

FOOD FORWARD NBSAPs

FROM GLOBAL BIODIVERSITY TARGETS TO NATIONAL ACTION ON AGRIFOOD SYSTEMS

Agrifood systems planning in 104 National Biodiversity Strategies and Action Plans under the Kunming-Montreal Global Biodiversity Framework

October 2026

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1. SUMMARY

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The Convention on Biological Diversity (CBD) Secretariat's Global Report on Collective Progress in the Implementation of the Kunming-Montreal Global Biodiversity Framework (GBF) concludes that, while the GBF has generated unprecedented global engagement, the collective ambition of national targets remains insufficient to achieve the framework's goals. Gaps are particularly pronounced in areas such as mainstreaming, sustainable consumption, financing, and participation, where national commitments often lack concrete actions, measurable indicators, institutional arrangements, and financing mechanisms. This report builds on those findings by examining how agrifood systems are reflected in the NBSAPs and national targets of 104 Parties across the GBF targets most relevant to agrifood systems, including agriculture, fisheries, and rural livelihoods. The analysis assesses the extent to which Parties are integrating agrifood-related policy options, translating them into national targets and policy actions, and establishing the monitoring, governance, and financing systems needed for implementation. The findings show positive trends in how agrifood systems are integrated within biodiversity policy and where challenges and gaps remain between recognition, ambition, and delivery plans.

KEY MESSAGES

1. **Recognition of agrifood systems in biodiversity policy is high, but implementation plans consistently lag behind.** Across nearly all GBF targets, agrifood-related measures are widely included in NBSAPs, but far fewer Parties establish national targets or policy actions for implementation. This is evident across areas as diverse as agroecology, policy coherence, traditional knowledge, sustainable consumption, market incentives, and biodiversity finance, suggesting that political recognition has advanced more rapidly than delivery.

2. **Sustainable production systems are far more advanced than sustainable consumption and market transformation.** Parties have prioritised measures such as agroecological farming (92% inclusion), capture fisheries (86%), soil health (83%), and climate adaptation in agriculture (95%). In contrast, sustainable diets (22%), consumer behaviour change (16%), public procurement (8%), sustainable finance (5%), and biodiversity disclosure (13%) receive much less attention. This indicates that biodiversity policy continues to focus more on production practices than on the demand-side drivers of biodiversity loss.

3. **Agrobiodiversity, climate adaptation, and ecosystem management are among the strongest areas with implementation plans.** Some of the most developed policy areas relate directly to maintaining resilient food systems, including crop and seed diversity (81% inclusion in NBSAPs and 47% with policy actions), sustainable fisheries, soil health, ecosystem restoration, and climate adaptation. Many Parties have already established seed banks, gene banks, restoration programmes, climate-smart agriculture initiatives, and biodiversity-friendly farming practices, demonstrating that practical implementation is possible when institutional and financial support exists.

4. **Participation, traditional knowledge, and social inclusion are widely recognised but remain weakly operationalised.** Indigenous Peoples, local communities, women, and traditional knowledge are increasingly recognised as essential actors in sustainable agrifood systems. However, participation is rarely supported by measurable targets, dedicated financing, operational governance mechanisms, or monitoring systems. For example, 88% of Parties have targets related to biosafety and access and benefit-sharing in agrifood.

5. **Weak financing and monitoring systems continue to constrain implementation and accountability.** While agrifood systems are increasingly recognised as central to biodiversity conservation and restoration, the enabling conditions needed to implement and track progress remain underdeveloped. Biodiversity finance and subsidy reform are among the weakest policy areas in NBSAPs with 42% of Parties recognising the need to reform harmful subsidies and 52% referencing positive incentives for sustainable agriculture, but only 13% and 18%, respectively, translating these into concrete policy actions. At the same time, for many policy options, monitoring frameworks frequently lack clear indicators, baselines, reporting systems, and mechanisms to assess outcomes. Together, weak financing and monitoring systems limit accountability, make progress difficult to assess, and hinder the transition from policy commitments to implementation and measurable impact at scale.

PRIORITY ACTIONS

1. **Translate commitments into measurable, accountable action.** Move beyond recognition of agrifood-related biodiversity challenges by establishing time-bound, measurable targets, clear implementation responsibilities, and prioritised actions linked to national biodiversity, climate, and agrifood systems goals.

2. **Strengthen monitoring, data, and accountability systems.** Develop robust monitoring frameworks with indicators, baselines, reporting cycles, and independent oversight mechanisms to track progress, assess impacts, and improve accountability for biodiversity outcomes in agrifood systems.

3. **Mobilise and align finance for implementation.** Strengthen biodiversity finance through subsidy reform, positive incentives using instruments like blended finance, payment for ecosystem services schemes, sustainable finance instruments, and targeted investments that support farmers, fisherfolk, Indigenous Peoples, and their communities to accelerate nature-positive agrifood transitions at scale.

4. **Empower inclusive participation, traditional knowledge systems, and capacity development.** Institutionalise the participation of Indigenous Peoples, local communities, women, youth, farmers, fisherfolk, and civil society and their organisations in policy processes; and support traditional knowledge, extension services, farmer-to-farmer learning, and innovation systems to drive policy implementation.

5. **Drive systemic transformation through coordinated public and private action.** Foster policy coherence across biodiversity, agriculture and food, climate, trade, and sustainable development agendas, while encouraging the private sector to integrate biodiversity into business strategies, supply chains, investment decisions, traceability systems, and reporting frameworks to accelerate landscape-scale and systemic transformation.


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2. INTRODUCTION

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WHY ACT ON AGRIFOOD SYSTEMS AS PART OF THE BIODIVERSITY AGENDA?

The Kunming-Montreal Global Biodiversity Framework (GBF) made agrifood systems transformation a key policy priority in the global biodiversity agenda. GBF Target 10 asks Parties to bring areas under agriculture, aquaculture, fisheries and forestry under sustainable management, "in particular through the sustainable use of biodiversity, including through a substantial increase of the application of biodiversity-friendly practices, such as sustainable intensification, agroecological and other innovative approaches".

In addition to Target 10, agrifood systems are directly relevant to the implementation of several other targets, including: Target 1 on participatory, integrated biodiversity-inclusive spatial planning, Target 2 that asks for restoration of degraded ecosystems, Target 7 which calls for reducing pollution risks and the negative impact of pollution including from pesticides and highly hazardous chemicals by at least half, Target 8 on minimising the impact of climate change and ocean acidification on biodiversity, Target 13 addresses access and benefit-sharing from genetic resources, Target 16 on sustainable consumption and food waste, Target 18 that requires harmful incentives, including agricultural subsidies, to be identified and reformed, and Targets 22 and 23 address the participation and rights of Indigenous Peoples, local communities and women.

The case for treating agrifood systems as a biodiversity priority is clear. They sit at the centre of the interlinked biodiversity, climate, and food security crises.[1] Monitored wildlife populations fell by an average of 73% between 1970 and 2020 – 85% in freshwater systems, 69% on land and 56% at sea – and the threat reported most often in every region of the world is habitat loss and degradation, driven primarily by the food system.[2] Food production occupies 40% of all habitable land, accounts for 70% of freshwater use.[3] A conventional industrial food system is therefore the largest single reason the curve is falling, and it acts on land, water and climate simultaneously.

Agrifood systems, as a whole, including production, land-use change, processing, transport, consumption and waste generate roughly one third of global greenhouse gas emissions, and are the principal driver of biodiversity loss, with agricultural expansion and intensification identified as the leading pressure on ecosystems, freshwater, and species worldwide.[4] The costs of this model including the hidden environmental, social, and health costs run at more than USD 10 trillion per year almost 10% of global GDP.[5] A production model that erodes the soils, water, ecosystems, and rural livelihoods on which it depends cannot deliver food security and sovereignty in a warming world.

The current industrial agrifood systems are also wasteful and failing to feed people. Roughly a third of all food produced is never eaten which is around a quarter of global calories, a fifth of agricultural land and water use, and 4.4% of global greenhouse gas emissions.[6] Despite record production, some 2.1 billion people experienced moderate or severe food insecurity in 2025.[7]

The interlinkages between agrifood systems and the rest of the natural and socioeconomic systems make their transformation among the most impactful levers for addressing global goals on climate, nature, and people. The Nexus Assessment of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) has underscored that biodiversity, water, food, health and climate cannot be managed separately, and that responses are too often siloed – different institutions working on disconnected policy agendas, producing conflicting objectives and duplicated effort.[8] Scenarios that prioritise single-sector objectives in isolation, food production explicitly among them, do not achieve benefits across the nexus, because the interdependencies create trade-offs; the scenarios that do deliver combine multiple response options instead of focusing on one.[9] Transforming food systems produces benefits across the whole nexus as it leads to less land conversion, lower emissions, less water pollution and delay is costly, with the cost of addressing biodiversity loss doubling if put off by ten years.[10]

1 WWF (2026). Living Planet Report 2026 – The Science of Hope. WWF, Gland, Switzerland.
2 WWF (2024). Living Planet Report 2024: A System in Peril. Living Planet Index of 5,495 species and nearly 35,000 population trends; regional declines of 95% in Latin America and the Caribbean, 76% in Africa and 60% in Asia-Pacific.
3 WWF (2024). Living Planet Report 2024: A System in Peril.
4 WWF (2026). Living Planet Report 2026 – The Science of Hope. WWF, Gland, Switzerland.
5 FAO (2023). The State of Food and Agriculture 2023: Revealing the true cost of food to transform agrifood systems. Rome. https://www.fao.org/newsroom/detail/hidden-costs-of-global-agrifood-systems-worth-at-least--10-trillion/en
6 WWF (2024). Living Planet Report 2024: A System in Peril.
7 FAO, IFAD, UNICEF, WFP and WHO (2026). The State of Food Security and Nutrition in the World 2026 – Understanding and addressing the high cost of a healthy diet. Rome.
8 IPBES (2024). Thematic Assessment Report on the Interlinkages among Biodiversity, Water, Food and Health (the Nexus Assessment), Summary for Policymakers, p. 18.
9 IPBES (2024), Nexus Assessment, Summary for Policymakers, pp. 19–20.
10 IPBES (2024), Nexus Assessment, Summary for Policymakers, p. 35 (food-system transformation) and pp. 19–20 (cost of delay).

WHAT ARE NBSAPS AND NATIONAL TARGETS?

National Biodiversity Strategies and Action Plans (NBSAPs) are the primary national instruments for implementing the Convention on Biological Diversity (CBD), translating global biodiversity goals into national policies, actions, and planning. National targets are the specific objectives countries set within this framework to contribute to the achievement of the Kunming-Montreal Global Biodiversity Framework (GBF), reflecting national circumstances and levels of ambition.

CBD Decision 15/6 asks Parties to include the following elements in their revised NBSAPs:

1. National targets addressing or contributing towards each of the goals and targets of the GBF

2. Concrete actions, policies and programmes designed to meet the national targets, including spatial, temporal and financial aspects, as appropriate. The development of these actions should go hand in hand with the identification of financing and capacity gaps and the development of national finance plans, or similar instruments, as well as capacity-building and development plans.

3. National monitoring, reviewing and assessment including use of headline indicators as well as component, complementary and other national indicators, where relevant, considering national circumstances. NBSAPs may identify the relevant agencies responsible for collecting the data and compiling these indicators, any need for further development of such indicators, and any capacity development needs.

Most NBSAPs follow a common architecture: a situation analysis of biodiversity status, pressures and policy context; a strategic section setting a vision, goals and national targets, now generally mapped to the four goals and 23 targets of GBF, and an action plan setting out measures, responsible institutions, indicators, timelines and, in some plans, costs. The balance between those parts of NBSAPs varies widely in practice with some of them being narrative documents of several hundred pages, others are built around metrics in which each target has a table row with columns for actions, responsible actors, indicators and budget.


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PURPOSE OF THIS REPORT

This report aims to assess the integration of action on agrifood systems in NBSAPs and national targets of 104 Parties submitted up to 15 September 2026 (See Figure 1). Building on the Secretariat's first Global Report on Collective Progress, the report analyses national targets, commitments, and activities planned for agrifood systems transformation to contribute to each GBF target.

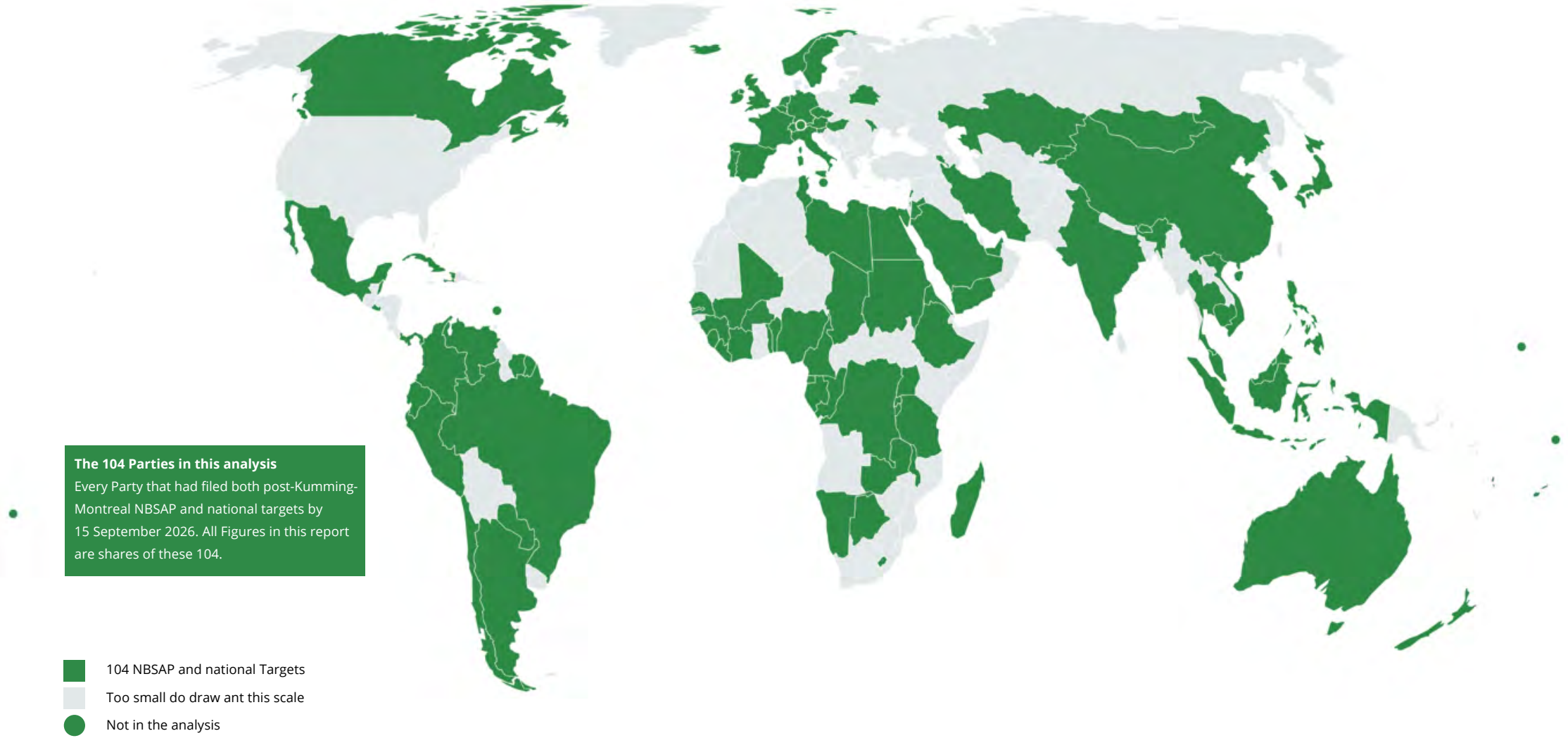


Figure 1. Map with104 Parties that submitted NBSAPs and national targets which are assessed in this report

THE NBSAP REVIEW METHODOLOGY

The project team downloaded all 108 NBSAPs and all 3,937 national targets from 173 Parties available on the CBD Online Reporting Tool as of 15 September 2026, which were then reviewed and analysed as follows:

1. Extracted the full text passages from the NBSAPs documents page by page and column by column which resulted in 52,540 passages.

2. Searched the 52,540 passages against a 150-pattern agrifood keyword list, resulting in 24,905 passages potentially relevant to agrifood systems.

3. Screened the 24,905 passages using a large language model (LLM) asking: does this passage say something about how the country produces, governs, distributes or consumes food? This resulted in 10,119 relevant passages from 108 NBSAPs.

4. Filtered the passages and national targets of 104 Parties that submitted both an NBSAP and national targets which resulted in 10,029 relevant passages and 2,509 national targets. We restricted the analysis to these NBSAPs and national targets for this report so that plans and targets are compared for the same Parties.

5. Screened the 10,029 relevant passages and 2,509 national targets to identify agrifood-relevant policy options (i.e., a potential course of action or decision that can be taken by a government, organization, or individual to address a particular issue or achieve a specific goal, as defined by IPBES here) and found 73 agrifood policy options across the 104 Parties' NBSAPs and national targets.

6. Analysed and identified examples of how each of these 73 policy options are included in the NBSAPs and national targets: 1) just a mention in NBSAP; 2) as a policy action (i.e., a specific activity or measure to be undertaken which has an implied or named doer and outcome) in NBSAP; and 3) if included in the text of a national target.

The following chapter presents results of this analysis. The methodology is described in detail in the report Annex.


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3. FINDINGS

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OVERVIEW OF INTEGRATION OF AGRIFOOD SYSTEMS IN NBSAPS AND NATIONAL TARGETS

The CBD Secretariat's *Global Report on Collective Progress in the Implementation of the Kunming-Montreal Global Biodiversity Framework (GBF)* concludes that, while the GBF has generated unprecedented global engagement, collective ambition remains insufficient to achieve the framework's goals. The report identifies particularly significant gaps in mainstreaming, sustainable consumption, financing, and participation, and finds that implementation is most constrained where NBSAPs lack concrete actions, measurable indicators, institutional arrangements, and financing mechanisms.

This agrifood-focused assessment of NBSAPs and national targets of 104 Parties broadly confirms those findings. Across the GBF targets most relevant to agrifood systems, agrifood-related policy options are widely recognised and increasingly reflected in national biodiversity planning. However, recognition is substantially stronger than implementation plans. Many Parties acknowledge the need for sustainable production systems, pollution reduction, agrobiodiversity conservation, climate resilience, inclusive governance, sustainable consumption, and biodiversity finance, but these commitments are often not accompanied by measurable targets, operational monitoring frameworks, dedicated financing, or implementation arrangements.

At the same time, the analysis reveals important differences across GBF targets. The strongest progress is in areas directly linked to sustainable production and environmental stewardship, including agroecological farming, sustainable fisheries, ecosystem restoration, climate adaptation, soil health, and crop genetic diversity. By contrast, the weakest areas are the same as those highlighted in the CBD Secretariat's Global Review, namely biodiversity mainstreaming, sustainable consumption, biodiversity finance, private-sector accountability, participation, and gender equality. Across these areas, policy ambition is generally high, but delivery mechanisms remain limited.

