Building resilience for peace*

37. For indigenous peoples, there is an additional dimension, namely, recognition of their right to self-determination, including their rights to their lands, resources and territories. Taking a holistic approach to promoting traditional livelihoods that are also sustainable in today's world of increasing social and economic pressures remains a challenge.

38. Traditionally, indigenous peoples have subsisted through small-scale practices such as agriculture and farming, rotational farming or shifting cultivation, pastoralism, fishing, hunting, trapping and gathering, contributing greatly to global food production. Such traditional practices have also ensured that indigenous peoples have a well-balanced diet based on their traditional resources, knowledge and skills.

39. Indigenous peoples' livelihoods have often been denigrated and dismissed as "backwards" or "wasteful." Pastoralism and nomadism are often portrayed as antiquated practices that contribute little to the economy. However, mobile agriculture is a necessary adaptation to life in arid lands, where sedentary agriculture may not be feasible. Pastoralism contributes not only to the food security and food sovereignty of the pastoralists, but also to the national economies where they live. Pastoralism provides 80 per cent of the total annual milks supply in Ethiopia and 90 per cent of the meat consumed in East Africa.[16]

40. Another practice that is frequently misunderstood and often condemned is shifting cultivation, which is practised by an estimated 14 to 34 million people across South and Southeast Asia, many of whom are indigenous or from ethnic minority groups. Shifting cultivation, which is sometimes referred to by the pejorative term "slash and burn agriculture", involves the removal of natural vegetation by cutting and burning and alternation between cultivation and fallow and the shifting of fields.[17] Arguments that portray shifting cultivation as inefficient or ecologically harmful have been proven inaccurate or wrong. Numerous studies have shown that shifting cultivation is an ideal solution for agriculture in the humid tropics. This agricultural system is ecologically sound and meets a variety of human needs with great efficiency, in particular with regard to labour and agricultural inputs.[18]

41. A study of indigenous communities in Bolivia, China and Kenya has shown that, over the centuries, the communities have maintained different varieties of crops. When the impacts from climate change began affecting their yields, they were able to switch to more wind-, pest- and drought-resistant varieties. By maintaining a collection of varieties and trading their seeds with other communities, they avoided both the high costs of buying new varieties from the market and, more recently, the use of toxic chemicals.[19]

42. In Benin, the production of non-conventional food resources, such as snails and mushrooms, is being promoted, given that it contributes significantly to food stocks for the local population. Using Western science and practices, the production of those

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and food security (Rome), p. 107.

[16] IRIN, "Pastoralism's economic contributions are significant but overlooked" (16 May 2013). Available at www.irinnews.org/report/98052/pastoralism%E2%80%99s-economic-contributions-are-significant-overlooked.

[17] Christian Erni, "Introduction" in *Shifting cultivation, livelihood and food security: new and old challenges for indigenous peoples in Asia*. (Bangkok, FAO, International Work Group for Indigenous Affairs and Asia Indigenous Peoples Pact, 2015).

[18] Linda Christianty, "Shifting cultivation and tropical soils: patterns, problems and possible improvements" in Gerald G. Marten, *Traditional Agriculture in Southeast Asia: A Human Ecology Perspective*. (Boulder, Colorado, Westview Press, 1986).

[19] D.J. Nakashima, K. Galloway McLean, H.D. Thulstrup, A. Ramos Castillo and J.T. Rubis, *Weathering Uncertainty: Traditional Knowledge for Climate Change Assessment and Adaptation*. (Paris, UNESCO, and Darwin, United Nations University, 2012), p. 43.

resources has been made more efficient and now provides a source of income to community members, and women in particular.[20]

43. In Senegal, the moringa tree has been used by indigenous peoples for centuries. It is highly valued for its healthy fruits and seeds, which contain many vitamins. A project initiated by Church World Service combined traditional practices with European-Western knowledge. It found that, through the traditional way of preparing the tree's leaves, many of the nutrients are lost. However, by drying the leaves and then crushing them into a powder, most nutrients were preserved. This practice was taught to community health workers and soon became a widespread common practice, resulting in reduced rates of malnutrition among children and infants.[21]

