**The contribution of indigenous peoples and local communities**

**to the implementation of the Strategic Plan for Biodiversity 2011-2020:**

**The relevance of local integrated management systems and the cross-cutting nature of Target 18**

*DRAFT publication*

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1. **Introduction**

The fourth edition of the Global Biodiversity Outlook (GBO4) provides a general updated picture of the progress towards the 20 Aichi Biodiversity Targets. This complementary publication presents a cross-section of indigenous peoples and local communities’ contributions to the objectives of the Convention and the implementation of the Strategic Plan in various respects.

GBO4 (advance draft) contains a section about the interactions between the Aichi Targets and uses a matrix to explain and indicate how each target impacts on, or is impacted by, other targets[[1]](#footnote-1). To complement this section of the GBO, this report specifically addresses the contribution of Target 18 to various other key targets and, maybe more importantly, how strongly Traditional Knowledge (TK) and Customary Sustainable Use (CSU) are or can be impacted (negatively or positively) by other targets which relate to the environments of the knowledge holders and practitioners.

The publication explains about the integrated management systems of indigenous peoples and local communities (IPLCs), which contribute to many Aichi targets that aspire to achieve sustainable use and conservation of ecosystems and species, and mitigate climate change effects. It also shares examples of their own initiatives and advances at the local and sometimes national level to enhance implementation of CBD targets and decisions. The publication also focuses on IPLC’s active engagement in the development and testing of indicators relevant for biodiversity and well-being, as well as to the monitoring of the 2015/2020 targets. The information is drawn from the many community-based case studies and stories, as well as other sources , including reports, research publications, articles and videos. Each of the sections contains relevant references and recommendations for further reading or viewing.

The key message of the report is that the role of IPLCs in the CBD goes much beyond Target 18 on traditional knowledge, and that rather indigenous knowledge and customary practices are a centrally important and cross-cutting theme that can potentially have a major impact in terms of implementation of (nearly) all of the 20 targets.

The report also provides observations and concerns on relevant key conclusions from GBO4, and shares recommendations about what needs to happen to move towards achievement of the various targets.

It is designed together with an online publication/reference site that will continue to be updated and expanded to track progress beyond the Strategic Plan mid-term review. A ‘library’ of relevant material will be kept here with tags of relevant targets, as well as the most important issues addressed by the materials.[will be after COP12]

1. **Integrated natural resource management systems of indigenous peoples and local communities: effective for ecosystems and livelihoods**

**What are integrated management systems and how are they linked to the CBD ecosystem approach?**

The ecosystem approach, one of the CBD’s guiding principles, is defined as ‘a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way’ and recognizes that ‘humans, with their cultural diversity, are an integral component of many ecosystems’. [[2]](#footnote-2) The ecosystem approach takes as its starting point the fact that an ecosystem is one entity. Recognising that in an ecosystem all living and non-living parts are connected, interacting and interdependent, it looks not just at certain species or at a part of the ecosystem, but instead approaches it as one functional unit. Crucially this includes the people who live within it depending on the ecosystem for their survival and for their livelihoods. The ecosystem approach does not focus merely on conservation, but instead places human needs at the centre of biodiversity management. By doing so it makes a strong link between the livelihoods of people and better management of the Earth’s ecosystems.

This interpretation is extremely close to the cosmology and way of life of many indigenous peoples and local communities across the planet.[[3]](#footnote-3) They have been practicing holistic, integrated management systems for hundreds or thousands of years. For many indigenous peoples and local communities this approach is simple logic. The management systems are based on the understanding and respect for the fact that all parts of the natural environment need the other parts and that a balance must be maintained between conservation and exploitation. The ecosystem is their source of living and sustainable use is key to the sustainability of their communities. Our evolving but still inadequate knowledge of complex and dynamic ecosystems[[4]](#footnote-4) means that the traditional knowledge and adaptive management of indigenous peoples and local communities is vital. Research (backed up by case studies in the CBD online sourcebook[[5]](#footnote-5)) proves that *the “clearest applications of the ecosystem approach occur at the local level, where communities can participate more directly”[[6]](#footnote-6) .* This is not surprising, given indigenous peoples’ knowledge and experience of the complex functions of ecosystems.

Box:

IFAD released an analysis of 1095 proposals for solutions to rural poverty that were submitted to them by indigenous peoples and their organisations. Most of these proposals had a holistic perspective, with a strong focus on sustainability, and many of the proposed activities included integrated approaches.[[7]](#footnote-7) Add some examples.

**What is the evidence that integrated management systems of indigenous peoples and local communities are effective and successful?**

While this report does not assert that indigenous peoples and local communities management systems are universally successful (all of them and everywhere in the world) and that are not facing problems and challenges and are sometimes under pressures and changes (they are: see further below in this section), an increasing number of independent studies and research reports have pointed at the exceptionally high rates of biodiversity in areas that have historically been inhabited and managed by indigenous peoples. In various regions in the world researchers (both from communities as well as external researchers) have documented overlap between biodiversity ‘hotspots’ and indigenous territories. CIFOR for instance has done research that demonstrated that ‘the worlds’ best-kept forest and ecosystems tend to be in indigenous peoples’ territories’.[[8]](#footnote-8)

Box: Claudia Sobrevila, The Role of Indigenous Peoples in Biodiversity Conservation (2008).

2008 senior Biodiversity Specialist Claudia Sobrevila developed a paper for the World Bank to inform them about what they needed to know in order to engage Indigenous Peoples (IPs) more effectively in biodiversity conservation projects and programs. In this report she presents figures and data to demonstrate that many areas inhabited by Indigenous Peoples coincide with some of the world’s remaining major concentrations of biodiversity.

“Traditional indigenous territories encompass up to 22 percent of the world’s land surface and they coincide with areas that hold 80 percent of the planet’s biodiversity (WRI 2005). Also, the greatest diversity of indigenous groups coincides with the world’s largest tropical forest wilderness areas in the Americas (including Amazon), Africa, and Asia, and 11 percent of world forest lands are legally owned by Indigenous Peoples and communities (White et al. 2004). Recent efforts to map centers of biodiversity in the Brazilian Amazon reveal a high degree of overlap between indigenous territories and areas of exceptionally high biodiversity. This correlation is also notable in montane areas rich in biodiversity, such as the Andes and Himalayas. Even in biomes less rich in biodiversity, such as the boreal forests of the Northern Hemisphere, the most pristine habitats tend to be occupied by native populations. This convergence of biodiversity-significant areas with indigenous territories presents an enormous opportunity to expand biodiversity conservation efforts beyond national parks and reserves”.[[9]](#footnote-9)

Sobrevila presents maps from researchers from the Brazilian Institute for the Environment and Renewable Natural Resources and the World Wildlife Fund overlaid indigenous territories onto a map showing forest cover. The result reveals a strong correlation between indigenous presence and the protection of natural ecosystems. A similar map of the indigenous territories, forests, and marine resources of Central America and southern Mexico was produced showing the same results.

Box: Victor M. Toledo, INDIGENOUS PEOPLES AND BIODIVERSITY (2007).

Victor M. Toledo of the Institute of Ecology National University of Mexico (UNAM), writes in his chapter on indigenous peoples and biodiversity:

Indigenous peoples control, legally or not, immense areas of natural resources. Among the most remarkable examples are the cases of the Inuit people (formerly known as Eskimo) who govern a region covering one fifth of the territory of Canada (222 million hectares), the indigenous communities of Papua New Guinea whose lands represent 97 % of the national territory, and the tribes of Australia with nearly 90 million hectares (Figure 1). Although numbering only above 250,000, the indians of Brazil possess an area of over 100 million hectares, mainly in the Amazon basin, distributed in 565 territories (Figure 2 and Table V). Nearly 60% of the priority areas on central and southern Mexico recommended for protection are also inhabited by indigenous peoples (Figure 3), and half of the 30,000 rural communities are distributed in the ten most biologically rich states of the Mexican territory. In summary, on the global scale it is estimated that the total area under indigenous control probably reach between 12 and 20 percent of the earth's land surface.

The best example of notable overlaps between indigenous peoples and biological rich areas is the case of tropical humid forests, In fact, there is a clear correspondence between areas of remaining tropical forests and the presence of indigenous peoples in Latin America, the Congo Basin in Africa, and several countries of tropical Asia such as Philippines, Indonesia and New Guinea, The strong presence of indigenous peoples in Brazil, Indonesia and Zaire alone, which accounts for the 60 per cent of all the tropical forest of the world, is remarkable.

In Latin America, this geographical relationship has been strikingly verified for the Central American countries by a National Geographic Society map produced by a project headed by Mac Chapin in 1992. The same pattern can be found in the tropical humid areas of Mexico inhabited by 1.6 million of indigenous people, and for many regions of the Amazonia basin (see the case of Brazil in Figure 2). It has been estimated that in Amazonia above 1 million indigenous people of eight countries posses over 135 million hectares of tropical forests (Davis & Wall, 1994). Many temperate forests of the world also overlap with indigenous territories as for example in India (see Figure 4), Mynamar, Nepal, Guatemala, the Andean countries (Ecuador, Peru and Bolivia) and Canada. On the other hand, over two million of islanders of the South Pacific, most of whom are indigenous peoples, continue fishing and harvesting marine resources in high biodiversity areas (as coral reefs).[[10]](#footnote-10)

**Why are integrated management systems important to the achievement of Aichi targets?**

The Aichi targets are not designed in isolation of each other. GBO4 (advance draft) acknowledges that the Aichi Targets are deeply inter-connected. While the report goes target by target, it makes efforts to indicate cross-fertilization between proposed actions to enhance progress of the various targets. “Coordinated actions that maximize the positive interactions amongst targets can potentially reduce the overall costs of implementation of a NBSAP and optimize its implementation and execution time”.[[11]](#footnote-11)

Community-based initiatives can provide inspiring examples of doing so. Looking at examples of integrated management processes, it is sometimes nearly impossible to single out the various elements and allocate them to a specific target – or sometimes even a specific strategic goal. The integrated management strategies don’t distinguish consciously between them.

