



EPIC BIODIVERSITY



SULi

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TRAFFIC

# Five-dimensional sustainability assessment: developing and testing a new framework

## Background

Sustainable use of wild species and biological resources is one of the three pillars of the Convention on Biological Diversity (CBD) as well as being supported by other biodiversity conventions including the Convention on International Trade in Endangered Species (CITES), the Convention on Migratory Species (CMS) and the Ramsar Convention, and highlighted as a key element of Sustainable Development Goal (SDG) 15. The Assessment Report on the Sustainable Use of Wild Species compiled by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) and published in 2022 highlights how sustainable use is an essential part of sustainable development in the Global South. Without it the continued ability of government, private sector and community actors to manage wildlife populations, incentivise conservation, and/or tolerate human-wildlife conflict are in doubt. In some cases, use of wild species is a key component of national or local economic development.

Concerns have, however, been raised regarding the lack of regulatory frameworks governing sustainable use of wild species and also about the animal welfare and human health implications of some forms of wild species use (particularly prominent in the case of wild animals since the outbreak of Covid 19). Thus, the Kunming Montreal Global Biodiversity Framework, adopted in 2022, includes targets to ensure the use of wild species is not only sustainable and legal, but also “safe”. While the definition of ‘sustainable’ is traditionally inclusive of ecological, social and economic dimensions, many practically applied standards and regulations — with few exceptions — focus on its ecological part and none that we are aware of include dimensions that reflect safety — from a human and animal health and welfare perspective.

Sustainability science is complex and sustainability is technically challenging to assess. Nevertheless, an approach is needed that cuts through the complexity, is accessible to conservation practitioners and policy makers and increases confidence that alignment with the Global Biodiversity Framework Targets 5 and 9 is being achieved, especially since Parties to the CBD will need to report against these Targets. It is equally important that Indigenous peoples and local communities and private sector actors are enabled to demonstrate that the use of wild species and products is sustainable and, where it is not, to identify the necessary improvements that need to be made.

## The ‘5-D’ Sustainability Assessment Framework (5DSAF)

Recognising the challenge of assessing sustainability in a comprehensive, but accessible, way, IIED, TRAFFIC, IUCN SULi, Endangered Wildlife Trust and EPIC Biodiversity — supported through the UK Government Darwin Initiative and under the guidance of a multidisciplinary expert advisory group — have developed a 5-dimensional sustainability assessment framework. The framework adds the dimensions of animal welfare and human health to the more conventional social, ecological and economic dimensions of sustainability. For each of these 5 dimensions it articulates 7 key principles. In addition, 7 cross-cutting principles are relevant to all dimensions (Figure 1).

The principles are derived from an analysis of existing global standards and guidelines that address one or more dimension of sustainability. For example, the CITES Non-Detriment Findings process (which is largely based on ecological criteria); the BioTrade Principles and Criteria (ecological, economic and

social criteria); World Organisation for Animal Health (WOAH) guidance on animal welfare standards and WOAH/IUCN guidelines on wildlife disease risk analysis. They also reflect the findings and recommendations on effective sustainable use policy made by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) in its Assessment Report on the Sustainable Use of Wild Species published in 2022.