44. In Mexico, governments and scientists benefit from the monitoring of data and the maintenance efforts provided by community members. Scientists have collaborated with community leaders from the Comcaac, a hunter and gatherer community living in the Gulf of California. The Comcaac's traditional knowledge about vegetation and wildlife in their ancestral lands was of great value to the research projects, leading to co-authored publications on biodiversity.[22]

45. In its 2018 voluntary national review, undertaken as part of the implementation process of the 2030 Agenda for Sustainable Development, Australia reported an agreement with Aboriginal and Torres Strait Islanders regarding their traditional knowledge about spinifex, a nanofiber, which has traditionally been used by indigenous peoples in Australia, and is now being commercialized, thereby providing a basis for new enterprises for indigenous communities in remote areas in Australia.

II. International standards concerning indigenous peoples' traditional knowledge

46. Indigenous peoples' traditional knowledge is recognized in a number of international standards. The United Nations Declaration on the Rights of Indigenous Peoples includes a specific article on traditional knowledge, which reads as follows:

> 1. Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts. They also have the right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions.
>
> 2. In conjunction with indigenous peoples, States shall take effective measures to recognize and protect the exercise of these rights.

47. Article XXVIII of the American Declaration on the Rights of Indigenous Peoples contains specific protections of intellectual property, and reads as follows:

> 1. Indigenous peoples have the right to full recognition and respect for the ownership, dominion, possession, control, development, and protection of their

[20] *Best Practices using Indigenous Knowledge*, p. 84.

[21] Ibid., p. 104.

[22] Benjamin T. Wilder, Carolyn O'Meara, Laurie Monti and Gary Paul Nabhan, "The importance of indigenous knowledge in curbing the loss of language and biodiversity", *BioScience*, vol. 66, No. 6 (1 June 2016), pp. 499–509.

tangible and intangible cultural heritage and intellectual property, including its collective nature, transmitted over millennia from generation to generation.

2. The collective intellectual property of indigenous peoples includes, inter alia, traditional knowledge and traditional cultural expressions, including traditional knowledge associated with genetic resources, ancestral designs and procedures, cultural, artistic, spiritual, technological, and scientific expressions, tangible and intangible cultural heritage, as well as knowledge and developments of their own related to biodiversity and the utility and qualities of seeds, medicinal plants, flora, and fauna.

3. States, with the full and effective participation of indigenous peoples, shall adopt measures necessary to ensure that national and international agreements and regimes provide recognition and adequate protection for the cultural heritage of indigenous peoples and intellectual property associated with that heritage. In adopting such measures, consultations shall be held to obtain the free, prior and informed consent of indigenous peoples.

48. The right of indigenous peoples to protect and enjoy their traditional knowledge is further recognized in the following international instruments:

(a) Article 27 of the Universal Declaration of Human Rights;

(b) Article 15 (1) (c) of the International Covenant on Economic, Social and Cultural Rights;

(c) Article 27 of the International Covenant on Civil and Political Rights;

(d) Article 8 (j) of the Convention on Biological Diversity;

(e) International Treaty on Plant Genetic Resources for Food and Agriculture;

(f) Articles 13, 15 and 23 of the Indigenous and Tribal Peoples Convention, 1989 (No. 169) of the International Labour Organization Convention;

(g) Berne Convention for the Protection of Literary and Artistic Works, as amended in 1979;

(h) Agreement on Trade-Related Aspects of Intellectual Property Rights;

(i) Article 3 of the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa;

(j) Paragraph 12 (d) of the Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests;

(k) Paragraph 26.1 of Agenda 21;

(l) Traditional medicine strategy, 2002–2005, of the World Health Organization (WHO);

(m) Principle 22 of the Rio Declaration on Environment and Development.

A. Working Group on Article 8 (j) and Related Provisions of the Convention on Biological Diversity

49. In 2009, the Working Group on Article 8 (j) elaborated a Code of Ethical Conduct on Respect for the Cultural and Intellectual Heritage of Indigenous and Local Communities (see para. 20 above) and guidelines were developed, following a recommendation of the Permanent Forum at its second session (E/2003/43, para. 57).

