

Policy insights

Can developing countries unlock the potential of biodiversity?

HIGHLIGHTS

- 1 **Biodiversity-based exports reached US\$3.8 trillion in 2024.** Yet developing countries only capture 35 per cent of this market.
- 2 **Trade can shape sustainable biodiversity-based exports** and determine who captures the value they generate.
- 3 **Tariffs, non-tariff measures, standards and finance determine who moves up biodiversity-based value chains** and how benefits and costs are allocated.
- 4 The 2026 UN Biodiversity Conference is an opportunity to show that **trade has the potential to protect biodiversity while driving sustainable development.**



In 2024, biodiversity-based exports reached US\$3.8 trillion, but value is unevenly distributed

Global trade of about 1,800 biodiversity-based products¹ reached nearly US\$3.8 trillion in 2024, accounting for 17.3 per cent of total merchandise trade.² Yet, participation in this growing market remains highly uneven. European economies dominated, representing 49 per cent of global exports, while developing countries accounted for around 35 per cent.³

Africa and Latin America and the Caribbean (LAC) are home to approximately two-thirds of global biodiversity, encompassing a vast range of species, ecosystems and genetic resources. Yet, in 2024, they accounted for only 3 and 11 per cent, respectively, of global biodiversity-based products exports (**Figure 1**).⁴

¹ Biodiversity-based products include food, beverages, natural ingredients and fibres, among others. Non-biological products, such as minerals, ores, and metals, are excluded. For more information, see [United Nations \(2023\), The Trade and Biodiversity product classification. Measuring trade in products with a biological origin](#), and in [BiotradeMerch - Metadata](#).

² Data for 2024 are provisional and reflect information as of 20 July 2026.

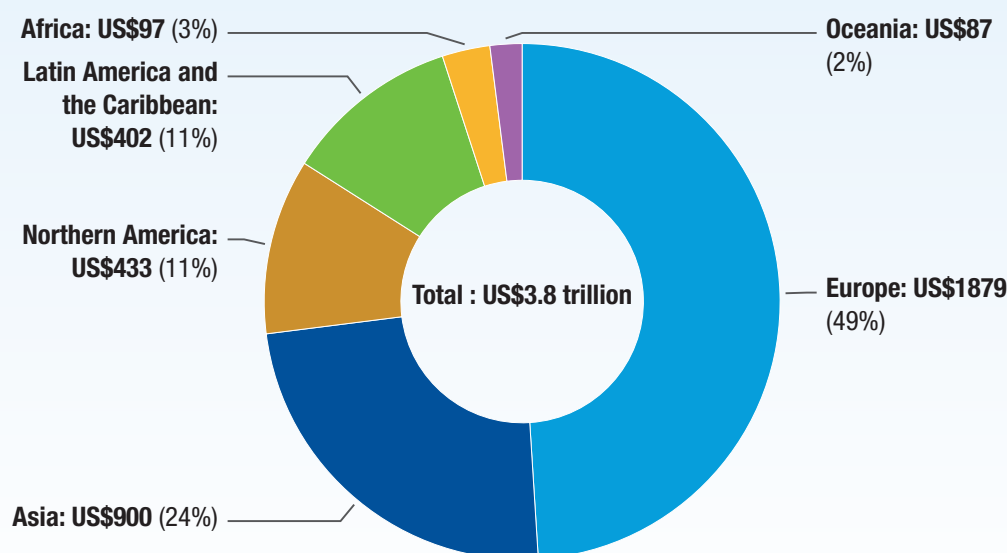
³ UNCTAD calculations based on UNCTADstat (BiotradeMerch).

⁴ For more information on Africa, see <https://wedocs.unep.org/items/5bbf072b-320b-43fb-a07f-ec1cb1302a89>. For more information on LAC, see <https://www.iadb.org/en/news/latin-american-and-caribbean-ministers-finance-work-biodiversity>.



Figure 1
Global biodiversity-based exports reached US\$3.8 trillion in 2024

Exports of biodiversity-based products by region, 2024 (billions of U.S. dollars)



Source: UNCTADstat 2026.

Nevertheless, biodiversity-based products featured prominently in both regions' merchandise trade, accounting for almost one fifth of merchandise trade in African economies, and more than one quarter in LAC economies (**Figure 2**). The combination of high biodiversity endowments and a relatively modest share of global biodiversity-based exports points to unrealized opportunities for value addition, diversification and trade expansion.

