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Convention on Biological Diversity

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Item 3 (b) of the provisional agenda*
Financial mechanism

Report on the assessment of the amount of funds needed for the implementation of the Convention and its Protocols for the ninth replenishment period of the Global Environment Facility Trust Fund**

Note by the Secretariat

1. At its fifteenth meeting, the Conference of the Parties adopted the terms of reference for a full assessment of the amount of funds that are necessary to assist developing countries and countries with economies in transition, in accordance with the guidance provided by the Conference of the Parties, in fulfilling their commitments under the Convention and its Protocols for the ninth replenishment period of the Global Environment Facility, through its decision 15/15, paragraph 13;

2. In decision 16/33, paragraph 24, the Conference of the Parties requested the Executive Secretary to compile and transmit, as soon as practical, the information on funding needs received from all eligible developing country Parties, in particular the least developed countries and small island developing States, and Parties with economies in transition to the Secretariat of the Global Environment Facility and the participants in the negotiations of the ninth replenishment of the Global Environment Facility Trust Fund;

3. In response to these requests, the Secretariat designed an online survey, and organized an outreach webinar and a help desk during the twenty-seventh meeting of the Subsidiary Body on Scientific, Technical and Technological Advice in Panama City. Through a dedicated webpage,[1] the Secretariat shared all the submissions received from eligible country Parties, including: Algeria, Morocco, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Zimbabwe, Nigeria, Togo, Burkina Faso, Mauritania, Niger, Senegal, Burundi, Cameroon, Central African Republic, Gabon, Ethiopia, Madagascar, Mauritius, Rwanda, Seychelles, Somalia, Sudan, Uganda, United Republic of Tanzania, Pakistan, Syrian Arab Republic, Yemen, Afghanistan, Jordan, Türkiye, Turkmenistan, Thailand, Mongolia, China, Argentina, Bolivia (Plurinational State of), Paraguay, Peru, El Salvador, Mexico, Barbados, Cuba, Saint Lucia, Suriname, Trinidad and Tobago and Armenia. A number of the submissions contain intended project concepts for implementing the Cartagena Protocol and the Nagoya Protocol.

4. The Secretariat is hereby circulating the commissioned report prepared by the experts comprising the full assessment of the amount of funds needed for the implementation of the Convention and its Protocols for the ninth replenishment period of the Global Environment Facility

* CBD/SBI/6/1.
** The present document is being issued without formal editing.
[1] www.cbd.int/financial/gef9needs.shtml.

(July 2026 to June 2030), for the sixth meeting of the Subsidiary Body on Implementation scheduled for February 2026. The report is reproduced as it was received by the Secretariat from the experts.

ASSESSMENT OF THE AMOUNT OF FUNDS NEEDED FOR THE IMPLEMENTATION OF THE CONVENTION AND ITS PROTOCOLS FOR THE NINTH REPLENISHMENT PERIOD OF THE GLOBAL ENVIRONMENT FACILITY TRUST FUND

JANUARY 2026

This study was commissioned by the Secretariat of the Convention on Biological Diversity and prepared by Mah Noor Jamal, Lead Consultant, with analytical support from Sean Andrew Nossek, Intern. While Secretariat staff provided technical inputs, guidance and support during the preparation of this study, the views, findings, interpretations, and conclusions expressed herein are those of the authors and do not necessarily reflect those of the Secretariat.

Artwork on front cover
Interdependence. 2025
Credit: Mah Noor Jamal

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Convention on
Biological Diversity

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Mandate, Scope, and Headline Findings

This Funding Needs Assessment has been prepared pursuant to paragraph 24 of decision 16/33 of the Conference of the Parties (COP) to the Convention on Biological Diversity (CBD) to determine the level of financial resources required for the implementation of the Convention and its Protocols during the ninth replenishment period of the Global Environment Facility Trust Fund (GEF-9, 2026–2030).

