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\*CORRESPONDENCE  
Paule Pamela Tabi Ekebil  
✉ paule.tabieckebil@unibe.ch

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# Correction: Tropical ecosystem multifunctionality assessment and insights for sustainable land management: a systematic literature review using the Drivers-Pressures-State-Impacts-Responses framework

Paule Pamela Tabi Ekebil<sup>1\*</sup>, Frank Mintah<sup>1</sup>, Matthias Bürgi<sup>1,2</sup>,  
Felicia O. Akinyemi<sup>1,3</sup>, Denis Jean Sonwa<sup>4</sup> and  
Chinwe Ifejika Speranza<sup>1</sup>

<sup>1</sup>Institute of Geography, Faculty of Sciences, University of Bern, Bern, Switzerland, <sup>2</sup>Swiss Federal Research Institute (WSL), Birmensdorf, Switzerland, <sup>3</sup>Geomatics, Department of Environmental and Life Sciences, Karlstad University, Karlstad, Sweden, <sup>4</sup>World Resources Institute (WRI), Kinshasa, Democratic Republic of Congo

## KEYWORDS

ecosystem multifunctionality, tropical ecosystems, ecosystem benefits, ecosystem functions, landscape multifunctionality, sustainable land management, DPSIR

## A Correction on

**Tropical ecosystem multifunctionality assessment and insights for sustainable land management: a systematic literature review using the Drivers-Pressures-State-Impacts-Responses framework**

by Tabi Ekebil, P. P., Mintah, F., Bürgi, M., Akinyemi, F. O., Sonwa, D. J., and Ifejika Speranza, C. (2025). *Front. For. Glob. Change* 8:1623266. doi: 10.3389/ffgc.2025.1623266

Affiliations were omitted from the published article on **page 1**.

Affiliation [<sup>1</sup>Institute of Geography, University of Bern, Bern, Switzerland] and [<sup>2</sup>Swiss Federal Research Institute (WSL), Birmensdorf, Switzerland] was omitted for author [Matthias Bürgi<sup>1,2</sup>]. This affiliation has now been added for author [Matthias Bürgi<sup>1,2</sup>].

Affiliation [<sup>1</sup>Institute of Geography, University of Bern, Bern, Switzerland] and [<sup>3</sup>Geomatics, Department of Environmental and Life Sciences, Karlstad University, Karlstad, Sweden] was omitted for author [Felicia O. Akinyemi<sup>1,3</sup>]. This affiliation has now been added for author [Felicia O. Akinyemi<sup>1,3</sup>].

Affiliation [<sup>4</sup>World Resources Institute (WRI), Kinshasa, Democratic Republic of Congo] was omitted for author [Denis Jean Sonwa<sup>4</sup>]. This affiliation has now been added for author [Denis Jean Sonwa<sup>4</sup>].

In the published article, there was a mistake in the **article title**, **page 1** as published.

The title was displayed as: “Tropical ecosystem multifunctionality assessment and insights for sustainable land management: a systematic literature review using the driver-pressure-state-impact-responses framework”.

The correct title of the article is “Tropical ecosystem multifunctionality assessment and insights for sustainable land management: a systematic literature review using the Drivers-Pressures-State-Impacts-Responses framework”.

In the published article, there was a mistake in **Table 2**, page 12 as published.

A dividing line between “Pressures” and “State” was omitted to separate the two components.

The headers have been updated within the Table to accurately reflect the contents.











The corrected **Table 2** appears below.

The original version of this article has been updated.

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TABLE 2 Unpacking DPSIR: trade-offs, feedback, and multifunctionality in tropical ecosystems.

| DPSIR components                | Local (short-term)   | Local (medium-term)                               | Regional (short-term)                          | Regional (long-term)                                    | Global (long-term)   | Affected ecosystem functions/ services  | Trade-offs/ synergies   | Responses/ feedback loops   |  |
|---------------------------------|--|---|--|---|--|---|---|---|--|
| Drivers (D)                     |  |   |  |   |  |   |   |   |  |
| Indirect drivers                | Population growth  | People's needs                                    | Ecosystem management practices and decisions   | Government policies and strategies                      | Climate change   | Provisioning and regulation services  | <br>Trade-off: ↑provisioning services (e.g. food) → ↓Regulating services (e.g. carbon storage) | <br>Policy incentives for agroforestry → reduce the intensity of land use change                   |  |
| Direct drivers                  | Agricultural intensification and expansion                           | Land use changes                                  | Natural resources exploitation                 | Logging   |  |   |   |   |  |
| Pressures (P)                   |  |   |  |   |  |   |   |   |  |
| Human behaviour pressures       | Industrial development and urbanisation                              |   | Market demands                                 |   | CO <sub>2</sub> emission and pollution                         | Biodiversity habitat, nutrient cycling, water and quality                     | <br>Trade-off: socioeconomic conditions↑ → natural resource conditions↓                        | <br>Policy incentives for tree planting → water and air regulation                                 |  |
| Environmental pressures         | Use of chemicals and fertilizers                                     |   | Hazards  |   |  |   |   |   |  |
| State (S)                       |  |   |  |   |  |   |   |   |  |
|                                 | Disrupted biotic and abiotic conditions                              | Declined habitat and biodiversity                 | Degraded land and soil                         | Fragmented landscapes                                   | Altered biological diversity and decomposers                   | Productivity, energy flow   | <br>Aggravation: disrupted biogeochemical cycles accelerate ecosystem collapse                 | <br>Policy incentive for soil restoration → improves soil conditions and fertility                 |  |
| Impacts (I)                     |  |   |  |   |  |   |   |   |  |
| Socioeconomic impacts on humans | Reduced human well-being, societal equity and livelihoods            |   | Disrupted biophysical processes                |   | Global biodiversity loss                                       | Provisioning and cultural, regulating services                                | <br>Aggravation: Insecure land tenure escalates unsustainable resource management              | <br>Laws and regulations enforcement for sustainable land management → Enhanced ecosystem services |  |
| Impacts on the ecosystem        | Reduced ecosystem services provision                                 |   | Disrupted biophysical processes                |   |  |   |   |   |  |
| Responses (R)                   |  |   |  |   |  |   |   |   |  |
| Local level                     | Improving sustainable livelihood strategies and good quality of life | Education and technical training                  | Sustainable use of natural resources           | Community-based ecosystem management                    | New policies for biodiversity protection, and REDD+ mechanisms | Multiple ecosystem services and functions are enhanced                        | <br>The combined effect of sustainable practices enhances livelihoods and quality of life    | Responses create feedback loops that influence drivers and pressures  |  |
| National level                  | Restoration and agroforestry practices                               | Inclusion of Indigenous and local knowledge (ILK) | Enhance land management and Landscape approach | Multi-stakeholder engagement and multi-scale governance |  | International regulations to enhance overall ecosystem services and functions |   |   | <br>Global and regional science-policy frameworks providing guidance for conservation and sustainable land management |
| International level             | Payment for Environmental Services (PES)                             |   | Certification/market mechanisms development    |   |  |   |   |   |  |