The policy challenge, therefore, is not simply to expand biodiversity-based trade, but to ensure that it contributes more effectively to economic and export diversification, value addition, and sustainable development while safeguarding the biodiversity on which such trade depends. Addressing this challenge requires coherent policy and governance frameworks that promote sustainable production and consumption patterns, greater local value addition and job creation, support the circular use of biological resources, and ensure the fair and equitable sharing of benefits arising from their use.

These priorities are particularly relevant in the lead-up to the 2026 UN Biodiversity Conference,⁵ where countries will review collective progress in implementing the Kunming-Montreal Global Biodiversity Framework (GBF) and advancing its goals and targets to halt and reverse biodiversity loss by 2030.⁶

⁵ The 2026 UN Biodiversity Conference comprises the 17th meeting of the Conference of the Parties (COP 17) to the Convention on Biological Diversity (CBD) and the concurrent meetings of the Parties to the Cartagena and Nagoya Protocols. For more information, see <https://www.cbd.int/conferences/2026>.

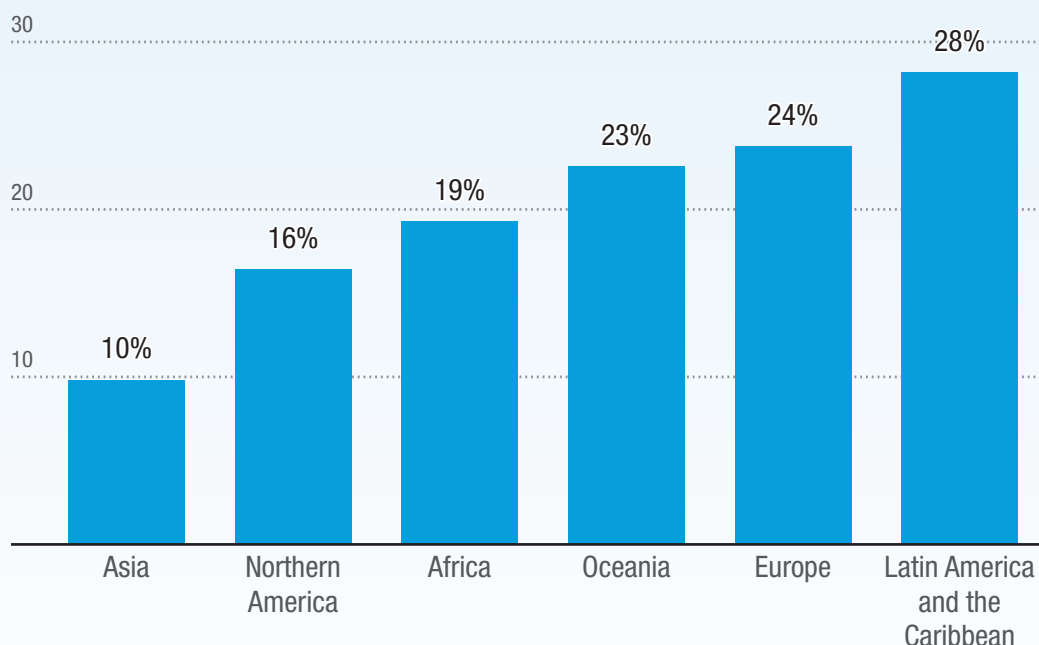
⁶ Adopted at the CBD COP15 in 2022, the GBF sets out the vision of "living in harmony with nature, where 'by 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.'" The *Framework* includes 23 targets for 2030 and four long term goals for 2050. For more information, see <https://www.cbd.int/gbf>.





Figure 2
Trade in biodiversity-based products makes up over a quarter of merchandise trade in LAC economies

Trade in biodiversity-based products as a share of total merchandise trade, by region, 2024



Source: UNCTADstat 2026.

Note: The indicator measures trade in biodiversity-based products as a percentage of total merchandise trade, calculated across exports and imports. Biodiversity-based products are products of biological origin.

BioTrade provides an example of how biodiversity can be translated into economic value through sustainable use and business practices. Defined as the collection, production, transformation and commercialization of goods and services derived from biodiversity in accordance with environmental, social and economic sustainability criteria, BioTrade constitutes a sustainability-oriented subset of biodiversity-based trade. In 2024, companies and producer associations implementing BioTrade Principles and Criteria⁷ reported sales of nearly US\$50.5 billion, compared with US\$40 million in 2003.⁸ While this growth has been substantial, BioTrade sales remain a small fraction of the US\$3.8 trillion in global biodiversity-based exports recorded in 2024 (**Figure 3**), underscoring the significant potential to scale up sustainable biodiversity-based trade.