Across all 19 GBF targets assessed, a common implementation gap emerges. Agrifood measures are frequently included in NBSAPs, but target-setting, policy actions, monitoring systems, and financing arrangements are consistently weaker. This suggests that the principal challenge is no longer recognition of the importance of agrifood systems for biodiversity conservation and restoration, but the development of the governance, financing, monitoring, and institutional systems needed to implement commitments for agrifood systems transformation. Figure 2 summarises these patterns across all agrifood-related GBF targets and highlights where progress is strongest and where implementation challenges and gaps remain.


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Relevant agrifood policy options in NBSAPs and national targets – GBF Targets 1 to 23

How far each agrifood-related policy option travels from mention, to a national target, to a tasked action, across the 104 Parties that filed both intruments.

GBF target	Relevant policy options	Included in NBSAPs	National target	Policy action
 T1 Plan and Manage All Areas to Reduce Biodiversity Loss	Spatial planning for food production — crop zoning, agricultural landscape planning, corridors, fisheries & livestock	77%	26%	34%
	Agricultural frontier management — zero-deforestation, productive reconversion, halting conversion	26%	5%	5%
 T2 Restore 30% of All Degraded Ecosystems	Restoring degraded farmland, pastures, rangelands & soils	87%	39%	48%
	Restoring inland water, coastal & marine ecosystems — mangroves, floodplains, fish refuges, wetlands, seagrass, reefs	80%	20%	25%
	Restoring forests & agroforests that provide food, fuel, NTFPs or fodder	43%	7%	14%
 T4 Halt Species Extinction, Protect Genetic Diversity, and Manage Human-Wildlife Conflicts	Crop genetic diversity	82%	23%	43%
	Fish & aquatic genetic resources	79%	12%	12%
	Livestock & animal genetic resources	71%	21%	20%
	Soil biodiversity — organisms, fauna, microbial life	35%	4%	8%
	Human–wildlife conflict	35%	29%	8%

0% 100% Share of the 104 Parties that submitted both an NBSAP and national targets.

All three columns share one base and one scale. **NBSAPs** = the plan raises the policy option anywhere. **Target** = the Party names it in at least one national target. **Action** = at least one NBSAP passage is classified as an ACTION, defined as a concrete activity, measure, or intervention to be implemented, rather than descriptive or narrative text.

Figure 2. Integration of agrifood systems under relevant GBF Targets across NBSAPs and national targets

GBF target	Relevant policy options	Included in NBSAPs	National target	Policy action
 T6 Reduce the Introduction of Invasive Alien Species by 50% and Minimize Their Impact	Prevention, early detection, eradication & control — including biological control	37%	3%	5%
	Pathways of introduction, agrifood trade & border biosecurity — planting material, quarantine and phytosanitary systems	32%	2%	3%
	Impacts on agricultural production, fisheries & food security	30%	5%	6%
	Invasive species in production landscapes & waters — rangeland weeds, aquatic and aquaculture invasives	19%	0%	4%
 T7 Reduce Pollution to Levels that are Not Harmful to Biodiversity	Excess nutrients — cycling, use efficiency, managing runoff	88%	54%	29%
	Pesticides & highly hazardous chemicals through integrated pest management	88%	61%	40%
	Waste management & circularity	25%	34%	10%
	Food-system plastics & packaging	13%	6%	2%
 T8 Minimise the Impacts of Climate Change on Biodiversity and Build Resilience	Climate change named as an impact on agrifood systems	76%	16%	16%
	Agrifood systems as a solution for climate mitigation	91%	10%	46%
	Adaptation in agrifood systems	95%	19%	57%
 T9 Manage Wild Species Sustainably to Benefit People	Wild foods & dietary diversity	43%	11%	7%
	Markets & trade for sustainable food	28%	6%	13%

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Figure 2. Integration of agrifood systems under relevant GBF Targets across NBSAPs and national targets

GBF target	Relevant policy options	Included in NBSAPs	National target	Policy action
 **T10** Enhance Biodiversity and Sustainability in Agriculture, Aquaculture, Fisheries, and Forestry	Agroecological, regenerative & organic farming practices	92%	72%	45%
	Capture fisheries	86%	80%	44%
	Sustainable aquaculture management	66%	61%	22%
	Livestock & pastoral systems	68%	38%	34%
	Agroforestry & integrated production systems	52%	11%	17%
 **T11** Restore, Maintain and Enhance Nature's Contributions to People	Soil health & sustainable land management	83%	56%	31%
	Pollinators & pollination in agroecosystems	79%	33%	19%
	Freshwater & irrigation management	40%	5%	15%
 **T13** Increase the Sharing of Benefits from Genetic Resources, Digital Sequence Information and Traditional Knowledge	Crop & seed diversity, seed & gene banks	81%	36%	47%
	IPLC, local communities & traditional knowledge	52%	27%	14%
	Biosafety & access-and-benefit-sharing	68%	88%	15%
	Digital sequence information (DSI) — ABS frameworks, governance gaps, sequencing of crop genetic resources	23%	38%	2%
 **T14** Integrate Biodiversity in Decision-Making at Every Level	Policy coherence & mainstreaming	74%	67%	16%
	Environmental & strategic impact assessment for agrifood — biodiversity risk in project and policy approvals	54%	13%	14%
	Natural capital & environmental-economic accounting for agrifood	12%	2%	0%

0% 100% Share of the 104 Parties that submitted both an NBSAP and national targets.

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Figure 2. Integration of agrifood systems under relevant GBF Targets across NBSAPs and national targets

GBF target	Relevant policy options	Included in NBSAPs	National target	Policy action
 T15 Businesses Assess, Disclose and Reduce Biodiversity-Related Risks and Negative Impacts	Certification & eco-labels	49%	8%	21%
	Traceability & chain of custody	17%	3%	5%
	Corporate biodiversity risk monitoring & disclosure	13%	2%	2%
	Consumer information & food labelling	10%	2%	6%
	Sustainable finance & ESG integration	5%	0%	0%
	ABS compliance machinery — permits, checkpoints, certificates, reporting	6%	0%	0%
 T16 Enable Sustainable Consumption Choices to Reduce Waste and Overconsumption	Food waste reduction	47%	28%	13%
	Sustainable & healthy diets	22%	6%	5%
	Consumer awareness & behaviour change	16%	22%	6%
	Public procurement & institutional food	8%	6%	2%
 T17 Strengthen Biosafety and Distribute the Benefits of Biotechnology	National biosafety frameworks — law, competent authority and institutional arrangements	37%	6%	2%
	Handling of biotechnology & distribution of its benefits — CBD Article 19	27%	5%	3%
	Risk assessment & approval of living modified organisms — field trials, deliberate release	17%	2%	2%
	Biosafety capacity — laboratories, inspection, quarantine and border control	15%	4%	2%
	Detection, labelling & documentation of LMOs — including transboundary shipments	15%	1%	2%
	Coexistence & GM-free agriculture — gene flow, contamination of conventional and organic crops	4%	1%	1%

0% 100% Share of the 104 Parties that submitted both an NBSAP and national targets.

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Figure 2. Integration of agrifood systems under relevant GBF Targets across NBSAPs and national targets

GBF target	Relevant policy options	Included in NBSAPs	National target	Policy action
 T18 Reduce Harmful Incentives by at Least $500 Billion per Year, and Scale Up Positive Incentives for Biodiversity	Positive incentives for sustainable agriculture — eco-schemes, tax credits, grants, green credit, PES	52%	6%	18%
	Harmful subsidy reform & elimination — agricultural and fisheries subsidies, tax exemptions on inputs, perverse incentives	42%	9%	13%
 T19 Mobilise $200 Billion per Year for Biodiversity From all Sources, Including $30 Billion Through International Finance	Payments for ecosystem services — rewarding farmers, fishers, communities and land users	28%	4%	10%
	Non-market mechanisms — CBNRM, co-management, customary governance, OECMs	28%	16%	9%
	Biodiversity finance plans & domestic resource mobilisation — budget lines, levies, funds	30%	3%	5%
 T21 Ensure That Knowledge Is Available and Accessible To Guide Biodiversity Action	Research, training & extension	91%	20%	57%
	Traditional, Indigenous & local knowledge in agrifood	60%	13%	17%
	Communication & awareness-raising	65%	10%	24%
	Free, prior and informed consent (FPIC)	9%	0%	2%

0% 100% Share of the 104 Parties that submitted both an NBSAP and national targets.

All three columns share one base and one scale. **NBSAPs** = the plan raises the policy option anywhere. **Target** = the Party names it in at least one national target. **Action** = at least one NBSAP passage is classified as an ACTION, defined as a concrete activity, measure, or intervention to be implemented, rather than descriptive or narrative text.

Figure 2. Integration of agrifood systems under relevant GBF Targets across NBSAPs and national targets

GBF target	Relevant policy options	Included in NBSAPs	National target	Policy action
 T22 Ensure Participation in Decision-Making and Access to Justice and Information Related to Biodiversity for all	IPLC participation in agrifood decision-making — land-use planning, fisheries and forest management	77%	7%	36%
	Women's & girls' participation — representation on committees, access to land and credit	55%	5%	17%
	Producers' & producer organisations' participation — farmers, pastoralists & fisherfolk, cooperatives and associations in agrifood decision-making	54%	2%	15%
	Youth participation — representation, leadership training, young farmers	43%	3%	13%
	Multi-stakeholder & participatory governance — co-management, platforms, community protocols, participatory processes	39%	4%	15%
	Access to justice, information & grievance mechanisms	7%	0%	1%
 T23 Ensure Gender Equality and a Gender-Responsive Approach for Biodiversity Action	Gender-responsive capacity building & knowledge	51%	3%	16%
	Gender-responsive governance frameworks & monitoring	37%	2%	6%
	Women's participation & leadership in governance	32%	3%	10%
	Equal rights & access to land, credit and economic opportunity	30%	2%	5%

0% 100% Share of the 104 Parties that submitted both an NBSAP and national targets.

All three columns share one base and one scale. **NBSAPs** = the plan raises the policy option anywhere. **Target** = the Party names it in at least one national target. **Action** = at least one NBSAP passage is classified as an ACTION, defined as a concrete activity, measure, or intervention to be implemented, rather than descriptive or narrative text.

Figure 2. Integration of agrifood systems under relevant GBF Targets across NBSAPs and national targets

The following sections examine how agrifood systems are reflected in NBSAPs and national targets under each GBF target most relevant to agrifood systems transformation. For each target, the analysis assesses the extent to which Parties are incorporating agrifood-related policy options into national biodiversity planning, translating them into national targets and policy actions and where challenges and gaps remain. Together, these findings provide a picture of where progress is being made, where implementation gaps persist, and where greater ambition, investment, and institutional capacity will be needed to align agrifood systems with the objectives of the Global Biodiversity Framework.

TARGET 1: PLAN AND MANAGE ALL AREAS TO REDUCE BIODIVERSITY LOSS

Agricultural expansion remains the leading driver of land-use change and biodiversity loss, making agrifood systems transformation central to GBF Target 1.[11] It is responsible for almost 90% of global deforestation and has caused 70% of biodiversity loss on land and 50% in fresh water. Hence, agrifood system planning and transformation can contribute to Target 1 by embedding biodiversity-inclusive spatial planning into agricultural policies, directing expansion away from areas of high biodiversity importance, and promoting agroecology, and restoration so that food production supports sustainable land-use.

Key trends in NBSAPs and national targets

As Figure 3 shows, spatial planning for food production is the main agrifood measure under Target 1. It is included in 77% of NBSAPs, but only 26% of Parties have established a national target and 34% include a related policy action.

Relevant policy options	Included in NBSAPs	National target	Policy action
Spatial planning for food production such as crop zoning, agricultural landscape planning, corridors, fisheries & livestock	77%	26%	34%
Agricultural frontier management through zero-deforestation, productive reconversion, halting conversion	26%	5%	5%

Figure 3. Integration of agrifood systems under Target 1 across NBSAPs and national targets of 104 Parties

This trend suggests that Parties increasingly recognise the importance of crop zoning, landscape planning, fisheries management, and ecological corridors for balancing food production and biodiversity conservation. By contrast, agricultural frontier management receives very limited attention, with only 26% of Parties including it in their NBSAPs and just 5% establishing a national target or policy action. Measures such as zero-deforestation commitments, productive restoration, and restrictions on agricultural expansion remain politically sensitive despite their importance for reducing biodiversity loss. The low level of target-setting across both policy options shows that biodiversity-inclusive land-use planning is often framed as a broad policy direction without related measurable commitments and Parties are hesitant to adopt measures that directly constrain agricultural expansion.

11 WWF (2026) Living Planet Report 2026 – The Science of Hope. WWF, Gland, Switzerland.

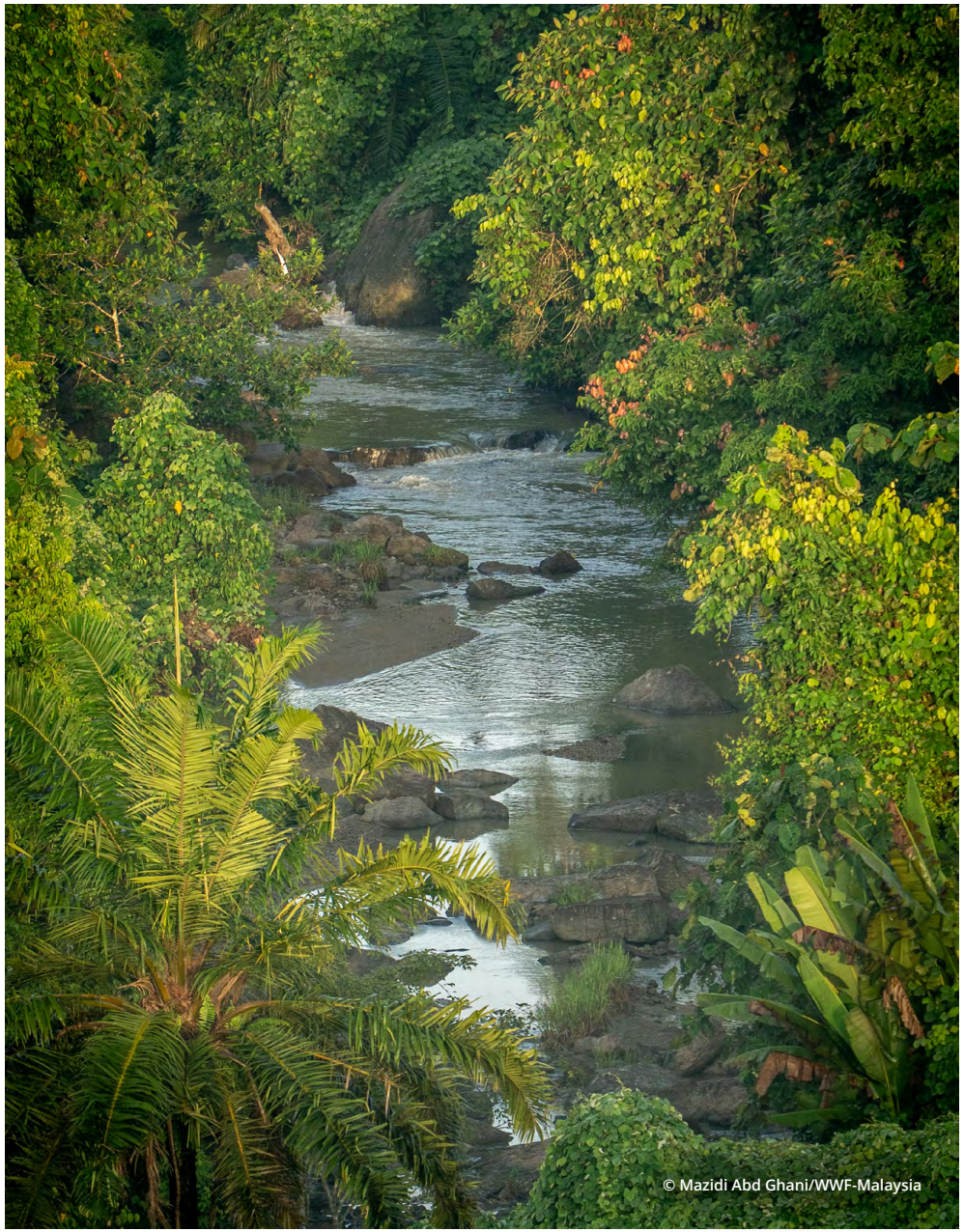
Examples of emerging practice

Colombia's NBSAP calls for coordinating land-use planning instruments with crop zoning "not only based on the productive potential associated with the land, but also including guidance on production practices that are appropriate given the dominant ecological structure, the provision of ecosystem services, and conservation objectives." It states that this "requires alignment and consistency between sectoral plans and the various Territorial Planning Plans (POTs), the Biodiversity Action Plan, and the Comprehensive Climate Change Management Plans". It places crop zoning at the intersection of municipal land-use, biodiversity and climate instruments.

Ecuador describes the Organic Law on Rural Lands and Ancestral Territories as "fundamental to the conservation of ecosystems (páramos, primary forests) and to controlling the expansion of the agricultural frontier." The NBSAP states that the agrarian question "must also be addressed from the perspective of land tenure, tackling the problem of equitable distribution in accordance with the principle of safeguarding the social and environmental function of this natural resource," to "reduce the pressures on forests and conservation areas".

Cameroon reports that biodiversity loss is "exacerbated by the unsustainable expansion of agricultural and pastoral activities, mining in areas of high ecological value, and weak institutional coordination," with the consequence that "overlaps arise in land-use maps, particularly between mines, forest concessions, agriculture, conservation areas, and grazing lands," citing its Sectoral Biodiversity Footprint (2021) and national ecosystem assessment (2022).

The NBSAP of the Democratic Republic of the Congo (DRC) sets out five possible strategic priorities, stating that the country "could structure its priorities around" sustainable management of the Congo Basin's forests; the Kivu–Kinshasa Green Corridor, "a pilot community area with high ecological and social potential"; ecological monitoring systems "anchored in universities and communities"; local added value through sustainable value chains "in ecotourism, organic agriculture, non-timber forest products (NTFPs), or bioprospecting"; and innovative financial mechanisms "such as environmental funds, carbon credits, or decentralized funding channels."


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TARGET 2: RESTORE 30% OF ALL DEGRADED ECOSYSTEMS

Agrifood systems are both a major driver of ecosystem degradation and an important nature-based solution. Globally, unsustainable land-use management and practices affect 1.6 billion hectares of land, over 60% of which occurs on agricultural lands[12] including 50% of degraded grasslands and rangeland[13], and 55% of mangrove loss is driven by aquaculture, making agrifood landscapes the largest restoration opportunity for meeting Target 2.[14] Agroecology, restorative aquaculture, sustainable fisheries management, and restoration of degraded grasslands, pastures and rangelands offer quantified, scalable pathways to meet GBF Target 2 while simultaneously enhancing food security and climate resilience.

