AIC 2026

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PROCEEDINGS



24–26 October 2026

Matsue City, Shimane Pref., Japan

JSIA

Ministry of the Environment Japan

IAIA JAPAN BRANCH

IGES Institute for Global Environmental Strategies

The Hong Kong Institute of Environmental Impact Assessment 香港環境影響評估學會

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Phub Dem[1], Kiichiro Hayashi[2], Minoru Fujii[3], Sangay Gyeltshen[2]
[1]Royal University of Bhutan · [2]Nagoya University · [3]National Institute for Environmental Studies (NIES)

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Institute of Science Tokyo

#54 Developing a Sustainable Integrated Environmental Assessment Framework in Korea

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SEA in Asia: Experiences, current situation and the future

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#22 Strengthening SIA in Korea towards a Just Transition

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Dipendra Dhakal[1], Kohei Ishii[1], Kamal Paudel[2], Hidefumi Kurasaka[1]
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[1]Toho University · [2]Rikkyo University

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Chisomo Haswell[1], Lameck Fiwa[2], Ayako Sekiyama[1], Hiromu Okazawa[1]
[1]Tokyo University of Agriculture · [2]Lilongwe University of Agriculture and Natural Resources (LUANAR)

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Raymond Wong[1], Clara U[2]

[1]ODEN Systems Limited · [2]Hong Kong Institute of Environmental Impact Assessment

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Young-il Song[1], Changsub Shim[1], Jinhan Park[1], Dongkun Lee[2]

[1]Korea Environment Institute · [2]Seoul National University

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Ejin Kim[1], Insung Song[1], Ara Kim[2], Ho Kim[1]

[1]Seoul National University · [2]Korea Environment Institute

#66 RELIEF: An Open Library for Reproducible Climate Change Impact and Adaptation Assessment

Ara Kim, Young-il Song, Jinhan Park, Changsub Shim

Korea Environment Institute

#87 Development of an Integrated Agriculture Model for Climate Change Risk Adaptation: A Case Study of Korean Agriculture

Jinsol Hong[1], Minseok Park[1], Gahyeon Lee[2], Kijong Cho[1]

[1]Korea University · [2]Seoul National University

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From Conflict to Co-existence: Environmental Dispute Resolution in Renewable Energy Development in Japan

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#80 Who is the Silent Majority? Structural Analysis of Residents' Attitudes and Intentions to Involvement with the Renewable Energy Power Generation Facility Siting Process

Kenshi Baba[1], Motoko Kosugi[2]
[1]Waseda University · [2]Shizuoka University

#90 Social Friction in Renewable Energy Deployment: Examining Consensus-Building through Joint Fact-Finding

Tomoyo Toyota[1], Kenshi Baba[2]
[1]The University of Shimane · [2]Waseda University

#17 Strategies for Enhancing Community Acceptance of Offshore Wind Power

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Hyosook Yim[1], Kongjang Cho[2]
[1]Dongguk University · [2]Korea Environment Institute

#60 Comparative Analysis of Consensus-Building Processes in Multiple Municipalities with Different Statuses of Renewable Energy Introduction

Kazuei Ishii[1], Soki Tatsuda[1], Kenshi Baba[2], Sayaka Tahara[3]
[1]Hokkaido University · [2]Waseda University · [3]Renewable Energy Organization of Hokkaido

Session S11 (B)

Room 601 | Saturday, 24 October | 15:30–17:00

Policies and Technologies of Biodiversity Assessment/Mitigation in EIA/SEA: "No Net Loss" and "Nature Positive"

Chairs: Akira Tanaka and Akiko Urago

#39 Community-Based Participation in Mangrove Resource Management: A Case Study of Tung Prong Thong, Rayong Province, Thailand

Wilailuk Niyommaneerat
Sustainable Environment Research Institute, Chulalongkorn University

#7 OECM "MISHIMA no Mori" Forest: Community-Based Reforestation toward Nature-Positive Outcomes

Manabu Ebihara, Daiki Uchida, Toshiki Takano, Taiki Ushimaru
Dia Nippon Engineering Consultants Co., Ltd.