⁷ UNCTAD's BioTrade Principles and Criteria guide the conservation and sustainable use of biodiversity, fair and equitable benefit-sharing, and responsible business and trade practices across biodiversity-based value chains. For more information, see https://unctad.org/system/files/official-document/ditcted2020d2_en.pdf

⁸ For more information, see https://unctad.org/system/files/official-document/wpd338-add1_en.pdf.





Figure 3
BioTrade sales were small relative to global exports of biodiversity-
based products

Billions of U.S. dollars, 2024

Global exports of biodiversity-
based products

3,800

Sales of companies and
associations implementing
BioTrade Principles and Criteria

50.5

Source: UNCTADstat 2026; UNCTAD compilation based on BioTrade partners' reports.

Note: The figure covers sales reported in 2024 by BioTrade companies and associations in both domestic and export markets.





What shapes biodiversity-based value chains?

The ability to move up biodiversity-based value chains depends on more than the availability of natural resources. Productive capacities, market access conditions, trade policies, standards and access to finance, all influence who captures value from biodiversity-based trade and whether producers remain suppliers of raw materials or move into higher-value processing, innovation and circular business models.

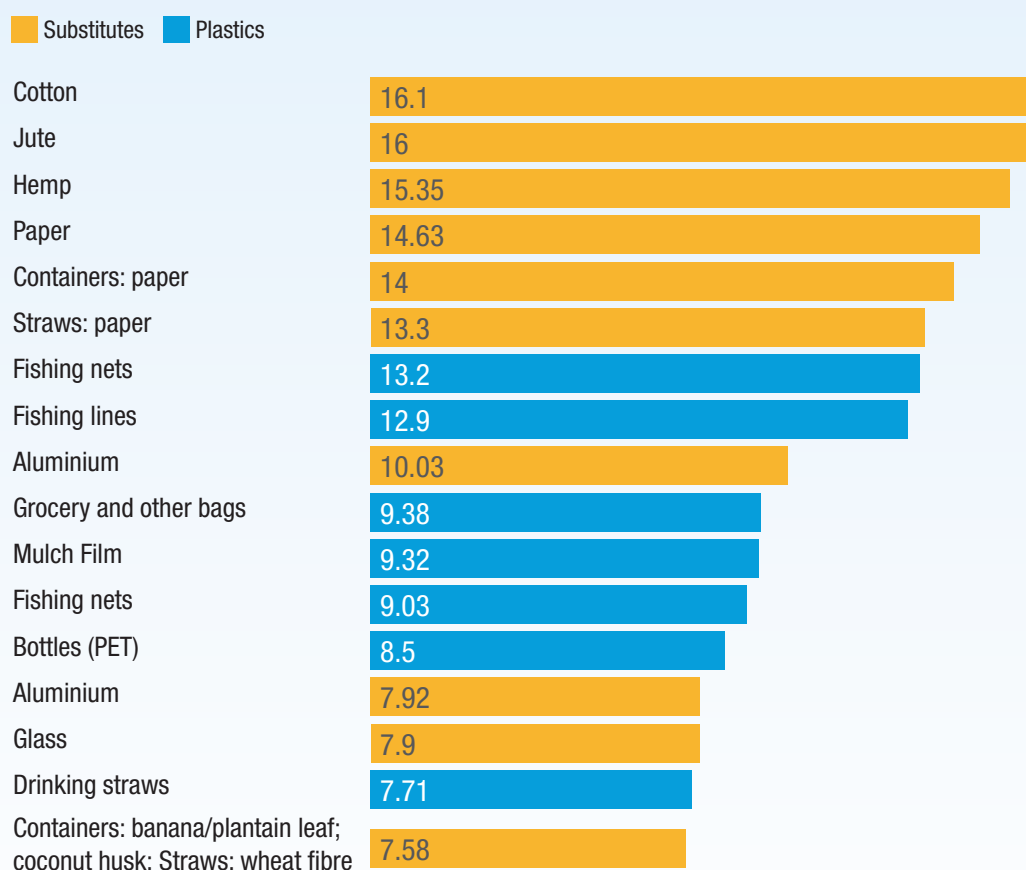
Trade policy can play a key role in supporting this transition: tariffs, non-tariff measures and standards shape the competitiveness and market access of biodiversity-based products, while access to finance determines whether producers can invest in processing facilities, traceability systems and certification.