Key trends in NBSAPs and national targets

As Figure 4 shows, restoration of degraded farmland, pastures, rangelands, and soils is the dominant agrifood restoration measure under Target 2. It is included in 87% of NBSAPs, while 39% of Parties have established at least one related national target and 48% include a policy action. This strong inclusion and relatively high action rate suggests that Parties increasingly view restoration as compatible with agricultural productivity, resilience, and food security objectives.

Relevant policy options	Included in NBSAPs	National target	Policy action
Restoring degraded farmland, pastures, rangelands & soils	87%	39%	48%
Restoring inland water, coastal & marine ecosystems for fisheries including mangroves, floodplains, fish refuges, wetlands, seagrass, reefs	80%	20%	25%
Restoring forests & agroforests that provide food, fuel, NTFPs or fodder	43%	7%	14%

Figure 4. Integration of agrifood systems under Target 2 across NBSAPs and national targets of 104 Parties

Restoration of inland water, coastal, and marine ecosystems that support fisheries is also widely recognised. It is integrated in 80% of NBSAPs but only 20% of Parties include related targets and 25% include policy actions. This indicates a significant gap between commitment and action for aquatic restoration in biodiversity planning.

By contrast, restoration of forests and agroforestry systems that provide food, fuel, non-timber forest products (NTFPs), and fodder receives considerably less attention. Although included in 43% of NBSAPs, only 7% of Parties have established a national target and 14% include policy actions. Parties seem to prioritise restoration within agricultural production landscapes over more integrated approaches that combine restoration and food production through agroforestry and multifunctional landscapes.

12 FAO (2025). The State of the World's Land and Water Resources for Food and Agriculture 2025

13 WWF (2025). From Roots to Riches: Priority policy and investment decisions for grasslands and savannahs. WWF International, Gland, Switzerland.

14 FAO (2023). The world's mangroves 2000–2020. Rome. https://doi.org/10.4060/cc7044en

Overall, the trend suggests that Parties favour restoration measures that can be directly linked to agricultural productivity, food security, and climate resilience. Ambition and implementation decline as restoration moves away from production landscapes and towards more integrated systems.

Examples of emerging practice

Czechia commits to limiting soil degradation "with regard to soil biodiversity, in particular by implementing anti-erosion measures as part of land consolidation with subsidy support from the Common Agricultural Policy (CAP)," preferring measures against water and wind erosion in erosion-prone areas, and to increasing CAP support for farming practices that prevent degradation, "increase the proportion of organic matter in the soil, improve soil structure, promote natural soil processes and lead to the restoration and enhancement of soil biodiversity," with the Ministry of Agriculture responsible.

El Salvador frames restoration of terrestrial and aquatic ecosystems and agroecosystems as "vital for water and food security, as well as climate resilience," reporting that of the 497,403 hectares in Ramsar Sites and Biosphere Reserves, 85% requires restoration (MARN, 2023). Its national Target 2 commits by 2030 to improving the ecological condition of at least 10% of terrestrial and aquatic ecosystems and agroecosystems. With protected area expansion limited, priority goes to consolidating participatory management in at least half of the 210 designated protected areas, and to partnerships with the fishing and tourism sectors around key habitats including Jiquilisco Bay and the Gulf of Fonseca.

Cambodia's Community Fish Refuges (CFRs) support aquatic ecosystem recovery and sustain food security. Embedded within rice-field systems around the Tonle Sap, they "function as no-take zones that provide dry-season refugia for fish," supporting breeding and replenishing adjacent rice-field fisheries, and analysis shows these community-managed refuges "can increase fish biomass and species richness in surrounding rice fields." Wetland rehabilitation in the Lower Mekong has focused on restoring degraded flooded forests and promoting agricultural practices with reduced chemical inputs, "strengthening water retention and climate resilience."

Botswana identifies restoring degraded rangelands to improve livestock forage and carbon sequestration among its illustrative Nature-based Solutions, alongside maintaining floodplains and conserving elephant corridors. It frames well-managed rangelands as yielding livestock production, habitat conservation, carbon storage and landscape resilience together, treating rangeland restoration as a multifunctional intervention for biodiversity, climate, and food production.

Mongolia lists rangeland restoration among its illustrative Ecosystem-based Adaptation (EbA) and Nature-based Solution (NbS) examples. It links rangeland condition to drought buffering, soil erosion control, greenhouse gas emissions from pastoral herds, and wildlife habitat through a carrying-capacity methodology covering livestock-wildlife grazing overlap, treating rangeland restoration as a multifunctional intervention for biodiversity, climate, and food production.


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TARGET 4: HALT SPECIES EXTINCTION, PROTECT GENETIC DIVERSITY, AND MANAGE HUMAN-WILDLIFE CONFLICTS

Over the past half a century, the size of monitored wildlife populations has reduced, on average, by 73% across land, water, and air, with the modern agriculture, fishing, and other food sectors being the primary cause.[15] Conserving the genetic diversity of domesticated crops and livestock in agrifood systems through on-farm management, seed banks, and market incentives, while also reducing extinction pressure by adopting habitat-sparing practices like agroecology can directly contribute to Target 4. These practices further support the target by managing human-wildlife conflict at the farm and landscape level through measures such as compensation schemes and community-based planning.

Key trends in NBSAPs and national targets

As Figure 5 shows, crop genetic diversity is the most widely addressed agrifood genetic resource under Target 4 included in 82% of NBSAPs, while 23% of Parties have established related national targets and 43% include policy actions. This comparatively high action rate suggests that many Parties are moving beyond recognition towards implementation through seed banks, breeding programmes, and conservation initiatives.

Relevant policy options	Included in NBSAPs	National target	Policy action
Crop genetic diversity	82%	23%	43%
Fish & aquatic genetic resources	79%	12%	12%
Livestock & animal genetic resources	71%	21%	20%
Soil biodiversity including organisms, fauna, microbial life	35%	4%	8%
Human–wildlife conflict	35%	29%	8%

Figure 5. Integration of agrifood systems under Target 4 across NBSAPs and national targets of 104 Parties

15 WWF (2026) Living Planet Report 2026 – The Science of Hope. WWF, Gland, Switzerland.

Fish and aquatic genetic resources are also widely recognised, appearing in 79% of NBSAPs. However, only 12% of Parties include related targets and 12% include policy actions. A similar pattern is there for livestock and animal genetic resources, which appear in 71% of NBSAPs, but they are supported by policy actions in only 20% of cases.

Two policy options stand out for their particularly large implementation gaps. Human-wildlife conflict appears in only 35% of NBSAPs and 29% of national targets while only 8% of Parties include related policy actions. Soil biodiversity receives similarly limited attention, with only 35% inclusion, 4% national targets, and 8% policy actions, despite its foundational role in agricultural productivity and ecosystem health.

Overall, Parties are more advanced in planning the conservation of crop genetic resources, increasingly recognising the importance of livestock and aquatic diversity. However, they have made comparatively little progress in addressing soil biodiversity and human-wildlife conflict. The largest gaps are where implementation requires long-term monitoring, cross-sectoral coordination, or management of complex social and economic trade-offs.

Examples of emerging practice



Botswana commits to establishing community seed banks and livestock genetic-resource conservation strategies to safeguard indigenous genetic diversity, building on an existing National Seed Bank and National Plant Genetic Resources Strategy. It also plans a dedicated Wildlife Conflict Compensation Fund covering crop and livestock losses, and a centralised national database on productive agricultural land informed by community consultations documenting local knowledge of cropping systems and grazing areas.



Brazil's Target 4 commits by 2030 to halting human-induced extinctions and halting the loss, and promoting the enhancement, of genetic diversity within and among populations of wild and domesticated species, including traditional varieties (land-races), breeds and wild relatives. It pursues this through in situ, on-farm and ex situ conservation and sustainable use strategies, ensuring the participation of and respect for the traditional practices of Indigenous Peoples and local communities, placing crop and livestock genetic diversity alongside wild species extinction and human-wildlife coexistence in a single target.



China commits by 2030 to "establish and improve the aquatic biodiversity integrity indices for the Yangtze and Yellow Rivers" and to "significantly increase the abundance and diversity of fish populations in the upper reaches of the Yangtze River," alongside targets on the supply capacity of green ecological products from agriculture, forestry, animal husbandry and fisheries, reduced risk to pollinating insects, and improved soil health ratings. Implementation actions included are "a fisheries resource conservation and management system and a framework for the protection and utilization of aquatic genetic resources," improving fishing moratorium and quota systems, implementing a "whitelist" system for aquaculture inputs, building modern marine ranches, and advancing pilot programmes for marine catch limits alongside enforcement against illegal, unreported and unregulated (IUU) fishing.



Bhutan commits to five actions on human-wildlife conflict (HWC): updating its HWC hotspot map, developing "a holistic management plan to effectively manage human-wildlife conflict in strategic HWC hotspot areas," implementing innovative interventions for protection against wildlife, instituting a crop and livestock insurance scheme at national level, and strengthening its One Health programme "linking biodiversity conservation, and human and animal health." Each action includes an indicator, including the number of innovative HWC mitigation measures implemented. Separately, under climate adaptation, it commits to piloting an index-based crop and livestock insurance scheme and to strengthening agro-meteorological services through its Agromet Decision Support System.



Burkina Faso aims "to increase the utilization rate of locally adapted or indigenous breeds from 40.6% in 2021 to 57.6% in 2030 and to maintain the number of fish species threatened with extinction at 48" over the NBSAP period, tracked by two defined indicators (the rate of use of locally adapted or indigenous breeds, and a list of fish species threatened with extinction). Four actions are planned for implementation: securing and managing pastoral areas, preventing priority diseases and zoonoses, protecting and maintaining water bodies and wetlands, and restoring wetlands.

TARGET 6: REDUCE THE INTRODUCTION OF INVASIVE ALIEN SPECIES BY 50% AND MINIMIZE THEIR IMPACT

Target 6 commits Parties to eliminate, minimise, reduce or mitigate the impacts of invasive alien species by identifying and managing pathways of introduction, preventing the introduction and establishment of priority species, reducing the rate of introduction and establishment by at least 50% by 2030, and eradicating or controlling invasive species in priority sites. This is directly relevant to agrifood systems as agricultural trade is among the dominant pathways of introduction of invasive pests, weeds and aquatic species which act directly on crops, livestock, rangelands and fisheries. More than 37,000 alien species have become established worldwide, of which over 3,500 are harmful invasive alien species, at a global economic cost exceeding USD 423 billion annually in 2019.[16] Nearly 80% of the documented impacts of invasive alien species on nature's contributions to people are negative, especially through damage to food supplies. Therefore, border biosecurity and phytosanitary capacity, the screening of seed and planting material, and the control of invasive weeds in rangelands and of aquatic invasives in fisheries and aquaculture are key issues in agrifood systems.

Key trends in NBSAPs and national targets

As shown in Figure 6, prevention, early detection, eradication and control is the most widely integrated Target 6 policy option, appearing in 37% of NBSAPs, followed by the management of introduction pathways, agrifood trade and border biosecurity at 32%. However, only 3% and 2% of Parties respectively include these in their national targets. Parties describe quarantine systems, phytosanitary inspection and control programmes in narrative terms, and in several cases commit budgets to them, but rarely express them as measurable national commitments or targets.

Relevant policy options	Included in NBSAPs	National target	Policy action
Prevention, early detection, eradication & control	37%	3%	5%
Pathways of introduction, agrifood trade & border biosecurity	32%	2%	3%
Impacts on agricultural production, fisheries & food security	30%	5%	6%
Invasive species in production landscapes & waters	19%	0%	4%

Figure 6. Integration of agrifood systems under Target 6 across NBSAPs and national targets of 104 Parties

16 IPBES (2023). Thematic Assessment Report on Invasive Alien Species and their Control: Summary for Policymakers. Roy, H.E., Pauchard, A., Stoett, P. and Renard Truong, T. (eds.). IPBES Secretariat, Bonn. https://doi.org/10.5281/zenodo.8314303

Parties frame invasive species largely as a problem and describe their impacts on agrifood production. For example, their impacts on agricultural production, fisheries and food security appear in 30% of NBSAPs, in national targets of 5% of Parties and policy actions of 6% of Parties. Invasive species in production landscapes and waters, covering rangeland weed encroachment, aquatic weeds and aquaculture escapes, is the least integrated option at 19% of NBSAPs, with 4% of Parties having a policy action.

Overall, 62% of Parties address at least one Target 6 policy option in an agrifood context, but across all 2,509 national targets submitted by the 104 Parties, only 17 targets from 14 Parties mention invasive alien species in connection with food or farming. This shows that Parties are planning to address invasive species relevant to agrifood systems without setting measurable commitments.

Examples of emerging practice

Japan's NBSAP gives details of an invasive species programme, with named species, named pathways and named ministries. It includes measures to address alien species that obstruct water passage through agricultural channels, specifically golden mussel and Asian clam, crop damage from red-necked longhorn beetle and apple snail, pursued with prefectural governments, and feeding damage to inland fisheries from largemouth bass and bluegill, with support to inland water fisheries cooperatives developing control methods.

Nigeria's NBSAP allocates USD 3 million to strengthening the Nigerian Agricultural Quarantine Services Department for effective border control, USD 3 million to establishing a national framework for the control and management of invasive alien species, USD 2 million to an early warning and rapid response mechanism at ports and border crossings, and USD 2 million to international collaboration on prevention and control. By placing the agricultural quarantine service at the centre of their response, the NBSAP puts invasive species governance within the agrifood system.

The **Marshall Islands** embeds invasive species management in agricultural institutions. An NBSAP Coordinator for Biosecurity and Agroforestry is positioned within the Ministry of Natural Resources and Commerce to support implementation of both the National Invasive Species Strategic Action Plan and the Agriculture Sector Plan, covering invasive species monitoring and quarantine coordination. The NBSAP states that biosecurity will be strengthened in agriculture, agroforestry and nursery operations "through screening of planting materials, implementation of biosecurity protocols, and risk management measures", explicitly covering nursery production, agroforestry programmes, coastal planting and community plant distribution.



TARGET 7: REDUCE POLLUTION TO LEVELS THAT ARE NOT HARMFUL TO BIODIVERSITY

Agrifood systems are a major source of pollution and use of substances harmful to biodiversity. Every year, more than 2.3 million tonnes of nitrogen fertiliser applied to rice, wheat and maize runs off the field into rivers, lakes, and coastal waters. And pesticide use in agriculture has more than doubled since 1990, reaching almost 4 million tonnes globally in 2024,[17] negatively affecting over 800 species on land and in water.[18] Additionally, 14–17% of global cropland or approximately 242 million hectares is contaminated with toxic heavy metals, pesticides, microplastics, and per- and polyfluoroalkyl substances (PFAS), placing over 1.1 billion people within exposure zones.[19] Reducing these harmful pollutions in agrifood systems directly contributes to Target 7.

Key trends in NBSAPs and national targets

As shown in Figure 7, nutrient management and pesticide reduction are among the most widely reflected agrifood policy options in NBSAPs. Both nutrient management and integrated pest management are included in 88% of NBSAPs, making them the main agrifood policy options for addressing biodiversity-related pollution. More than half of Parties also include national targets for these issues, with nutrient management appearing in 54% of national targets and pesticide reduction in 61%.

Relevant policy options	Included in NBSAPs	National target	Policy action
Addressing excess nutrients through cycling, use efficiency, managing runoff	88%	54%	29%
Pesticides and highly hazardous chemicals through integrated pest management (IPM)	88%	61%	40%
Waste management & circularity	25%	34%	10%
Addressing food-system plastics & packaging	13%	6%	2%

Figure 7. Integration of agrifood systems under Target 7 across NBSAPs and national targets of 104 Parties

However, the extent to which these priorities are translated into policy action varies. Pesticide reduction shows stronger alignment between ambition and implementation, with 61% of NBSAPs including targets and 40% related policy actions. In contrast, while nutrient management is frequently targeted, only 29% of NBSAPs include corresponding policy actions. This suggests that countries increasingly recognise the biodiversity impacts of pesticides, but implementation frameworks for managing nutrient pollution remain less developed.

17 FAO (2026). Pesticides use and trade. 1990–2024. https://www.fao.org/statistics/highlights-archive/highlights-detail/pesticides-use-and-trade.-1990-2024/#collapseSearchBox#1#1

18 Wan, NF., Fu, L., Dainese, M. et al. (2025). Pesticides have negative effects on non-target organisms. Nat Commun 16, 1360 (2025). https://doi.org/10.1038/s41467-025-56732-x

19 Hou, D., Jia, X., Wang, L., et al. (2025). Global soil pollution by toxic metals threatens agriculture and human health. Science, *388*(6744). https://doi.org/10.1126/science.adr5214

Other pollution-related issues receive substantially less attention. Waste management and circular economy approaches are included in only one-quarter of NBSAPs (25%), although 34% contain related targets. Yet just 10% include concrete policy actions. Addressing plastics in food systems is the least developed area, appearing in only 13% of NBSAPs, with 6% including it in their targets and only 2% outlining specific policy actions.

Overall, Parties are prioritising pollution from nutrients and pesticides as the most immediate agrifood-related threats to biodiversity given their explicit inclusion in the text of Target 7. These are areas also where practical solutions, such as nutrient-use efficiency measures and integrated pest management, are relatively well established and can often be linked to productivity gains. By contrast, waste reduction, circularity, and plastics management remain emerging priorities within NBSAPs.

Examples of emerging practice

The EU's NBSAP states that the Commission will promote "the goal of zero pollution from nitrogen and phosphorus flows from fertilisers through reducing nutrient losses by at least 50%, while ensuring that there is no deterioration in soil fertility," which "will result in the reduction of use of fertilisers by at least 20%." Delivery is to come through full implementation and enforcement of existing environmental and climate legislation, identifying with Member States the nutrient load reductions needed, applying balanced fertilisation and sustainable nutrient management, and "managing nitrogen and phosphorus better throughout their lifecycle."

Austria commits to implementing measures under the future Ammonia Reduction Regulation and the National Energy and Climate Plan (NECP) to reduce agricultural gaseous nitrogen emissions including ammonia, "to reduce eutrophying nitrogen inputs"; to promoting graduated meadow cultivation through rural development, with implementation and further training; to increasing the proportion of solid manure and compost in farm fertiliser applied on grassland; and to expanding advisory and training services for farmers towards "more specific active substances and the more targeted use of these active substances," with advice on precision farming, crop diversity and crop rotation.

Chile commits to processing and enacting the Organic Waste Act "to reduce the organic load in landfills," verified against the Senate or Chamber of Deputies website, and to conducting regional training courses on the circular economy covering the recovery of organic waste, management of electrical and electronic waste, the extended producer responsibility (EPR) law, the circular economy in the textile sector, and the prevention of food loss and waste. Delivery is assigned to the regional development undersecretariat (SUBDERE) and the environment ministry with regional governments, municipalities and the Association of Municipalities as partners, verified by attendance lists and training records.