Below are two examples of integrated management initiatives that contribute to multiple targets:

Case study: Holistic land use management and monitoring systems of the Ngati Hine people, Aotearoa-New Zealand

The Ngati Hine people of Aotearoa-New Zealand, headed by the Maori community-based organization Nga Tirairaka o Ngati Hine are facing environmental problems affecting the territory which include intensive farming with chemicals, deforestation, change in land use from hunting and gardening to agriculture and exotic forestry. To address the problems, they decided to establish a monitoring framework to keep track on the status of their territory. The monitoring framework is not based on ecosystems, but on realms of gods and goddesses that relate to biodiversity, like: water; earth, soil, minerals; cultivated foods; forest trees, plants, birds; ocean water, marine fish; coastal tidal zone, shellfish; and berries, mushrooms, edible plants. In the monitoring systems, all species are considered to be equally important and depending on one another – so all species are recorded and monitored. A monthly programme is run- the Ngati Hine moon calendar provides a timeframe for recording each realm. Local guardians monitor their assigned areas at least once a month, testing the calendar and adding to it. They record data, monitor and control invasive species and coordinate enhancement work (e.g. riparian planting of clearing obstructions for longfin eels - a significant species for the Ngati Hine who help them to swim past the waterfalls during their migrations). Ngati Hine put together databases on species of significance, focussing on those that are no longer sustainable for customary use as medicine or food. E.g. the vulnerable kiwi – the Ngati Hine work to control pests and plants that are poisonous to kiwi and ensure it has enough food. Youth are actively involved and monitoring activities are used as a ways to transfer and apply TK of biodiversity. Information is uploaded into a database and further actions are discussed in joint meetings. The government recognizes the quality and importance of the work by this community. They provide financial assistance for research on species of national importance.

This community work potentially links to and contributes to multiple Aichi targets, including (but not limited to) 5, 6, 7, 12, 13, 14 and 18.

Case study: Conservation of areas with special value for biodiversity, traditional food production, and spiritual wellbeing, Guna Yala, Panama

In Guna Yala, Panama, an indigenous Guna community is strengthening its territorial governance system focusing on traditional crops, sacred sites and conservation of biodiversity. 2013 the Guna community at Usdub decided to set up indigenous conservation areas in Maniyala and Yandub. Maniyala is important for biodiversity conservation and a spiritual sacred site, and Yandub is a site of historical-cultural importance. After holding a workshop with 150 community members on the importance of conservation of Maniyala, the Usdub community developed a draft internal standard or law to protect and respect the different sites of cultural and ecological importance to Usdub. A digital map of Maniyala was produced and one of Yandub is planned next year. The community is working to protect the sacred site, research and document historical-cultural information, and transmit this traditional knowledge to younger generations. The community also intends to promote traditional food production of cacao and bananas, which have special ritual and cultural value for the Guna people.

This example shows how integrated initiatives address several elements of the Strategic Plan:

including (but not limited to) Aichi targets: 10,11, 13, 14,18.

**Challenges and ways forward**

While GBO4 suggests coordinated action, it does not widely promote the integrated (or ecosystem/landscape) approach. Moreover, the last in-depth review of the application of the ecosystem approach (2007) pointed out that only 12% of the Parties effectively applied the principles and guidance of the ecosystem approach. Despite the solid guidance, the main barriers to effective application were ineffective stakeholder participation, failure to use existing knowledge and lack of capacity for decentralized and integrated management.[[12]](#footnote-12)

Increased focus on and enhanced application of the ecosystem approach (EA) could expedite progress towards the Aichi targets at different levels. Equally importantly, it is of interest to indigenous peoples and their knowledge systems – and to the achievement of Target 18 - that Parties and other actors start understanding and applying the EA operational guidelines and principles better. [[13]](#footnote-13)

The EA principles need to be translated into practice to an effective level. Practical information such as case studies and existing initiatives to hook onto are widely available. In addition the on-line sourcebook includes tools, methods and approaches relating to public participation, including community-based methods (e.g. community-based forest management), methods for stakeholder consultation, and local community approaches.

Advancing towards the biodiversity targets for 2015/2020 through integrated/ecosystem approaches could be achieved by, inter alia:

* providing more direct support to the initiatives and integrated management systems of IPLCs (such as examples above) , and/or greater efforts for co-operation on local-level biodiversity management.
* openness to work with different knowledge systems both for biodiversity management as well as planning and monitoring. Supporting integrated management can raise challenges in terms of monitoring and reporting, and in terms of disaggregating local-level advances to achievement of the national and global targets. Section 5 discusses how community-based monitoring can help to address these challenges.
* developing new partnerships and decentralised and bottom-up approaches.

Moreover, attention needs to be given to the conditions and supporting environments for indigenous integrated management systems to continue to thrive – this is related to the impacts of other targets on Target 18 in the GBO4 matrix. IPLCs’ understanding and knowledge about the functions of the world’s complex and dynamic ecosystems and their guidance on adaptive management, is vital, but many such systems are under pressure or even threat both from issues related to the changing global economy and society as well as related to degradation or other pressures on the territories in which the systems are practiced. These will be discussed more in-depth in the section below, but one central issue in this respect is secure tenure rights – both land and marine – which **must be at the centre of the ecosystem approach. [[14]](#footnote-14)**

Relevant further reading and viewing list (to be developed and/or added to online tool)

1. **Specific elements of Target 18: IPLC management systems and traditional knowledge and the interactions with other Aichi Targets** 
   1. **Customary sustainable use**

Examples of customary sustainable use include hunting, fishing, farming (including shifting cultivation), and gathering non‑timber forest products including for medicine, housing, fishing nets, crafts and various tools and utensils. Many indigenous territories – at least parts of them - are collectively owned, managed and regulated. Spiritual beliefs and cosmological views often guides interaction with nature. Customary laws continue to guide customary sustainable use. These includes principles such as: don’t take more than you need and can carry (don’t waste and treat everything respectfully); ensure the resource can recover (these rules apply equally to flora and fauna); do not hunt pregnant or young animals; avoid sacred and taboo sites or species; use rituals and customs when interacting with natural resources (seeking guidance and permission); take into account internal controls – including the views of elders and traditional institutions.[[15]](#footnote-15)

Detailed documentation by a network of IPLC organisations[[16]](#footnote-16) describe how customary practices and laws relate to specific Aichi targets, including:

* Sustainable fishing (target 6). Many IPs have strong customary knowledge and laws for sustainable fishing (regarding methods such as damming, poisoning, regarding the size of meshes in nets, the importance of taking seasons into account) and responsible use of fishing grounds. In Suriname research described how river banks are protected because fruits of trees on those banks are eaten by the fish (ref suriname 10c study).
* Sustainable agriculture/forestry (target 7). Traditional hunting methods and harvesting of forest products such as honey are sustainable and contribute to a healthy balance in ecosystems. Age-old farming techniques like rotational agriculture (also called shifting cultivation or swidden farming) are effectively adapted to ecosystem’s functions and contribute to sustainable forest management (see case study below).
* Ecosystem services (Target 14): hunting, fishing and gathering and traditional agriculture are important sources of subsistence for many communities and contribute to health (dietary intake) and well-being through medicine and spiritual/cultural values.

**Case study:****Sustainable Community Based Forest Management in Northern Thailand (video, AIPP 2014)**

The video “Community Based Forest Management: Local Solutions to Global Challenges”, produced by theAsia Indigenous Peoples Pact (AIPP) and the International Work Group for Indigenous Affairs (IWGIA), in collaboration with Indigenous Peoples’ Foundation for Education and Environment (IPF), expounds on the importance of community based forest management to the conservation of forest areas (including for absorbing CO2/green house gasses that cause global warming), as well as to IP’s themselves in terms of their livelihoods, food security; and spiritual and cultural values.

One example that is highlighted is the land use system of Lua (La-weu) indigenous peoples in northern Thailand, the village of La-oop. The community practices its traditional land use system based on TK and customary law. They have conservation forests in different categories with different rules and agreements ranging from sacred forest (only rituals can be performed here), to forests where they will not cut trees but only gather NTFPs – for timber and food. – This community also applies the sustainable practice of shifting cultivation; a highly sophisticated agro-forestry system that underlines the people’s deep connection with nature. This is practiced in nine areas (not suitable for rice paddy farming), and each area is used for 1 year. The main crop is rice but many other plants are grown in the fields as well. The areas are decided on in community meetings. Land is cleared and dried for two months, then burned, but first fire break lines are made near the fire protection forests to prevent spreading. When cutting the trees, the community members leave the stumps (60-100 cm) and after harvesting, trees will sprout from these stumps again. This allows forest to regenerate quickly. Land is left fallow at least nine years. A local leader explains: ”if you farm like this, the soil will remain healthy, and the rice is good”. [[17]](#footnote-17)

* 1. **Climate change mitigation and adaptation**

Target 18 (through customary practices and TK) can contribute to climate mitigation (carbon sequestration) and contain lessons for adaptation. This is widely acknowledged and documented by climate experts and researchers.

Box: Gleb Raygorodetsky, “Why Traditional Knowledge Holds the Key to Climate Change”

A recent UNU publication by Gleb Raygorodetsky (adjunct Research Fellow with the Traditional Knowledge Initiative of the UNU Institute of Advanced Studies and a Research Affiliate with the POLIS Project on Ecological Governance at the Centre for Global Studies, University of Victoria) focused on the role of TK in climate change issues:

With collective knowledge of the land, sky and sea, indigenous peoples are excellent observers and interpreters of change in the environment. The ensuing community-based and collectively-held knowledge offers valuable insights, complementing scientific data with chronological and landscape-specific precision and detail that is critical for verifying climate models and evaluating climate change scenarios developed by scientists at much broader spatial and temporal scale. Moreover, indigenous knowledge provides a crucial foundation for community-based adaptation and mitigation actions that sustain resilience of social-ecological systems at the interconnected local, regional and global scales.[[18]](#footnote-18)

In particular there are strong linkages to:

* Target 10 (minimize pressures on vulnerable ecosystems): Indigenous peoples living in vulnerable ecosystems and impacted by climate change are extremely innovative in developing sustainable adaptation strategies (see case below) and/or prevention of degradation of such systems through strict customary laws. Their knowledge can help to address climate change impacts in such areas and restore them.
* Target 15 (enhance contribution of biodiversity to carbon stocks). Following up on the evidence that IP areas – in particular forests - are well conserved, they play a key role in climate change mitigation and adaptation.