Figure 1. The 5-D Framework of principles<sup>1</sup>

Sustainability dimensions and principles					
	Welfare	Health	Ecological	Social	Economic
1	Animals are provided with, or have access to, species-specific and appropriate nutrition, feed, and water which encourages natural behaviours and promotes health	People coming into contact with / working with wild species and their products (including in production facilities, markets, slaughterhouses etc) understand and practice good personal health and hygiene measures and biosecurity	There is a current formal / informal system (e.g., species or area management plan) in place which considers and governs the scale and rate of use of the target species in its harvest range taking into account its life history strategy and tailored to the local social and ecological context	The use (harvesting, processing, sale etc) of the species does not involve any harmful discrimination (e.g., gender-based, race-based or any other barriers) to effective participation and leadership	There is a formal/informal business plan in place which specifies the likely market for the product/output of the species use
2	The physical environment allows for species-specific comfortable resting places, free and normal movement, substrates and apparatus, thermal regulation, and adequate shelter	Facilities (incl. vehicles and equipment) handling wild species and/or their products (particularly food) have appropriate biosecurity, hygiene, food safety and sanitation measures in place to monitor, minimise and mitigate the risk of disease or hazards and cross-contamination / transmission	The species use is aligned with international national, regional, and/or local/customary plans for sustainable management, conservation, or restoration/regeneration of biodiversity	Local communities and indigenous people with legal or customary access and/or use rights are able to maintain control over the species use to the extent necessary to protect their rights, traditional knowledge and customary institutions and uses	There is an enabling environment (policy, legislation, incentives etc) supporting the species use and no external factors (e.g. pressure groups, conflict, political insecurity, global pandemics) undermining its financial viability
3.	The catching, maintaining, breeding, raising, transporting, handling (and where relevant, killing) of wild species is carried out in a way that promotes positive physical and psychological welfare and minimises the risk of pain, injury, or disease	Activities involving any interactions with wild species and products are planned, organised and performed in a manner that enables health and safety risks to be identified and appropriate avoidance, minimisation and mitigation measures put in place	The species use does not adversely affect the conservation status of the target species in its harvest range. This includes population, structure and distribution and genetic diversity	Agreements with local communities and indigenous people are based on Free Prior and Informed Consent (FPIC), appropriate and adequate knowledge of customary tenure and access rights	There is a competitive market for the outputs/products of the species use
4.	Stocking densities and group composition ensure (most) normal behaviours, and positive species-specific social interactions	Condemned, decaying, contaminated or toxic plants, sick animals and mortalities do not enter human food chains. Sick animals are investigated and either quarantined for treatment or euthanized and disposed of according to strict health and safety protocols (e.g., no contact with body fluids)	The species use does not adversely affect the conservation or restoration/regeneration of non-target elements of biodiversity (e.g. non-target species, ecosystems, ecological processes, natural habitats, soil and water condition and quality)	Where the species use occurs on sacred sites or other lands and waters traditionally occupied or used by IPs and/or LCs, a protocol or code of conduct is in place to regulate the behaviour of personnel and visitors	The type of use of the species (e.g., hunting, tourism, ranching) and/or product (e.g., skins, resin, meat) is competitive with other available alternatives and does not sacrifice the persistence of the resource
5.	The catching, maintaining, breeding, raising, transporting, handling, and slaughtering of animals is carried out in a way that does not facilitate disease or parasite transmission	Trade chains are as short and simple as possible to reduce the number of interfaces at which there could be cross-contamination and transmission of hazards/pathogens and to facilitate traceability	The species use does not facilitate the introduction or spread of invasive or non-native species that have a detrimental conservation impact	Fair employment conditions, and labour rights, which maintain or enhance social and economic wellbeing, are provided for all workers including no use of any forced labour including child labour	The species use makes a positive contribution to local economic development and potentially also to sub-national or national economies (e.g., GDP contributions)
6.	Animals with physical or psychological health issues are isolated (where appropriate) and treated/addressed promptly or killed humanely if treatment is not feasible or recovery is unlikely	An inspection and/or surveillance system is in place to detect signs of disease / pathogens in both animals and people working with the animals	Practices involved in the use of the species do not result in pollution and are efficient in terms of energy and water use and minimise waste generation	The use of the species does not result in the undermining or physical or economic displacement of local communities/segments within a community (e.g. traditional women harvesters displaced by commercial collectors)	Economic relations (prices, rates of pay, payment schedules etc) in the supply chain are understood and acceptable to those involved
7.	People working with animals have sufficient knowledge and understanding of animal behaviour and physiology to ensure good care practices and welfare standards are applied	People working with wild species and their products have appropriate safe and hygienic training, working environments, equipment, and practices	Practices, processes and facilities associated with the species use do not have a negative impact on areas important for biodiversity including e.g., High Conservation Value areas, Protected Areas, Key Biodiversity Areas, ICCAs, OECMs	The use of the species makes a positive contribution to the wellbeing of local communities in the area where the wild species is harvested	The revenue generated by the species use initiative allows for long-term viability and investment in the restoration and maintenance of the resource
<b>Cross-cutting principles</b>					
1	Wild species use operations and practices are compliant with applicable local, regional, national, and international legal regulations				
2	Wild species use operations and practices take note of, and apply, existing authoritative best practice guidance where relevant				
3	Wild species use operations and practices are subject to regular monitoring (of disease/health, species population, social context and of the impacts of any processes involved in the use) to facilitate adaptive management				
4	Wild species use operations and practices adopt a precautionary approach ensuring risks are anticipated, assessed and addressed in ways as to mitigate or minimise adverse conservation and social consequences				
5	Wild species use operations and practices are well-governed and based on robust institutions, demonstrating clearly defined roles and responsibilities, accountability and transparency				
6	Wild species supply chains are traceable from the point of off-take and systems in place for monitoring				
7	People working with wild species are provided with sufficient training and awareness to ensure compliance with relevant best practices and regulations				