The assessment provides an indicative, analytically grounded estimate of biodiversity funding needs for eligible developing country Parties and Parties with economies in transition. It draws on quantified funding needs submitted by Parties, complemented by cross-country indicators and historical GEF allocation data, in order to present a globally consistent picture of biodiversity financing requirements for the GEF-9 period.

A total of forty-five Parties submitted quantified biodiversity funding needs through the Secretariat's survey process, amounting to US$ 1.7 billion. These submissions form the empirical foundation for model-based estimation applied to all remaining eligible Parties. Across complementary analytical approaches, the results converge on a global biodiversity funding requirement in the range of US$ 4.7–5.2 billion.

For the purposes of planning and resource mobilisation, the assessment identifies **US$ 5 billion as the indicative biodiversity funding need for GEF-9.** This figure reflects the central estimate across methodologies and provides a coherent and defensible reference point for replenishment discussions.

The assessment is presented as a three-component package:

- this report, which outlines the mandate, analytical framework, and key findings;
- a comprehensive Master Dataset documenting Party submissions, indicator variables, and modelled estimates; and
- an interactive Funding Needs Dashboard enabling exploration of global, regional, and country-level results.

Together, these components are intended to support transparent, informed, and constructive dialogue on the funding needs for the implementation of the Convention and its Protocols as well as the Kunming-Montreal Global Biodiversity Framework.

Analytical Framework and Estimation Approach

Mandate and Institutional Context

The obligation to assess biodiversity funding requirements in advance of each replenishment of the GEF was established by the COP through decision III/8. This obligation has since been implemented through successive funding needs assessments prepared in support of earlier replenishment cycles, beginning with the sixth replenishment of the GEF Trust Fund pursuant to decision X/26 (October 2010), and subsequently continued through decisions XII/30 (October 2014) and 14/24 (November 2018).

At its fifteenth meeting, the COP adopted the terms of reference for a full assessment of the amount of funds necessary to assist eligible developing country Parties and Parties with economies in transition in fulfilling their commitments under the Convention and its Protocols for the ninth replenishment period of the Global Environment Facility. These terms of reference are contained in annex III to decision 15/15 on the financial mechanism.

At its sixteenth meeting, the COP further requested the Executive Secretary to compile and transmit, as soon as practicable, the information on funding needs received from all eligible developing country Parties, particularly least developed countries, small island developing States, and Parties with economies in transition, to the Secretariat of the GEF and to participants in the negotiations of the ninth replenishment of the GEF Trust Fund.

Survey Process and Support Measures

In response to this mandate, the Secretariat developed a dedicated survey to compile information on biodiversity funding needs for the GEF-9 period. The survey was made available in both online and offline formats and circulated to Parties through notifications 2025-066, 2025-086, and 2025-110. To accommodate national processes and capacity constraints, the deadline for submission of information was extended on two occasions.

To support Parties in responding to the survey, the Secretariat organised a technical webinar on 4 July 2025 and established a dedicated help desk during the twenty-seventh meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA-27) and the first meeting of the Subsidiary Body on Article 8(j) and Other Provisions of the Convention Related to Indigenous Peoples and Local Communities (SB8J-1). The help desk provided country-specific clarification on survey content, costing approaches, and technical issues.

In order to foster synergies and improve completeness of information, the survey was also opened to focal points of other multilateral environmental agreements as well as to GEF Operational Focal Points. In addition, the Secretariat undertook bilateral outreach to eligible Parties that had not submitted information or whose submissions were incomplete.

Data Inputs

The analysis draws on three primary sources of information:

- Party submissions, consisting of quantified biodiversity funding needs submitted by forty-five Parties;
- Cross-country indicators, capturing biodiversity status, ecosystem extent, environmental pressures, socioeconomic conditions, climate vulnerability, and institutional readiness[1]; and
- Historical GEF data, including GEF-7 and GEF-8 STAR Biodiversity allocations, used for comparative and ratio-based estimation.