Box: interview Regan Suzuki of RECOFTC

In the video “Community Based Forest Management: Local Solutions to Global Challenges” (AIPP 2014)) Regan Suzuki of RECOFTC, among others citing reports and research from CIFOR : “We know from emerging evidence that community forestry one of the most effective management regimes for carbon sequestration”.[[19]](#footnote-19)

Case study:Monitoring of carbon storage through rotational farming, Thailand

The Indigenous Knowledge and Peoples network (IKAP), a regional network of Indigenous communities throughout Mainland Montane Southeast Asia which has as its primary goal to **protect,** **promote** and **enhance** the practice of Indigenous knowledge, carried out research in three areas in Chiang Mai province where rotational farming is practiced. Community monitoring of the farming areas showed that rotational farming stores more carbon than it omits. The net carbon storage from fallow fields, covering 236 ha, left to recover for up to 10 years, accounts for 17,348 tons C, while CO2 emissions from the burning of fields amounts to only 480 tons C. [[20]](#footnote-20)

Case study: Sundarbans mangrove silvi aquaculture : example of adaptation strategy based on TK (to be developed)

* 1. **Conservation**

There are numerous examples of effective, sometimes innovative, conservation initiatives by indigenous peoples and local communities. Holistic approaches (see section 2) can contain various conservation focuses, such as

* a particular area or species that is assessed to be in need of extra care, or of adjusted customary use because abundance is lowering

a particular area or species which has high importance to the entire ecosystem (such as springs/wells – Thailand – look up details): see also the case from La-oop village in northern Thailand, from the video “Community Based Forest Management: Local Solutions to Global Challenges”, that explains the customary classification of forest areas: conservation forests and sacred forest (only rituals allowed here), to forests that can be used by the community and anything in the middle (e.g. cutting trees isn’t permitted but gathering NTFPs is).

* a particular area or species which has specific cultural value, like sacred areas or animals (sea turtles and dolphins, sacred trees in Suriname), burial sites, or taboo areas.
* Sometimes customary rules restrict temporary/seasonal access to certain areas, for instance in times of reproduction. [[21]](#footnote-21)

An example of a conservation-dimension in an integrated management and development initiative is below:

Case study: proposed Wapichan conserved forests in Guyana

In 2012 the Wapichan people from Guyana published an integral plan for sustainable community-based use and development of their ancestral territory, titled “Thinking Together for Those Coming Behind Us”, supplemented by a detailed and digital territorial map. The plan includes more than one hundred inter-community agreements on sustainable land use and care for their lands, forests, savannahs, wetlands and mountains and promote self-determined development in Wapichan communities, including proposals to establish an extensive Wapichan Conserved Forest over old-growth rainforest in the eastern part of their territory.[[22]](#footnote-22)

Their plan contains a section on important places.

On sensitive sites:

All of Wapichan wiizi is populated by spirit beings and so all of our traditional lands and resources are sacred to us Wapichannao. We believe strongly that we must respect spirits, including the grandfather spirits of the animals, birds and fishes. Some areas with tapiki (spirit masters), including powerful beings such as Aro Dokozu, Bakuru Dokozu, Kodoidin, Baudokorudin, Namachidin, Sazakdin, Ora Piro, Onorii, Uwadun, Udun, Kadorara and Udoro, should not be disturbed. We know these places are shokorodin ba'o (sensitive areas) and we treat many as akaa kikiizai (no-go zones). They are found in the forest, savannah, mountains, bush islands and creeks. Proper respect for these spirits and their homes is essential for the wellbeing of our communities and the health and abundance of our games and fishes. Lack of respect can cause a person to shokordan amazada (offend the spirits in a place).

On cultural heritage sites:

Our ancestors have left behind many valuable places and things that teach us of our past. In the forest, mountains, bush mouth and savannah we find stone axes, arrow heads, beads, pottery and burial grounds in the places where our ancestors lived and carried out ceremonies. Some places like Shizizi Paawaz have caves with pots and human remains. Several sites also have kubu zuidu karwai (rock carvings) and paintings dating back centuries and even thousands of years (e.g. at Maoka taawa). These sites are spiritually sensitive and link us to the history of our peoples and territory. Our forefathers also left behind kotu’ainao zakapun k’i (Nature Farms) that we highly value for their ancient seeds, root suckers and bina, which we harvest carefully up until today for use in our farms and gardens. These sites make up part of the rich history of our country and some are proposed for recognition as national monuments.

On wildlife sites:

Our Wapichan wiizi is home to many different animals, reptiles, plants, insects, birds, fishes and other water creatures. Some add delicacy to our damorudu (pepper pot). Others that we do not eat, like wildflowers, butterflies and small colourful birds, beautify our mountains, forests and savannahs. We value certain flowers, birds and insects in our traditional knowledge system as signs of the health of our lands and the environment. We use the activities of wildlife through the year as markers in our Wapichan seasonal calendar (see back cover). Wildlife also plays a big part in our stories and legends and we believe that a long time ago animals and birds were like people. Many species that are internationally rare or endangered are abundant in certain places in our Wapichan wiizi, such as the kitanaaru (jaguar), saaro (giant river otter), wichaa waru (bush dog), crested eagle, kawanaru (cock-of-the-rock), udaru’o kokoi (harpy eagle) and dyuwudan uzu (red siskin). Given the richness of our birdlife, including species that are not found anywhere else, part of our territory in the west falls within an Important Bird Area. Our villages and communities are resolved to protect this important wildlife on our traditional lands.[[23]](#footnote-23)

In the CBD, Indigenous Peoples’ and Local Community Conserved Territories and Areas (ICCA’s) have gained increasing acknowledgement and attention, also due to the efforts of the ICCA consortium.[[24]](#footnote-24) The consortium estimates that the global coverage of ICCAs is about 13% of the terrestrial surface of the planet and that 400-800 million hectares of forest are owned/administered by communities around the globe. In a recent publication, to be launched at COP12, the consortium documents the contribution of ICCA’s to each of the Aichi Targets, illustrated by many local examples from all other the world.[[25]](#footnote-25) Such conservation areas or sites obviously contribute to the implementation of target 11, either as protected areas, or as ‘other effective area-based conservation measures’.

Community-based initiatives or measures to protect specific elements of ecosystems also contribute to other Aichi targets, such as:

* Reduce habitat loss or degradation, including forests (target 5). Customary management systems (some of which may include targeted conservation actions, whereas others may not) in many places lead to successful protection of forests and other valuable habitats. Two peer-reviewed studies published recently show that strict conservation is less effective in reducing deforestation than community forests that are managed and controlled by Indigenous Peoples and forest-dependent communities within multiple use systems (e.g. IUCN categories V and VI).

Box: recent studies on community-managed forest and deforestation rates

One study, [by Porter-Bolland et al. from CIFOR](http://www.cifor.org/mediamultimedia/newsroom/press-releases/press-releases-detail-view/article/238/deforestation-much-higher-in-protected-areas-than-forests-run-by-local-communities.html" \t "_blank), is a statistical analysis of annual deforestation rates as reported in 73 case studies conducted in the tropics. They find that deforestation is significantly lower in community-managed forests than in strict protected forests. The other [study on forest loss undertaken by the World Bank Independent Evaluation Group](http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0022722" \t "_blank) (authored by Nelson and Chomitz) finds that some community-managed forests are located in areas with higher deforestation pressures than strict protected areas. Taking this into account, they find that community-managed forests are much more effective in reducing deforestation than strict protected areas. Where there is data, they find that forest areas managed and controlled by Indigenous Peoples are even more effective.[[26]](#footnote-26)

* + Sustain threatened species (Target 12): community conservation initiatives or sites contribute to the protection of **critical ecosystems and threatened species. Some of these species overlap with species that are considered ‘sacred’ by indigenous peoples.**  (example: red Siskin Birds Guyana – look up details)
  + Target 9: controlling invasive species – There are community who are actively monitoring and controlling invasive species in their territories: see the Hgati Hine case (Aotearoa/New Zealand) on page 4-5.
  + Target 14: safeguard ecosystems that provide essential ecosystem services: collective community actions to conserve key areas and resources in their territories help to maintain essential ecosystem functions (e.g. water security in the example from Thailand above).

Community-based monitoring plays an important role in this, as regular monitoring of the status and health of key species and areas contributes to early signalling of changes of problems/ threats and tackling these. Again, deep knowledge of ecosystems and the interactions in it (target 18) lay the basis for this type of action-based research. More on community-based monitoring in section 5.

* 1. **Sustainable production, consumption, genetic diversity of cultivated pants and domesticated animals**

Many indigenous peoples and local communities rely on their natural resources for their livelihoods. Their knowledge and practices (including traditional occupations) concerning food production is relevant for many other Targets.

For instance target 4: this target should not only be about plans for sustainable production and consumption generated by business and government, but also about the initiatives and roles of indigenous and local communities and the value of customary sustainable use.

One example is the importance of (traditional) livestock keepers to biodiversity and food security. A case study by the FAO (2009) describes how pastoralists and smallholder farmers have developed an array of strategies for the sustainable use of [these] marginal areas, including sophisticated herd movements and grazing strategies. Their livestock represent a means of extracting value from land that is not suitable for cropping, and generating food without competing for cereals. This not only contributes to food security in marginal areas but also provides products and services to wider society”.[[27]](#footnote-27)

The outline plan for the care of Wapichan territory in Guyana (2012) (see case above) also includes a section on ‘development in Wapichan Wiizi’, where agreements to promote sustainable food security and livelihoods are listed, such as

* Keeping a mixture of farming, ranching, hunting, fishing and gathering, and rearing beef, dairy cows and livestock
* Encouraging exchanges of traditional crop varieties (cuttings and seeds) among Wapichan farmers and between Wapichan villages. [[28]](#footnote-28)

Projects to protect and strengthen shifting cultivation (see cases above) are other examples. More case studies / relevant material: quote 1 or 2 from IFAD review report

Box: **Indigenous Terra Madre -** local food producers

In 2011 the first **Indigenous Terra Madre** meeting was held in Sweden in 2011,bringing together local food producers to exchange ideas on protecting sustainable local food systems and food sovereignty in accordance with cultural practices, spiritual values. The meeting resulted in the Jokkmokk agreement. See <http://tkbulletin.wordpress.com/2011/06/29/this-week-in-review-%E2%80%A6-indigenous-terra-madre-concludes/> to read more and download the agreement.