<sup>1</sup> For a downloadable version [click here](#)

## How is the 5DSAF used?

Each of the principles is underpinned by 4 indicators which identify how closely the use of wild species is aligned with the principle. Each indicator has a score from 0-3. A score of 0 indicates no alignment with the principle (bad practice); 1 = emerging good practice with evidence for some but insufficient alignment with the principle; 2 = good practice with evidence for good overall alignment albeit with some weaknesses; and 3 = exemplary or best practice with evidence that the provisions of the principle are met or even exceeded (Figure 2).

**Figure 2. Examples of the criteria underpinning each of the 5DSAF principles**

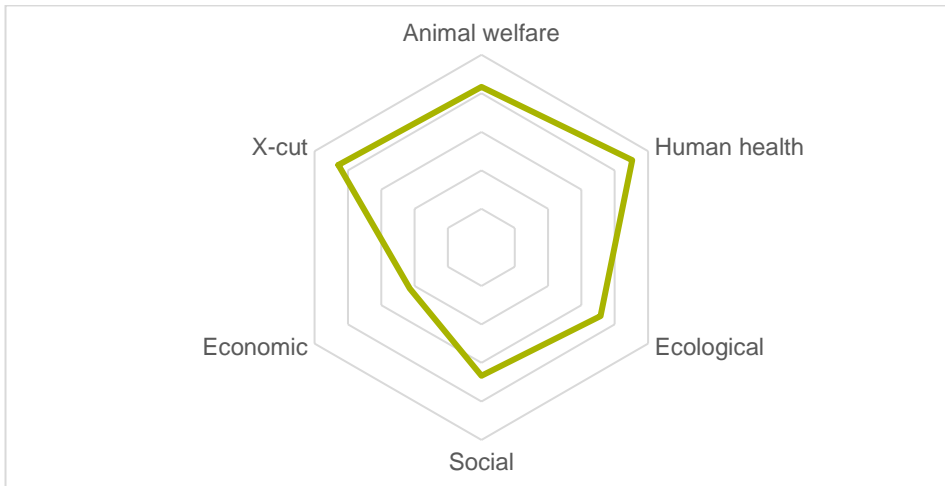
<p>The species use does not adversely affect the conservation or restoration of non-target elements of biodiversity (eg non-target species, ecosystems, ecological processes, natural habitats, soil and water condition and quality)</p>	<p>0: The species use has a demonstrated negative ecological effect on non-target species or on the wider habitat with no plans for mitigation OR there is no information about presence of non-targeted elements of biodiversity that are likely to be affected by target species use                      1: The species use has some negative effects, these are recognised but mitigation plans are not yet in place or implemented                      2: The species use is not a threat to survival of non-target species or the wider ecosystem but there may be some localised or timebound negative effects that require mitigation (and can be mitigated with adaptive management)                      3: The species use has a documented positive or neutral effect on biodiversity, including non-target species, ecosystems, ecological processes, etc</p>
<p>The species use does not facilitate the introduction or spread of invasive species or non-native species that have a detrimental conservation impact.</p>	<p>0: The species use is associated with the introduction or spread of invasive species or non-native species and these are having a detrimental conservation impact                      1: The species use is associated with the introduction or spread of invasive species or non-native species but the conservation impact of these has not been determined                      2: The target species use does not facilitate the introduction or spread of invasive species, or where such risk is established, adaptive management plan is in place                      3: The species use is not associated with the introduction or spread of any invasive species or non-native species</p>