China commits to implementing "initiatives to reduce the use of chemical fertilizers and pesticides while improving their efficiency," recovering agricultural plastic film, strengthening "the recovery and treatment of pesticide packaging waste," and protecting "beneficial organisms such as bees and earthworms." Its 2030 target states that "pollution risks from all sources will be effectively contained, the emission intensity of nitrogen and phosphorus pollutants from agricultural sources will be significantly reduced, and 10 types of highly toxic and extremely toxic pesticides will be phased out," alongside a safe utilisation rate for contaminated arable land.



TARGET 8: MINIMISE THE IMPACTS OF CLIMATE CHANGE ON BIODIVERSITY AND BUILD RESILIENCE

Agrifood systems are both a major source of the greenhouse gas emissions[20] driving climate change and highly vulnerable to its impacts, making food system transformation central to Target 8. Most countries are projected to experience declines in staple-crop yields due to climate change by the end of the century with the poorest countries and regions experiencing some of the steepest losses in agricultural productivity, with national crop yields in the worst-affected countries projected to decline by up to 30%.[21] Achieving the target therefore depends on reducing agricultural emissions through agroecology, agroforestry, and other sustainable food production practices, while building resilience through diversified production systems and soil health.

Key trends in NBSAPs and national targets

As Figure 8 shows, adaptation in agrifood systems is the most widely integrated climate-related policy option under Target 8. It appears in 95% of NBSAPs, while 19% of Parties have included it in their related national targets and 57% include relevant policy actions. Parties seem to view strengthening resilience to climate impacts as a priority for protecting food security, livelihoods, and ecosystem services. The relatively high action rate also indicates that adaptation is one of the more operationalised agrifood policy areas across the GBF.

Relevant policy options	Included in NBSAPs	National target	Policy action
Climate change impact on agrifood systems	76%	16%	16%
Agrifood systems as a solution for climate mitigation	91%	10%	46%
Adaptation in agrifood systems	95%	19%	57%

Figure 8. Integration of agrifood systems under Target 8 across NBSAPs and national targets of 104 Parties

Agrifood systems as a climate mitigation solution are similarly prominent, included in 91% of NBSAPs and 46% of them having policy actions. However, only 10% of Parties have included them in their related national targets. A contrasting pattern emerges for climate change impacts on agrifood systems which is included in 76% of NBSAPs, but only 16% of Parties' national targets and related policy actions.

The findings indicate that Parties recognise both adaptation and mitigation potential of agri-food systems transformation as part of their biodiversity plans. They also mention linkages to their Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs) where measurable commitments for reducing emissions or increasing carbon storage and building resilience in agrifood systems are likely more detailed.

20 WWF (2026) Living Planet Report 2026 – The Science of Hope. WWF, Gland, Switzerland

21 Hultgren, A., Carleton, T., Delgado, M., et al. (2025). Impacts of climate change on global agriculture accounting for adaptation. Nature, 642, 644–652.

Examples of emerging practice

Belize provides one of the strongest examples of climate-risk assessment, drawing on its Updated Nationally Determined Contribution, it states that agricultural production losses are projected to reach 10–20% by 2100, climate impacts on fisheries placing the livelihoods of over 3,500 licensed fishers at risk with estimated annual losses of approximately USD 12.5 million, and crop simulations showing yields of key produce such as peppers and tomatoes "could be reduced by half by the end of the century."

Chile's biodiversity actions in its NBSAP are individually cross-referenced to numbered measures in their adaptation plan. Action I.8.e, on restoration training for extension agents, cites the Climate Change Adaptation Plan for the Forestry and Agricultural Sector to "promote the conservation and restoration of natural ecosystems that support forestry and agricultural production systems and contribute to their adaptation to climate change." Action I.9.e, on ecological restoration plans for degraded areas by 2030, cites measure 6, "prevent and control soil degradation to adapt to the effects of climate change," and the National Strategy for Food Security and Sovereignty under its Sustainable Soil Management action line.

The DRC's livestock and fisheries action tables assign an indicator and an institution to each measure: reducing emissions from livestock farming, tracked by sector emissions levels, under the Ministries of Livestock and Environment; establishing a monitoring and reporting system for the sector with the Food and Agriculture Organization (FAO); and stimulating investment "in the transition to extensive livestock farming," tracked by the amount invested, with the Ministry of Finance and the World Bank. On the market side it commits to increasing the share of products from sustainable systems in national consumption, and to expanding both the area of aquaculture under sustainable management and "the proportion of aquaculture areas certified as sustainable," the latter tracked by number of certified areas and total area covered, with certification bodies named as partners.

El Salvador's Target 5 commits to "management and sustainable use of biodiversity in at least 10 per cent of the national area of agroecosystems through the promotion of sustainable production systems that are resilient to climate change and other environmental vulnerabilities," sitting under an axis on "biodiversity connected and integrated with human well-being and competitiveness." Target 2 applies the same threshold to condition: "by 2030, the ecological condition of at least 10 per cent of terrestrial and aquatic (continental and marine) ecosystems and agroecosystems will be improved through the implementation of effective restoration processes and the rehabilitation of ecological connectivity and ecosystem services."



TARGET 9: MANAGE WILD SPECIES SUSTAINABLY TO BENEFIT PEOPLE

Globally, approximately 3.5 billion people rely on wild species for food and income[22] making Target 9 directly connected to agrifood systems. Wild species provide food, nutrition, and livelihoods, especially for vulnerable and Indigenous communities and are the foundation of sectors like fisheries, with smallholders, family farmers and Indigenous Peoples frequently combining agriculture, agroforestry, and the sustainable use of wild resources to diversify income sources and reduce risks. Therefore, explicit policy planning and actions in agrifood systems can directly contribute to Target 9.

Key trends in NBSAPs and national targets

As shown in Figure 9, wild foods and dietary diversity are included in 43% of NBSAPs, but only 11% of Parties have established a related national target and just 7% include relevant policy actions. Parties broadly acknowledge the importance of wild foods for nutrition, livelihoods, resilience, and cultural identity, without measurable commitments or implementation plans.

Relevant policy options	Included in NBSAPs	National target	Policy action
Wild foods & dietary diversity	43%	11%	7%
Markets & trade for sustainable food	28%	6%	13%

Figure 9. Integration of agrifood systems under Target 9 across NBSAPs and national targets of 104 Parties

By comparison, markets and trade for sustainable wild foods receive less attention, appearing in 28% of NBSAPs, and only 13% with a policy action. Although only 6% of Parties have established a related target, this suggests that where market-based measures are adopted, Parties are somewhat more likely to move towards implementation. These measures typically focus on certification, value addition, market access, sustainable harvesting, and biodiversity-based livelihoods.

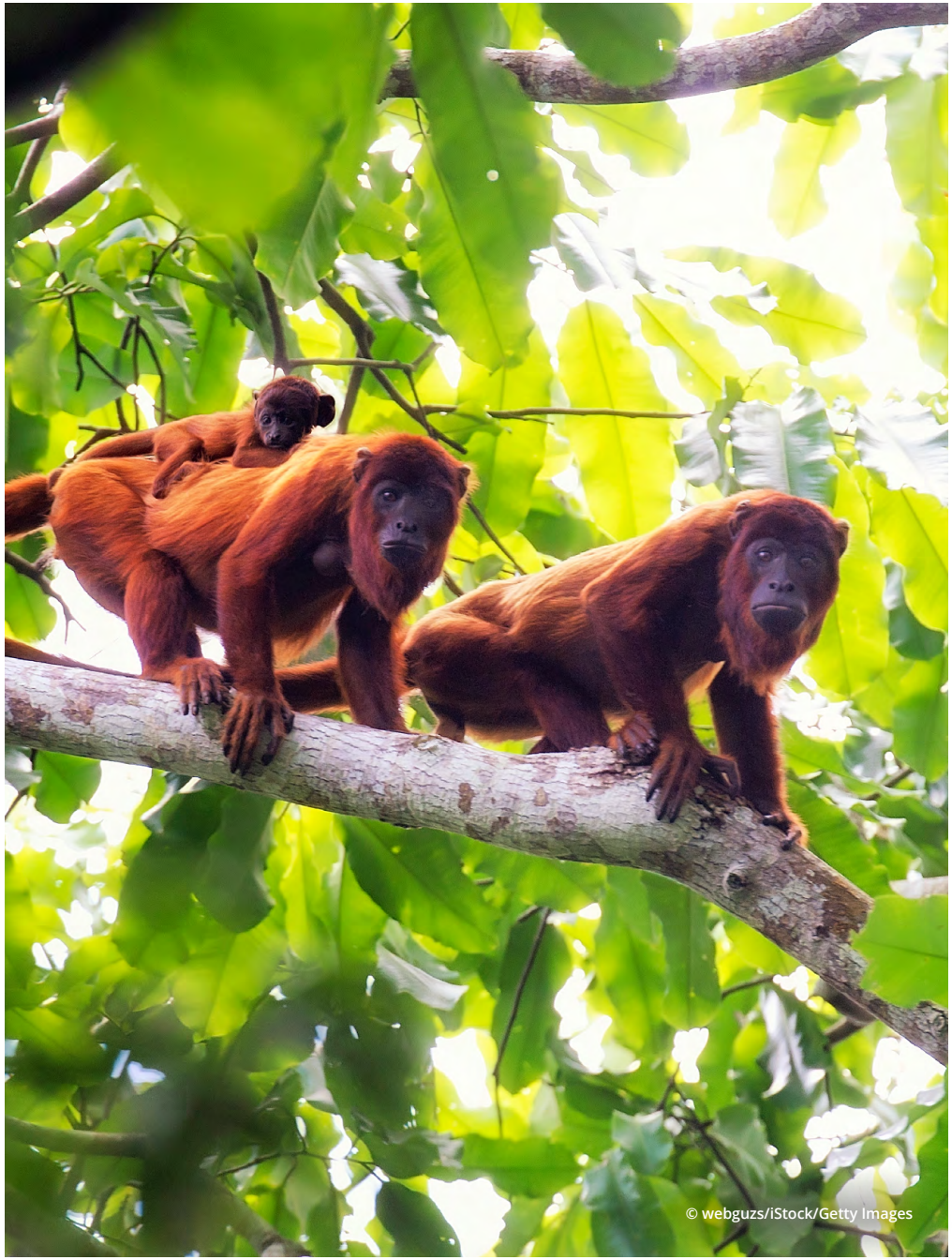
Examples of emerging practice

Botswana commits to supporting product certification, value addition, processing, packaging, branding and market access for biodiversity-based products "such as Devil's claw, Marula products, Mopane worms, indigenous honey, and other sustainably harvested natural resources," and to promoting collaboration among producers, processors, traders, financial institutions, research organisations and government agencies "to enhance value chain efficiency and market linkages." The same action block commits to integrating "indigenous knowledge systems and customary governance mechanisms into biodiversity management plans, conservation strategies, and sustainable resource-use frameworks."

22 IPBES (2022). Summary for Policymakers of the Thematic Assessment Report on the Sustainable Use of Wild Species of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Fromentin, J.M., Emery, M.R., Donaldson, J., Danner, M.C., Hallosserie, A., Kieling, D., Balachander, G., Barron, E.S., Chaudhary, R.P., Gasalla, M., Halmy, M., Hicks, C., Park, M.S., Parlee, B., Rice, J., Ticktin, T., and Tittensor, D. (eds.). IPBES secretariat, Bonn, Germany. https://doi.org/10.5281/zenodo.6425599

Cambodia's Target 10 action plan commits to "certify and support sustainable products (e.g., eco-certification for rice, timber, fish) to create market incentives" and to "encourage jurisdictional 'zero-deforestation' agreements that align producers, buyers, and local authorities to maintain natural habitats," with a commitment that a significant share of agricultural and forest areas be under verified sustainable production or forest management by 2030. For implementation, it names certification bodies including the Forest Stewardship Council, community producer groups and provincial governors for compliance monitoring, tracked by the number of certified biodiversity-friendly value chains. The NBSAP frames this as responding to "growing domestic and export demand for sustainable and deforestation-free products (e.g., rice, cashew, rubber, fish, timber and NTFPs)."

Côte d'Ivoire's NBSAP outlines that its taxonomic inventory of wild edible plants identified 120 taxa, consumed as "condiments, spices for sauces, vegetables, spinach, snacks, diuretic beverages, alcoholic beverages, and for the production of drinking water," with the parts consumed, fresh or dried, including fruits, leaves, buds, seeds, rhizomes, tubers and flowers. The most common are named with their local names alongside the binomials, from Adansonia digitata (baobab) and Irvingia gabonensis (boborou or kplé) to Ricinodendron heudelotii (Eho or Akpi), which is a strong example of systematic documentation of wild foods for dietary diversity, though the inventory carries no accompanying target or conservation measure.



TARGET 10: ENHANCE BIODIVERSITY AND SUSTAINABILITY IN AGRICULTURE, AQUACULTURE, FISHERIES, AND FORESTRY

GBF Target 10 is an agrifood systems target, as it explicitly names agriculture, aquaculture, fisheries, and forestry which are the four production sectors that together constitute global food systems. The target directly ties the sustainable management of these sectors to food security, framing biodiversity-friendly practices not just as conservation measures but as means to ensure the resilience and long-term efficiency and productivity of food production. It calls for a substantial increase in approaches like sustainable intensification and agroecology, positioning these as pathways to feed people while conserving biodiversity and maintaining nature's contributions to people.

Key trends in NBSAPs and national targets

As Figure 10 shows, agroecological, regenerative, and organic farming practices are the most prominent policy option under Target 10. They are included in 92% of NBSAPs, with 72% of Parties establishing at least one national target and 45% including related policy actions. Parties increasingly view agroecology and related approaches as key pathways for reconciling food production, biodiversity conservation, and climate resilience.

Relevant policy options	Included in NBSAPs	National target	Policy action
Agroecological, regenerative & organic farming practices	92%	72%	45%
Capture fisheries	86%	80%	44%
Aquaculture	66%	61%	22%
Livestock & pastoral systems	68%	38%	34%
Agroforestry & integrated production systems	52%	11%	17%

Figure 10. Integration of agrifood systems under Target 10 across NBSAPs and national targets of 104 Parties

Capture fisheries show the strongest alignment between inclusion, target-setting, and implementation. They are included in 86% of NBSAPs, supported by national targets in 80% of Parties, and accompanied by policy actions in 44% of cases. This close correspondence suggests that sustainable fisheries management has become an established component of biodiversity planning in many countries.

Aquaculture, on the other hand, is recognised as a key subsector with 66% of Parties including it in their NBSAPs and 61% in their national targets, but only 22% include policy actions for implementation. This indicates that many Parties recognise the importance of sustainable aquaculture but have yet to develop corresponding implementation frameworks. Similarly, livestock and pastoral systems are considered a key subsector, included in 68% of NBSAPs, but only 38% of Parties include it in their targets, and only 34% set policy actions, suggesting that Parties are often willing to promote practical measures to improve livestock sustainability without committing to explicit national biodiversity targets, reflecting the economic and political sensitivity of the sector. Agroforestry and integrated production systems represent the largest ambition gap. While 52% of Parties include these approaches in NBSAPs and 17% include related policy actions, only 11% establish national targets.

The findings suggest that Parties prioritise sustainable food production without clear plans for their implementation.

Examples of emerging practice



Brazil is advancing agroecology through its National Plan for Agroecology and Organic Production (PLANAPO) which "defines the actions, programmes and projects that drive the agroecological transition, sociobiodiversity, and organic and agroecological-based production," contributing "to food and nutritional security and sovereignty by promoting the supply and consumption of healthy food, water security, and the sustainable use of natural resources." It sits alongside the Low-Carbon Agriculture Plan, which reconciles productivity gains with emissions reduction, and the Ecological Transformation Plan. It commits that by 2030, adoption of sustainable production systems is to expand to 72.68 million hectares, assigned to the Ministry of Agriculture and Livestock and anchored in the National Adaptation Strategy and the 2024–2027 Multi-Year Plan.



Japan manages capture fisheries through total allowable catch (TAC) set on a maximum sustainable yield basis, with a baseline, a deadline and a named owner attached. Its revised Fisheries Act establishes that management should "in principle" be based on the TAC; TAC management began for eight species in the 2021 fishing season, and the plan commits to extending it to 80% of the catch by FY2023 against a stated baseline of 60.5%, excluding pelagic fisheries, internationally managed species such as tuna and bonito, salmon, trout, shellfish, algae, sea urchins and marine mammals. Over the same period individual quota management is to be introduced into ministerially licensed offshore fisheries, and the number of species under formal stock assessment is to be increased progressively. Each action is assigned to the Ministry of Agriculture, Forestry and Fisheries.



Sierra Leone's NBSAP names aquaculture as a quantified pressure and includes a measured response to it. Its priority landscapes for 2026–2030 flags the Scarcies Estuaries for "mangrove degradation: -12% (2010–2020) due to extensive aquaculture pressure," outlines "restoration of 2,500 ha mangroves + participatory zoning" as a priority action with co-benefits in artisanal fisheries and coastal resilience. This is one of five landscapes treated this way, alongside a 15,000 ha marine protected area in the Sherbro Estuary and "preventive spatial planning + strengthened EIAs" where mining concessions overlap Key Biodiversity Areas.



Cameroon's NBSAP embeds agroforestry across three separate instruments. Its landscape restoration programme works through "community forests, village nurseries, private plantations, and reforestation areas," extending into wet and dry savanna to "combat desertification, preserve soils, reduce erosion, and protect watersheds," and "encourages the introduction of agroforestry trees to strengthen landscape resilience and diversify the species that benefit communities." Action 8.2 commits to promoting "low-impact and climate-smart agriculture and/or the development of new agro-climate-smart technologies (agroecology, agroforestry, etc.) in agricultural basins," delivered through start-ups, incubators and greenhouses with the agricultural research institute IRAD, universities, FAO and the German development agency GIZ named for validation and support.



Lebanon's National Action 1.10 commits to developing and implementing "sustainable forest and rangeland management plans" in at least 10 communal lands, led by the agriculture ministry with FAO and local authorities, alongside capacity building for "at least 30 municipalities." Two separate indicators track plans developed and the share of those implemented, each with a named responsible agency, a stated calculation method and a three-to-five-year reporting cycle.

TARGET 11: RESTORE, MAINTAIN AND ENHANCE NATURE'S CONTRIBUTIONS TO PEOPLE

GBF Target 11 is directly connected to agrifood systems because the nature's contributions it aims to restore — soil health, pollination, water regulation and climate regulation — are the ecosystem services food production depends on and contributes to. Globally, 35% of food production depends on pollination[23], and between USD 235 and 577 billion in annual global crop output is at risk as a result of pollinator loss.[24] Ecosystem services like nutrient cycling, water filtration, carbon sequestration, flood regulation, erosion control, the biological suppression of crop disease and pests from agricultural soils are estimated at USD 3.5–5 trillion annually.[25]

Key trends in NBSAPs and national targets

As shown in Figure 11, soil health and sustainable land management are among the most prominent ecosystem service-related priorities in NBSAPs, with 83% of Parties including them and 56% setting related national targets. Pollinators and pollination services are also widely recognised (included in 79% of NBSAPs), although only 33% of Parties have related targets. In contrast, freshwater and irrigation management receive considerably less attention, appearing in only 40% of NBSAPs, with just 5% of Parties including them in their national targets.