#58 Linking EIA and Corporate Nature Disclosure through Quantitative Biodiversity Accounting

Nayoung Kim
The University of Tokyo

#50 Policies and Technologies Required to Enable Environmental Impact Assessment Systems to Deliver Nature Positive Outcomes in Sustainable Development Projects

Akira Tanaka
The University of Tokyo

Policies and Technologies Required to Enable Environmental Impact Assessment Systems to Deliver Nature Positive Outcomes in Sustainable Development Projects

Akira Tanaka
A Tree Company, Japan

Keywords: No Net Loss, Mitigation Hierarchy, Alternative Assessment, Biodiversity Offset, Habitat Evaluation Procedure (HEP), Credit-based Biodiversity Offset Banking, Public Disclosure

1. Background

"Nature Positive" has emerged as a critical global societal goal to reverse nature loss by 2030. Development projects stand as the primary driver of global habitat destruction and nature loss. While EIA was institutionalized via the US NEPA and globally mandated by Agenda 21 at the 1992 Earth Summit, conventional EIA frameworks still fail to prevent project-level biodiversity loss. This paper addresses this critical gap by responding to GBF Target 14 and proposing key policy and technical enhancements to transform EIA into an active driver of Nature Positive outcomes. Collectively, these requirements establish an operational system for EIA to achieve No Net Loss as a minimum regulatory objective and ultimately deliver Nature Positive outcomes.

2. Method

This study employs domestic and international synthesis of EIA practices, drawing upon the author's four decades of empirical research and field experience. This experience informs the analysis of system failures and the design of the framework.

3. Results

The author proposes the following seven pillars of technical and policy requirements for EIA systems.

(1) ***Zoning Prerequisite***: Legal designation strictly separating absolute preservation areas from compensation-possible areas prior to the EIA process.

(2) ***Alternatives Assessment***: Statutory obligation to compare multiple planning alternatives, including a ***no-action alternative***, strictly following the ***mitigation hierarchy***.

(3) ***Biodiversity Offsets***: Legal enforcement of biodiversity offsets as a strict last resort, which must be implemented simultaneously with the banking system in Condition 4.

(4) ***Biodiversity Banking***: Implementation of a credit-based Biodiversity Offset Banking system to streamline procedures and reduce developer burdens associated with Condition 3.

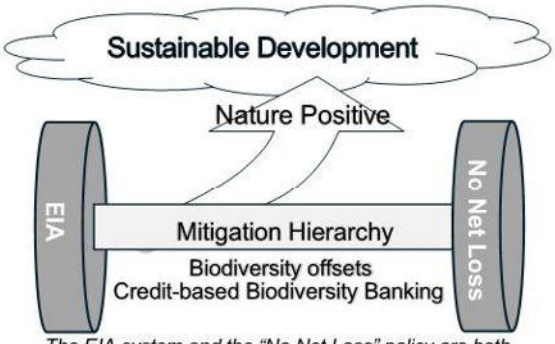
(5) ***NNL Permitting Condition***: Establishment of a "No Net Loss" (NNL) baseline standard of nature as a prerequisite for development project approvals.

(6) ***Quantitative Evaluation***: Mandatory metric-based assessments such as Habitat Evaluation Procedure (HEP) to compare net ecological losses and gains for verifying objective NNL compliance.

(7) ***Public Disclosure as a Catalyst***: Statutory obligation for quantified, transparent, and easy-to-understand information disclosure regarding project-level NNL performance.

4. Discussion

The seventh pillar—mandatory, standardized NNL disclosure within EIAs—acts as a driving force to operationalize the preceding six conditions. Concurrently, it provides the quantitative baseline required for corporate TNFD frameworks and national "30 by 30" targets, thereby accelerating the transition to sustainable development aligned with Nature Positive goals.



The EIA system and the "No Net Loss" policy are both essential, acting like the two wheels of a car moving us forward toward the Sustainable Development needed to achieve a "Nature Positive" future.

Figure 1: EIA and Nature Positive (Tanaka, 2024)

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Tanaka, Akira. (2024) Environmental Impact Assessment System and its Conditions to Achieve "Nature Positive". Proceedings of AIC 2024 Bali, Indonesia

OECM "MISHIMA no Mori" Forest: Community-Based Reforestation toward Nature-Positive Outcomes

Manabu EBIHARA[1], Daiki UCHIDA[1], Toshiki TAKANO[1], and Taiki USHIMARU[1]

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Keywords: MISHIMA no Mori, Reforestation, OECM, EIA, Biodiversity banking

1. Introduction

To achieve the "30by30" target and nature-positive outcomes, establishing OECMs outside protected areas is globally urgent. Dia Nippon Engineering Consultants (DNE) and Yusuhara Town, Kochi, promote a forest restoration project at their co-managed "MISHIMA no Mori" (2.31 ha). This presentation reports the public-private-civil collaboration, local consensus-building, baseline monitoring results, predicted environmental changes, and maintenance plans. Grounded in these, we present institutional and technical prospects to apply such community-led conservation as a model for compensatory mitigation (offsets) within Environmental Impact Assessment (EIA) systems.

