Boost NBSAPs through Agroecology: A crucial approach to comprehensively meet KMGBF targets.

Agroecology enables countries to achieve their KMGBF commitments holistically

Agroecology as a systems approach is well placed to address the complex challenges food production systems pose for biodiversity at multiple scales [1,2]. Thus, **it offers a comprehensive approach for countries to fulfill their commitments under the Global Biodiversity Framework (GBF).** It is a versatile system that can effectively address the intricate issues posed by food production systems on biodiversity at various levels. By embracing agroecology on a large scale, e.g., through its integration within National Biodiversity Strategies and Action Plans (NBSAPs), countries can simultaneously fulfill targets related to the reduction of threats to biodiversity, and for meeting people's needs with sustainable use and benefit-sharing [3].

Reinforcing transformative action: KMGBF and agroecology can work in Tandem

The KMGBF and agroecology also share foundational principles as both frameworks underscore the importance of participation, governance, fairness, transparency, etc. Targets within the KMGBF, for instance, Target 13 (Fair and equitable sharing of benefits from genetic resources) or Target 18 (Reduce harmful incentives), resonate with agroecology's call for more sustainable and equitable food systems. [2]. Together, they **offer and reinforce harmonized tools and solutions** for a sustainable future.

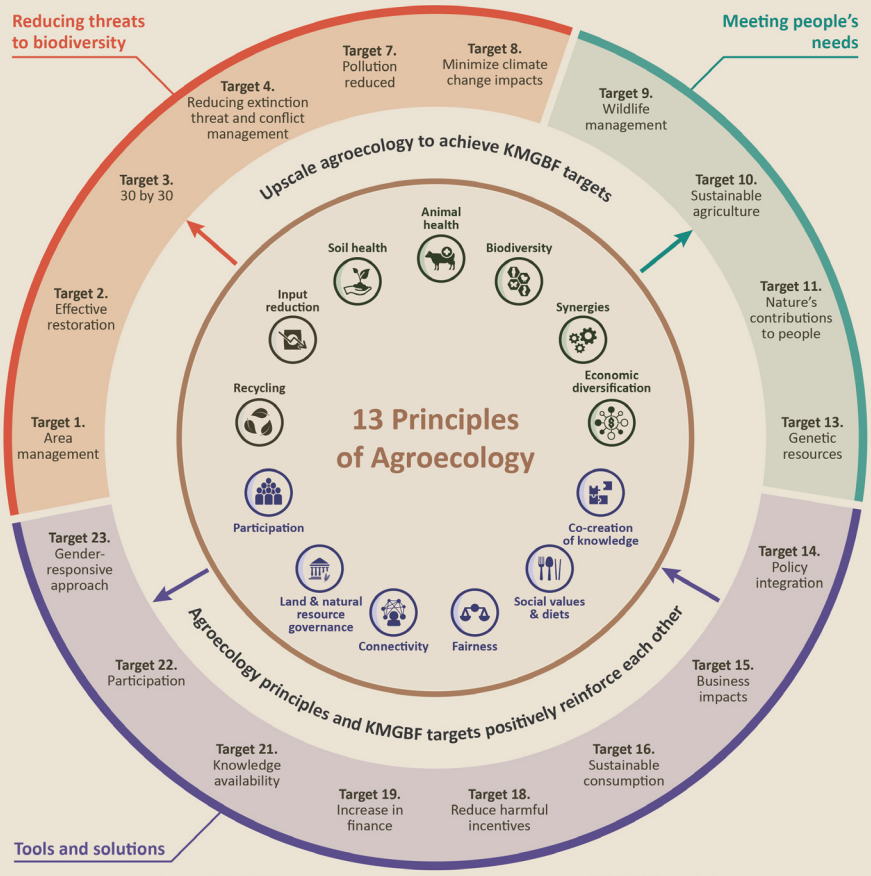


Figure 1: Putting agroecology at the center of KMGBF implementation can help countries achieve targets related to the reduction of threats to biodiversity and to meeting people needs. The adoption of agroecology also contributes to targets related to tools and solutions for implementation and mainstreaming KMGBF. At the same time, supporting the implementation of this last set of targets contributes to the upscaling of agroecology.

