

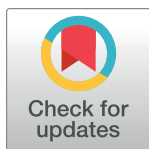
OPINION

Prioritizing sustainable use in the Kunming-Montreal global biodiversity framework

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Introduction and background

In late 2021, a range of experts from around the world came together through GEOBON and the bioDiscovery program of Future Earth to provide expert input to the Kunming-Montreal global biodiversity framework (GBF)—the new strategic framework under the Convention on Biological Diversity (CBD) that will guide interventions to conserve biodiversity and ecosystem services for the next 3 decades.

This opinion piece, a companion to others addressing the ecosystem, restoration, climate, and production system objectives of the GBF (see <https://geobon.org/science-briefs/>), discusses the science behind the sustainable use (SU) targets (Fig 1). It also examines the state of play in international negotiations of the GBF and lays out key priorities for implementation of the framework with respect to SU.

We address SU of biodiversity (Box 1), including, but not limited to, wild and domesticated species, ecosystems and nature's contributions to people. Biodiversity is a global common. It is the foundation of the cultures of many peoples. Its direct use supports over a billion people globally and is a substantial part of economies and markets from local to global levels [1]. Economic estimates state nature supports well over half of global GDP [2], while broader perspectives on values of nature's contributions to people would be substantially higher.

Achieving SU is one of the 3 objectives of the CBD [3]. Paradoxically in this modernizing world where expectations are that technology may relieve the limitations of nature on economies and society, SU may be even more foundational in the coming decades compared to prior periods as humanity transgresses some planetary boundaries and unequal access and shares to biodiversity benefits become more commonplace.

The IPBES Sustainable Use Assessment [1], adopted by Parties in July 2022 updates the CBD definition of SU (Box 1), further specifying “sustainable use is also an outcome of social-ecological systems that aim to maintain biodiversity and ecosystem functions in the long term

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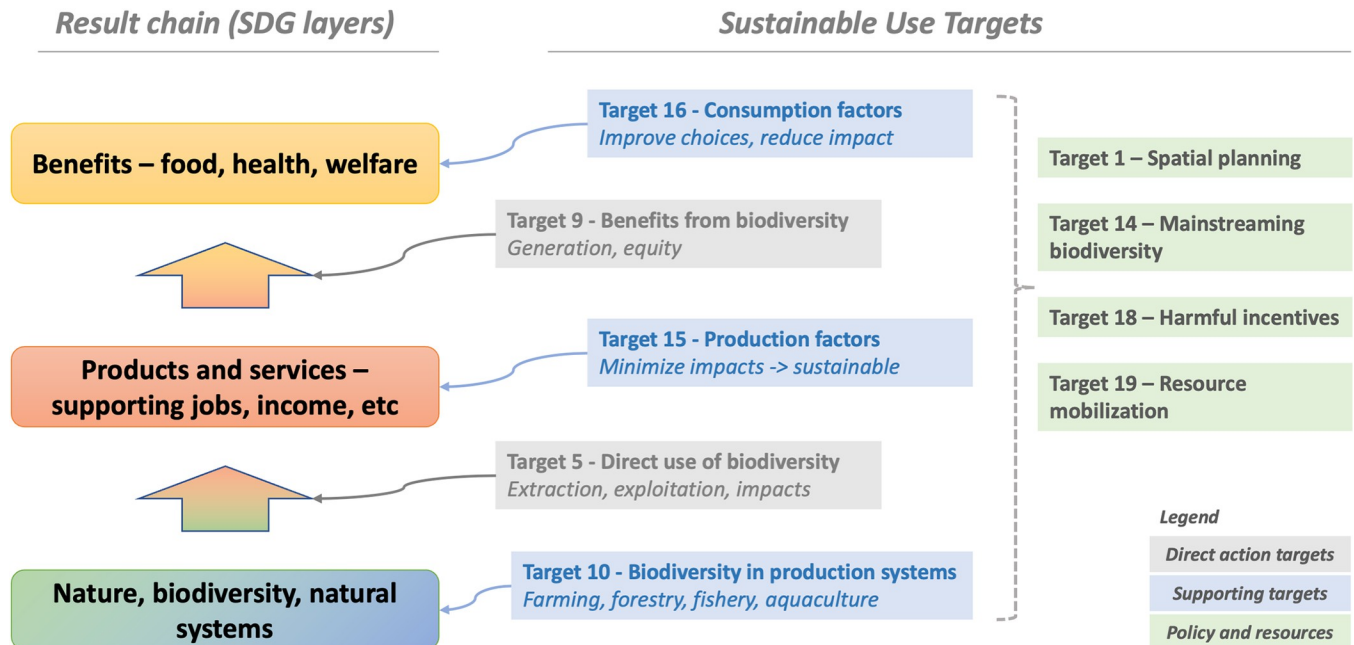


Fig 1. Goal B of the GBF promotes the SU and management of nature’s contributions to people. Its success is dependent on maintaining the status of biodiversity under Goal A. Targets linked to Goal B specifically address the harvest of wild species (Target 5 contributes to both the state of biodiversity under Goal A and sustainability of harvest under Goal B) and the sharing of benefits from this among people (Target 9). More broadly, additional targets address further aspects of SU, including in production systems that more intensively manage the amounts and types of resources exploited (Target 10), the production systems that generate manufactured goods and services (Target 15), and consumption levels and practices by people (Target 16). The rights, access, participation, and empowerment of Indigenous peoples and local communities (Target 21) are foundational to SU and those who are dependent on it. Finally, policy/legislation integration and alignment (Target 14) and spatial planning (Target 1) are essential for managing SU in the context of other socioeconomic sectors, as are resource mobilization (Target 19) and incentives promoting or undermining SU (Target 18). GBF, global biodiversity framework; SU, sustainable use; SDG, sustainable development goals.

