Navigating the Implementation Challenges of Biodiversity Net Gain

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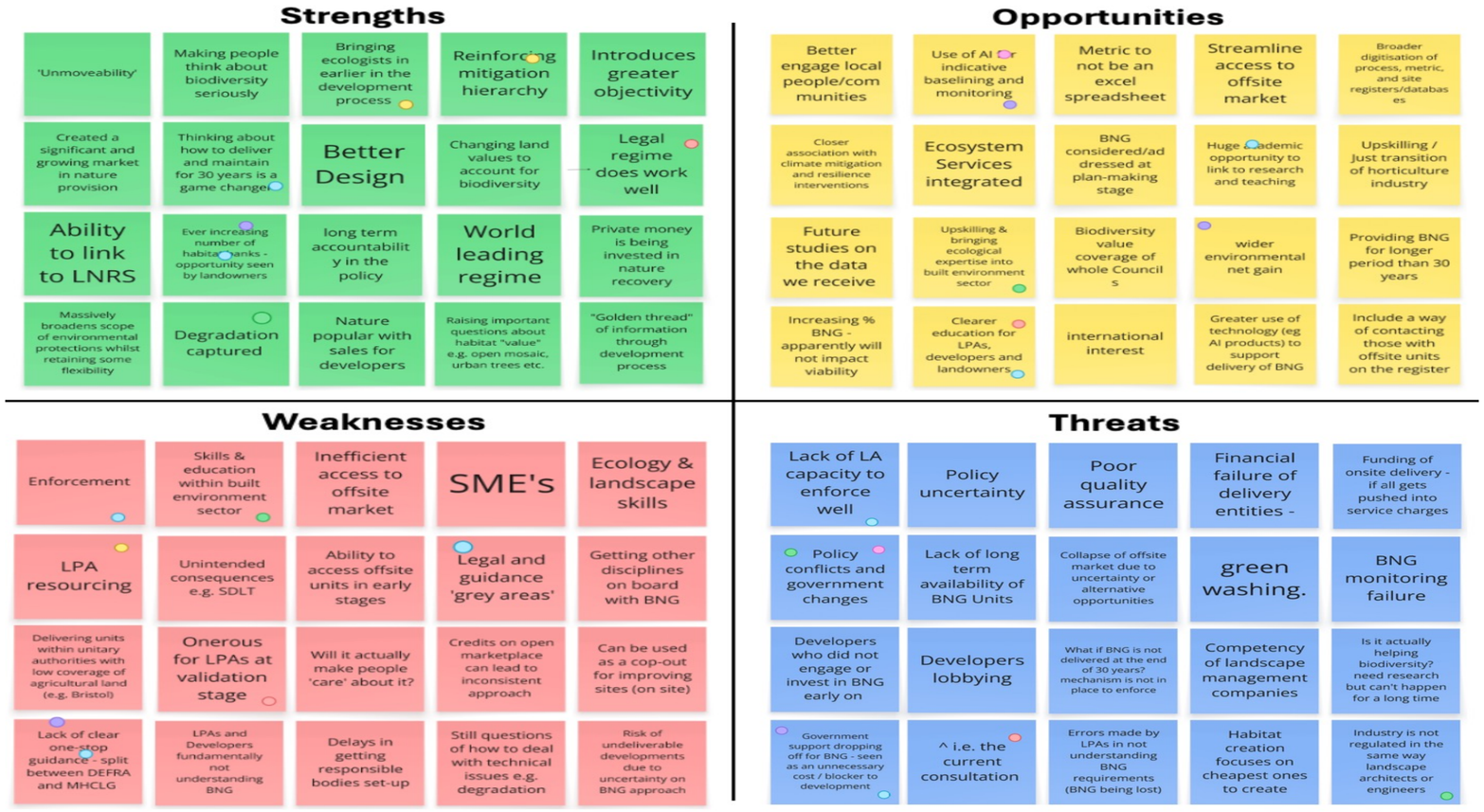
Project Summary

England is the first country in the world to mandate Biodiversity Net Gain (BNG) by law with an estimated implementation cost of £200 Million. There is no existing, robust nationwide BNG implementation governance models that can be used to guide and monitor Local Planning Authorities (LPAs) who will be implementing the law. As BNG is a new law, early identification and close monitoring of issues in implementing BNG is critical for its future sustainability. This project aims to combine a detailed literature review with multi-stakeholder focus group discussions to identify and evaluate the current issues in the implementation of BNG using a SWOT (Strength, Weakness, Opportunity and Threat) and ROAMEF (Rationale, Objectives, Appraisal, Monitoring, Evaluation and Feedback) analysis framework. The intent is to develop a structured review of BNG implementation issues that can be shared with different stakeholders to manage, monitor and improve them.