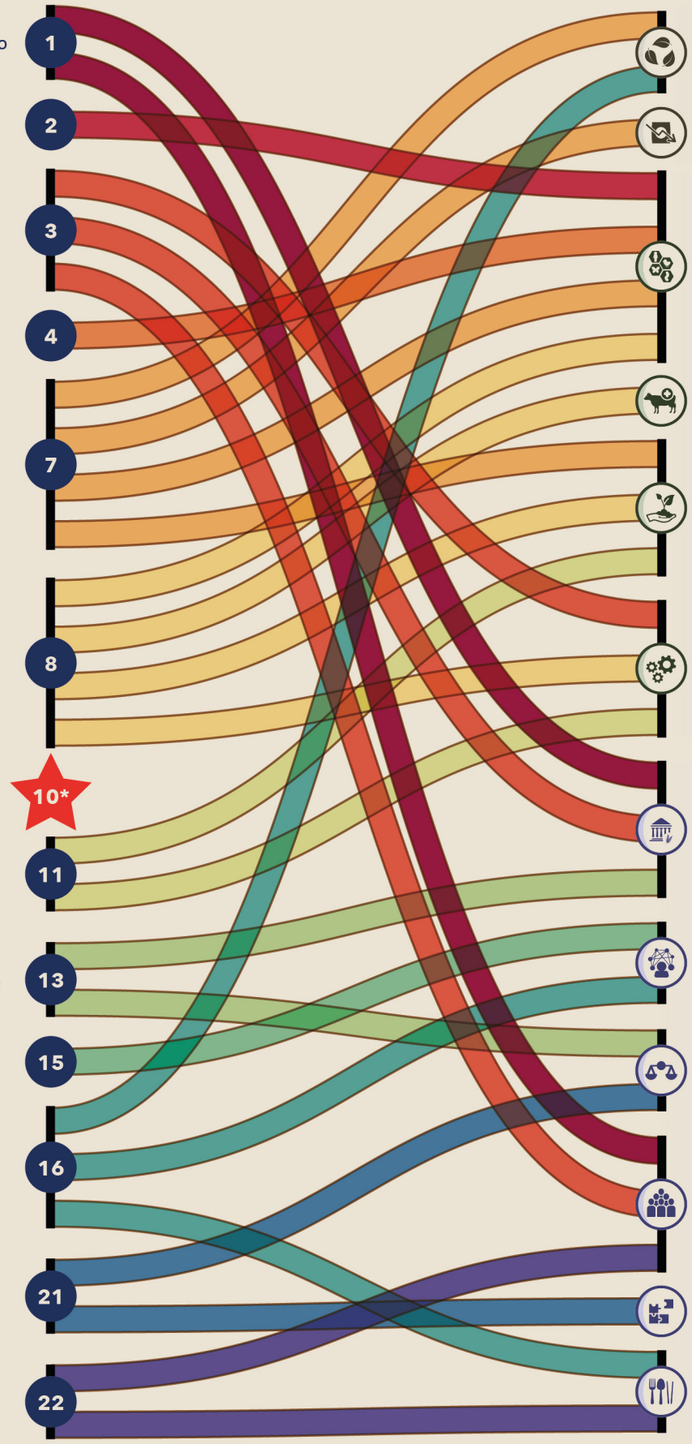
Agroecology: A biodiversity-friendly approach to achieving target 10

Agroecology is endorsed in the KMGBF as a means to realize Target 10. Embracing 13 principles [2], agroecology integrates ecological concepts with social responsibility to bring our food systems into sustainability. These principles champion resource efficiency, resilience, and social equity. They aim to optimize interactions among plants, animals, humans, and the environment within our food systems, all while addressing the need for social equity, ensuring that people can make choices regarding what they eat and how and where it is produced.

Momentum for agroecology is rising globally. Recognized as a Nature-based Solution at the 2021 World Conservation Congress, its appeal has been highlighted by a coalition of 50 countries and 140 entities post the UN Food Systems Summit, underscoring its transformative potential.

The substantial interlinkages between agroecology and the KMGBF targets

Target elements[1]	KMGBF targets
• Participatory, integrated and biodiversity inclusive spatial planning • Respecting the rights of indigenous peoples and local communities	All areas are planned or managed to bring loss of areas of high biodiversity importance close to zero
• Enhance biodiversity and ecosystem functions and services	30% of degraded areas are under effective restoration
• Other effective area based conservation measures • Well-connected and integrated into wider landscapes, seascapes & the ocean • Equitably governed	30% of areas are effectively conserved
• Management actions to halt human-induced extinction • Maintain and restore genetic diversity • Manage human-wildlife interactions and conflict	Threatened species are recovering, genetic diversity is being maintained and human-wildlife conflict is being managed
• Reduce pollution risks (pesticides, excess nutrients lost, hazardous chemicals) and negative impact of pollution • Integrated pest management • Taking into account food security and livelihoods	Pollution reduced, halving nutrient loss and pesticide risk
• Ecosystem-based approaches • Increase resilience to climate change	Minimize impacts of climate change and ocean acidification including through nature-based solutions and/or ecosystem-based approaches
• Application of agroecological approaches • Biodiversity-friendly practices • Nature's contributions to people	Areas under agriculture, aquaculture, fisheries and forestry are managed sustainably
• Nature-based solutions and/or ecosystem-based approaches	Nature's contributions to people are restored, maintained and enhanced
• Appropriate access to genetic resources, DSI, and traditional knowledge • Fair and equitable sharing of benefits from the utilization	Fair and equitable sharing of benefits from genetic resources, digital sequence information and associated traditional knowledge
• Provide information needed to consumers to promote sustainable consumption patterns	Businesses assess and disclose biodiversity dependencies, impacts and risks, and reduce negative impacts
• Sustainable consumption choices • Halving global food waste • Waste generation	Sustainable consumption choices are enabled, and food waste reduced by half
• Improved accessibility to relevant biodiversity data, information and knowledge • Knowledge, innovations, practices and technologies of indigenous peoples and local communities	Data, information and knowledge for decision-making is available
• Participation and rights of indigenous peoples and local communities • Rights of women, children, youth, and persons with disabilities • Access to justice and information	Ensure participation, justice, and rights for indigenous peoples and local communities, women, youth persons with disabilities and environmental defenders