Tariff structures can influence whether environmentally preferable alternatives are able to compete with conventional products. For instance, cotton, jute, hemp and paper-based products that can substitute for plastic products often face average import tariffs of up to 16.1 per cent, comparable to or higher than those applied to many plastic products (**Figure 4**).⁹ Where scientific assessments show that these alternatives have lower environmental impacts throughout their production, use and disposal, reducing tariffs can strengthen their market competitiveness. Such evidence can also help policymakers avoid the phenomenon known as “regrettable substitutions”¹⁰, i.e., where replacing one material with another simply shifts, or even increases, environmental impact to a different stage of the value chain or to another system.



Figure 4
Natural substitutes face tariff disadvantages against plastics
Average import tariffs for selected plastic products and non-plastic substitutes, per cent



Source: UNCTAD, 2023, Plastic pollution: the pressing case for natural and environmentally friendly substitutes to plastics. Compiled by UNCTAD, based on The Observatory of Economic Complexity data 2020 and HS 2022 codes.

Note: Aluminium, paper and fishing nets are repeated in this graph because of different items represented in different HS codes.

⁹ UNCTAD (2025). Global Trade Update: Mobilising trade to curb plastic pollution.

¹⁰ <https://pubs.acs.org/esthag/article/58/6/2716/154074/Replacing-Plastics-with-Alternatives-Is-Worse-for>.





Gaining international market access also depends on complying with non-tariff measures (NTMs), which range from technical regulations to sanitary and phytosanitary measures to conformity assessment procedures, among others. Small producers are often more affected by the costs of complying with NTMs, as meeting regulatory requirements may require extensive documentation, product testing and certification, which can be particularly burdensome for firms with limited financial and technical resources.

The NTM compliance challenges are particularly evident in markets for natural material substitutes and alternative fibres.¹¹ Jute, coir and seaweed may be subject to phytosanitary certification, quarantine measures and conformity assessments, while animal fibres can require additional export permits and species-conservation documentation. Banana and pineapple fibres can also face food-safety and phytosanitary requirements originally designed for fresh produce, even when traded for textile uses.¹²

Standards can similarly open the door to higher-value markets, but only if the cost of complying is low and shared evenly across the value chain. Voluntary sustainability standards (VSS) can offer producers a way to demonstrate sustainability credentials and meet growing environmental and social expectations.¹³ Yet, the financial burden of compliance often falls on producers.

Two analyses by the United Nations Forum on Sustainability Standards (UNFSS) found that producers alone bore implementation costs in 51 of 87 standards and certification costs in 45 of 89 standards examined (**Figure 5**).¹⁴ Expanding technical assistance, strengthening testing and certification capacity, and improving access to affordable finance can turn compliance into a pathway towards higher-value markets, particularly for smallholders and SMEs.

Investment is essential for participation in higher-value and circular markets, especially for small producers and SMEs. Access to finance is needed to upgrade production systems, comply with sustainability requirements, adopt cleaner and circular technologies, and cover certification and traceability costs. Investment in a global monitoring, reporting and verification (MRV) infrastructure could also help trade and customs authorities identify sustainable biodiversity-based products, while reducing fragmentation and trade costs.

¹¹ UNCTAD (2024), *Beyond Plastics: A review of trade-related policy measures on non-plastic substitutes*.

¹² UNCTAD-SMEP (2025), *From waste to value: Upcycling agricultural residues for sustainable textiles*.

¹³ UNCTAD (2024), *The future of sustainable trade: Due diligence initiatives, voluntary sustainability standards and developing countries*.