Traditional knowledge and occupations are also extremely relevant to target 13: genetic diversity of plants/animals. In Suriname, indigenous women hold knowledge and seeds of an enormous variation in cassava types, some of which got lost during the civil war when people had to flee in a rush, leaving their stocks behind (Sur. 10c report, 41-42 ). The Wapichan people from Guyana gather 140 different wild foods, including fruits, nuts, and fungi. Detailed knowledge of the location of fruit-bearing palms and trees is passed down from generation to generation. The Wapichan territory also contains over 250 useful materials that are used for constructing houses, boats and a wide range of traditional Wapichan craft items, food processing utensils and household tools. (10c report Guyana, page?)

The FAO paper on livestock keepers also writes about pastoralists and smallholder farmers’ contributions to genetic diversity of farmed and domesticated animals: **“**Social and cultural factors, together with deliberate breeding decisions and management by livestock keeping communities, have been crucial to the creation of breeds”.[[29]](#footnote-29)

1. **Impact of other Aichi targets on Target 18**

In this section we aim to address the other function of the matrix that GBO4 presents: how traditional knowledge and customary sustainable use of biodiversity are, or can be, influenced and impacted by other targets; both positively as well as adversely. This is a crucial matter, because the above section demonstrated the important role that target 18 can play in the progress of many elements of the strategic plan, and if TK and CSU were to be lost, discouraged, threatened or otherwise degraded this can have negative consequence for all the elements of the SP.

To begin with the first target, target 1 on awareness raising: indigenous peoples often experience a lack of awareness or understanding about their practices, which are sometimes interpreted incorrectly and denoted as ‘harmful’. One example is the experience of shifting cultivators in Thailand:

Case study: The FAO Regional Office in Asia and the Pacific (FAO-RAP) and the Asia Indigenous People Pact (AIPP) set up a project ‘Regional Support to Indigenous Peoples for Livelihood and Food Security’. Under this project, seven case studies were conducted in 2014 in Bangladesh, Cambodia, India, Indonesia, Laos, Nepal and Thailand on the livelihood and food security among indigenous shifting cultivation communities in South and Southeast Asia. In August 2014, the findings of the case studies were presented and discussed in a multi-stakeholders consultation in Chiang Mai, Thailand and the main findings and recommendations were summarized in a briefing paper.[[30]](#footnote-30)

A main finding is that “shifting cultivation is probably one of the most misunderstood and thus controversial forms of land use. What has been overstressed is the “ slash and burn” component, and the cultivation and fallow period are not fully acknowledged as good practices for biodiversity enhancement, food security and sustainable livelihoods for millions of indigenous peoples. Indigenous shifting cultivators are still widely neglected, criminalized and discriminated by policies and programmes of governments in most countries, and their land and resource rights are not recognized and protected. Likewise, rapid socio-economic and demographic  changes  are now taking place in indigenous territories, which are impacting on the practice of shifting cultivation, as well as to the food security and livelihoods of indigenous peoples”.

Community-based organisations and networks are addressing this by developing and sharing videos, setting up websites, publications, organising events and using social media to share information about their initiatives and views.

**Case:** CEPA working group of the IIFB: indigenous portal (further develop)

The lack of understanding, just valuation, and prioritization of TK – for instance in developing knowledge/sciences bases on biodiversity (Target 19) or by effectively including TK and TK holders’ views in NBSAPs, national monitoring and reporting (target 17) can itself have a degrading effect on these knowledge systems. Indigenous networks and organisations are addressing this by increasingly flagging and promoting community-based monitoring and requesting ‘science’ to be replaced by ‘knowledge’ in biodiversity assessment platforms like IPBES. Section 5 explores these matters more in-depth.

Because of the intrinsic linkages between indigenous peoples’ knowledge, practices, and their territories, the impacts of Target 18 on targets under Strategic Goal B as described above (target 5, 6, 7, 8, 9) also hold true the other way around.

If their lands and resources (areas for agriculture, fishing, aquaculture, gathering forest- and other products) are overexploited, used unsustainably, polluted, degraded, or destroyed, TK and customary practices pertaining to and practiced in, those areas or related to those species, are in danger as well. At the same time, progress on these targets can have positive effects on the relevant TK and CSU – if their rights are recognized and benefit-sharing mechanisms are respected.

While like in any other community, internal problems may exist and breaking of customary rules may happen, usually the threats to indigenous territories come from the outside. Under target 3 is it very important to realise that incentives harmful for biodiversity also damage IP knowledge systems. Moreover, the target should understand that negative incentives for IP management can have negative impacts on sustainability and local conservation. Similarly, positive incentives for biodiversity can include targeted support for indigenous management systems.

For example, traditional languages are an essential element of both traditional knowledge and customary use, as local ecological concepts cannot not be captured and explained in other languages.

Indigenous and local communities have elaborated complex classification systems for the natural world, reflecting a profound understanding of their local environment. This environmental knowledge is embedded in indigenous names, oral traditions and taxonomies, and can be lost when a community shifts to another language.[[31]](#footnote-31) The CBD acknowledges this fundamental linkage and adopted [trends of linguistic diversity and numbers of speakers of indigenous languages](http://www.cbd.int/sp/indicators/factsheets/?id=88) as a proxy indicator for status and trends in traditional knowledge[[32]](#footnote-32). Enforced foreign languages and education that is not culture-sensitive could thus be harmful to traditional knowledge and customary use and as such to the health of biodiversity systems which are used and managed by indigenous peoples.

**Case study:** Incentives to livestock keepers to either abandon or maintain their important traditional breed/livestock keeping

The research done by FAO on livestock keepers found thatnegative incentives (i.e. leading to abandonment of the practice) include changing market demands (..) and pressure to adopt improved breeds and standardized production and breeding systems, loss of grazing grounds and access to water, animal health regulations and changing lifestyles. An important motivation and positive incentive for pastoralists and smallholder farmers is having secure access to grazing and water. Other means to encourage and enable livestock keepers to continue raising their breeds can be access to appropriate animal health and extension services, as well as to markets, payment for agro-ecosystem services and favourable policies[[33]](#footnote-33)

As the above case study already indicates, there is a crucial link between secure land and resource rights and customary use and traditional knowledge. Access and control of territories are vital prerequisites for customary sustainable use. Traditional knowledge continues to be transmitted to younger generations, and to be practised through “learning by doing” on traditional territories; this is why access to traditional territories is crucial.[[34]](#footnote-34) Moreover, TK (including rituals and customary laws) frequently relates to specific areas which cannot simply be copied elsewhere in case this area is no longer accessible.

Another indicator under Target 18 captures this relationship between traditional knowledge, customary sustainable use and land-use change and land tenure (‘trend in land-use change and land tenure in the traditional territories of indigenous and local communities’). The CBS understands that for example changes in land use from indigenous forests to agriculture imply decreasing opportunity to practice traditional knowledge and customary sustainable use, including traditional occupations.[[35]](#footnote-35)

The latest report of Rights and Resources Initiative (RRI), prepared with Tebtebba, called ‘[Recognizing Indigenous and Community Land Rights: Priority Steps to Advance Development and Mitigate Climate Change](http://r20.rs6.net/tn.jsp?f=001NcppWr6DhqTRZXy8c6oqGTlxB8dD-SmFsCsqjfOa3sALS0a-jDWB3366yLmPb3op5wdZCl6-m_SLfMACqyCPR7JiaqTCqWAv0spGigkRap8eQEM7jsNAyiKUfmYC0kNHrHmCPJPAujLHBc3IDd1DOHCcr9YuwQXoEXJPwKto96AhmYJGG8XPGTY_xHlwqcFq5p3m6Xt0G4ZxH-3ec-pxxlB1fXKsA_IaWV42xj1pzT47ZWqcaOh97bL5zkVYjkFnVb4yd4XrAeImtNjy22pKbdUSpcUZFGFpELGglphVqDcRaEIFphRURWs2m0TjZ_Y__9jXjReGBRjaBO3OfeBf9B8ofwExEpaYmPpOYxfOT__BDU6lyKI89KltMVwKYqpoBUAvWJg52wD004gcg_CJn6dbdJDFWJKT2QsuKUSaYUyA4TFuuM5bFWj2Z21OOX__VUDKwYRsH9eAyyKT0hfvNRc16wLdTHpDdRIDPDsk7Xc=&c=0IU5ZpRcnrL72EEbYr8FoTXroYTvfMkXihxV3L6Il_gJ3VvOIHRdOA==&ch=pjuLkRGcJaAR-pFvF3CXeuizcGHeXQsfUeUQUl58i4vx_8yyeg-v8g==" \t "_blank)’, demonstrates how recognizing community land rights is a cost-effective way to address a host of social, environmental, and development challenges, and calculates the cost of mapping, demarcating, and titling Indigenous Peoples' and communities' rights to the tropical forests where they live, noting that secure land tenure is a prerequisite for the success of any climate, poverty reduction, and ecosystem conservation initiative.[[36]](#footnote-36)

Many indigenous peoples however face a lack of tenure security and recognition of their rights.

Case study: land tenure problems

In the highlands of Northern Thailand, the lack of title to agricultural and residential lands is one of the main problems affecting indigenous tribes and is causing insecurity in resource management. This is a result of Thai laws that have placed certain areas under the direct administration of government agencies, such as the laws concerning National Reserve Forests, National Parks, Cabinet resolutions and the Land Act. These laws have created obstacles for highland communities seeking to claim their rights. The Forest Act of 1941, for instance, defined as ‘forest’ any land to which no individual has laid legal claim (even if the land in question was not actually forested). Since the highland areas where tribal people live had not been surveyed and no title deeds had been issued, they were now considered forest and State property. Although a number of articles of the 1997 Thai Constitution do provide legal protection for communities to participate in the use and conservation of natural resources, and support indigenous peoples’ access to natural resources and biodiversity, the main challenge is to achieve the implementation of these positive constitutional provisions. Only during the past year have new pilot projects and cabinet resolutions started to to explore the concept of collective land titling.