Agroecology principles	Principle elements[2]	
Recycling	• Preferentially use local renewable resources and close as far as possible resource cycles of nutrients and biomass	Improve resource efficiency
Input reduction	• Reduce or eliminate dependency on purchased inputs and increase self-sufficiency	
Biodiversity	• Maintain and enhance diversity of species, functional diversity and genetic resources across scales	Strengthen resilience
Animal health	• Ensure animal health and welfare	
Soil health	• Secure and enhance soil health and functioning • Manage organic matter and enhance soil biological activity	
Synergy	• Enhance positive ecological interaction, synergy, integration, and complementarity within the agroecosystem	
Land and natural resource governance	• Recognize and support farmers, smallholders, and peasant food producers as sustainable managers of natural and genetic resources	Secure social equity
Connectivity	• Ensure proximity and confidence between producers and consumers	
Fairness	• Support dignified and robust livelihoods • Fair treatment of intellectual property rights	
Participation	• Encourage social organization and participation in decision-making • Decentralized governance and local adaptive management	
Co-creation of knowledge	• Enhance co-creation and horizontal sharing of knowledge including local and scientific innovation	
Social values and diets	• Build food systems based on the culture, identity, tradition, social and gender equity of local communities	

Figure 2: There is a broad alignment between the targets set by the KMGBF and the 13 agroecological principles. This figure presents selected elements ([1]) within each KMGBF target (as identified by the parties and guidance from the CBD secretariat [4]) and highlights direct linkages to relevant elements ([2]) of agroecological principles [2]. This correspondence underscores the potential of agroecology to contribute to a majority of KMGBF targets if integrated by countries within their NBSAPs. Please note that the displayed connections are non-exhaustive (*). Connections of Target 10 (★) are not displayed for simplicity, **as this target is interlinked to all agroecological principles.**

Adopting agroecological principles leverages action towards multiple KMGBF targets

Adopting agroecological principles isn't just crucial for biodiversity-friendly and sustainable agriculture (Target 10) but also benefits multiple GBF targets. The strong correspondence between KMGBF and agroecology extends far beyond: **There are substantial interlinkages between specific elements of a majority of KMGBF targets (CBD) and the thirteen principles of agroecology** (Figure 2 shows selected linkages).

For example, agroecology includes a principle on land and natural resource governance that aims to strengthen institutional arrangements, including the recognition and support of family farmers, smallholders, and peasant food producers as sustainable managers of natural and genetic resources. This principle speaks directly to Target 1 of the KMGBF (All areas are planned or managed to bring loss of areas of high biodiversity importance close to zero), including target elements such as participatory land use planning and consideration of the rights of Indigenous peoples and local communities.

The connections between agroecology and the KMGBF targets go beyond the direct interlinkages depicted in Figure 2. **Agroecological principles can also directly and indirectly contribute to other KMGBF targets** not explicitly shown above. For instance, Target 5 (Use, harvesting and trade of wild species is sustainable, safe, and legal) includes the following elements: i) safe use of wild species for people and ecosystems, ii) ecosystem approach and iii) customary sustainable use by indigenous peoples and local communities. These elements have direct interlinkages with agroecological principles such as animal health, synergies, and social values and diets. Similar connections also exist for targets 9, 12, 14, 17 and 23.

The NBSAP challenge

Utilizing this correspondence is promising, but not straightforward, since **transformative actions in many targets can be undermined due to misrepresentations and interpretations** [5]. Thus, on the road to implementing the NBSAP's there are then several **potential pitfalls** to avoid.

For example, Target 7 sets objectives for reducing excess nutrient loss to the environment by promoting more efficient nutrient cycling. Misinterpretations of this target may inadvertently encourage countries to support intensification processes reliant on high external input practices. While these practices might appear efficient, in reality, they lead to detrimental impacts on biodiversity and human well-being when considering multidimensional aspects.

Forthcoming guidebook for mainstreaming agroecology in NBSAPs

To address these challenges, the Global Alliance for the Future of Food, Biovision Foundation, and WWF are collaborating on a practical handbook. This **handbook aims to assist decision-makers in integrating agroecology into National Biodiversity Strategies and Action Plans (NBSAPs) through policies, practices, and processes,** ensuring that the path toward sustainability is clear and effective.

For further information (including references used here), visit the project website and subscribe for updates on the upcoming handbook:

https://www.agroecology-pool.org/national-biodiversity-strategies-and-action-plans/

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