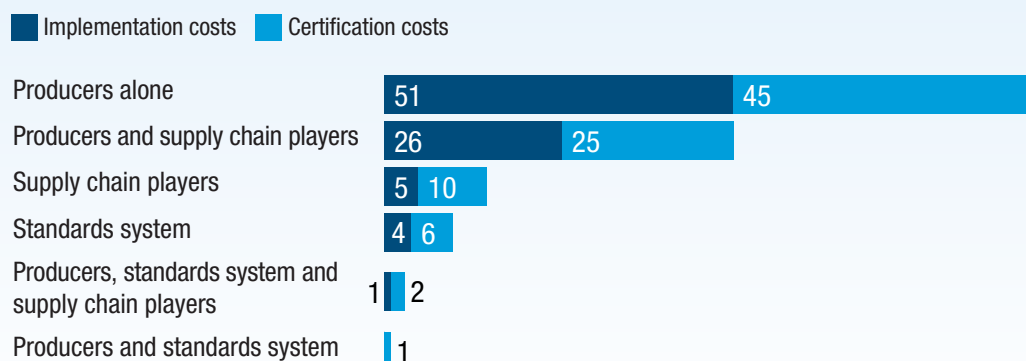
¹⁴ The number of voluntary sustainability standards analysed may vary due to data availability. For more information, see UNFSS (2018). *Voluntary Sustainability Standards, Trade and Sustainable Development-3rd Flagship Report of the United Nations Forum on Sustainability Standards (UNFSS)*.





Figure 5
Producers often bear the costs of sustainability standards

Number of voluntary sustainability standards by cost-bearer



Source: UNFSS calculations based on ITC SustainabilityMap.

The financing challenge remains significant. Goal D of the GBF estimates a biodiversity finance gap of US\$700 billion annually, while UN Environment Programme (UNEP) estimates that public and private financial flows to activities that may harm nature through the unsustainable use of land, freshwater, oceans and resources reached US\$7.3 trillion in 2023.¹⁵ Closing this gap will require mobilizing additional resources and fostering incentives for biodiversity-friendly products, substitutes and circular alternatives. Ensuring affordable finance for small producers in developing economies will be essential to this transition.

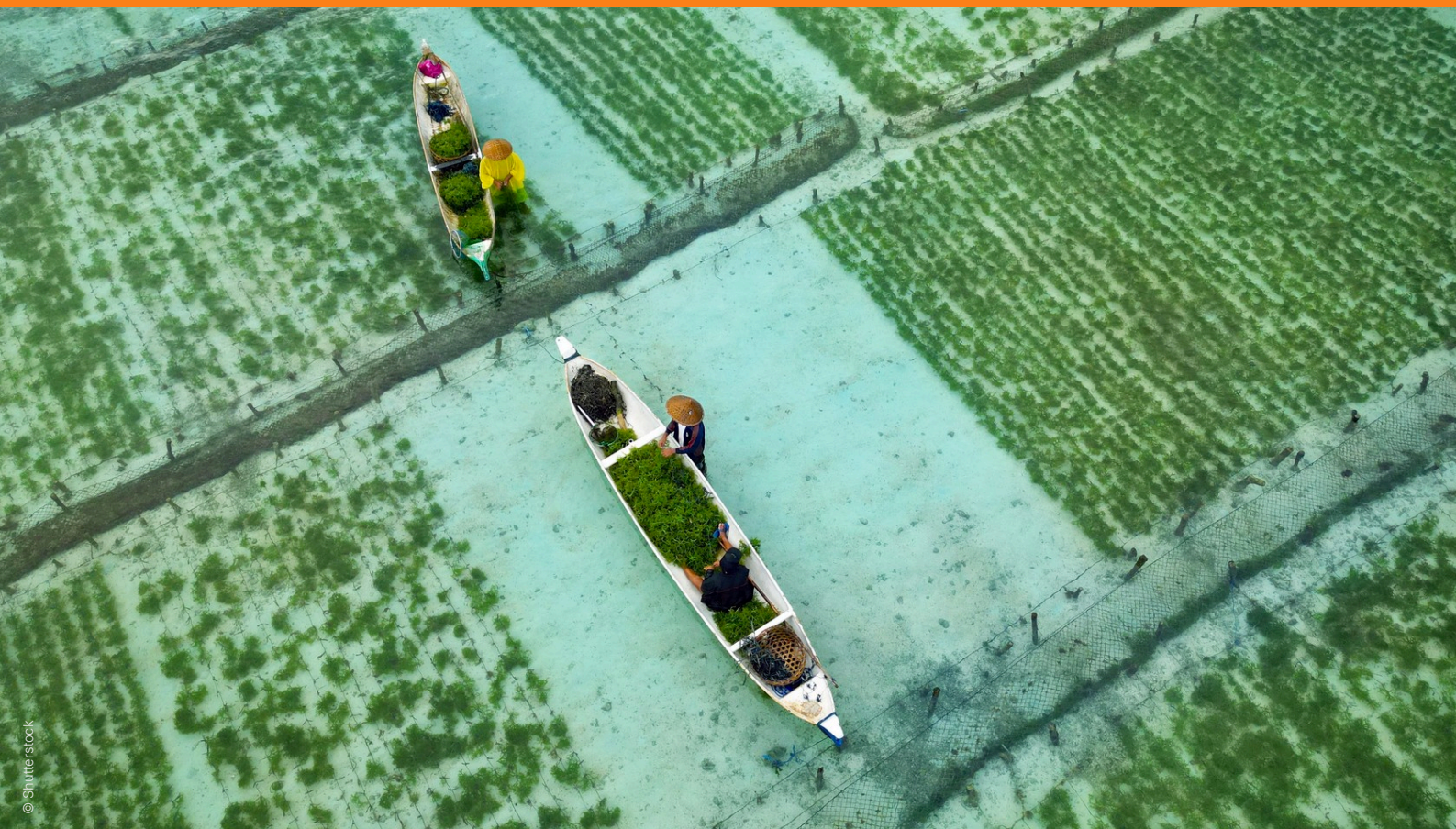
At the same time, implementation costs and adjustment efforts should not be borne mainly by developing economies and small-scale producers. Developed countries, development partners, and lead firms in global value chains have an important role to play in providing finance, facilitating technology access, supporting capacity building, and promoting fairer cost-sharing for compliance, traceability, and certification. Such shared responsibility is essential if higher environmental requirements are to support developing-country participation in international trade.