ROAMEF Stage	Strengths & Opportunities	Weaknesses & Threats
Rationale	Mandated by law, aligns with UK/global biodiversity goals; potential to link with ESG, urban greening, and climate adaptation.	Confusing guidance, legal ambiguities, and misuse as a tick-box exercise risk undermining credibility.
Objectives	Targets 30+ years of biodiversity gain; scope to raise % targets, extend duration, and embed social/ecosystem benefits.	Weak enforcement, poor ecological understanding, and risk of metric-only compliance.
Appraisal	DEFRA metric enables structured, data-driven valuation; scope for AI, automation, and web-based tools.	Over-complex metric, inconsistent use, undervaluation of habitats, and skills gaps.
Monitoring	Emerging LPA tools and ecologist monitoring; potential for AI, citizen science, and national dashboards.	Limited capacity, no national standards, and weak tracking risking undetected biodiversity loss.
Evaluation	Quantitative tracking possible; potential for academic partnerships and national impact reports.	Inconsistent criteria, lack of independent verification, and short-term focus over long-term outcomes.
Feedback	Growing cross-sector collaboration; market interest; opportunity for shared learning networks.	No formal feedback loop, poor integration into policy, and fragmentation between sectors.

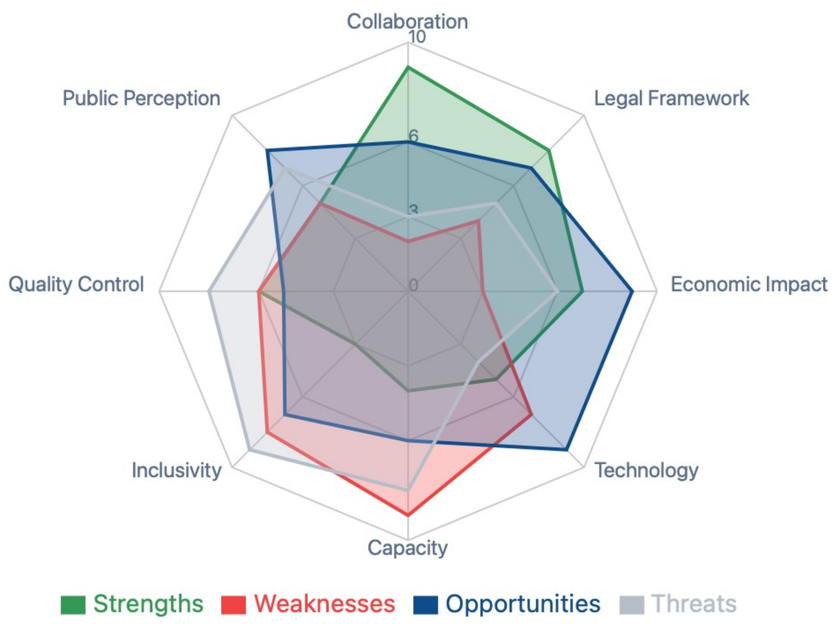
Main barriers to implementation of BNG

1. Ambiguous roles between agencies and LPAs create governance and oversight gaps.
2. Early versions of the metric lacked accuracy and caused implementation delays.
3. Local planning authorities face severe staff and resource shortages.
4. Limited monitoring systems hinder long-term tracking of biodiversity outcomes.
5. Loopholes in the metric allow manipulation or gaming by developers.
6. Applying BNG to small or urban sites remains complex and inconsistent.
7. Short maintenance timelines risk undermining long-term ecological gains.

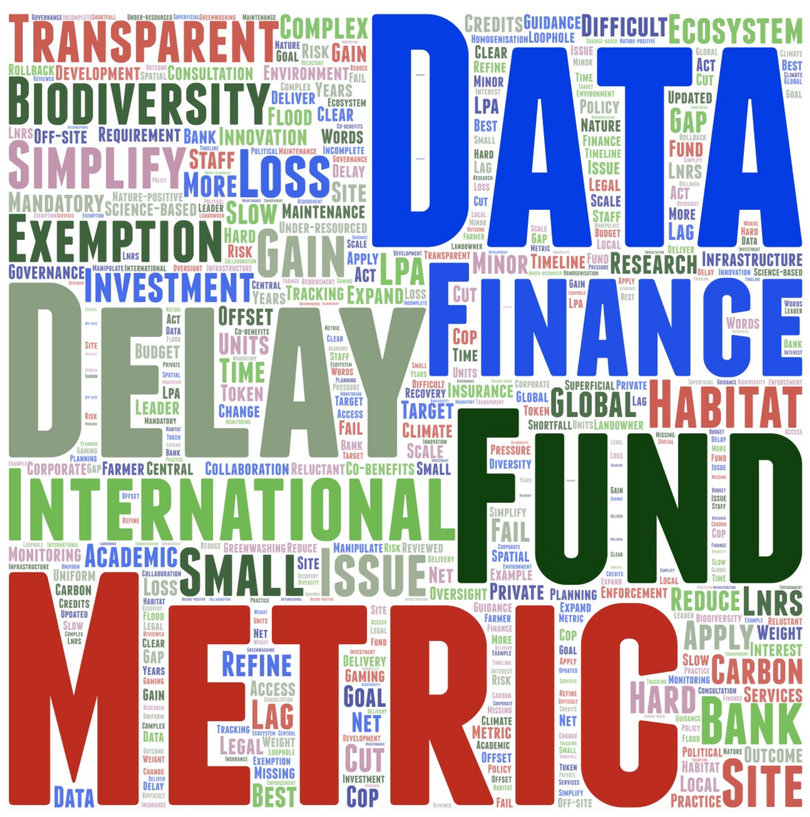
Key Recommendations to improve BNG implementation