In Suriname, Indigenous peoples’ right to collectively own, control and manage resources is not recognised by law. The indigenous territories are legally classified as ‘State lands’, so in formal terms, the state owns, governs and manages all lands and territories. In some villages (individual) titles have been issued to outsiders, allowing city dwellers to own the best properties along the river, thereby reducing access to the river for community members to moor boats, fish, bathe or wash clothes.

Lack of secure land and resource rights is also a major and long-standing livelihood issue affecting Wapichan communities in Guyana. Over half of the Wapichan’s major and minor settlements and a large part of their customary farmlands, hunting, fishing, and gathering grounds lack the protection of legal land title. The mapping and management planning (see above) have partly been done to extend the land titles.

The traditional resource users of the Sundarbans (Bangladesh) have no resource rights inside the forest. They rely on seasonal permits to harvest and collect resources and are literally at the mercy of Forest Department officials, money lenders and influential people in order to obtain permits and means to enter the forest.[[37]](#footnote-37)

The lack of secure land and resource rights can lead to decreased motivation to continue sustainable practices, and undermine or even make it impossible to maintain sustainable practices. But it can also disempower communities to halt unsustainable or destructive initiatives like mining or logging, illegal poaching, etcetera.

Even protected areas (target 11) have been and are still established without the involvement and consent of local communities, which restrict access and use of traditional areas and therefore threaten customary use and TK pertaining to those areas.

For instance analysis of the maps created by Baka communities in Cameroon shows the close relationship between the Baka people and the forest and its resources in what is now the Dja Biosphere Reserve and its importance for their livelihoods. But the Forestry Law has imposed restrictions on most Baka activities both in and around the Reserve. The recently established Boumba-Bek and Nki National Parks (2005) similarly overlap the traditional territories of Baka hunter-gatherers in south-east Cameroon and Baka researchers also documented denied access to, and use of, their ancestral territories, impacting on their livelihoods and subsistence, health (decreased access to medicinal plants), and culture and knowledge[[38]](#footnote-38). [check facts/updates]

Relating to governance and rights issues, Aichi Target 11 aims for “equitably managed” systems of protected areas and “other effective area-based conservation measures”. But the ‘equitable’ element is not specifically measured in GBO4 (advance draft). The chapter on target 11, including the ‘dashboard’, pays some attention to (measuring) management effectiveness, but not management ‘equitability’.

A recent report by the UNEP-WCMC on Tracking progress towards global targets for protected areas (2012), found that the information about those aspects of protected areas are still very limited. “The global protected area network has diversified in terms of its governance approaches, with increasing involvement of different actors. However, limited information is available on the extent of other area-based conservation measures, and the equity of protected area governance and management. Measuring progress towards other relevant elements of Target 11 and 18 remains difficult, however, as no globally accepted indicators exist to assess the equity of protected area governance and management, and the degree to which traditional knowledge is incorporated”.[[39]](#footnote-39)

Community-based case studies and documentation however do still record problems relating to lack of respect for tenure rights and customary institutions. In Guyana, Wapichan people were surprised to learn about the proposed Kanukus Mountains Projected Area (KMPA) in which they had not been involved, despite the fact that half the park overlaps Wapichan territory. They have now formed a group to insist on involvement in the development of the management plan [check facts/updates]

But there are also examples where collaboration between governments, conservation bodies and indigenous communities lead to the increased awareness and acknowledgement of indigenous management and conservation and to the strengthening and increased application of traditional knowledge in protected area strategies.

Case study: Ob Luang joint management (Thailand)

In Ob Luang National Park, Northern Thailand, indigenous communities and park authorities are engaged in a process to achieve a more equitable management of the park (a key component of Target 11), which evolved from a situation of conflict to one of enhanced trust, dialogue and collaboration. The park, established in 1991, overlapped with the ancestral lands of neighbouring indigenous communities. While Thailand’s 2007 constitution allows indigenous peoples and local communities to manage their natural resources, they are still not legally allowed to live in protected areas. Being restricted in using their customary farming areas in the park caused conflicting situations between officials and community members.

To address the tensions and concerns, a pilot project for joint management in Ob Luang National Park was set up in 2005 followed by a voluntary open-ended co-management process after 2009. This involved land demarcation of farmland; surveys of conflicting areas; discussions about problems encountered by the villagers; and collaborative monitoring of actual land use practices by indigenous peoples. These activities were intended to find solutions and increase mutual understanding and trust between villagers and officials. Indigenous peoples were also admitted to meetings of park’s management committees and informed and consulted on the work plans.

The joint management approach has clearly had visible positive effects, such as reduced tensions between the government and communities, increased protection of forests and watersheds, and improved livelihood security for indigenous peoples and local communities. Based on the positive experiences in Ob Luang, there is interest among the National Park authorities and communities to expand the joint management approach to other protected areas in Thailand and allow communities to live legally in the parks. At a community restitution workshop on 6 February 2012, participants unanimously agreed that the current laws have to be revised so that Thailand can legally implement all aspects of Target 11.

( Mt. Elgon?)

An important step forwards is that the first phase of the new plan of action on customary use (to be adopted at COP12) includes a priority task to identify best practices related to promote their participation and FPCI in the establishment, expansion, governance and management of protected areas, and to encourage the application of traditional knowledge and customary sustainable use protected areas. The rationale of the (draft) plan of action acknowledges that “Protected areas established without the prior informed consent or approval and involvement of indigenous and local communities can restrict access and use of traditional areas and therefore undermine customary practices and knowledge associated with certain areas or biological resources. At the same time, conservation of biodiversity is vital for the protection and maintenance of customary sustainable use of biological diversity and associated traditional knowledge”. The use of community protocols and other community procedures is promoted to articulate the potentially affected communities’ values, procedures and priorities.[[40]](#footnote-40)

Related to target 10, government policies sometimes ban or restrict community access and use of areas that are vulnerable to climate change (**case:** Sundarbans)[[41]](#footnote-41). This also has adverse effects on traditional knowledge and occupations of these communities – whereas it could be an opportunity to support TK-based strategies to adapt to the changes and address the vulnerability of the ecosystems (Sundarbans).

Box: Indigenous peoples’ own initiatives towards promoting and revitalizing TK and CSU

It’s important to note that there are countless examples of initiatives initiated by indigenous peoples and local communities that are aimed at restoring, strengthening, or just transferring traditional knowledge, languages, skills and practices – effective initiatives that can be supported by Parties to bolster implementation of Target 18.

One example is the Tumul’kin Center of Learning in Belize. This is a Maya NGO aimed at promoting sustainable development and preservation of Maya identity. This is done through interculural education, training and research which combines ‘modern’ and Maya values, knowledge and philosophy. Tumul’kin offers a five-year residential intercultural programme where youth can specialize in agriculture, ecotourism and sustainable land use. In the fifth year students develop and exercise their own buseinessplan in one of the Maya communities.[[42]](#footnote-42) Belize has no official policy for bi-lingual intercultural education, but the government does support initiatives set up by Maya and Garifuna communities.

In several countries indigenous researchers have also produced case studies about customary sustainable use of biological diversity. By describing and explaining what customary sustainable use is, and what customary rules and laws are, the communities are providing more insight into their customary management systems, and what is needed to maintain them. This contributes to safeguarding customary knowledge and practices for future generations and the documentation process has led to a revival of interest and enthusiasm for traditional biodiversity knowledge, in particular among the youth. The transfer of knowledge and skills to children and youth is considered very important by the communities and the information collected during the research is used to feed into various educational programmes for indigenous children. In Thailand, for example, the Karen and Hmong organise youth camps to pass on indigenous culture and knowledge related to the environment, and are setting up community cultural centres to provide a space for the elders to teach cultural practices to the youth. They are also working to develop a local indigenous curriculum focussing on traditional knowledge and customary use of natural resources, to complement the standard national school curriculum.

In Suriname, the communities are developing educational school material based on the information collected for this study and are raising awareness and initiating discussions about intercultural and bilingual education (IBE) among parents, teachers and school boards in Suriname.

Participatory mapping (see section 5.2) also contributes to the revitalisation of traditional knowledge as younger people work with elders to collect the information for the maps.

This work helps to promote internal strengthening of customary practices, but also serve to increase understanding and acknowledgement by others of the value of customary practices and traditional knowledge in relation to biodiversity conservation and sustainable use, and of the important role of customary laws and traditional institutions. As such they can contribute to concrete actions to recognise and institutionalise these.[[43]](#footnote-43)

1. **IP contributions to developing indicators and monitoring status and trends of biodiversity and well-being** 
   1. indicators relevant for biodiversity and people

In 2006 the International Indigenous Forum on Biodiversity (IIFB) formed a Working Group on Indicators to identify indicators relevant to indigenous peoples, biodiversity and wellbeing, starting with the CBD, to measure what was really happening to indigenous peoples’ traditional knowledge and to biodiversity in their territories. In several global (technical) workshops and seminars, the key domains and issues were identified, resulting is a set of indicators pertaining to various aspects of indigenous land management. With the adoption of the new framework under the 2010-2020 Strategic Plan, this working group has played a major role in the selection and development of indicators on traditional knowledge and customary sustainable use.[[44]](#footnote-44) The importance of this work was acknowledged by the Parties to the CBD which also requested this group to continue to work on refining, testing and using the indicators.[[45]](#footnote-45)

While the focus has been on developing indicators for inclusion in the framework under target 18, the working group has proposed and developed indicators under several other domains and targets.