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while contributing to human well-being. It is a dynamic process as wild species, the ecosystems that support them and the social systems within which uses occur, change over time and space”. This reinforces the assertion in the GBF theory of change that like the Sustainable Development Goals, GBF targets are inseparable and must be pursued integrally ([4], para 12). Fig 1 presents the interactions among the principal targets supporting Goal B of the GBF.

Here, we highlight 3 key messages relevant to the targets of the GBF [5]:

Assuring that use of nature is sustainable is foundational to human security and welfare, as contributions from nature provide essential benefits both direct and indirect to people across all income levels and all parts of global society

The use of wild species directly contributes to the well-being, resources, and income of billions of people globally [1]. This is the case in developing and developed countries, for economically and

Box 1. Definition of sustainable use

“The use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations” [3,9].

culturally important activities, on a day-to-day basis in informal and formal markets, and is particularly important to people in vulnerable situations. For example, wild pollinators support the farming of crops critical for food security and nutrition [6] and of approximately 28,000 plants used for medicines [7]. Wild-caught aquatic species comprise 50% of all those traded globally [8].

There is a dichotomy between the harvest of species from the wild (e.g., hunting, gathering, fishing, logging) and varied levels of intensified harvest and culture in primary production sectors (e.g., agriculture, forestry, aquaculture). Nevertheless, all rely on a gradient of ecosystem functions and services. Forestry, for example, may rely on a broad scope of activities from timber harvesting to gathering of non-timber forest products from the wild. In general, production sectors tend to involve higher levels of management to increase the focal output. Unsustainable agriculture, forestry, fisheries, and other production sectors, and indeed the global food system itself, have a very high impact on biodiversity, through direct extraction, nutrient and chemical pollution, and land/sea use change [9]. This is in spite of these production sectors having the greatest dependence on sustaining productivity from biodiversity. All these pressures and drivers must be brought within local and global limits to assure long-term sustainability—not just of biodiversity, but of social and economic systems as well [2].

In this regard, not just Targets 5 (use of wild species) and 9 (sharing benefits from use), but also Targets 10 (sustainable production), 15 (production footprint), and 16 (consumption factors) are critical to achieving SU and conservation goals (B and A, respectively).

Sustainable use is an equity and conservation priority (Targets 5 and 9)

People living in poverty and vulnerable situations have very few assets that buffer them from shocks and depend disproportionately on ecosystem services and benefits from nature (e.g., for food, shelter, medicines, hazard protection) [1]. Ensuring use of biodiversity is sustainable is thus not just important for conservation but also for supporting local livelihoods and ensuring equity. As such SU, which reflects the provisioning from natural assets of direct and then indirect benefits to people, contributes significantly to achievement of Sustainable Development Goals.

From this equity perspective, the roles, rights, and agency of Indigenous peoples and local communities, in particular for customary SU, and of women, are foundational to SU. Targets 21 and 22 address these rights, as do some introductory paragraphs in the GBF text [4] and proposed but still-unresolved paragraph B(bis). But failures to fully address these rights historically have led to many Parties inserting equity requirements in multiple targets as a safeguard.

Acknowledging this equity dimension, many Parties assert that the GBF should not just minimize damaging, unsafe, informal, and illegal practices, but should directly promote SU. This is consistent with original wording of the objectives of the Convention, in which assuring SU is given equal priority to conserving biodiversity.

Given the importance of SU of biodiversity at local and national levels, it is critical that monitoring is conducted within national frameworks, addressing locally relevant challenges, before data are aggregated into global indicators. Incorporating data from relevant use sectors (e.g., wild species use, agriculture, forestry) and development of new indicators will be needed. For example, a new “Sustainable Use of Wild Species” indicator for monitoring Target 5 (<https://www.post-2020indicators.org/pdfs/174?type=headline>) would complement the proposed target “Proportion of fish stocks within biologically sustainable levels.”

Production systems must transform to ensure their demands and reliance on natural functions and services are sustainable (Targets 10, 15, 16)

Target 10 refers to the management of areas under production sectors, including agriculture, aquaculture and forestry, and potentially fisheries. It addresses 40% of the Earth’s ice-free land

surface and the growing portions of freshwater and marine ecosystems used to produce food and other material goods. Targets 15 and 16 address production and consumption factors driving biodiversity loss, respectively. Success in implementing all 3 targets is essential for a nature positive outcome [10,11], as reducing use to sustainable levels will be needed in concert with direct action targets [12] to “bend the curve” of biodiversity loss [13].

Historical approaches have maximized production of individual outputs from nature. The result has been an undermining of the full diversity of nature’s contributions on which people depend [9]. Primary production sectors tied to natural assets—agriculture, forestry, aquaculture and fisheries—have been particularly instrumental in driving this decline, and all must continue to shift to more ecosystem-based approaches and include more holistic relationships between people and nature [14].

Food production and consumption, manufacturing, industry and service industries are significant supply-side drivers of biodiversity loss and addressed by Target 15. Demand side factors (Target 16), stimulated by economic and social values reinforcing constant growth are key drivers. Transforming both will be necessary to reduce the footprint of economic activities to sustainable levels.

The importance of the second objective of the CBD on sustainable use of biodiversity is growing as we approach and exceed limits to biodiversity use from local to global levels. Targets related to SU address all levels in the result chain illustrated in Fig 1, across nature, economy, and societal tiers [15]. By contrast, the traditional focus on conservation in the CBD prioritizes just the bottom tier and has been criticized from social, cultural, and rights perspectives. Our findings (and see [5]) provide support for the concept and practice of sustainable use to gain in importance and profile in the convention and be actively promoted as a pillar for achieving all 3 objectives of the convention, with direct relevance and linkages to supporting implementation of the Sustainable Development Goals.

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