Relevant policy options	Included in NBSAPs	National target	Policy action
Soil health & sustainable land management	83%	56%	31%
Pollinators & pollination in agroecosystems	79%	33%	19%
Freshwater & irrigation management	40%	5%	15%

Figure 11. Integration of agrifood systems under Target 11 across NBSAPs and national targets of 104 Parties

These patterns suggest that countries prioritise ecosystem services that are directly linked to agricultural productivity, particularly soil fertility and pollination. Many NBSAPs highlight sustainable land management, soil biodiversity, erosion control, and regenerative farming practices as essential for maintaining food production and ecosystem resilience. Countries such as Austria, Canada, Colombia, Egypt, and Botswana explicitly link healthy soils to long-term agricultural sustainability.

A clear trend across all three areas is the gap between recognition and implementation planning. While inclusion rates are relatively high for soil health and pollination, policy actions are much less common, particularly for pollinators (19%) and freshwater management (15%). This shows recognition is not yet consistently translated into operational measures, investment, and implementation frameworks. Overall, ecosystem services are becoming more visible within NBSAPs, but practical delivery mechanisms continue to lag behind policy ambition.

23 Feuerbacher, A., Kempen, M., Steidle, J.L.M. et al. (2025). The economic, agricultural, and food security repercussions of a wild pollinator collapse in Europe. Nat Commun 16, 9892 (2025). https://doi.org/10.1038/s41467-025-65414-7

24 IPBES (2019): Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

25 Jörgensen, J. (2026, July 15). Book Excerpt: Why Healthy Soil is the Most Undervalued Asset on Earth. Green Queen. https://www.greenqueen.com.hk/flat-earth-food-johan-jorgensen-soil-health-book/

Examples of emerging practice

Ecuador's 34 Water Protection Areas, as outlined in the NBSAP, safeguard more than 276,000 hectares across the Sierra, Coast and Amazon, protecting "water resources and the natural ecosystems surrounding them" in order to "guarantee the supply of clean water for human consumption, food sovereignty and sustainable production" for over 1.18 million users. A national Atlas maps each area's coverage, the ecosystems and biodiversity it harbours, and its water-related significance, making the protection of upstream ecosystems an explicit instrument of food and water security.

Ireland's National Biodiversity Data Centre (NBDC) coordinates the All-Ireland Pollinator Plan 2021–2025 with partners in Northern Ireland, alongside the Irish Butterfly Monitoring Scheme and the Protecting Farmland Pollinators European Innovation Partnership (EIP) programme. Its NBSAP names the National Parks and Wildlife Service (NPWS) and the Department of Agriculture, Food and the Marine (DAFM) as the funders, committing that "NPWS and DAFM will continue to provide funding for NBDC's monitoring of pollinators, including an expert review of the adequacy of existing conservation interventions," and tracks progress against the number of Pollinator Plan actions implemented, the national indicator on trends in the status of insects, the number of farmers in the Farm Plan Scheme, and "evidence of action to support farmland pollinators post-2026."

Canada's NBSAP reports that Prince Edward Island's ALUS Program, "provides financial assistance to farmers and farmland owners through a multi-year land-use agreement" and "supports the maintenance, enhancement, and production of ecological goods and services to reduce soil erosion, improve air and water quality, enhance wildlife habitat and biodiversity, sequester carbon and build resilient agricultural landscapes." It is the plan's clearest example of paying for ecosystem services on working farmland, though it appears once, with no budget, enrolled area or participation figure attached.


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TARGET 13: INCREASE THE SHARING OF BENEFITS FROM GENETIC RESOURCES, DIGITAL SEQUENCE INFORMATION AND TRADITIONAL KNOWLEDGE

Target 13 is highly relevant to agrifood systems because food production depends on access to, conservation of, and fair sharing of benefits from crop, livestock, fish, forest, and microbial genetic resources, as well as the traditional knowledge that underpins their management. Plant breeding, livestock improvement, climate-resilient crop development, aquaculture innovation, and the conservation of local varieties all rely on genetic resources and increasingly on digital sequence information (DSI).[26]

Key trends in NBSAPs and national targets

As shown in Figure 12, crop and seed diversity, including seed banks and gene banks, is the dominant policy area under Target 13. It is integrated in 81% of NBSAPs, while 36% of Parties have established national targets and 47% include related policy actions in their NBSAPs. This relatively strong alignment between recognition and implementation suggests that crop genetic resources are widely viewed as essential for food security, climate resilience, and agricultural productivity.

Relevant policy options	Included in NBSAPs	National target	Policy action
Crop & seed diversity, seed & gene banks	81%	36%	47%
IPLC, local communities & traditional knowledge	52%	27%	14%
Biosafety & access-and-benefit-sharing	68%	88%	15%
Digital sequence information (DSI) including ABS frameworks, governance gaps, sequencing of crop genetic resources	23%	38%	2%

Figure 12. Integration of agrifood systems under Target 13 across NBSAPs and national targets of 104 Parties

The role of IPLCs and traditional knowledge is also well recognised as 52% of Parties include these issues in their NBSAPs, and 27% of Parties mention them in their national targets. However, only 14% of NBSAPs include related policy actions to advance implementation. Included actions generally focus on preserving and promoting traditional knowledge and practices in the context of agricultural genetic resources and agrobiodiversity.

26 Food and Agriculture Organization of the United Nations (2025). The Third Report on the State of the World's Plant Genetic Resources for Food and Agriculture. Commission on Genetic Resources for Food and Agriculture.

Biosafety and access-and-benefit-sharing (ABS) also occupy a prominent place in NBSAPs. They appear in 68% of NBSAPs and 88% of Parties have included them in their national targets but just 15% report related policy actions. The weakest area is digital sequence information (DSI). Although only 23% of Parties mention DSI, 38% mention it in their targets, indicating growing awareness following recent international negotiations. Yet only 2% include relevant policy actions. The exceptionally large gap between targets and implementation suggests that Parties are still grappling with the governance, technical, and legal challenges associated with DSI.

Examples of emerging practice

Bhutan reports a stocktake of over 116 species of agricultural crops with high intra-specific diversity, and a National Plant Genebank at the National Biodiversity Centre (NBC) conserving, among its accessions, "429 of rice, 151 of maize, 86 of finger millet, 62 of sweet buckwheat, and others," complemented by on-farm conservation initiatives supporting community seed systems "to minimize the risk of local variety loss." It also documents approximately 230 crop wild relative species from 120 genera, including wild buckwheat, wild foxtail millet and three wild rice relatives, one first recorded in southern Bhutan in 2012 as "important genetic reservoirs for traits such as climate resilience, pest resistance, and yield stability."

Burundi's agricultural research institute ISABU conserves 2,850 accessions of 39 species in a national gene bank, with 1,032 accessions of 23 species backed up at the Svalbard Global Seed Vault and 288 bean accessions held at the International Institute of Tropical Agriculture (IITA). It has also launched an animal germplasm conservation programme, maintaining the purebred Ankolé at the Bukemba Regional Research Station and local goat breeds at three innovation centres.

Ethiopia sets several quantified agrobiodiversity targets, with clear baselines. Target 4 commits that "by 2030, in situ conservation of agrobiodiversity is increased from 178 to 205 sites for conservation of crop varieties and animal breeds on farm," while Target 5 commits that ex situ holdings of 92,258 crop accessions, 3,644 forest species accessions, 120,000 straws of animal breeds and 1,350 microbial strains are "increased by 10%, 25%, 50%, and 10%, respectively," with standards for existing collections improved. New sites are to be established "with the full participation of local communities" to "preserve the evolutionary processes and adaptive potential of local varieties and breeds."

Cambodia notes that its rice landrace genomes "have been included in GenBank and other repositories for breeding research" and that Plasmodium falciparum strains from western Cambodia, where artemisinin resistance first emerged, have been sequenced into public databases. It then identifies the gap directly: digital sequence information "is not clearly addressed in existing provisions, despite its relevance for genetic resources such as Cambodian rice landraces and Plasmodium falciparum strains, which could limit Cambodia's ability to secure fair benefits as international research increasingly relies on DSI." The NBSAP warns that "provider countries risk being bypassed if benefit-sharing arrangements do not extend to DSI," and concludes that an ABS system addressing both physical genetic resources and DSI still needs to be developed. Its current framework, the Environment and Natural Resources (ENR) Code (2023) and Sub-Decree No. 104, covers physical resources with free, prior and informed consent (FPIC) and mutually agreed terms procedures.



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TARGET 14: INTEGRATE BIODIVERSITY IN DECISION-MAKING AT EVERY LEVEL

Achieving Target 14 requires integrating biodiversity into agrifood policies, planning processes, environmental impact assessments, and national accounting so that food production is aligned with conservation goals. It also demands reforming subsidies and financial flows that drive biodiversity loss while scaling up positive incentives for sustainable food systems. This means governments must mainstream biodiversity across agriculture, fisheries, and forestry ministries and ensure that private sector activities in food supply chains are progressively aligned with the framework's targets.

Key trends in NBSAPs and national targets

As Figure 13 shows, policy coherence and mainstreaming are widely recognised in NBSAPs, with 74% of Parties mentioning them, and 67% including them in their national targets. However, only 16% include corresponding policy actions. This large gap suggests that countries increasingly recognise the need to integrate biodiversity into agriculture, fisheries, forestry, and land-use planning, but often struggle to translate these ambitions into operational reforms.

Relevant policy options	Included in NBSAPs	National target	Policy action
Policy coherence & mainstreaming	74%	67%	16%
Environmental & strategic impact assessment for agrifood including biodiversity risk in project and policy approvals	54%	12%	14%
Natural capital & environmental-economic accounting for agrifood	12%	2%	0%

Figure 13. Integration of agrifood systems under Target 14 across NBSAPs and national targets of 104 Parties

Environmental and Strategic Impact Assessments (EIA/SEA) and natural capital and environmental accounting for agrifood receive much less attention. Just over half of Parties (54%) include EIA or SEA measures, while only 13% have national targets and 14% identify policy actions. And only 12% of Parties include any mentions of natural capital and environmental accounting and almost no targets and no policy actions for it. Countries such as Belize, Colombia, DRC, Egypt, and Equatorial Guinea recognise the importance of assessing biodiversity risks in agricultural, infrastructure, extractive, and aquaculture activities. However, the low level of targets and actions suggests that EIA and SEA are often treated as regulatory requirements rather than strategic tools for transforming agrifood systems. As a result, biodiversity safeguards are not yet consistently integrated into sectoral planning and investment decisions.

Examples of emerging practice

Brazil's Target 14 commits by 2030 to the full integration of biodiversity and sociobiodiversity values including environmental, economic, social and cultural into development policies, programmes, plans and projects and into poverty and hunger eradication strategies, to be reflected through environmental-economic accounts across all sectors, strategic environmental and environmental impact assessments, climate risk analyses, payment for environmental services programmes, and climate mitigation and adaptation strategies.

Kazakhstan's NBSAP connects environmental assessment to a compensation mechanism and to corporate reporting in the same measure. Its plan commits to "consideration of developing a methodology for assessing impacts on wildlife" and "consideration of developing a methodology of biodiversity loss compensation used under SEA and EIA," alongside "expansion of enterprise environmental reporting requirements to include biodiversity-related (wildlife) information" and "development of recommendations on aligning the development of the agro-industrial sector with the needs of flora and fauna conservation."

Equatorial Guinea identifies fragmented permitting authority as an obstacle to agrifood governance. Its plan notes that the environment ministry has "broad powers and responsibilities, such as issuing regulations on environmental quality, permits and/or licenses for certain productive and potentially polluting activities, controlling water, air, and soil pollution, as well as tasks related to the conservation of renewable natural resources," but that "certain problems have arisen due to the division of some responsibilities and functions" with the Ministry of Agriculture, Livestock and Rural Development, whose "cross-cutting nature makes coordinated management difficult".

The DRC finds that biodiversity "remains insufficiently addressed in several strategic frameworks," including environmental impact assessment regulations, which it says, "must be strengthened by explicitly incorporating criteria related to biodiversity conservation." Its plan accordingly recommends "strengthening environmental and social assessment requirements for infrastructure, agricultural, and extractive projects" under National Goal 14.1, alongside explicit integration of conservation objectives into the national land-use planning policy and incentive mechanisms to encourage private-sector adoption of biodiversity-friendly practices.



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TARGET 15: BUSINESSES ASSESS, DISCLOSE AND REDUCE BIODIVERSITY-RELATED RISKS AND NEGATIVE IMPACTS

Target 15 requires companies, retailers, and others in the agriculture and food sector and the financial institutions that finance them to monitor, assess, and disclose their biodiversity risks, dependencies, and impacts across agricultural supply and value chains such as deforestation, pesticide pollution, and overfishing. These companies play a key role in driving biodiversity loss in agrifood systems. For example, 86% of global deforestation between 2001 and 2022 can be attributed to crop and cattle production alone.[27] A handful of companies (Syngenta Group, Bayer, Corteva and BASF) control around 61% of the global pesticide market.[28] Despite this, corporate disclosure on pesticide use is extremely poor. An analysis by the investor network FAIRR of 60 major protein producers found that 93% fail to report any data on pesticides in their supply chains.[29]

Key trends in NBSAPs and national targets

As shown in Figure 14, agrifood-related certification and eco-labels are by far the most widely integrated Target 15 policy option, appearing in 49% of NBSAPs, but only 8% of Parties include it in their targets and 21% of them have related policy actions.

Relevant policy options	Included in NBSAPs	National target	Policy action
Certification & eco-labels	49%	8%	21%
Traceability & chain of custody	17%	3%	5%
Corporate biodiversity risk monitoring & disclosure	13%	2%	2%
Consumer information & food labelling	10%	2%	6%
Sustainable finance & ESG integration	5%	0%	0%
ABS compliance machinery such as permits, checkpoints, certificates, reporting	6%	0%	0%

Figure 14. Integration of agrifood systems under Target 15 across NBSAPs and national targets of 104 Parties

27 West, C., Rabeschini, G., Singh, C. et al. (2025). The global deforestation footprint of agriculture and forestry. Nat Rev Earth Environ 6, 325–341 (2025). https://doi.org/10.1038/s43017-025-00660-3

28 Grassroots International (2025). https://grassrootsonline.org/learning_hub/corporate-concentration-in-farming-in-2025/

29 FAIRR (2024). Pesticide Use by Protein Producing Companies and the Global Regulatory Divide. https://www.fairr.org/news-events/insights/pesticide-use-by-protein-producing-companies-and-the-global-regulatory

However, attention declines significantly across other Target 15 policy areas. Traceability and chain-of-custody systems appear in only 17% of NBSAPs, while consumer information and food labelling are included in just 10%. Corporate biodiversity disclosure is addressed by only 13% of Parties, and sustainable finance and access and benefit-sharing (ABS) compliance mechanisms remain largely absent. Overall, countries appear to be prioritising voluntary and market-based approaches, while regulatory, monitoring, and financing measures remain underdeveloped.

Examples of emerging practice

Cambodia provides one of the most comprehensive examples of certification and disclosure measures. Its Target 15 commits that by 2030 "the negative impacts of business on biodiversity are reduced through measures that require monitoring, assessment and disclosure of biodiversity risks and impacts across operations and supply chains," while its action plans call for certifying "wildlife-friendly, deforestation-free supply chains," expanding eco-certification that rewards biodiversity-friendly practices, and tasking the Ministry of Commerce with promoting and regulating eco-labelled products in the market.

Cameroon seeks to "capitalize on and enhance certification and transparency systems in the cocoa, rubber, oil palm, and other sectors, in partnership with the private sector," and sets a quantified milestone that 35% of export volumes come from certified or traceable sources, tracked against Rainforest Alliance and Fairtrade certification and customs data. It has also established, by Decree No. 111/PM of October 2023, a National ABS Committee as the Competent National Authority, responsible for issuing opinions on access to genetic resources, their derivatives, associated traditional knowledge and the fair sharing of benefits arising from their use.

Colombia proposes a set of supply-chain measures: (1) a legislative framework for labelling, advertising and marketing practices related to production origin and sustainable consumption, plus a separate framework for labelling GMO food products; (2) formalising and scaling up traceability systems in livestock, timber and mining across the 25 municipalities that account for 65% of national deforestation; (3) a reform roadmap to green agricultural and livestock financing lines using sustainability criteria, with emphasis on full coverage of the agriculture, forestry and other land-use (AFOLU) sector; and (4) legal, administrative or policy measures enabling companies to report on their biodiversity impacts, risks and dependencies.

Botswana commits to a nationwide rollout of eco-labelling standards for agricultural products by 2030, with indicators on products labelled and farms certified, and supports certification and market access for biodiversity-based products such as Devil's claw, Marula and indigenous honey. It is also one of only five Parties to raise sustainable finance and environmental, social and governance (ESG) integration at all, identifying a green bond framework as a system the country still needs in order to mobilise biodiversity finance.



TARGET 16: ENABLE SUSTAINABLE CONSUMPTION CHOICES TO REDUCE WASTE AND OVERCONSUMPTION

Achieving Target 16's goal of halving global food waste and reducing overconsumption is impossible without transforming agrifood systems. Globally, more than 1 billion tonnes of food were wasted in 2022, with 19% of food available to consumers at retail, food service and household levels being wasted and another 13% lost in the supply chain.[30] This is while almost a third of world's population (~2.7 billion people) cannot afford a healthy diet.[31] Target 16 explicitly calls for halving global food waste and reducing overconsumption and waste generation, all of which require changes across food production, retail, marketing, labelling, public procurement, and household behaviour. Policy and regulatory frameworks, education, and access to accurate information can enable consumers to choose sustainable, healthy diets and reduce demand for resource-intensive products. It cannot be achieved without transforming agrifood systems to make sustainable consumption the easy and equitable choice.

Key trends in NBSAPs and national targets

As shown in Figure 15, food waste reduction is the most prominent Target 16 measure, appearing in 47% of NBSAPs and in the national targets of 28% of Parties, but only 13% adopt dedicated actions to address food waste across supply chains.

Relevant policy options	Included in NBSAPs	National target	Policy action
Food waste reduction	47%	28%	13%
Sustainable & healthy diets	22%	6%	5%
Consumer awareness & behaviour change	16%	22%	6%
Public procurement & institutional food	8%	6%	2%

Figure 15. Integration of agrifood systems under Target 16 across NBSAPs and national targets of 104 Parties

30 UNEP (2024). Food Waste Index Report 2024 – Think Eat Save: Tracking Progress to Halve Global Food Waste. Nairobi: United Nations Environment Programme.

31 FAO, IFAD, UNICEF, WFP and WHO. (2026). The State of Food Security and Nutrition in the World 2026 – Understanding and addressing the high cost of a healthy diet. Rome: Food and Agriculture Organization of the United Nations.