Several initiatives are already seeking to channel resources into this transition. The Bioeconomy Challenge, Brazil's Eco Invest platform and UNCTAD BioTrade Initiative and partners, are working to mobilize public and private finance to support sustainable and circular production, value addition, and biodiversity-friendly businesses.¹⁶ Their development impact will depend, in part, on whether funding reaches producers, communities, and enterprises where biodiversity-based value originates.

¹⁵ UNEP (2026). *State of finance for nature*.

¹⁶ For more information on the Bioeconomy Challenge, see <https://bioeconomychallenge.org/>. For more information on Eco Invest, see <https://www.gov.br/fazenda/pt-br/acao-a-informacao/acoes-e-programas/transformacao-ecologica/novo-brasil-ecological-transformation-plan/featured-programs/eco-invest-brazil>. For more information on UNCTAD BioTrade Initiative, see <https://unctad.org/topic/trade-and-environment/biotrade>.





Capturing more value from biodiversity resources through processing and circular use

Developing economies have significant opportunities to generate greater value from biodiversity while ensuring the sustainable use of natural assets. Two opportunities are particularly promising: upgrading biological resources into higher-value products and applying circular-economy approaches to biomass residues and by-products, transforming materials generated during production and processing into new inputs and marketable products (Box 1).

Few products illustrate the value-addition challenge in biodiversity-based trade as clearly as gum arabic. Although Africa is the world's main producer of gum arabic, much of the economic value associated with the commodity continues to be captured outside the continent, particularly through processing and downstream value-adding activities.

In 2024, African economies exported gum arabic to high-income economies at an average price of US\$2.28 per kilogram, while imports of the same product from those markets averaged US\$6.50 per kilogram, nearly three times higher (**Figure 6**).





Box 1

Case study: From field waste to world trade

Funded by the United Kingdom and implemented in partnership with UNCTAD, the Sustainable Manufacturing and Environmental Pollution (SMEP) Programme shows how biological residues can be turned into tradable products.¹⁷

A **SMEP-backed pilot** turned more than 3,300 tonnes of Kenya's pineapple leaves, traditionally burnt after harvest, into more than 100 tonnes of textile-grade fibre and around 800 tonnes of compost. In 2025, a major pineapple exporter acquired the business and integrated the reuse process in the business model.

Other African businesses supported by the programme have spun **banana stems into yarn** (Uganda), piloted **seaweed-based coatings** and coconut-coir mulch for packaging in the fresh produce industry (Ghana) and **developed biodegradable ropes for fishing and seaweed farming** to address abandoned, lost, or discarded fishing gear and marine pollution (Kenya and South Africa).

These pilots converted agricultural residues that would otherwise have been burnt or discarded into added value without requiring additional land, confirmed through **life-cycle assessments (LCAs) of environmental gains**.