The Working Group also developed the Akwé: Kon Voluntary Guidelines (see. para. 19 above), which, along with the Tkarihwaié:ri code of ethical conduct, has been endorsed by the Conference of the Parties to the Convention on Biological Diversity.

B. Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore

50. The Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore of WIPO has, since 2000, undertaken negotiations on the drafting of an international legal instrument to ensure the protection of traditional knowledge, traditional cultural expressions and genetic resources. Negotiations are ongoing and are held yearly at WIPO headquarters and attended by indigenous peoples' representatives as observers, as well as members of the Permanent Forum on Indigenous Issues.

III. Permanent Forum on Indigenous Issues

51. The Permanent Forum on Indigenous Issues has, from the outset of its work, has paid special attention to the issue of traditional knowledge. The Forum continuously stresses the value and potential of traditional knowledge and urges States to recognize and protect it.

52. Relevant recommendations of the Permanent Forum have included calls for:

(a) States to develop laws and policies to ensure the recognition, continued vitality and protection from misappropriation of indigenous traditional knowledge (E/2017/43-E/C.19/2017/11, para. 36);

(b) The Inter-Agency and Expert Support Group on Sustainable Development Goal Indicators to engage with indigenous peoples in developing key indicators relating to their traditional knowledge (E/2015/43-E/C.19/2015/10, para. 11);

(c) UNESCO, the United Nations Development Programme, the secretariat of the Convention on Biological Diversity and WIPO to work closely with indigenous peoples to develop an instrument to protect traditional knowledge and culture-based economic opportunities and activities as a potential way of strengthening the identities of indigenous peoples in order to contribute to gross domestic product growth, environmental protection and mutual appreciation of cultures (E/2013/43-E/C.19/2013/25, para. 25);

(d) WIPO and its member States to take practical steps to ensure that the inappropriate and unauthorized documentation and publication of traditional knowledge and traditional cultural expressions/folklore does not occur, and to reinforce the capacity of indigenous peoples and local communities to make informed decisions in their own interests concerning whether and how documentation should be issued, including through the development of practical toolkits and guides which should have this as their aim (E/2004/43-E/C.19/2004/22, para. 36);

(e) Establish an international ethical code on bioprospecting in order to avoid biopiracy, and a mechanism for the repatriation and devolution of genetic materials collections to indigenous peoples (E/2003/43-E/C.19/2003/22, para. 57).

53. Members of the Permanent Forum have conducted several studies relating to traditional knowledge, including the following:

(a) Study on the treatment of traditional knowledge in the framework of the United Nations Declaration on the Rights of Indigenous Peoples and the post-2015 development agenda, by María Eugenia Choque Quispe (E/C.19/2015/4);

(b) Study to examine challenges in the African region to protecting traditional knowledge, genetic resources and folklore, by Paul Kanyinke Sena (E/C.19/2014/2);

(c) Study on resilience, traditional knowledge, and capacity-building for pastoralist communities in Africa, by Paul Kanyinke Sena (E/C.19/2013/5).

(d) Study on how the knowledge, history and contemporary social circumstances of indigenous peoples are embedded in the curricula of education systems, by Myrna Cunningham and Álvaro Pop (E/C.19/2013/17).

IV. Questions for consideration

54. In view of the information set out in the present note regarding traditional knowledge and its generation, transmission and protection, the Permanent Forum may wish to frame its discussion of the issue around the following guiding questions:

1. How can the rights of indigenous peoples to maintain, control, protect and develop their traditional knowledge be promoted and protected?

   (a) What processes and arrangements should be utilized to ensure that indigenous peoples enjoy their right to their traditional knowledge, as enshrined in the United Nations Declaration on the Rights of Indigenous Peoples?

   (b) What is the relationship between the right to self-determination and the generation, transmission and protection of traditional knowledge?

2. What political, social, and economic mechanisms can foster the long-term preservation of traditional knowledge?

   (a) What is the role of the State?

   (b) What is the role of indigenous governance institutions?

   (c) What role can the United Nations system play in this regard?

3. How can traditional knowledge be protected from use and appropriation in a culturally appropriate manner?

4. What safeguards will ensure that indigenous people can continue to exercise and enjoy the cultural, social and economic practices of traditional resources?