By contrast, sustainable and healthy diets remain a relatively low priority, appearing in only 22% of NBSAPs and supported by very few targets or actions. Where addressed, countries focus primarily on dietary transitions. Similarly, although consumer awareness and behaviour change is included in only 16% of NBSAPs, 22% of Parties include it in their national targets. Canada, Egypt, Argentina, Cambodia, and the EU rely on awareness campaigns, eco-labelling, certification schemes, and consumer information to encourage more sustainable consumption choices. However, few countries have moved beyond education and awareness towards stronger policy interventions. And public procurement and institutional food receive the least attention despite their potential to influence food demand at scale.

Examples of emerging practice

Canada records the $20 million Food Waste Reduction Challenge, led by Agriculture and Agri-Food Canada, which "offered prize funding for delivering novel solutions to reduce food loss and waste across the supply chain," alongside an Environment and Climate Change Canada fund supporting local-government research and capacity building "to prevent and divert food waste from landfills." Looking forward, the federal government commits to "develop a Food Loss and Waste Reduction Action Plan that outlines efforts to cut food waste in half by 2030 through a series of measures to drive system-wide collaboration and action."

The DRC sets out a plan that targets "the reduction of food waste particularly by addressing losses resulting from the lack of long-term preservation solutions," alongside polluting plastic packaging and awareness among urban and rural consumers. It then sets out a thirteen-action programme, each with an indicator, covering the creation of a national programme to combat food waste (measured by the reduction in volume of food waste), an education programme on sustainable consumption, household-level promotion and monitoring, certification and labelling for sustainable products, a mechanism to promote local and sustainable products in markets and supermarkets, product life-cycle assessment systems, funded studies on national consumption patterns, innovation in waste recovery, and monitoring of the country's ecological and material footprint.

Belgium's Flemish Protein Strategy 2021–2030 promotes a more balanced diet with greater consumption of plant-based proteins, insects, algae and lab-grown proteins while encouraging a reduction in meat and animal products, backed by objectives on innovation, farmer support and consumer awareness.

Germany's NBSAP states that "producing food in increasing quantities at the lowest possible cost has led over recent decades to a form of agriculture that demands more and more pesticides, fertilisers, energy, land use and water," concluding that more plant-forward nutrition centred on vegetables, fruit and legumes is more beneficial; and the plan commits that "by 2030, a sustainable and healthy diet with a large proportion of minimally processed, seasonal regional vegetables and fruit, wholegrain foods, legumes and nuts will be made more easily accessible," and Target 8.3 adds that "measures to foster regional, sustainable and healthy diets prioritising plant-based products will be developed further." Progress is tracked against an increase in consumption of plant-based foods and a decline in meat consumption, drawing on national statistics and the National Nutrition Monitoring developed under the Federal Government's Food and Nutrition Strategy.



TARGET 17: STRENGTHEN BIOSAFETY AND DISTRIBUTE THE BENEFITS OF BIOTECHNOLOGY

Target 17 commits Parties to establish and implement biosafety measures, and measures for the handling of biotechnology and the distribution of its benefits. This is directly relevant to agrifood systems as genetically modified crops are grown commercially in more than two dozen countries, gene-edited varieties are entering approval pipelines [32], and the Cartagena Protocol's documentation requirements apply specifically to living modified organisms intended for food, feed or processing. [33] In 2025, about 216 million hectares of GM crops (soybeans, maize, cotton, and canola) were grown in 30 countries worldwide. [34] Therefore, coexistence between GM and conventional or organic cropping, gene flow to landraces and wild relatives, and the laboratory and border capacity to detect living modified organism (LMOs) are key issues in agrifood systems.

Key trends in NBSAPs and national targets

As shown in Figure 16, national biosafety frameworks are the most widely integrated Target 17 policy option, appearing in 37% of NBSAPs, followed by the handling of biotechnology and the distribution of its benefits at 27%. However, only 6% and 5% of Parties respectively include these in their national targets, and policy actions remain rare at 2% and 3%. Parties frequently describe biosafety legislation, competent authorities and Cartagena Protocol obligations in narrative terms, but seldom translate them into measurable commitments.

Relevant policy options	Included in NBSAPs	National target	Policy action
National biosafety frameworks, law & competent authority	37%	6%	2%
Handling of biotechnology & distribution of its benefits	27%	5%	3%
Risk assessment & approval of living modified organisms	17%	2%	2%
Biosafety capacity, laboratories, inspection & border control	15%	4%	2%
Detection, labelling & documentation of LMOs	15%	1%	2%
Coexistence & GM-free agriculture	4%	1%	1%

Figure 16. Integration of agrifood systems under Target 17 across NBSAPs and national targets of 104 Parties

32 Venkataraman, S., Zaruk, D. and Hefferon, K. (2025). "Recent developments, challenges and opportunities in genome editing for crop science from a societal perspective." Frontiers in Genome Editing, 7. https://doi.org/10.3389/fgeed.2025.1568072

33 Secretariat of the Convention on Biological Diversity (2000). Cartagena Protocol on Biosafety to the Convention on Biological Diversity, Article 18(2)(a). https://bch.cbd.int/protocol/text/

34 AgbioInvestor (2026). Global GM Crop Area 2025 Review. GM Monitor. https://gm.agbioinvestor.com/

Other policy options to operationalise Target 17 in agrifood systems are even weaker. Risk assessment and approval of living modified organisms appears in 17% of NBSAPs, biosafety capacity such as laboratories, inspection and border control in 15%, and the detection, labelling and documentation of LMOs in 15%, and each of these are included the national targets of less than 4% of Parties. Coexistence and GM-free agriculture, which addresses gene flow and contamination of conventional and organic crops, is the least integrated at 4%, concentrated in a small number of Parties with explicit GM-free policies.

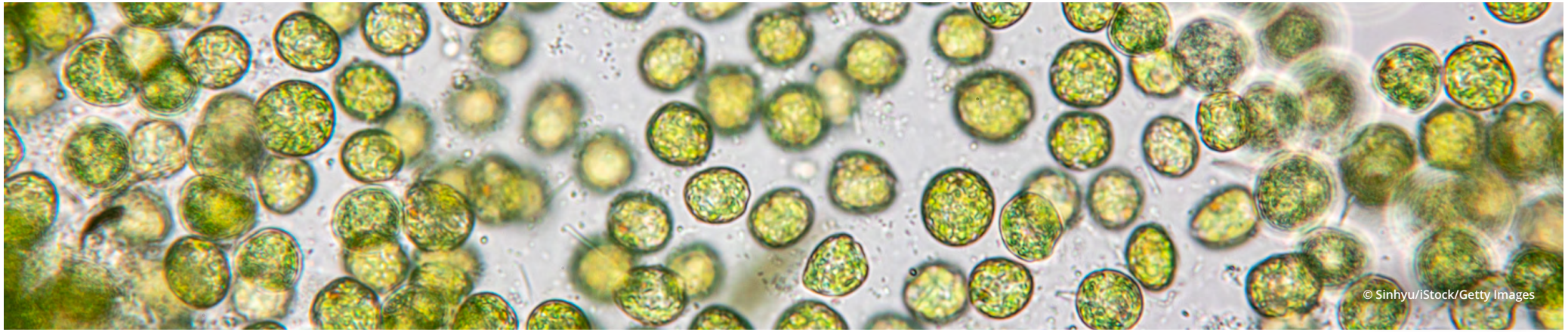
Overall, 55% of Parties address at least one Target 17 policy option in an agrifood context, indicating broad recognition of biosafety as a food-system concern. However, of the 33 Parties that set a national target citing Target 17, only four connect it to food or agriculture. As in other enabling areas, recognition of biosafety and biotechnology governance significantly exceeds the commitments and actions needed to deliver it.

Examples of emerging practice

Cambodia commits to develop biosafety legislation, administrative measures and tools by 2030, "including addressing participation in biotechnology research and the distribution of benefits from biotechnology". It builds on the Law on Biosafety (2008), the ENR Code (2023) and Sub-Decree 104 on access and benefit-sharing, and commits to technical guidelines, standard operating procedures and checklists for risk assessment, LMO detection and border control across the environment, agriculture, health and customs sectors. The plan explicitly links biosafety to agrifood outcomes, adding safeguards against "gene pollution" to protect local crop diversity alongside its rice variety gene bank and on-farm conservation of traditional varieties.

Hungary anchors biosafety in a prohibition and converts it into a market instrument. The NBSAP reports that no GM crops have ever been cultivated and that a full prohibition remains in force, with seed production, export and import under strict control, GMO testing of imported food and feed, and mandatory labelling. The Ministry of Agriculture owns a "GMO-free food trademark", administered by the state-owned Food Chain Security Center, under which certified GMO-free products have entered the domestic market. Cited policy actions include increased monitoring of seeds, feed and food to detect GMO-contaminated lots, immediate destruction of contaminated lots and sprouted crops, and expanded certification capacity, tracked against the share of GM crops authorised at EU level but banned nationally under the opt-out.

Tunisia's NBSAP illustrates the capacity constraint that limits implementation. It has established a National Biosafety Authority drawing on several ministries and a national network of GMO testing laboratories spanning the agriculture, environment, health and industry sectors, with a dedicated measure to strengthen biosafety capacity and an action to improve the network's monitoring, detection, identification and quantification of GMOs. The NBSAP states that these laboratories "lack the financial and human resources to carry out their work effectively."


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TARGET 18: REDUCE HARMFUL INCENTIVES BY AT LEAST $500 BILLION PER YEAR, AND SCALE UP POSITIVE INCENTIVES FOR BIODIVERSITY

The agriculture sector receives USD 470 billion per year in support that is environmentally and socially harmful.[35] Target 18 calls Parties to reduce harmful subsidies by at least USD 500 billion per year which cannot be met without reforming agricultural subsidy policies. Agriculture is one of the most heavily subsidised sectors in the world, and many of those subsidies are for fertilisers, pesticides, water, and output and directly drive biodiversity loss. Target 18 also requires scaling up positive incentives such as payments for ecosystem services, eco-schemes, and green credit lines that reward farmers for sustainable, biodiversity-friendly production. Because agrifood systems are both a primary recipient of harmful subsidies and a key channel for positive incentives, Target 18 is fundamentally an agrifood systems target.

Key trends in NBSAPs and national targets

As Figure 17 shows, positive incentives for sustainable agriculture are more widely reflected in NBSAPs (52%) than harmful subsidy reform (42%). However, both areas have very low rates of national targets and policy actions, indicating that most Parties recognise the importance of economic incentives for biodiversity, but they have not operationalised them.

Relevant policy options	Included in NBSAPs	National target	Policy action
Positive incentives for sustainable agriculture like eco-schemes, tax credits, grants, green credit, PES	52%	6%	18%
Harmful subsidy reform & elimination including agricultural and fisheries subsidies, tax exemptions on inputs, perverse incentives	42%	9%	13%

Figure 17. Integration of agrifood systems under Target 18 across NBSAPs and national targets of 104 Parties

In the assessed NBSAPs, Parties seem to promote new positive incentives more than undertaking the politically sensitive task of reforming existing subsidies. Positive incentives are frequently presented as opportunities for future action, whereas subsidy reform is often framed as a longer-term governance challenge. As a result, both areas remain largely aspirational within current NBSAPs. For harmful subsidy reform, several Parties have begun identifying environmentally damaging incentives, particularly in agriculture, fisheries, forestry, and aquaculture, without planned actions to address them. By contrast, positive incentives tend to focus on encouraging sustainable production practices such as payments for ecosystem services (PES), tax incentives, green finance, grants, or carbon credits.

35 FAO, UNDP and UNEP (2021). A multi-billion-dollar opportunity – Repurposing agricultural support to transform food systems. Rome, FAO.

Examples of emerging practice

Malawi's NBSAP quantifies the agrifood subsidy, reporting that "the agriculture sector receives the largest share through import duty and VAT exemptions on irrigation, fishing, horticulture, and poultry equipment, as well as the Agricultural Input Subsidy Programme, which was allocated MK161.23 billion in the 2024/25 financial year," and that these have "resulted in unintended biodiversity impacts, such as nutrient pollution from subsidised fertilizers affecting aquatic ecosystems." It sets these against biodiversity-friendly incentives already in place, including duty-free importation of solar products and rural electrification subsidies credited with reducing pressure on forests, and commits under National Target 18 to reducing harmful subsidies and scaling up positive incentives by 2035, with repurposing of agricultural and mining subsidies named as the route.

Uganda commits to developing and implementing a comprehensive incentive programme including subsidies or tax breaks for farmers and businesses adopting eco-friendly agricultural practices and technologies, together with a national agroecological systems strategy combining sustainable farming practices, integrated support services and financial incentives. Its monitoring framework tracks the number of farmers receiving such subsidies or tax incentives against a 2023 baseline recorded as "unknown number (few)".

Cameroon's NBSAP commits to strengthening the legal framework and developing tax incentives and other measures for sustainable production in cocoa, oil palm, rubber and other crops, including agroforestry and the use of bio-inputs, so that companies assess and reduce the dependence on, risks to, and negative impacts of their investments on biodiversity. It begins with an analysis of current tax policies to identify gaps and opportunities, and is tracked by the number of companies adopting plans or reports on their biodiversity impacts and dependencies in cocoa, palm oil and rubber, with the finance ministry validating incentives and chambers of commerce supplying sector data.

Egypt sets out a positive-and-negative incentive architecture for biodiversity, with tax exemptions for farmers who adopt sustainable agricultural practices "such as organic farming or protected cultivation," incentives for organisations that reduce their environmental impact or manage areas of environmental importance, and financial incentives including tax exemptions and technical support for companies investing in sustainable solutions and environmental technology — paired with penalties and deterrent measures against harmful activities.


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TARGET 19: MOBILISE $200 BILLION PER YEAR FOR BIODIVERSITY FROM ALL SOURCES, INCLUDING $30 BILLION THROUGH INTERNATIONAL FINANCE

Transforming global food systems requires closing an annual financing gap of USD 1 trillion, yet current investment flows remain far below this level. Meanwhile, the hidden costs of the current food system driven largely by environmental degradation, unhealthy diets, and social inequalities amount to roughly USD 10 trillion annually, equivalent to about 10% of global GDP.[36] These figures indicate that the cost of inaction dwarfs the investment needed for a sustainable transition. Mobilising USD 200 billion per year under Target 19 is, therefore, inseparable from finance needed to transform agrifood systems into nature-positive, climate-resilient, and equitable models. The target's emphasis on domestic resource mobilisation, private finance, blended finance, and PES directly mirrors the finance levers identified for agrifood transformation, such as redirecting agricultural subsidies, scaling green credit lines, and deploying PES and carbon markets to reward farmers for conservation and restoration.

Key trends in NBSAPs and national targets

As shown in Figure 18, biodiversity finance mechanisms in agrifood systems remain weakly developed across NBSAPs, despite growing recognition of their importance for implementing biodiversity and agrifood objectives. Payments for Ecosystem Services (PES) are recognised by 28% of Parties but rarely translated into targets (4%) or policy actions (10%). PES, non-market approaches, and biodiversity finance plans all have relatively low rates of inclusion, targets, and policy actions. Financing agrifood systems transformation remains one of the least operationalised areas of biodiversity policies.

Relevant policy options	Included in NBSAPs	National target	Policy action
Payments for ecosystem services, rewarding farmers, fishers, communities and land users for maintaining services	28%	4%	10%
Non-market mechanisms & non-market approaches, CBNRM, co-management, customary governance, OECMs	28%	16%	9%
Biodiversity finance plans & domestic resource mobilisation including budget lines, levies, funds	30%	3%	5%

Figure 18. Integration of agrifood systems under Target 19 across NBSAPs and national targets of 104 Parties

Where PES is discussed, it is often framed as a future financing opportunity rather than an established mechanism. Biodiversity finance plans and domestic resource mobilisation represent the weakest area of Target 19 implementation. While 30% of Parties mention biodiversity finance in the context of agrifood, only 3% have national targets and 5% report policy actions. Non-market mechanisms and rights-based approaches are more prominent than PES, particularly those linked to community governance, co-management, and IPLCs.

36 FAO (2023). https://www.fao.org/newsroom/detail/hidden-costs-of-global-agrifood-systems-worth-at-least--10-trillion/

Examples of emerging practice

Botswana proposes Payment for Ecosystem Services schemes under which livestock producers pay grazing and water fees, with revenue allocated to restoring degraded rangelands, controlling invasive species and managing veld fires. It cites Absa Bank Botswana's BWP 2 billion note programme, listed on the Botswana Stock Exchange in 2023 to fund biodiversity and social projects, as a model for future private sector engagement, while noting that the country still requires a robust system for issuing green bonds itself.

Cambodia identifies its existing community institutions such as community protected areas, community forests, marine fisheries management areas and community fisheries as formal entry points that can be systematically strengthened by requiring minimum representation of women, youth and persons with disabilities on management committees, linking inclusive membership to approval or renewal of management plans, and integrating community rules and traditional knowledge directly into protected area, fisheries and forest plans. Its Target 9 action plan commits to expanding and strengthening these institutions through co-management agreements, inclusive livelihood support and benefit-sharing such as ecotourism revenue-sharing and PES, tracked by the number of community areas and other effective area-based conservation measures (OECMs) receiving support.

Benin's results framework sets out a wide range of expected biodiversity finance outcomes by 2050, including a green incentive mechanism "adopted and operational (green investment fund, payments for ecosystem services, carbon credits, green taxation)," a developed and implemented plan to reform subsidies harmful to biodiversity, and a strategy for mobilising financial resources for biodiversity. It also anticipates institutionalising the National Forest Inventory (IFN), including the National Ecosystem and Biodiversity Monitoring System, and adopting regulatory texts under the Cartagena and Nagoya Protocols, with "creation of public or private reserves managed by guardians of tradition." Each appears as a single line in the framework, without instrument design, owner, date or amount.

Colombia commits to launching a roadmap to reform incentives detrimental to conservation across priority sectors including agriculture including livestock, fisheries, aquaculture and forestry, and industry including the beverage and food subsectors, alongside positive incentives offered in exchange for eliminating illicit crops. On the positive side, Finagro began consolidating a roadmap in 2024 to green its agricultural and livestock credit lines using sustainability criteria with support from the Biodiversity Finance Initiative (BIOFIN), and the plan costs its 3-million-hectare productive reconversion target at 14.2 million pesos per hectare, or 42.6 trillion pesos in total, derived from land market values. It also commits to raising investment in biodiversity from 0.8% to 1% annually through budgetary alignment across the agriculture, education, health and infrastructure sectors.



TARGET 21: ENSURE THAT KNOWLEDGE IS AVAILABLE AND ACCESSIBLE TO GUIDE BIODIVERSITY ACTION

There is a persistent knowledge gap in adopting and scaling agroecological practices in agrifood systems. Only 30% of farms worldwide operate according to integrated agroecological principles, mainly due to insufficient dedicated funding for agroecology, inadequate training of extension workers, and limited access to advisory services.[37] Farmers, fishers, pastoralists, forest users, extension agents, and policymakers need accessible data and knowledge on soils, pests, pollinators, water, genetic resources, fish stocks, and sustainable practices to manage food production in ways that conserve and restore biodiversity. The target's emphasis on communication, awareness-raising, education, monitoring, research, and knowledge management mirrors the core enabling conditions that agrifood systems require such as farmer field schools, extension services, seed banks, monitoring of genetic erosion, and traceability systems. Its Free Prior Informed Consent (FPIC) and traditional knowledge provisions are also central, because agrifood systems depend on Indigenous and local knowledge of land, breeds, wild foods, agroforestry, pastoralism, and fisheries, which must be accessed only with consent and fair benefit-sharing.