All variables used in the analysis are documented in the Master Dataset to ensure transparency and reproducibility.

Predictive Modelling

Given incomplete coverage of submitted funding needs, predictive modelling was applied to estimate indicative values for non-responding Parties. The modelling approach follows standard cross-country analytical practice and is designed to balance explanatory power with policy relevance.

Variable Selection

A Least Absolute Shrinkage and Selection Operator (LASSO) procedure was applied to a broad set of candidate variables to identify those with the strongest predictive relationship to submitted funding needs. This ensures that the final model is parsimonious, avoids overfitting, and is grounded in empirical relationships observed within the sample.

Final Regression Model

The selected model is an Ordinary Least Squares (OLS) regression using the following predictors:

$$\begin{aligned}
&\mathrm{GEF_need_i} = \beta_0 + \beta_1\mathrm{Forest_Area_km2_i} + \beta_2\mathrm{HDI_i} \\
&+\beta_3\mathrm{KBAs_protected_pct_i} \\
&+\beta_4\mathrm{Threatened_Spp_Total_i} \\
&+\beta_5\mathrm{BIOFIN_Presence_i} + \beta_6(\mathrm{Threatened_Spp_Total_i} \times \mathrm{BIOFIN_Presence_i}) \\
&+\beta_7\mathrm{NBSAP_Presence_i} + \beta_8\mathrm{Forest_cover_pct_i} + \varepsilon_i
\end{aligned}$$

Collectively, the predictors capture scale (forest area), intensity (forest cover), biodiversity pressure (threatened species and Key Biodiversity Areas), and institutional and policy readiness (HDI, BIOFIN engagement, and NBSAP presence), reflecting the multiple structural drivers of biodiversity funding needs across countries.

The model yields an R^2 of 0.15, which is appropriate and expected for cross-country data characterized by substantial biological, ecological, and institutional heterogeneity. Results should therefore be interpreted as indicative orders of magnitude, rather than precise national budget requirements. To avoid implausibly low estimates, a minimum threshold of US$ 4 million was applied to very small predictions

Ratio-Based Estimator

As an independent check on the regression model, a simple ratio-based estimator was applied. This method assumes proportionality between each Party's funding need and their GEF-8 STAR Biodiversity allocation, based on the strong correlation observed within the forty-five submissions. While not used for

1. The indicators included in the Funding Needs Assessment dataset were selected based on four criteria: (i) Theoretical relevance to biodiversity funding needs (pressures, socioeconomic capacity, institutional readiness). (ii) Empirical signal observed in the submitted Party data (correlation strength or predictive value during LASSO selection). (iii) Global availability across all eligible developing countries. (iv) Consistency and reliability of the dataset (regularly updated, internationally recognized sources). Indicators not meeting these criteria, particularly those with limited country coverage, inconsistent definitions, or poor predictive contribution, were excluded during model development

country-level estimates, this approach provides a valuable second global estimate for triangulation.

$$\widehat{\text{GEF\_need}}_{total} = \frac{\sum_{i \in S} \text{GEF\_need}_i}{\sum_{i \in S} \text{STAR\_8}_i} \times \sum_{j \in U} \text{STAR\_8}_j$$