* 1. Community-based monitoring and information systems

The CBD technical series (issue 98, forthcoming) (technical paper on Target 18 – need to check when it comes out as until then we cannot cite) acknowledges that target 18 is extremely complex to measure and information is variable across countries and communities and frequently not easily accessible. Uncertainties remain due to a lack of reliable data that is geographically and chronologically comparable.[[46]](#footnote-46)

In different global regions, indigenous and local communities have developed their own ways of monitoring ecosystems and community health and well-being. These are based on traditional knowledge and a holistic view of people and environment, but use and adapt new technologies. To support the important work on CBD indicators, a group of community-based organisations (largely overlapping with the IIFB Working Group on Indicators) initiated a project and a network on community-based monitoring and information systems (CBMIS). CBMIS can be understood as ‘the bundle of monitoring approaches related to biodiversity, ecosystems, land and waters, and other resources, as well as human well-being, used by indigenous and local communities as tools for their management and documentation of their resources’.[[47]](#footnote-47)

The organisations that have joined the network are involved in bottom-up work to monitor the TK/CSU indicators mentioned above, as well as indicators under other Targets of the Strategic Plan (for instance on ‘equitably managed’ protected areas) through the generation of relevant community-based case-studies and local-level data and information. The CBMIS network of indigenous peoples and local communities is now active in pilot communities in around a dozen countries. Some of the tools and methodologies that have so far been presented in the network include community mapping, inventories, eco/agri-calendars, biodiversity registers and other community based biodiversity monitoring (CBBM) tools, forms (hardcopies), cameras, GPS, video, smartphones, community radio, measurements and/or taking samples (water, soil), and testimonies.

Several global workshops have been organised, bringing together indigenous and local community representatives, Governments, academics, research institutes, intergovernmental organizations and non‑governmental organizations (NGOs) with an interest in using the information generated by community monitoring, whether at local, national or global levels. The aim of these workshops is to explore the importance, substance and applications of community-based monitoring and information systems for traditional knowledge, biodiversity and climate change, and the rights and well-being of indigenous and local communities[[48]](#footnote-48).

Box: evidence of CBMIS effectiveness

Recent independent research (Finn Danielsen et.al, 2013) to assess monitoring possibilities for the Convention on Biological Diversity 2020 indicators, and those of 11 other international environmental agreements, concluded that of the 186 indicators in these 12 environmental agreements, 69 (37%) require monitoring by professional scientists, whereas 117 (63%) can involve community members as “citizen scientists” and that promoting “community-based and “citizen-science” approaches could significantly enrich monitoring progress within global environmental conventions”.[[49]](#footnote-49)

Similar analyses by the same research team, published in the journal Ecology and Society, showed that communities living alongside the world's tropical forests can estimate an area's carbon stocks as effectively as hi-tech systems and that local communities are able to monitor forest biomass up to the highest standards of the Intergovernmental Panel on Climate Change.[[50]](#footnote-50)

Governments and international bodies have begun to recognize the importance and value of the information generated through community-based monitoring.[[51]](#footnote-51) The initiatives and contributions from the CBMIS network were warmly welcomed by the Parties at the recent 8th  Meeting of the Working Group on Article 8(j) and Related Provisions in Montreal, as “a significant initiative to complement data being generated through national reports and through other means about the implementation of the CBD Strategic Plan”[[52]](#footnote-52). It was also acknowledged that international agencies such as FAO, UNESCO and ILO, who were invited to contribute to the data gathering on the four indicators on TK and CSU, have insufficient capacity and funds to produce global statistics (e.g. on traditional occupations or land use). The required level of detail to assess the indicators is proving very challenging to these organisations. Because of the focus of CBMIS on the local (micro) level, and the profound knowledge and connection to the areas being monitored, indigenous peoples and local communities have important contributions to make to global assessments and monitoring initiatives that usually work on larger scales, and where other organisations or institutions don’t have the capacity to collect detailed, disaggregated data.

Parties at SBSTTA-17 also noted that“citizen and community based initiatives have an important and growing role to play in helping deliver *in-situ* monitoring”. And also that “local knowledge and monitoring efforts are often a critical source of information, complementing scientific approaches and frequently covering different temporal and spatial scales. Respect, trust, equity and transparency are essential for enabling monitoring that draws on combinations of indigenous, traditional and scientific knowledge systems”.[[53]](#footnote-53)

**Case study: CBMIS in Tinoc, Ifugao Philippines**

Tinoc is one of the pilot communities of the Philippine Traditional Knowledge Network (PTKN) where community-based monitoring of traditional knowledge is being conducted using multiple indicators, e.g. on linguistic diversity, traditional occupations, land tenure and land use change.

Data generated includes cultural mapping of multiple land and forests uses, documentation of customary tenure systems, traditional occupations, status of traditional knowledge holders and cultural transmission. The status of flora and fauna, productivity of major crops and soil fertility has also been investigated. Some findings include: contraction of watershed forests to 60% of their size in 1970 due to conversion to vegetable farming and up to 30-50% decline in rice yields due to weakening of traditional knowledge on soil enhancement practices as well as increased pest damage due to veering away from traditional pest control like synchronized farming activities.

The information gathered through the project are being used to stimulate community actions on conservation, sustainable use and customary governance over lands, forests and waters. Plans have been developed for revitalizing traditional knowledge and strengthening customary practices and law, including biodiversity management plans and demarcation of protected watershed areas and to strictly control the privatization of common lands critical for community wellbeing and biodiversity, to assist in forest regrowth, and to shift from chemical-input farming to ecological/sustainable farming. The information has been shared with local and national government. It has led to the adoption of a covenant (by the local community and local government) to arrest environmental degradation and promote peoples' wellbeing through the revival of indigenous knowledge practices and systems of territorial management.

Drawing on pilots such as in Tinoc, the Philippine Traditional Knowledge Network (PTKN) and Tebtebba Foundation submitted a list of traditional occupations to the Philippine National Statistical Coordination Board (PNSCB) for consideration in the revision process of the Philippine Standard Classification of Occupations (PSOC), resulting in the incorporation of some of the submitted traditional occupations. The PTKN also coordinated with the National Focal Point of the CBD about updating the NBSAP and associated TK indicators.[[54]](#footnote-54)

This monitoring initiative is relevant for target 18 (e.g. traditional occupations indicator), but to several others as well as data is gathered on the status of significant areas and the impacts of human interventions, ecosystem services and the importance to local livelihoods, species of importance, etc. (Aichi Targets 5, 7, 12, 13, 14, 18).

**Community-based mapping**

Mapping is a very important tool for documenting and monitoring trends and is specifically relevant for the indicator on trend in land use and land tenure in the traditional territories of indigenous and local communities. Indigenous organisations are choosing and applying the various hard- and software tools that are available.

The maps that the communities produce demonstrate their traditional occupation and customary use of resources in their territories and are often used as the basis of a territorial defence strategy: the maps are used as a tool at the local and national levels to assert more secure land and resource rights and to support the communities in dialogue and negotiation processes with outside actors who want to access forests traditionally inhabited or used by them. For example, community maps have contributed to re-negotiations of protected area management plans in Cameroon and Thailand, exposure and monitoring of illegal logging in Cameroon, and negotiation with mining and logging companies in Guyana, Suriname and Cameroon. Participatory videoing is another initiative some of the communities have taken (for instance in Cameroon) to document land use changes.[[55]](#footnote-55)

Example: Wapichan map / IMPECT map?

Case: A paper in presented at the International Symposium on Sacred Natural Sites and Cultural Landscapes (Tokyo in 2005) highlights the power of mapping and explains how in the author’s own community in Zuni, New Mexico mapping is used to educate youth about the importance of water and the protection of sacred water places. “Indigenous peoples have been losing access to their sacred places, including sites with sacred waters, often because of maps that fail to recognize the concerns of indigenous peoples. However, there is a new worldwide movement by indigenous peoples to map places that are vital to their cultural and political survival. By simply picking up a pencil and making a map from memory, composing a song, or using modern computerized mapping techniques, indigenous peoples can use indigenous mapping as a tool for advocacy and empowerment”. [[56]](#footnote-56)

**5.3 Multiple knowledge systems and biodiversity assessments**

The support for CBMIS fits into a growing global realisation of the need to tap into different sources of knowledge for global assessments of the worlds’ wellbeing.

This was also identified by SBSTTA-17 as key scientific and technical need related to the implementation of the Strategic Plan for Biodiversity 2011-2020: “The need for better ways to include relevant indigenous and traditional knowledge systems and the collective actions of indigenous and local communities to complement scientific knowledge in support of the effective implementation of the Strategic Plan for Biodiversity 2011-2020, with the approval and involvement of the holders of such knowledge, innovations and practices”.[[57]](#footnote-57) At SBSTTA-17, parties also identified the need for additional tools and methods that, in conjunction, are able to recognize the full range of biodiversity values, including its social, spiritual, and cultural importance.[[58]](#footnote-58)

These discussions and developments are very relevant for Aichi Target 19, which would benefit greatly from increased focus on diverse or multiple knowledge systems rather than focusing on a science base.

Such an approach is already being tested through the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES). This leading intergovernmental body for assessing the state of the planet's biodiversity, its ecosystems and the essential services they provide to society is shaping up as a knowledge platform, rather than a science platform. Indigenous activists and others from many sectors have pressed for local and indigenous knowledge to have an equal position and value, and for local knowledge holders to have maximum opportunity to participate and contribute. Many academics and others share this perspective. Scientists in the journal ‘Nature’, for instance, warned IPBES not to ‘make the same mistakes’ as the IPCC’: “The IPCC focused on producing standardized assessments, with one view of what counts as relevant and valid knowledge for climate change: peer-reviewed science. This approach overshadowed arguably more important tasks: synthesizing wider perspectives about changing climates and spurring action by multiple policy actors. The IPBES must not adopt such tunnel vision. Simply generating and communicating scientific knowledge is not sufficient to combat biodiversity loss”. They warned IPBES to be sensitive to local knowledge, needs and conditions, and to include biodiversity practitioners and indigenous-knowledge

Networks in expert panels alongside natural scientists, social scientists, humanities researchers, and others. [[59]](#footnote-59)

One of the subsidiary bodies of IPBES, the Multidisciplinary Expert Panel (MEP), is required to “explore ways and means to bring different knowledge systems, including indigenous knowledge systems, into the science-policy interface”.[[60]](#footnote-60) Also the work programme is required to “develop an understanding of how to effectively integrate local and traditional knowledge”.[[61]](#footnote-61)

In 2013 the IPBES MEP, in collaboration with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the United Nations University (UNU) organized an International Expert Workshop on Indigenous and Local Knowledge in IPBES: Building Synergies with Science. The objectives of the workshop were to examine and identify procedures and approaches for working with indigenous and local knowledge systems in the framework of IPBES, and to review and assess possible conceptual frameworks for the work of IPBES that are based on or accommodate indigenous and local knowledge systems and worldviews. The outcomes were presented at the second session of the Platform's Plenary (IPBES-2).[[62]](#footnote-62)