Key trends in NBSAPs and national targets

As shown in Figure 19, research, training, and extension is the most widely integrated Target 21 policy option, appearing in 91% of NBSAPs and supported by policy actions in 57% of cases. However, only 20% of Parties include related national targets, suggesting that countries widely recognise the importance of knowledge generation and capacity building but are less successful in adopting clear measurable targets to help monitor progress.

Relevant policy options	Included in NBSAPs	National target	Policy action
Research, training & extension	91%	20%	57%
Traditional, Indigenous & local knowledge in agrifood	60%	13%	17%
Communication & awareness-raising	65%	10%	24%
Free, prior and informed consent (FPIC)	9%	0%	2%

Figure 19. Integration of agrifood systems under Target 21 across NBSAPs and national targets of 104 Parties

37 Kemper, L., Dietemann, L., & Huber, B. (2024). The potential of agroecology and organic: Insights from scientific evidence in the tropics. Frick, Switzerland: Research Institute of Organic Agriculture (FiBL).

Communication and awareness-raising is the second most common Target 21 measure, included in 65% of NBSAPs, but only 10% of Parties have it in their national targets. Traditional, Indigenous, and local knowledge is similarly included in 60% of NBSAPs, reflecting its recognised role in maintaining agrifood biodiversity and resilience. But despite this recognition, only 13% of Parties have national targets and 17% report policy actions.

Overall, Parties place the greatest emphasis on research, training, and extension, followed by communication and awareness-raising and the recognition of traditional knowledge. FPIC receives very limited attention despite its importance for equitable governance and knowledge-sharing. Across all areas, recognition significantly exceeds implementation planning.

Examples of emerging practice

Canada reports existing federal programmes supporting Indigenous food systems and food security across four departments including the Food Policy for Canada, the Harvesters Support Grant and Community Food Programs Fund, the Nutrition North Canada Nutrition Education Initiative, and the Northern Isolated Community Initiatives Fund, and commits to further expanding the Harvesters Support Grant to help ensure Indigenous Peoples can exercise harvesting rights in "the lands, waters, and ice, as they have for millennia." The plan frames customary sustainable use through food sovereignty, identifying opportunities to support Indigenous-led management actions and the co-development of management plans, with consistency with the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) as the route to ensuring harvesting rights are respected.

Ecuador documents the agrobiodiversity maintained in Andean family vegetable gardens such as tubers such as oca, melloco and mashua, roots such as white carrot, miso and jícama, and fruit plants such as uvilla and naranjilla, and reports that in the Alto Napo region of its Amazon alone, 31 varieties of cassava have been identified for food, chicha preparation and medicinal use. It also records that this diversity is eroding, calling the displacement of indigenous crops "an indisputable fact," while the plant genetic resources department of the National Autonomous Institute for Agricultural and Livestock Research (INIAP) has established 300 biodiverse chakras and distributed more than 20 crop varieties between 2015 and 2018 as in situ conservation measures.

Egypt commits to organising community education programmes targeting different population segments, including farmers, fishermen and herders, which may comprise workshops and discussion sessions on conserving natural resources and sustainable agriculture, and training workshops on the role of local communities in protecting ecosystems and the sustainable use of environmental resources.

Colombia commits to capacity building for Indigenous Peoples, Black People, Afro-descendants, Raizales, Palenqueros and peasants on the rules and procedures for access and benefit-sharing, community protocols and traditional records, the negotiation of ABS agreements, and the monitoring of bioprospecting projects. Alongside this it commits to a knowledge management strategy for preserving ancestral knowledge and recovering native seeds and medicinal plants through organisations of rural women, Indigenous Peoples, Afro-descendants and environmental stewards, connecting traditional agricultural knowledge to the legal machinery governing genetic resources.


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TARGET 22: ENSURE PARTICIPATION IN DECISION-MAKING AND ACCESS TO JUSTICE AND INFORMATION RELATED TO BIODIVERSITY FOR ALL

Agrifood production is where many of the decisions about land, water, seeds, and traditional knowledge are made, and where the rights of Indigenous Peoples, local communities, women, and youth are at stake.[38] Smallholder farmers, fishers, pastoralists, and Indigenous communities are central to agrifood systems, yet they are often excluded from the decisions that affect their livelihoods and the biodiversity they steward.[39] Ensuring their full and gender-responsive participation in agrifood governance including land-use planning to fisheries co-management and seed sovereignty is essential to achieving the target. Access to justice and information in agrifood contexts means farmers and communities can defend their rights against land grabs, pesticide pollution, or unsustainable agribusiness expansion, and can access the knowledge needed for sustainable production.

Key trends in NBSAPs and national targets

As shown in Figure 20, IPLC participation in agrifood decision-making, land-use planning, fisheries, and forest management is a widely recognised participatory approach in NBSAPs, appearing in 77% of plans and supported by policy actions in 36% of NBSAPs. However, only 7% of Parties have included it in their national targets, suggesting that participation is often promoted through projects, programmes, or legal provisions rather than through measurable national commitments. Many Parties frame participation as a rights-based approach to biodiversity governance.

Relevant policy options	Included in NBSAPs	National target	Policy action
IPLC participation in agrifood decision-making & land-use planning	77%	7%	36%
Women's & girls' participation, access to land & credit	55%	5%	17%
Producers' & producer organisations' participation	54%	2%	15%
Youth participation & representation, young farmers	43%	3%	12%
Multi-stakeholder & participatory governance, co-management	39%	4%	15%
Access to justice, information & grievance mechanisms	7%	0%	1%

Figure 20. Integration of agrifood systems under Target 22 across NBSAPs and national targets of 104 Parties

38 IPBES (2024). Thematic Assessment Report on the Interlinkages among Biodiversity, Water, Food and Health of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Harrison, P. A., McElwee, P. D., and van Huysen, T. L. (eds.). IPBES secretariat, Bonn, Germany.

39 FAO. (2024). Realizing the right to food in a changing world – The Right to Food Guidelines: 20 years on and beyond. Rome: Food and Agriculture Organization of the United Nations.

Women's participation is the second most recognised area, appearing in 55% of NBSAPs, but it is rarely translated into targets (5%) or policy actions (17%). Most references highlight women's existing contributions to agrifood systems rather than concrete governance measures. Similarly, the role of farmers, pastoralist, and fisherfolk and their organisations are recognised in 54% of NBSAPs, but this is not backed by clear targets or policy actions. Youth participation, on the other hand, receives considerably less attention. Only 43% of NBSAPs mention youth, while just 3% include national targets and 13% policy actions. Most NBSAPs focus on entrepreneurship, education, and livelihood opportunities rather than formal participation in decision-making indicating that youth are generally viewed as beneficiaries of biodiversity initiatives rather than as governance actors.

Multi-stakeholder governance and access to justice are the least integrated policy options in NBSAPs. Participatory governance platforms, co-management arrangements, and community protocols appear in only 13% of NBSAPs and access to justice included in only 7% of them.

Overall, Parties are increasingly recognising the importance of IPLC participation and, to a lesser extent, women's participation in biodiversity governance. However, inclusion declines sharply for youth participation, multi-stakeholder governance, and access to justice. Across all areas, the very low number of national targets suggests that participatory commitments are rarely translated into measurable goals that can be tracked.

Examples of emerging practice



Burkina Faso's NBSAP aligns itself with the country's national women's and girls' economic empowerment strategy, improving women's and girls' access to land and to production, processing and preservation technologies as well as to financing, and promoting women's entrepreneurship, situating biodiversity action within an existing commitment that spans the agrifood value chain rather than land access alone.



Cameroon's Measure 23 commits to integrating a gender perspective into NBSAP review and implementation, promoting women's and girls' access to decision-making processes, natural resources and land tenure, and advocating for stronger measures against gender-based discrimination and violence in the context of access to land. Separately, the plan's institutional review records existing decentralised coordination structures it can work through, including protected area and community forest management committees and local Participatory Riverbank Management Committees (CRGP) for fisheries monitoring.



Equatorial Guinea commits to facilitating women's equal access to financial services, credit, education, training, and information relevant to their participation in the governance, conservation, and sustainable use of biodiversity, specifically targeting supply chains and biodiversity-based sectors to identify gender gaps and promote women's empowerment and entrepreneurial opportunities. The commitment responds to a measured gap: its plan reports women as approximately 80% of the agricultural workforce, central to planting, harvesting and marketing, yet facing restricted access to finance, land and decision-making. It is paired with a dated legislative action, a draft bill on equal access to and ownership of land by 2027 and with national targets on women's leadership in decision-making and policy formulation by 2030.



Cambodia will anchor its IPLC support mechanism in the Ministry of Rural Development and its Ethnic Minority Development Department — already the competent authority for indigenous community recognition — as the lead government body for engagement, recognition, cultural protection and coordination of support. When developing protected area management plans or agrobiodiversity projects, the environment and agriculture ministries and other sectoral ministries will coordinate with it to consult and partner with IPLCs, complemented by capacity support to strengthen community leadership, livelihood outcomes and respect for cultural heritage. The plan presents this as a correction, noting that local participation and coordination with communities "were previously limited and need strengthening."



Benin plans practical training for producers, forest operators, fishermen, tour guides and transporters, and sets the principle that "inclusion is credible only if it is measurable", committing the strategy to provide for the effective participation of women and youth in its information, education and communication initiatives, and to collect disaggregated participation data "where relevant." The formulation makes measurability the test of inclusion rather than an optional add-on, though the disaggregation commitment is conditional and no indicators are specified.

TARGET 23: ENSURE GENDER EQUALITY AND A GENDER-RESPONSIVE APPROACH FOR BIODIVERSITY ACTION

Women make up 42% of the global agrifood workforce, but they hold less than 15% of agricultural land, earn 82 cents for every dollar men earn, and face a 24% productivity gap. They are heavily concentrated in informal and post-harvest roles, representing 62% of fisheries processing workers and two-thirds of the world's 600 million poor livestock keepers. Closing these gaps could generate up to USD 1 trillion in economic gains and reduce food insecurity for 45 million people.[40] Therefore, agrifood biodiversity outcomes depend on women's knowledge of seeds, breeds, wild foods, and sustainable practices, so gender-responsive governance is essential for effective conservation and food security. Without women's full and equitable participation, agrifood policies, programmes, and value chains will fail to deliver on both biodiversity and development goals.

Key trends in NBSAPs and national targets

As shown in Figure 21, gender-responsive capacity building and knowledge is relatively well recognised in NBSAPs, appearing in 51% of plans. However, only 3% of Parties have established national targets and 16% have related policy actions.

Relevant policy options	Included in NBSAPs	National target	Policy action
Gender-responsive capacity building & knowledge	51%	3%	16%
Gender-responsive governance frameworks & monitoring	37%	2%	6%
Women's participation & leadership in governance	32%	3%	10%
Equal rights & access to land, credit and economic opportunity	30%	2%	5%

Figure 21. Integration of agrifood systems under Target 23 across NBSAPs and national targets of 104 Parties

Similarly, gender-responsive governance frameworks receive moderate attention, with 32 to 37% inclusion in NBSAPs but only 2 to 3% of Parties establishing national targets and 6 to 10% reporting policy actions. Equal rights and access to land, credit, and economic opportunities receive even less attention, appearing in only 30% of NBSAPs, with just 2% of Parties setting national targets and 5% reporting policy actions.

40 FAO (2023). The status of women in agrifood systems. Rome: Food and Agriculture Organization of the United Nations.

The assessment findings show that Parties place an emphasis on recognising the importance of strengthening women's knowledge and capacities and improving gender-responsive governance, but less so on economic empowerment, land rights, and access to finance, despite their importance for enabling women's participation in sustainable agrifood systems. Across all three areas, the extremely low number of national targets and policy actions shows that Parties still largely lack clear plans to include women and other marginalised groups in NBSAPs implementation in the agrifood systems.

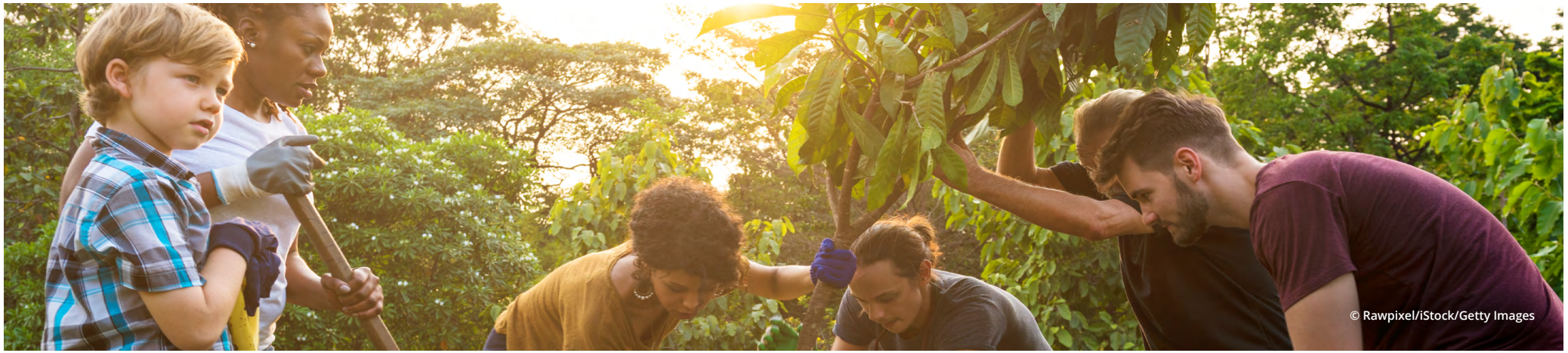
Examples of emerging practice

Cameroon has developed a Gender Action Plan which aims to ensure the effective integration of gender equality into all actions related to the implementation of its third NBSAP (SPANB III). It recognises the distinct roles of women and men in the use of natural resources and the management of ecosystems. The approach is based on three main pillars: (i) strengthening women's participation in biodiversity governance bodies, (ii) integrating gender-sensitive indicators into the monitoring and evaluation system, and (iii) improving women's access to economic opportunities derived from biodiversity.

Cambodia's environment ministry has a Gender Mainstreaming Strategic Plan in Environment (2021–2025) spanning entrepreneurship, leadership and representation, education, health, institutional strengthening and workplace integration. The NBSAP reports the gaps in numbers: women hold only 10% of decision-making positions within the ministry, 36 of 116 rangers were women in 2025, and only 2 of 113 community protected area leaders are women. Reporting these figures gives gender-responsive governance a measurable starting point, though the plan sets no target against any of the three and its strategy period has now closed.

Egypt supports women to assume leadership positions on resource management committees and provides training on sustainable agriculture and water resource management, recognising that many women depend on these resources for their livelihoods. It also provides financial and technical support for women-led environmental projects including afforestation and sustainable agriculture. This combines representation, capacity, and finance in a single package.

Côte d'Ivoire commits to "train women involved in biodiversity conservation in leadership, project management, and advocacy," and requires sex and age disaggregation across its agrifood monitoring: farmers trained in agroecological practices, women, men and youth implementing sustainable agricultural practices, producers participating in PES contracts, and people actively engaged in sustainable agriculture are all to be counted by gender. By specifying disaggregation in the indicator definitions themselves and extending it from training to practice adoption and payment-scheme participation, it makes gender-responsive capacity building measurable rather than aspirational, though no values are reported yet.



CHALLENGES AND GAPS

The review of 104 NBSAPs shows that the main challenge is no longer whether Parties recognise the importance of transforming agrifood systems for biodiversity. Across almost all GBF targets, agrifood-related measures are widely included in national biodiversity strategies, demonstrating growing political commitment and awareness. However, a consistent set of implementation barriers emerges across targets, revealing challenges to close the gap between ambition and implementation.While the specific policy issues vary from spatial planning and restoration to sustainable consumption, biodiversity finance, traditional knowledge, and gender equality, the challenges are remarkably similar. The following five recurring challenges stand out which together constrain the transition from policy commitments to measurable outcomes for biodiversity, agrifood systems, and sustainable development.

1. Monitoring widely promised but rarely specified:

Across almost all GBF targets, Parties recognise the need for better monitoring but rarely establish operational systems capable of tracking outcomes, accountability, or implementation progress. Many NBSAPs call for observatories, databases, indicators, and monitoring platforms, yet few define baselines, reporting cycles, institutional responsibilities, or mechanisms to measure biodiversity outcomes.

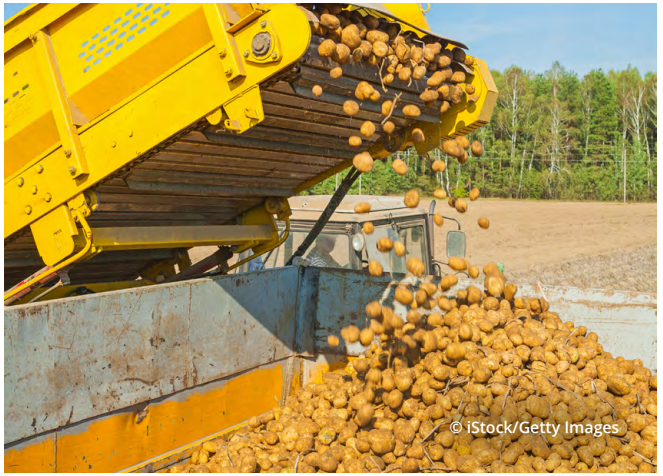
Only 13% of Parties name a baseline for an agrifood indicator, 35% name a reporting timeline and 51% name a responsible institution, but just three Parties include a baseline, reporting frequency, and an institution in their NBSAPs. Lebanon is the only Party that does so within a single commitment, setting out each indicator with a unit, calculation method, responsible agency, frequency and baseline year alongside its cost.

Sixty-three of the 104 Parties explicitly identify monitoring or data difficulties in their agrifood sections, including challenges like unreliable or missing data – particularly in fisheries and wild harvest, limited technical capacity and equipment, knowledge gaps on the species and varieties that matter most to food systems, fragmented institutional responsibility for collecting and holding the data, and lack of sufficient funding for monitoring.

2. Financing for implementation is named as an instrument but not quantified:

Financing is discussed less than any other enabling conditions needed for implementing agrifood targets and actions in NBSAPs. 47 (45%) Parties name payments for ecosystem services, green bonds, biodiversity credits, blended finance, trust funds or carbon credits in an agrifood context, but only 13 (13%) frame any of them as an action to be taken, and only eight attach either an estimated cost or finance gap.