The framework is accompanied by an Excel-based scoring tool ([available here](#)). The tool guides the user through the framework principle by principle. For each principle, it first asks if the principle is relevant to the wild species use under consideration (for example the animal welfare principles will not be relevant to plant and fungi uses). A reason why a particular principle may not be relevant must be provided. It then asks the user to assign a score of 0-3 to the relevant principles and to provide evidence to justify the score.

The tool sums the scores under each of the sustainability dimensions and presents the results in the form of a radar chart which shows how the enterprise/initiative is performing based on a maximum possible score which is automatically worked out by the tool based on the number of principles that are relevant).

The results are presented visually in the form of a radar chart which highlights which dimensions a particular wild species use may be performing well against but also where there are weaknesses and opportunities for improvement. Figure 3 provides an example — based on a hypothetical wild species use — showing it is performing well against most dimensions of sustainability but that there is room for improvement particularly in terms of economic sustainability.

Figure 3. Example of an assessment outcome for a hypothetical wild species use



## Who should do a 5DSAF assessment and how?

The 5DSAF has been designed initially for **self-assessment** with individual wildlife use enterprises/initiatives/supply chains in mind (e.g. a game ranch, a crocodile farm, a medicinal plant harvesting enterprise). We are, however, interested to test its applicability at a sectoral/programmatic level — for example a national (or sub-national) wild meat industry.

At this prototype stage, wildlife enterprise/initiative owners/managers would undertake the assessment and it would be for them to judge to what extent they are meeting the principles and to make a judgement as to what score they should allocate against each principle (with supporting evidence to justify the score).

Over time we hope the 5DSAF might gradually progress from a self-assessment tool to an independently audited standard. The desired long term end point for our work is that the 5DSAF becomes the gold standard that government, private sector and civil society actors use to assess the sustainability and safety of value chains for wild species and products. 5DSAF is intended to be used for all wild terrestrial species of fauna, flora and fungi, with certain principles relevant to only sub-sets of these species. In the immediate term, and in terms of self-assessment, there is no specific guidance as to *how* the process should be conducted. Much will depend on the context in which the wild species use takes place and the characteristics of the wild species use initiative that are being explored. For example, an individual owner/manager of an enterprise may decide to simply run through the tool in a desk-based exercise as a check-list to inform management practices. In other cases, it may be useful to bring a group of stakeholders together in a workshop to collectively go through the process. In a workshop scenario it may be useful for one person to conduct the assessment ahead of the workshop and then share the results, discuss and amend where needed in a multi-stakeholder meeting. Or it may be useful to complete the assessment collectively through the workshop process.

We welcome feedback on the application of the 5DSAF. If you do use it, please fill out the feedback form here: [https://forms.office.com/Pages/ResponsePage.aspx?id=TG\\_A1XfJ-UJbqmxAUHGZc0caGARsp8RAnufksVP0xG5UQVJCMVVGUU5QQk5OQk85QIdVUIBFTE83QS4u](https://forms.office.com/Pages/ResponsePage.aspx?id=TG_A1XfJ-UJbqmxAUHGZc0caGARsp8RAnufksVP0xG5UQVJCMVVGUU5QQk5OQk85QIdVUIBFTE83QS4u) to help us understand how easy you found it, what approach you used, how long it took, how useful it was and any stakeholder feedback you received. Please also share the results of the assessment with us if you are willing to do so.

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