As the IPBES is still under development and procedures are not yet fully established, some workshops and meetings have been organized by interested Governments and others, in order to contribute to the discussion on the issue of connecting diverse knowledge systems. For example:

* Informal expert meeting with representatives of the International Indigenous Forum on Biodiversity (IIFB), EU experts and scientists engaged in Traditional Knowledge and IPBES, organized by Swedbio, the programme on resilience and development at Stockholm Resilience Centre (SRC) and Naptek (Jokkmokk, June 2011).[[63]](#footnote-63)
* International Dialogue Workshop: Indigenous Knowledge, Traditional Knowledge, Science and Connecting Diverse Knowledge Systems, (Guna Yala, Panama, April 2011). The Dialogue workshop was organized by The Resilience and Development Programme (Swedbio) at Stockholm Resilience Centre in collaboration with Naptek at the Swedish Biodiversity Centre and the International Indigenous Forum on Biodiversity.[[64]](#footnote-64)
* International Expert Workshop connecting diverse Knowledge Systems in the context of IPBES, organized by the German Federal Agency for Nature Conservation (BfN) in cooperation with the Institute for Biodiversity Network e.V. (ibn), at the International Academy for Nature Conservation (Isle of Vilm, Germany, April 2013). [[65]](#footnote-65)

Case study: UNU-TKI and the IPCC collaboration

A recent article by the UNU describes how - through an initiative on IPCC-UNU cooperation - indigenous knowledge holders and scientists are beginning to establish novel collaborative arrangements that are generating new knowledge that would not be created through the efforts of either group alone.[[66]](#footnote-66)

“One significant manifestation of the marginalization of indigenous peoples from the climate change policy and decision-making is the paucity of references in the global climate change discourse to the existing traditional knowledge on climate change. Such international discourse has often failed to consider the valuable insights on direct and indirect impacts, as well as mitigation and adaptation approaches, held by indigenous peoples worldwide. This is particularly evident in the [Intergovernmental Panel on Climate Change (IPPC)](http://www.ipcc.ch/index.htm" \t "_blank) Assessment Reports released every few years.

The most authoritative and influential reference on climate change in the world, the IPCC Assessment Reports guide governments, policy- and decision-making communities, and non-governmental organizations in planning and implementing their actions. The last IPCC Assessment ([AR4, published in 2007](http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml" \t "_blank)) noted that indigenous knowledge is “an invaluable basis for developing adaptation and natural resource management strategies in response to environmental and other forms of change”.

This was reaffirmed at the 32nd Session of the IPCC in 2010: “indigenous or traditional knowledge may prove useful for understanding the potential of certain adaptation strategies that are cost-effective, participatory and sustainable”. Previous IPCC Assessments, however, were unable to access this type of information because, for the most part, traditional knowledge either appears in grey literature outside of peer-reviewed academic forums, or remains in oral form, thereby falling outside the scope of IPCC process.

To address gaps in available information on traditional knowledge (TK) and climate change adaptation and mitigation, and to promote respect for TK and the role of indigenous peoples in policy development, the [United Nations University’s Traditional Knowledge Initiative (UNU-TKI)](http://www.unutki.org/" \t "_blank) and the IPCC have partnered. Building on UNU-TKI’s previous work, such as the book *[Advance Guard](http://www.unutki.org/news.php?news_id=92&doc_id=101" \t "_blank)*, UNU-TKI and the IPCC have been working to organize a series of workshops to ensure that the experience of indigenous and traditional peoples of climate change impacts and their adaptation and mitigation strategies are fully integrated in the next IPCC Assessment Report (AR5, to be published in 2014) and are widely available to the global community”.

* 1. National biodiversity planning and reporting

While target 17 (on NBSAPs) has 6 interlinked components, GBO4 (advance draft) report focuses on only three elements: submission of NBSAPs to Secretariat by (end of) 2015; NBSAPs adopted as effective policy instrument; and NBSAPs are being implemented. It is important that more weight is placed on the requirement to consult with a full range of non-governmental stakeholders, including ILCs, in all stages of the NBSAP process.

Through enhanced participatory processes, solutions and advances by indigenous peoples as described above, as well as recommendations and concerns, can be inputted into NBSAP process and national indicators systems. National reporting will also benefit from using diverse sources of knowledge, including community-generated data and monitoring.

1. Recommendations: **M**oving towards achievement of the Aichi Targets through their interaction with Target 18

The sections above showed how TK and CSU can and should play a central role in advancing on many other Aichi Targets, as well as in biodiversity planning, monitoring, and reporting. It also showed how (lack of) progress on important targets can impact on Target 18 by affecting indigenous knowledge and management systems.

Below are a number of concrete recommendations to promote the cross-cutting nature of Target 18 in the implementation of the strategic plan for biodiversity towards 2020.

Target 1: promote awareness about the importance of biodiversity to indigenous peoples and local communities and their role in sustainable management and conservation, and visit the indigenous portal and other CEPA platforms and information-sharing by indigenous networks to familiarize with worthwhile effective community-based actions.

Target 2: Integrate – through their involvement and with heir consent - indigenous peoples and local communties’ values and views, knowledge, experiences and concerns in development and poverty reduction strategies and in accounting and reporting systems: CBMIS can be a key tool to realise this.

Target 3: Pay due attention to incentives’ impacts on traditional knowledge and sustainable management systems by indigenous peoples and local communites (both negative as positive); community monitoring and data gathering on such impacts on communities and territories are serious sources of information.

Target 4: Take community-based plans and actions for sustainable production and consumption into consideration and a source of inspiration for integrated livelihoods and food security strategies.

Target 5: Protect natural habitants that are within traditional territories of indigenous peoples and support their initiatives to prevent degradation.

Target 6: protect fisheries in indigenous territories and learn from, and support, traditional sustainable fishing methods

Target 7: Protect agriculture, aquaculture, and forest areas of importance to indigenous peoples and local communities and respect and promote community-based management techniques such as rotational farming.

Target 8: Avoid pollution of indigenous territories and (with consent) learn from TK to prevent or address pollution problems.

Target 9: Avoid invasive species to spread into indigenous territories and support indigenous monitoring and actions to control and eradicate invasives.

Target 10: Respect the rights and knowledge of indigenous peoples and local communities living in vulnerable areas and areas impacted by climate change, and learn from and support their adaptation and preservation strategies in those areas.

Target 11: Prioritize issues on participation, governance, equity and benefit-sharing concerning protected areas (element II of the POWPA) and task iii) of the plan of action on customary sustainable use. Avoid rights violations and other negative impacts on indigenous peoples and local communities through establishment or expansion of PA networks. Cases where protected areas have adversely affected indigenous peoples’ customary sustainable use should be addressed/redressed.

Target 12: Support customary conservation and community-based research (including monitoring) of threatened species

Target 13: Recognize the important role of traditional famers, gatherers and pastoralists to the genetic diversity of plants and animals and facilitate their continued practices.

Target 14: Pay attention to the ecosystem services for the well-being and survival of IPLCs, and support their integrated approaches to safeguard and restore essential ecosystem.

Target 15: support community-based forest management that enhances carbon sequestration and conserve the forest and other valuable ecosystems that have been maintained and preserved by indigenous peoples for generations.

Target 16: implement the Nagoya protocol, with full respect of the rights of indigenous peoples and local communities, consistent with UNDRIP.

Target 17: Involve – with their consent – indigenous peoples and their proposals, views, knowledge and solutions in the NBSAP process (as well as in the reporting processes).

Target 18: support community-based initiatives to protect and enhance TK and CSU and prioritize implementation of the plan of action on customary sustainable use. A key issue to take measures to recognise and respect indigenous peoples’ rights to their lands and resources, in particular access to territories, as well as respect and recognise the role of customary law and traditional institutions.

Target 19: recognize traditional and other types of knowledge on biodiversity as relevant sources of information and consider these knowledge systems in biodiversity planning, monitoring (CBMIS), and reporting.

Target 20: Provide financial assistance to the important initiatives and contributions of indigenous and local communities to the work of the Convention, including for their effective participation in meetings and national and international levels.

1. GBO4, advance draft, page 132-133. [↑](#footnote-ref-1)
2. <http://www.cbd.int/ecosystem/> [↑](#footnote-ref-2)
3. This is also stressed in several general principles in the draft action plan on 10c: [↑](#footnote-ref-3)
4. <http://www.cbd.int/ecosystem/description.shtml>, para 4. [↑](#footnote-ref-4)
5. <http://www.cbd.int/ecosystem/sourcebook/> [↑](#footnote-ref-5)
6. UNEP/CBD/SBSTTA/12/2, paragraph 29 of the summary of findings of the in-depth review of the application of the ecosystem approach. [↑](#footnote-ref-6)
7. Anita Kelles-Viitanen, Custodians of culture and biodiversity. Indigenous peoples take charge of their challenges and opportunities (IFAD report, no date), page 1. [↑](#footnote-ref-7)
8. See interview with forest and livelihoods programme director Christine Padoch in the video The video “Community Based Forest Management: Local Solutions to Global Challenges”, <https://www.youtube.com/watch?v=fAz0_NlxMuM&hd=1> (also check for CIFOR) [↑](#footnote-ref-8)
9. Claudia Sobrevila, The Role of Indigenous Peoples in Biodiversity Conservation. The Natural but Often Forgotten Partners (the World Bank 2008). [↑](#footnote-ref-9)
10. Victor M. Toledo, INDIGENOUS PEOPLES AND BIODIVERSITY (2007). In: Levin, S. el al., (eds.) Encyclopedia of Biodiversity. Academic Press (in press). [↑](#footnote-ref-10)
11. GBO4, advance draft, p 132 [↑](#footnote-ref-11)
12. UNEP/CBD/SBSTTA/12/2, paragraph 29 of the summary of findings of the in-depth review of the application of the ecosystem approach, available at <http://www.cbd.int/doc/?meeting=SBSTTA-12> -- check latest decision on ecosystem approach which was COP9 IX/7. [↑](#footnote-ref-12)
13. For instance: promote recognition of rights and interests of Indigenous Peoples (principle 1), opportunities for community-based management (principle 2), paying more attention to human needs and to sustainable use in combination with conservation (principle 10), working with indigenous and local knowledge, innovations and practices as well as scientific (principle 11) and involving Indigenous Peoples and local communities in any process that affects them (principle 12). [↑](#footnote-ref-13)
14. Based on: The Ecosystem Approach: How governments can learn from Indigenous Peoples and local communities, CBD Alliance media briefing No.6, CBD Alliance - Media Advisory for CBD COP9- May 2008