Growing these businesses means trading across borders, which customs data will start facilitating. **Starting in 2028**, hemp will get more detailed customs codes (from seed [HS 1207.80] to tow waste [HS 5302.20]), following proposals from UNCTAD and the Federation of International Hemp Organizations. Likewise, natural-fibre fishing nets will become separately identifiable in trade data. Extending the same visibility to pineapple and banana fibres, currently grouped with other plant fibres, would allow governments to measure these markets and facilitate their trade.

This price gap points to a broader challenge facing many biodiversity-based sectors in developing economies: limited participation in higher-value stages of production. Experiences from Chad, Cameroon, Democratic Republic of the Congo, and Gabon highlight opportunities to strengthen local and regional value capture along the gum arabic value chain.¹⁸

Realizing the potential of circular bioeconomy approaches¹⁹ will require expanding access to finance and affordable technologies, improving processing and storage capacity through equipment investment and producer training, and deepening cross-border cooperation. This would enable producers to retain more of the economic benefits derived from biodiversity-based trade, but it should also be accompanied by fair, equitable benefit-sharing arrangements, including with Indigenous Peoples and local communities.

¹⁷ For more information, see <https://smepprogramme.org/?s=alternative>.

¹⁸ Analysis from the joint UNCTAD–United Nations Economic Commission for Africa (ECA) project on the inclusion of green initiatives in national African Continental Free Trade Area (AfCFTA): <https://unctad.org/project/inclusion-green-initiatives-afcfta-national-implementation-strategies-20-african-countries>.

¹⁹ UNCTAD-SMEP and Chatham House (2025). *Beyond the technical loop: Driving the circular bioeconomy through global policy coherence*.

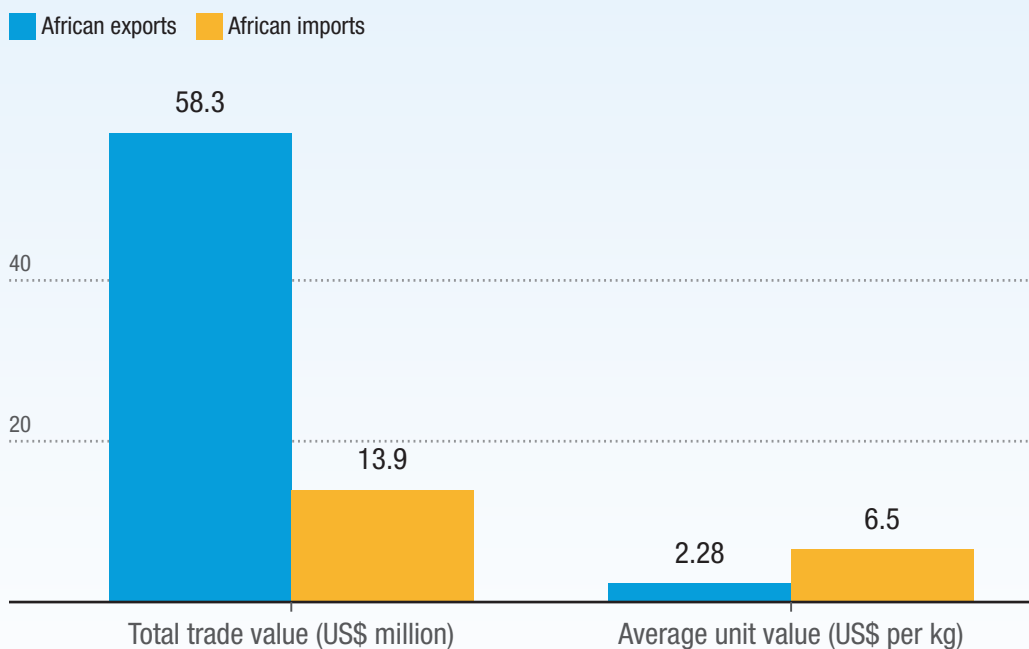




Figure 6

Africa's gum arabic trade exposes a costly gap in the value chain

Total trade value and average unit value of gum arabic trade between Africa and high-income economies, 2024



Source: UNCTAD analysis based on UN COMTRADE.

Note: "High-income economies" refer to the aggregate "All high-income economies, OECD and non-OECD". Product coverage: gum arabic classified under HS subheading 1301.20.

Life-cycle assessments (LCAs) can ensure that circular-use initiatives do not displace existing ecological or economic functions, nor shift environmental impacts to other sectors or locations. In addition, all activities must comply with relevant national legislation and international frameworks, including the Nagoya Protocol on Access and Benefit-Sharing (the Nagoya Protocol), the Agreement on Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).²⁰

²⁰ For more information, see <https://www.cbd.int/abs/default.shtml>, <https://www.un.org/bbnjagreement/en> and <https://cites.org/eng>.