Uncertainty and Robustness

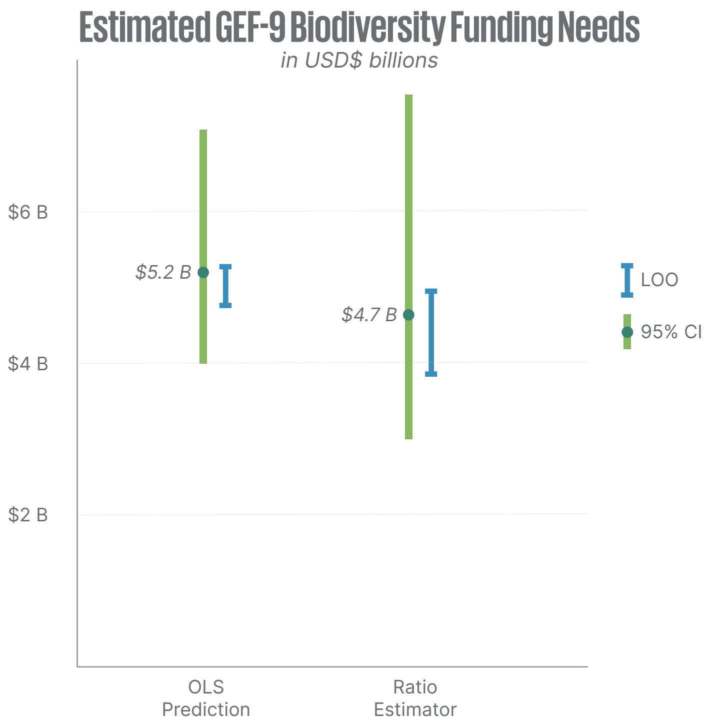
Uncertainty was assessed using 95 per cent bootstrapped confidence intervals (CI) and a "leave-one-out" sensitivity test, which examines how the global estimate changes when each submitted value is removed in turn (see chart).

Estimates

Using the regression model, the estimated total funding need for GEF-9 is US$ 5.2 billion. The 95 per cent confidence interval for this estimate ranges from US$ 4.0 to 7.1 billion, meaning that most estimates consistent with the model fall within this range. A leave-one-out sensitivity test produces a narrower range of US$ 4.8 to 5.4 billion, indicating that the estimate is not driven by any single outlier submission.

The alternative ratio-based estimator, which scales needs according to GEF-8 STAR Biodiversity allocations, produces a global estimate of US$ 4.7 billion. Its confidence interval is wider, US$ 3.1 to 7.7 billion, while its leave-one-out range is US$ 4.0 to 5.1 billion, again suggesting overall stability in the estimate.

The total funding need explicitly submitted by the forty-five responding Parties is US$ 1.7 billion, which is just under four times their combined GEF-8 STAR Biodiversity allocation of US$ 464 million.



Global Patterns and Drivers of Biodiversity Funding Needs

The combined dataset provides a globally consistent picture of biodiversity funding needs derived from both national submissions and model-based estimation.

Scale and Distribution of Needs

Absolute funding needs tend to be highest in large, biodiverse middle-income countries with extensive forest cover, diverse ecosystems, and high conservation opportunity costs, including Brazil, Indonesia, Mexico, Peru, and Colombia. Relative needs, measured per capita or per hectare, are often highest in small island developing States (SIDS) and climate-vulnerable lower-income countries, reflecting the high costs of managing small or fragmented ecosystems alongside limited domestic fiscal capacity.

In several low-income countries, both reported and modelled funding needs substantially exceed historical STAR Biodiversity allocations, suggesting persistent underinvestment relative to ecological importance.

Insights from Party Submissions

Submissions are most complete and programmatic where countries have recently updated NBSAPs or participated in BIOFIN processes. Fragile and conflict-affected states frequently emphasise restoration, governance, and institutional stabilisation costs.

Across regions, many submissions indicate funding needs three to six times higher than previous GEF-8 STAR Biodiversity allocations, signalling both increased ambition under the Global Biodiversity Framework and recognition of historical financing gaps.

The accompanying project concepts offer valuable insight into how countries are operationalising their biodiversity priorities. The approximately 300 proposed projects constitute a partial yet representative subset of total financing needs, providing a practical lens on implementation pathways. Within this set, biosafety-related concepts submitted by six Parties under the Cartagena Protocol on Biosafety indicate an estimated requirement of approximately USD 18 million in GEF grant financing.

Thematically, these concepts reveal a strong focus on implementation readiness and enabling environments, with recurrent emphasis on monitoring systems, community-based management, ecosystem-scale interventions, and policy or strategic frameworks (In order of prevalence: Targets 11, 20, 1, 3, 21).[1] This pattern indicates that countries are strategically investing in building institutional capacity and robust delivery mechanisms alongside direct conservation and restoration actions.