    <http://www.cbdalliance.org/en/index.php/en/our-work/breifing-notes-and-reports/cop-9-briefings> [↑](#footnote-ref-14)
15. Based on: case studies from indigenous peoples and local communities’ organisations research on customary sustainable use, presented at the international workshop on 10(c) in 2011: see report of the meeting on Article 10 with a focus on article 10(c) as a major component of the programme of work on article 8(j) and related provisions of the convention, p. 6-7 (UNEP/CBD/WG8J/7/INF/5). [↑](#footnote-ref-15)
16. Synthesis paper: Customary sustainable use of biodiversity by indigenous peoples and local communities: Examples, challenges, community initiatives and recommendations relating to CBD Article 10(c) (Forest Peoples Programme 2011). For more information about the network see <http://www.forestpeoples.org/customary-sustainable-use-studies> [↑](#footnote-ref-16)
17. <https://www.youtube.com/watch?v=fAz0_NlxMuM&hd=1> [↑](#footnote-ref-17)
18. <http://unu.edu/publications/articles/why-traditional-knowledge-holds-the-key-to-climate-change.html> [↑](#footnote-ref-18)
19. In: AIPP video “Community Based Forest Management: Local Solutions to Global Challenges” (2014): <https://www.youtube.com/watch?v=fAz0_NlxMuM&hd=1> [↑](#footnote-ref-19)
20. See <http://www.ikap-mmsea.org/index.html> and UNEP/CBD/WG8J/8/INF/11 [↑](#footnote-ref-20)
21. Synthesis paper: Customary sustainable use of biodiversity by indigenous peoples and local communities: Examples, challenges, community initiatives and recommendations relating to CBD Article 10(c) (Forest Peoples Programme 2011). [↑](#footnote-ref-21)
22. A brochure which summarizes key contents of the territorial plan, as well as the full version of the plan are available here:

    <http://www.forestpeoples.org/topics/customary-sustainable-use/publication/2012/wapichan-people-guyana-make-community-based-agreem> [↑](#footnote-ref-22)
23. Thinking Together for Those coming behind us An outline plan for the care of Wapichan territory in Guyana (2012), 63-76, available at: <http://www.forestpeoples.org/sites/fpp/files/publication/2012/05/wapichan-mp-22may12lowresnomarks.pdf>. [↑](#footnote-ref-23)
24. See <http://www.iccaconsortium.org/> [↑](#footnote-ref-24)
25. Kothari, A. and Neumann, A. 2014. *ICCAs and Aichi Targets: The Contribution of Indigenous Peoples’ and Local Community Conserved Territories and Areas to the Strategic Plan for Biodiversity 2011-20*. ICCA Consortium, Kalpavriksh, CBD Alliance, and CENESTA. This note is included in the official documentation of the CBD COP12, as Document INF/12. [↑](#footnote-ref-25)
26. <http://www.forestpeoples.org/topics/environmental-governance/news/2011/10/peer-reviewed-cifor-and-world-bank-studies-find-communi> [↑](#footnote-ref-26)
27. Livestock keepers – guardians of biodiversity (FAO paper 2009) [↑](#footnote-ref-27)
28. Thinking Together for Those coming behind us An outline plan for the care of Wapichan territory in Guyana (2012), 83-88. [↑](#footnote-ref-28)
29. FAO. 2009. Livestock keepers – guardians of biodiversity. Animal Production and Health Paper. No. 167. Rome. [↑](#footnote-ref-29)
30. Shifting Cultivation, Livelihood and Food Security. New and Old Challenges for

    Indigenous Peoples in Asia. AIPP and IWGI 2014. <https://www.dropbox.com/s/ue65a3m3wez06a4/Briefing%20papper%20Shifting%20cultivation%20%202014.pdf?dl=0> [↑](#footnote-ref-30)
31. See <http://www.unesco.org/new/en/culture/themes/endangered-languages/biodiversity-and-linguistic-diversity/>. [↑](#footnote-ref-31)
32. Decision VII/30, see also UNEP/CBD/WG8J/8/9 [↑](#footnote-ref-32)
33. FAO paper, 2009. [↑](#footnote-ref-33)
34. report of the meeting on Article 10 with a focus on article 10(c) as a major component of the programme of work on article 8(j) and related provisions of the convention, p. 6-7 (UNEP/CBD/WG8J/7/INF/5). [↑](#footnote-ref-34)
35. See UNEP/CBD/WG8J/8/9 [↑](#footnote-ref-35)
36. <http://www.rightsandresources.org/news/new-report-from-rri-tebtebba-recognizing-indigenous-peoples-and-community-land-rights-to-limit-deforestation-is-cost-effective-approach-to-fight-poverty-climate-change/> [↑](#footnote-ref-36)
37. Synthesis paper on customary sustainable use, FPP 2010, 22-24. [↑](#footnote-ref-37)
38. 10c synthesis report, FPP 2010, 25-26 [↑](#footnote-ref-38)
39. Bastian Bertzky, Colleen Corrigan, James Kemsey, Siobhan Kenney, Corinna Ravilious, Charles Besançon and Neil Burgess (2012) Protected Planet Report 2012: Tracking progress towards global targets for protected areas. IUCN, Gland, Switzerland and UNEP-WCMC, Cambridge, UK. [↑](#footnote-ref-39)
40. UNEP/CBD/COP/12/5, draft recommendation 8/2. [↑](#footnote-ref-40)
41. see report of the meeting on Article 10 with a focus on article 10(c) as a major component of the programme of work on article 8(j) and related provisions of the convention, p. 6-7 (UNEP/CBD/WG8J/7/INF/5). [↑](#footnote-ref-41)
42. See [www.tumulkinbelize.org](http://www.tumulkinbelize.org/). More initiatives and information on multi-lingual and intercultural education can be found on the website of the RUTU foundation for multi-lingual and intercultural education: <http://www.rutufoundation.org/en/examples/> [↑](#footnote-ref-42)
43. 10c sythnesis, 32-34. [↑](#footnote-ref-43)
44. Trends of linguistic diversity and numbers of speakers of indigenous languages; Trends in land-use change and land tenure in the traditional territories of indigenous and local communities; Trends in the practice of traditional occupations; and Trends in which traditional knowledge and practices are respected through their full integration, safeguards and the full and effective participation of indigenous and local communities in the national implementation of the Strategic Plan. [↑](#footnote-ref-44)
45. See Decision XI/3 and UNEP/CBD/WG8J/8/9 [↑](#footnote-ref-45)
46. Decision XI/3 (<http://www.cbd.int/decision/cop/default.shtml?id=13164> [↑](#footnote-ref-46)
47. UNEP/CBD/WG8J/8/9 [↑](#footnote-ref-47)
48. Summary in UNEP/CBD/WG8J/8/9 and the full report of the global technical workshop in Bonn, Germany, (26 to 28 April 2013) is available as UNEP/CBD/WG8J/8/INF/11. [↑](#footnote-ref-48)
49. Finn Danielsen et.al, *Linking public participation in scientiﬁc research to the indicators and needs of international environmental agreements* (Conservation Letters 00 (2013), 1–13. [↑](#footnote-ref-49)
50. See <http://www.bbc.com/news/science-environment-24713215>. [↑](#footnote-ref-50)
51. UNEP/CBD/WG8J/8/9, 23. [↑](#footnote-ref-51)
52. See Document UNEP/CBD/WG8J/8/L.2 (Progress report on the implementation of the programme of work for Article 8(j) and related provisions and mechanisms to promote the effective participation of indigenous and local communities in the work of the Convention). [↑](#footnote-ref-52)
53. UNEP/CBD/COP/12/2 (SBSTTA17 report), annex 1. [↑](#footnote-ref-53)
54. See *Developing and Implementing CBMIS: The Global Workshop and the Philippine Workshop Reports*  <http://www.tebtebba.org/index.php/content/271-developing-and-implementing-cbmis-the-global-workshop-and-the-philippine-workshop-reports> pp. 17-19. [↑](#footnote-ref-54)
55. 10c synthesis, 32-33. [↑](#footnote-ref-55)
56. Jim Enote, Indigenous mapping of sacred water, Conserving Cultural and Biological Diversity: The Role of Sacred Natural Sites and Cultural Landscapes (UNESCO 2006). [↑](#footnote-ref-56)
57. UNEP/CBD/COP/12/2 (SBSTTA17 report), recommendation XVII/1. [↑](#footnote-ref-57)
58. Idem, annex 1. [↑](#footnote-ref-58)
59. E. Turnhout et.al., Listen to the voices of experience, NATURE | VOL 488 | 23 AUGUST 2012, 454-455. [↑](#footnote-ref-59)
60. UNEP/IPBES.M.I2/9 Appendix 1, para 15 g) [↑](#footnote-ref-60)
61. UNEP/IPBES.MI2/9 para 20 [↑](#footnote-ref-61)
62. Report available here: <http://ipbes.net/events-feed/353-expert-workshop-on-indigenous-and-local-knowledge-systems-to-ipbes-2.html> [↑](#footnote-ref-62)
63. Report is available at <http://www.dialogueseminars.net/resources/Panama/Reading/C.-Knowledge-systems/jokkmokk-report-on-knowledge-system-exchange.pdf> [↑](#footnote-ref-63)
64. See more information at <http://www.dialogueseminars.net/Panama/> [↑](#footnote-ref-64)
65. See UNEP/CBD/WG8J/8/3, note on in-depth dialogue on THEMATIC AREAS AND OTHER CROSS-CUTTING ISSUES “Connecting traditional knowledge systems and science, such as under the IPBES, including gender dimensions [↑](#footnote-ref-65)
66. <http://unu.edu/publications/articles/why-traditional-knowledge-holds-the-key-to-climate-change.html> [↑](#footnote-ref-66)