Cambodia's BIOFIN work put biodiversity-related expenditure in 2018 at USD 112 million, about 2% of the national budget, against an assessed requirement of USD 305 million (i.e., a stated gap of USD 195 million). Colombia costs its 3 million hectares of productive reconversion target at 14.2 million pesos per hectare, or 42.6 trillion pesos in total, and commits to raising biodiversity investment from 0.8% to 1% of the budget annually. The DRC illustrates the opposite position, reporting "a concerning structural dependence on international donors" and spending on biodiversity research and monitoring of "less than 0.5% of GDP, well below actual needs." In 29% of the assessed NBSAPs, Parties state a financing challenge explicitly. They overwhelmingly frame them as insufficient allocations, unfunded strategies, and dependence on donors and project-based funding and lack of domestic budgets. For example, Cambodia notes that donor reliance makes implementation "piecemeal and project-based rather than programmatic"; Kyrgyzstan highlights that biodiversity is "given little consideration when national and local budgets are formulated"; and the DRC, Equatorial Guinea and Brazil state that rural communities, women and smallholders cannot reach the finance that already exists.



3. Recognition of agrifood priorities greatly exceeds implementation:

The trends in the assessed NBSAPs repeatedly show that political recognition has advanced much faster than implementation. Many policy options are widely reflected in NBSAPs and national discourse, but few are supported by measurable targets, operational programmes, or policy actions. Wild foods provide a clear example: countries such as Armenia, Burundi, Botswana, and Canada recognise their importance for nutrition, livelihoods, and resilience, but very few describe concrete policy measures to support sustainable harvesting, strengthen value chains, or develop markets.

Similar patterns occur for traditional knowledge, access and benefit-sharing, digital sequence information, sustainable diets, consumer behaviour change, biodiversity finance, subsidy reform, biodiversity disclosure, traceability systems, and corporate accountability. Countries increasingly recognise the importance of these issues, but implementation remains largely at the agenda-setting stage. Across targets, the dominant challenge is no longer whether Parties acknowledge the importance of agrifood transformation, but whether they have translated that recognition into actions, institutions, and investments capable of delivering change.

4. Governance, institutional coordination, and accountability remain major barriers:

Many implementation gaps stem from weak governance arrangements and fragmented institutional responsibilities. Among the 104 NBSAPs, 50% of the Parties that set out agrifood policy actions name a responsible institution for at least one of them, but only five Parties do so for even half their policy actions.

Several countries highlight challenges in integrating biodiversity objectives across agriculture, fisheries, land-use planning, finance, and development sectors. Cameroon reports weak institutional coordination contributing to conflicts between agriculture, mining, conservation, and grazing areas. Equatorial Guinea identifies overlapping responsibilities between environmental and agricultural authorities as an obstacle to effective governance. The DRC notes that biodiversity remains insufficiently integrated into strategic frameworks and argues that environmental assessment systems need substantial strengthening. Similar issues arise in participation and mainstreaming targets: environmental impact assessments often function as procedural requirements rather than strategic planning tools, biodiversity finance plans are frequently disconnected from budgeting processes, and legal frameworks for prior consultation and participation remain underdeveloped. As a result, many commitments lack clear ownership, accountability mechanisms, and coordinated implementation pathways across institutions.

5. Inclusion, participation, and social transformation remain largely aspirational:

Although IPLCs, farmers, fisherfolk, women, youth, and traditional knowledge holders are increasingly recognised as central actors in biodiversity-friendly agrifood systems, implementation mechanisms remain weak. Cambodia notes that participation and coordination with communities have historically been limited and still require strengthening. Canada highlights how colonisation, land appropriation, and the residential school system have disrupted Indigenous knowledge systems and intergenerational knowledge transfer. The DRC identifies the absence of legal frameworks guaranteeing prior consultation with IPLCs before biodiversity-related decisions. Gender-related barriers remain particularly significant with Burundi reporting that only 7.7% of women hold land titles, while Equatorial Guinea highlights persistent barriers to land, finance, technology, and economic opportunities.

Across Parties, participation commitments are rarely accompanied by indicators, budgets, monitoring systems, or measurable governance outcomes. Youth participation is often limited to awareness and entrepreneurship programmes rather than decision-making roles. Consequently, inclusion is widely recognised in principle, but meaningful participation, empowerment, and rights-based implementation remain underdeveloped in practice.





4. RECOMMENDATIONS

> CONTENT

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The recommendations below are intended to support policymakers and other stakeholders in addressing the specific gaps in NBSAPs that our assessment reveals, so that effort is directed where the evidence shows it is most needed.

FOR PARTIES REVISING NBSAPS AND NATIONAL TARGETS

1. **Move from recognition to implementation by adopting measurable agri-food targets.** Many agrifood measures are widely recognised in NBSAPs, but they lack corresponding national targets and policy actions. Parties should establish time-bound, measurable targets for sustainable agriculture, restoration, pollution reduction, agro-biodiversity conservation, participation, and biodiversity finance.

2. **Develop integrated monitoring systems for agrifood-related biodiversity outcomes.** Monitoring remains the weakest aspect of implementation across nearly all assessed GBF targets. Parties should establish indicator-based frameworks with clear baselines, reporting cycles, and institutional responsibilities for areas such as soil health, pollination, genetic diversity, food waste, climate resilience, and agricultural pollution.

3. **Strengthen biodiversity finance and estimate cost of implementation.** NBSAPs should include detailed financing plans linked to agrifood actions, supported by domestic budget allocations, biodiversity finance plans, subsidy reform, payments for ecosystem services (PES), green bonds, and blended finance mechanisms.

4. **Prioritise underrepresented agrifood transitions.** Greater attention is needed for sustainable diets, plastics use in agrifood systems, agroforestry, aquaculture, and resilient supply chains, which consistently receive less attention than sustainable production measures.

5. **Institutionalise participation and inclusion.** Parties should move beyond recognition of IPLCs, women, and youth, and traditional knowledge by establishing formal participation mechanisms, FPIC procedures, gender-responsive governance arrangements, and dedicated financing for inclusive agrifood decision-making. These stakeholders are crucial for transitioning to agrifood systems.

6. **Strengthen institutional accountability for implementation.** Many agrifood commitments lack clearly assigned responsibilities. Parties should identify lead institutions, establish inter-ministerial coordination mechanisms, and define implementation responsibilities for each agrifood-related national target.

7. **Link biodiversity, agriculture, climate and food system planning.** Agri-food-related biodiversity measures should be systematically aligned with Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs), Land Degradation Neutrality (LDN) Targets, agricultural investment plans, food systems pathways, and rural development strategies to avoid fragmentation and maximise co-benefits.

8. **Cost and prioritise implementation pathways.** Rather than compiling long lists of actions, Parties should identify priority interventions, estimate implementation costs, assess financing gaps, and sequence actions according to national biodiversity and food system priorities.

9. **Expand support for knowledge, extension and farmer capacity building.** The review shows strong recognition of research, training and extension, but weaker implementation. Parties should invest in advisory services, farmer field schools, participatory research, and innovation systems that help translate commitments into practice.

10. **Move beyond project-based implementation to systemic transformation.** Many measures remain focused on individual farming practices or local projects. Parties should adopt landscape, watershed, and value-chain approaches that address the drivers of biodiversity loss across food systems.

FOR CIVIL SOCIETY, FARMER ORGANISATIONS, AND INDIGENOUS PEOPLES AND LOCAL COMMUNITIES

1. **Advocate for stronger implementation and accountability.** Civil society organisations should use NBSAPs and national targets to hold governments accountable for delivering on agrifood-related biodiversity commitments, particularly where targets exist without corresponding policy actions.

2. **Strengthen community-led conservation and monitoring.** Farmer organisations, IPLCs, and local communities can play a central role in monitoring genetic diversity, ecosystem restoration, wild food systems, pollinators, and land-use change through participatory monitoring systems.

3. **Scale up farmer-to-farmer learning and Indigenous knowledge systems.** Community seed banks, farmer field schools, Indigenous food systems, and traditional resource management practices should be expanded and integrated into national biodiversity implementation strategies.

4. **Build coalitions around nature-positive agrifood system transformation.** Civil society can help bridge biodiversity, climate, health, and food security agendas by promoting agroecology, sustainable diets, food waste reduction, and sustainable livelihoods.

5. **Engage in biodiversity finance mechanisms.** Communities and producer organisations should actively advocate for engaging in international and national finance mechanisms to shape and benefit from PES schemes, biodiversity credits, community conservation funds, green enterprises, and other mechanism that reward stewardship of biodiversity.

6. **Track implementation progress independently.** Civil society organisations should develop shadow reporting, citizen-led monitoring, and biodiversity scorecards to assess progress against national agrifood targets and commitments.

7. **Promote policy coherence across sectors.** Farmer organisations and IPLCs can help ensure biodiversity objectives are integrated into agricultural, food security, trade, and rural development policies rather than being treated as stand-alone environmental issues.

8. **Strengthen representation in national planning and budget processes.** Stakeholders should engage not only in NBSAP consultation processes but also in budget discussions, agricultural policy reforms, biodiversity finance planning, and implementation oversight mechanisms.



FOR PRIVATE SECTOR AND FINANCIAL INSTITUTIONS

1. **Embed biodiversity into agrifood business strategies and risk management.** Food companies, processors, retailers, and financial institutions should assess, monitor, and disclose biodiversity dependencies, risks, and impacts across their operations and supply chains.

2. **Invest in biodiversity-positive supply chains.** Companies should scale certification, traceability, sustainable sourcing, regenerative agriculture, sustainable fisheries, and biodiversity-friendly production systems rather than relying solely on voluntary commitments.

3. **Expand investment in producer transitions.** Financial institutions should provide green credit lines, sustainability-linked loans, blended finance mechanisms, and technical support to help producers adopt biodiversity-friendly practices.

4. **Support biodiversity-based enterprises and local value chains.** Private-sector actors should invest in biodiversity-based products, non-timber forest products, Indigenous enterprises, sustainable aquaculture, agroforestry, and value-added processing that generate both conservation and livelihood benefits.

5. **Strengthen benefit-sharing and responsible innovation.** Businesses using genetic resources, traditional knowledge, or digital sequence information should implement fair benefit-sharing practices, support local innovation systems, and contribute to equitable governance arrangements that reward custodians of biodiversity.

6. **Align corporate targets with national biodiversity objectives.** Companies should translate national biodiversity and agrifood targets into business-level commitments, ensuring that corporate sustainability strategies contribute directly to national implementation goals.

7. **Improve biodiversity data, traceability and reporting systems.** Businesses should support data collection and monitoring systems that track land-use change, supply chain impacts, pollinator health, restoration outcomes, and biodiversity risks.

8. **Redirect harmful investments and incentives.** Financial institutions should progressively phase out support for activities driving habitat conversion, overexploitation, pollution, and unsustainable production practices while expanding incentives for nature-positive alternatives.

9. **Co-invest in public-good infrastructure.** The private sector should support extension services, landscape restoration initiatives, seed systems, community monitoring, and research partnerships that benefit producers and biodiversity simultaneously.



5. METHODOLOGY

> CONTENT

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The project team first built two databases: one with all 108 NBSAPs and one with all 3,937 national targets from 173 Parties submitted as of 15 September 2026, which we then reviewed and analysed as follows:

Step	What we did	Result
1. Database	Downloaded all NBSAPs and national targets submitted to the CBD Online Reporting Tool by 15 September 2026; one NBSAP document per Party	108 NBSAP documents, 16,267 pages 3,937 national targets from 173 Parties
2. Language	Translated non-English NBSAPs and national targets into English with DeepL before extraction	108 English NBSAPs 3,937 English national targets
3. Extraction	Extracted all passages from the PDFs page by page and column by column, detecting vertical gutters so multi-column layouts are not interleaved	52,540 passages, median 99 words per passage
4. Prefilter	Searched the 52,540 passages against a 150-pattern agrifood keyword list, deliberately over-inclusive	24,905 passages kept (47.4%)
5. Relevance	Screened the kept passages with a large language model (DeepSeek-V4-Flash): does this passage say something about how the country produces, governs, distributes or consumes food?	10,119 relevant passages from 108 NBSAPs
6. Analytical base	Restricted the analysis to Parties that submitted both an NBSAP and national targets, so plans and targets are compared for the same Parties	104 Parties 10,029 relevant passages 2,509 national targets
7. Policy option identification	Supplied the full classified passage set to a large language model (DeepSeek-V4-Flash) and used two separate approaches to identify agrifood relevant policy options under each GBF Target: a) For GBF Targets with explicit agrifood content (i.e., Targets 9, 10, 11, and 13), we asked the model to narrowly identify policy options closest to the actual text of the target (e.g., agroecology, livestock, and aquaculture as mentioned in Target 10 text); b) for other GBF Targets, we asked the model, one GBF target at a time, which agrifood-related policy options appear in the passages that is related to that GBF target. This way, we wanted to first capture the most agrifood explicit policy options and then other agrifood policy options that contribute to various GBF Targets, but are not explicit in their text. The policy option list is therefore derived from what the 104 Parties included in their NBSAPs and national targets. But the 73 policy options is a conservative list as it depends on the content and language of the GBF Targets. Agrifood policy options that might not fall directly under a specific target, might have been left out.	A list of 73 agrifood policy options across relevant targets covering Targets 1–23
8. Policy option analysis	For every option we built a layered search rule over the full text of the 10,029 passages and 2,509 targets and ran the search using an LLM. The rule: 1) find the policy option concept, required within 90–220 characters of an agrifood reference; 2) check if the passage uses 'policy action' language, and 3) if the policy option is in the text of a national target.	73 policy options analysed and reported across 19 GBF targets
9. Hand validation	For each option, we read a random sample of matched passages for quality control.	List of hand validated examples
10. Measures	For each option, the share of the 104 Parties whose NBSAP includes it, and share of Parties whose NBSAP contains at least one action on it, and those that name it in at least one national target	Three measures per option, all on the same base of 104

PREFILTER KEYWORDS

The prefilter used in Step 4 (see above) is a case-insensitive 150-term search applied to every passage extracted from NBSAPs. It is deliberately over-generous and includes terms that are often not about food at all (e.g. land, water, market, rural, trade) because in a whole-document corpus the food-systems sentence frequently does not name a crop. Most terms are stems and match any ending (e.g. agri catches agriculture, agricultural and agribusiness). Short words and acronyms are anchored to word boundaries instead, so that ABS does not match absence or abstraction, and feed does not match feedback.

Group	Terms
Production	agri, agro, farm, crop, livestock, cattle, poultry, herd, graz, pastoral, rangeland, fodder, feed, cultivat, planting, harvest, orchard, horticult, plantation, irrigat, tillage, seed(s), varieties, landrace, germplasm, gene bank, breed, fisher, fishing, fish, aquacult, maricult, shellfish, apicultur, beekeep, honey, silvopastoral, agroforest
Inputs and soil	pesticid, herbicid, fertiliser/fertilizer, agrochemical, manure, compost, soil, pollinat, integrated pest
Food, diet and supply	food, diet, nutrition, malnutr, hunger, famine, meat, dairy, milk, grain, cereal, vegetable, fruit, legume, pulses, tuber, livelihood, value chain, supply chain, post-harvest, processing, cold chain, market, trade, certificat, labelling, procurement
Actors and governance	smallholder, peasant, family farm, producer, rural, land tenure, land use, land right, extension service, food security, food sovereignty, agrobiodiversity, agricultural biodiversity
Genetic resources, biosafety and benefit-sharing	genetic resource, biosafet, GMO(s), LMO(s), living modified, biotechnolog, Nagoya, benefit-sharing, ABS, traditional knowledge, bioprospect, digital sequence, DSI, PGRFA
Incentives and subsidies	subsid, incentive
Bioeconomy	bioeconom, bio-econom
Waste, circularity and consumption	waste, recycl, circular econom, consumption, consumer
Planning and land	spatial plan, land-use plan, zoning, territorial plan
Staples and regional production systems	rice, paddy, maize, wheat, sorghum, millet, cassava, yam, taro, teff, ensete, fonio, quinoa, banana, plantain, coffee, cocoa, oil palm, sugarcane, cotton, shifting cultivation, swidden, transhuman, nomadic, campesino, milpa
Other production and wild harvest	apiar, silvicultur, seaweed, algae, non-timber forest, NTFP, wild food, bushmeat, sea cucumber

THE AGRIFOOD SYSTEMS RELEVANCE SCREENING PROMPT

The following prompt was given to DeepSeek to screen 24,905 passages from 108 NBSAPs for their relevance to agrifood systems.

```
You are screening passages from National Biodiversity Strategy and Action Plans (NBSAPs) to find the ones that concern food systems.

A passage is RELEVANT if it concerns any of: farming or crop production; livestock, grazing or pastoralism; capture fisheries or aquaculture; agrofoestry or tree crops; wild foods, hunting or gathering for food; soil, water, inputs or pollinators in an agricultural context; food supply chains, processing, storage, markets or trade in food; diets, nutrition, food security or food waste; the governance, financing, land rights, knowledge or institutions of any of the above.

A passage is NOT RELEVANT if it concerns general biodiversity, protected areas, wildlife, species conservation, forestry for timber or carbon, pollution or climate change, without any food, agricultural, fisheries or dietary dimension.

THE TEST TO APPLY

Ask: does this passage tell me something about how this country produces, governs, distributes or consumes food, or about the natural resources used to do so? If yes, RELEVANT. If it is about nature or the environment in general and food is not part of what it is saying, NOT RELEVANT.

Borderline guidance, apply literally:

1. A passage listing agriculture among several sectors, but chiefly about something else, is NOT RELEVANT.
2. Land tenure, spatial planning, gender, participation, finance, monitoring and capacity building are RELEVANT only where the passage ties them to food, farming, fishing or diets. Ask: would removing the food element leave the passage intact? If yes, NOT RELEVANT.
3. Forest passages are RELEVANT where they concern agroforestry, wild food harvest, or forests as a farming resource; NOT RELEVANT where they concern timber, carbon or forest conservation alone.
4. Water passages are RELEVANT where they concern irrigation or agricultural water use; NOT RELEVANT where they concern water quality or aquatic ecosystems in general.
5. A passage mentioning a food word incidentally — "fish stocks" inside a marine protected area description — is NOT RELEVANT unless the passage says something about the fishery.

Be strict. Roughly one passage in four should be RELEVANT. Do not stretch to include a passage because it contains an agricultural word.

RULES FOR YOUR RESPONSE

1. Return one line for every passage, for every number from 1 to N. Do not skip, merge or reorder items.
2. Judge each passage only on its own text. Do not infer from the numbering or from neighbouring items.
3. Quote at most 12 words COPIED EXACTLY from the passage as your evidence — for RELEVANT, the words showing the food-systems content; for NOT_RELEVANT, the words showing what the passage is actually about. It must appear character-for-character in the passage.
4. Give a confidence: HIGH, MEDIUM or LOW.

OUTPUT FORMAT - one JSON object per line, nothing else, no preamble:
{"n": 1, "relevant": "YES", "evidence": "expand climate-smart agriculture across", "confidence": "HIGH"}
```

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Why we are here
To stop the degradation of the planet’s natural environment and to build a future in which humans live in harmony with nature.

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