2. Project Outline and Results

2.1 Project Outline

This project converts degraded conifer plantations into native broadleaved forests through close public-private-civil collaboration. Yusuhara Town handles consensus-building and education; DNE leads target-species design, quantitative monitoring, and biodiversity evaluation; and local citizens participate in planting, promoting voluntary conservation and forest stewardship.

2.2 Results

Baseline monitoring confirmed rare native species, including the fern Cornopteris christenseniana, ruddy kingfisher (Halcyon coromanda), and Japanese fire-bellied newt (Cynops pyrrhogaster), revealing high intrinsic ecological potential. Based on these values, the site was certified as a Japanese 'Sustainably Managed Natural Site' and registered in the World Database on OECMs (WD-OECM) in 2026. Future harvesting and planting will improve habitats, enhancing biodiversity and ecosystem restoration.

3. Conclusions

The initiative at "MISHIMA no Mori" represents a practical model of OECM creation, integrating local government coordination, consultant technical expertise, and civic activities. Moving forward, it aims to translate forest restoration environmental value into regional economic value for sustainable community management. On the other hand, in Japan's current EIA system, formally positioning the mitigation hierarchy and legally mandating compensatory mitigation remain underway, leaving a deficit in mechanisms to effectively compensate for development-driven spatial loss of nature. To address these challenges, utilizing a technically verified OECM as a formal receptor for spatial banking is highly effective. Although current OECMs still face qualitative assessment challenges, linking development-driven losses to substantive spatial compensation through banking represents a solid first step toward effective nature restoration. We believe directly linking this function with the EIA system will allow EIA to evolve from a regulatory constraint into a proactive financing mechanism that enhances natural capital and upgrades regional community management.

References

Ministry of the Environment, Japan (2023) The National Biodiversity Strategy and Action Plan 2023-2030: Roadmap to Nature Positive.

Linking EIA and Corporate Nature Disclosure through Quantitative Biodiversity Accounting

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Keywords: EIA, TNFD, Biodiversity Net Gain, No Net Loss, Nature Positive

1. Introduction

Environmental Impact Assessment (EIA) assesses environmental effects, including ecological impacts and mitigation, at the individual-project level. Meanwhile, the Taskforce on Nature-related Financial Disclosures (TNFD) provides a corporate framework for disclosing nature-related impacts, metrics and targets. A key question is whether ecological data generated through individual EIAs can also support corporate nature reporting.

Quantitative ecological assessment within EIA is not new; Habitat Evaluation Procedures (HEP), for example, have long quantified habitat change for impact and mitigation assessment (Tanaka, 2024). England's statutory Biodiversity Net Gain (BNG) provides a recent regulatory application. Applicable developments must achieve at least 10% BNG using the Statutory Biodiversity Metric and follow the Biodiversity Gain Hierarchy. This study investigates how project-level quantitative biodiversity accounting can support corporate reporting of progress toward No Net Loss and strengthen the information link between EIA and TNFD.

2. Research Methods

Two development cases were selected where:

1. The parent company publishes TNFD aligned nature disclosures and uses BNG as a corporate biodiversity metric or target.
2. An identifiable development is subject to formal EIA and statutory BNG.
3. The Environmental Statement and BNG assessment are publicly available.

Landsec's Lewisham Shopping Centre redevelopment and St William's Kensal Green Gasworks development were examined through comparative document analysis of corporate BNG targets, project level BNG accounting, and their treatment within EIA documentation.

3. Results and Proposal

Both Landsec and Berkeley report BNG based targets in TNFD aligned disclosures: Landsec targets 20% BNG on sites with existing greening, while Berkeley requires at least 10% for new developments. The same statutory BNG accounting appears in both case projects at planning stage. Standardised EIS reporting could strengthen project to corporate traceability.

4. Conclusion

Quantitative biodiversity accounting already operates at both project and corporate levels. The missing link is a consistent record connecting them. Standardising biodiversity impact and outcome information within EISs could make project level evidence directly traceable into TNFD aligned corporate reporting. This could support more transparent assessment of progress toward No Net Loss and broader Nature Positive objectives.

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Plowman Craven. (2024). *Lewisham Shopping Centre: Volume 1, environmental statement – Main text* (Report No. 46730).

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