Modelling Insights

Forest cover, threatened species richness, and Key Biodiversity Area protection gaps emerge as consistent predictors of higher funding needs. Institutional readiness indicators, such as BIOFIN participation and NBSAP presence, are positively associated with higher and more credible costings, reflecting stronger planning and implementation capacity.

Vulnerability, Risk, and Cost Implications

Overlaying climate vulnerability and risk indicators highlights that countries combining high ecological

1. Explore the 23 Targets of the Kunming-Montreal Global Biodiversity Framework (GBF) here

value with systemic fragility face disproportionately high biodiversity management costs. In such contexts, biodiversity finance functions as a resilience investment, with co-benefits for climate adaptation, disaster risk reduction, livelihoods, and health.

Consolidated Global Estimate

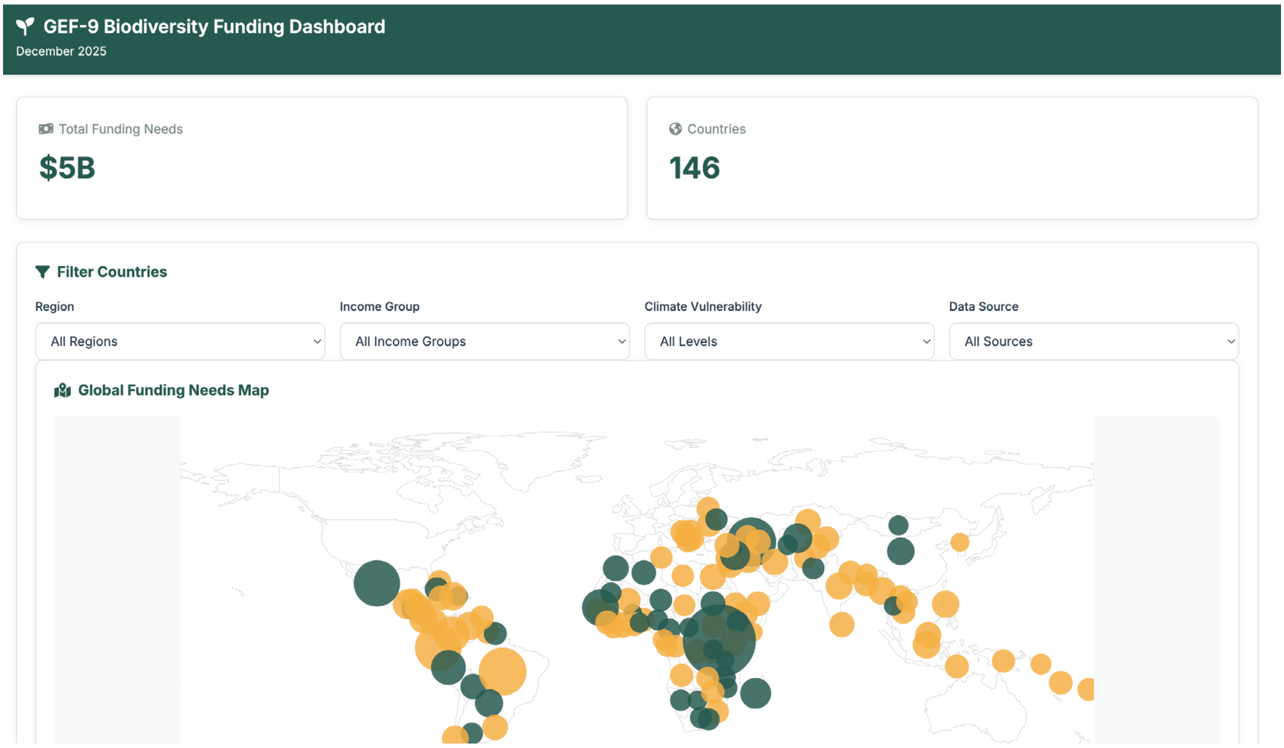
Across analytical approaches:

- Regression model estimate: USD$ 5.2 billion (95 % CI: USD$ 4.0–7.1 billion);
- Ratio-based estimator: USD$ 4.7 billion (95 % CI: USD$ 3.1–7.7 billion);
- Submitted needs: USD$ 1.7 billion from forty-five Parties.