Trade enters the spotlight as countries take stock of global biodiversity action

As Parties to the Convention on Biological Diversity (CBD) prepare for the 2026 UN Biodiversity Conference in Yerevan, Armenia, from 19-30 October 2026,²¹ trade is expected to play a more prominent role in the global biodiversity agenda. For the first time, negotiators will assess progress in implementing the GBF. This review offers an opportunity to move beyond viewing trade solely as a driver of pressure on biodiversity and to consider how it can also support biodiversity and sustainable development.

At the country level, implementation of the GBF is guided by national biodiversity strategies and action plans (NBSAPs) and national biodiversity targets. These instruments can help governments identify opportunities to align trade policies with national biodiversity priorities while also supporting objectives such as export diversification, productive capacity and improved market access.

²¹ For more information, see <https://cop17yerevan.am/en>.



Trade considerations are already reflected across many GBF targets, although not uniformly. Some targets explicitly refer to trade measures, while others address trade indirectly through implementation mechanisms such as technology transfer, capacity building and financial support as seen in the draft Global Report on Collective Progress in the Implementation of the GBF (Table 1).

Table 1
Trade measures feature across the global biodiversity goals

Trade link	Global biodiversity targets	Examples of measures
References to trade measures	5, 6, 9, 10, 13, 15, 16, 17, 18	Wild-species trade; border controls; access and benefit-sharing; business disclosure; sustainable production and consumption; biosafety; incentives
References to policies that have a trade impact	4, 7, 14, 19, 20	Environmental impact and risk assessment; fiscal measures; technology transfer; policies on agriculture, fisheries, and forestry
Links through implementation	1, 2, 3, 8, 11, 12, 21, 22, 23	Spatial and land-use planning; restoration finance; capacity-building for producers and regulators; regional and international cooperation; monitoring and information systems

Source: UNCTAD analysis based on CBD Secretariat, Global Report on Collective Progress in the Implementation of the GBF (second draft), CBD/SBSTTA/28/2/Add.1/Rev.1, 26 July 2026.

Note: The table presents selected, non-exhaustive examples identified through UNCTAD's preliminary analysis of the second draft of the Global Report reviewing progress. It does not rank targets or assess their importance, ambition, implementation or effectiveness. The analysis does not assess individual NBSAPs, national targets or seventh national reports. The draft had not been considered nor adopted by COP17 at the time of this writing. For more information on the GBF targets, see <https://www.cbd.int/gbf/targets>.





Trade policy: enhancing development benefits while safeguarding biodiversity

Developing economies can capture greater value from biodiversity-based trade while advancing the objectives of the GBF. Achieving this will require coordinated action across a range of policy areas.

- **Market access and diversification.** Strengthening productive capacity and addressing trade barriers can help developing countries expand exports of sustainable biodiversity-based products, including through growing South-South trade opportunities.
- **Value addition and equitable benefit-sharing.** Better-integrated regional value chains can help countries retain more value locally, support technology cooperation and processing capacity, and promote fair benefit-sharing with resource-providing communities in line with applicable access and benefit-sharing requirements.
- **Finance, traceability and certification.** Targeted investment in processing, traceability, certification and sustainable production can enhance competitiveness, retain value locally and reduce trade costs through improved monitoring and verification systems.



- **Circular production and trade.** Well-designed fiscal, trade and financial incentives can promote circular and biodiversity-friendly production by reducing waste, increasing resource efficiency and limiting pollution.
- **Policy coherence and shared responsibility.** Aligning trade, industrial and biodiversity policies, together with stronger international support for technology transfer and finance, can help advance both biodiversity and sustainable development objectives.²²

Developing economies can secure greater development benefits from biodiversity-based trade without increasing pressure on biodiversity. Achieving this balance is possible but will depend on effective safeguards, stronger productive capacity, access to technology, regional and trade cooperation, sustainable trading practices and affordable finance. Together, these conditions can support both sustainable economic transformation and implementation of the GBF.

The 2026 UN Biodiversity Conference offers a timely opportunity to place trade at the service of biodiversity goals while advancing broader sustainable development objectives.

²² For more information on the text of the Convention, see <https://www.cbd.int/doc/legal/cbd-en.pdf>.



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