Taken together, the evidence supports a central, defensible benchmark of USD$ 5 billion for GEF-9 biodiversity funding needs.

Exploring the evidence

While this report synthesizes the main analytical findings, the underlying patterns, regional clusters, drivers of variation, readiness metrics, and vulnerability interactions, are best explored through the Funding Needs Dashboard. You can access it here.



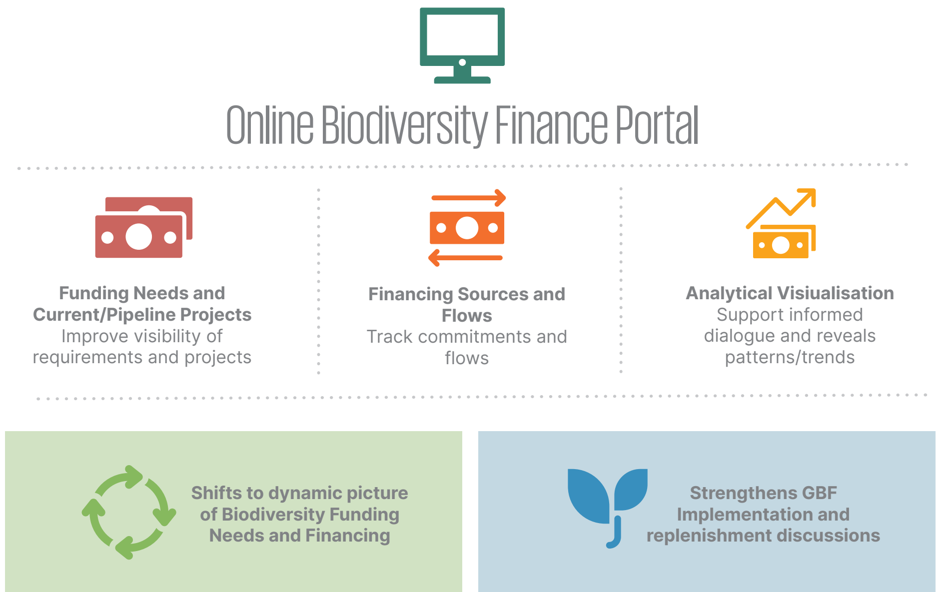
Recommendations and the Path Forward

The Funding Needs Assessment highlights not only the scale of resources required for GEF-9, but also a broader structural gap in how biodiversity finance information is compiled, analysed, and used over time. While Parties are increasingly able to articulate funding needs for individual replenishment cycles, there is currently no integrated mechanism that systematically links needs, allocations, and financing flows in a forward-looking manner.

To address this gap, the development of an online Biodiversity Finance Portal could be considered. The portal would serve as a strategic planning and transparency tool rather than a reporting obligation, with the primary objectives of improving visibility of biodiversity funding needs, tracking financial commitments and flows, and supporting informed dialogue between Parties, the GEF, and financing partners.

The portal would integrate three core layers: funding needs and current/pipeline projects, financing sources and flows, and analytical visualisation. Participation would be voluntary and Party-driven, with clear safeguards regarding data ownership and visibility. The role of the Secretariat would be limited to technical facilitation and system maintenance.

Designed to complement existing CBD digital tools and avoid duplication of reporting requirements, such a portal would support a shift from periodic assessments toward a more continuous and strategic view of biodiversity finance, strengthening implementation of the Kunming–Montreal Global Biodiversity Framework and informing future replenishment discussions.



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