1. Publish clear, unified national BNG guidance with stable rules.
2. Fund training and recruitment to boost ecological capacity.
3. Launch a central offsite habitat marketplace with pooling options.
4. Use AI and digital tools for metric checks and monitoring.
5. Set up a national framework for early and long-term monitoring.
6. Align BNG with carbon, climate, and urban greening goals.
7. Ensure market stability with phased rollouts and clear rules.

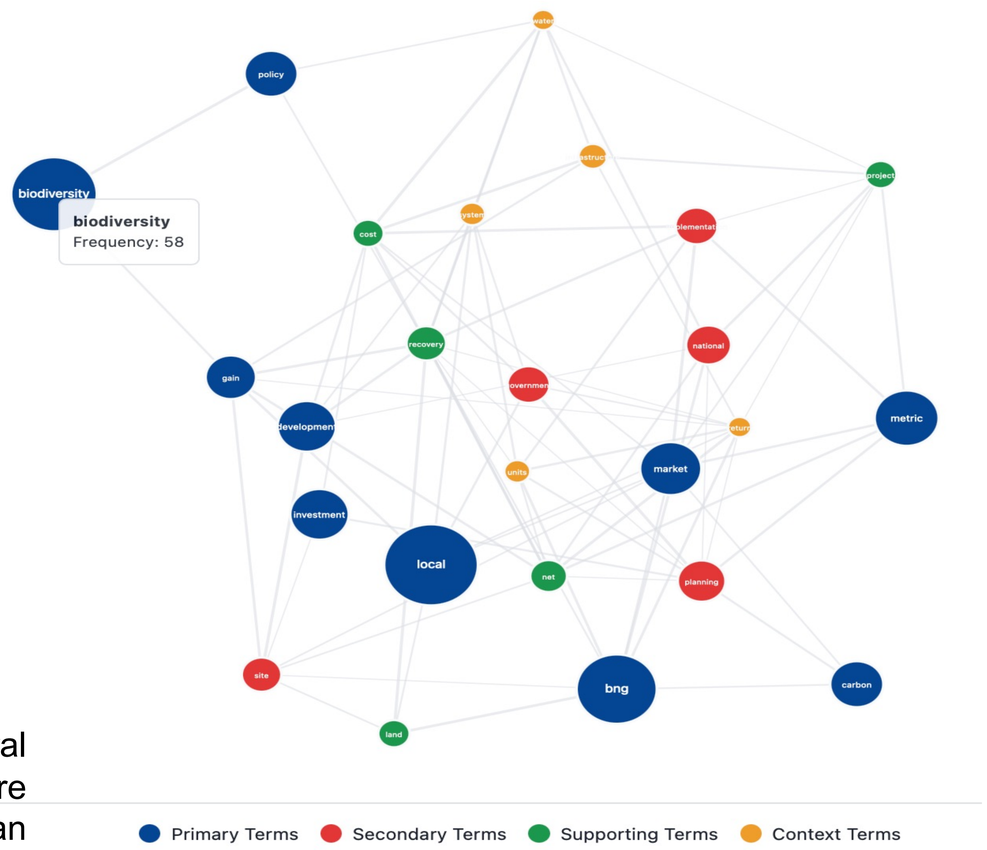
Spider Chart Analysis Of SWOT Elements



Word Cloud Analysis Of SWOT Elements



Word Co-occurrence Network Analysis



Conclusion

This research highlights that BNG, while visionary, is at risk of under-delivery unless early structural weaknesses are tackled. Policy coherence, stakeholder collaboration, and digital transformation are critical levers for change. If supported with targeted investment and iterative refinement, BNG can become a model for embedding ecological resilience into national planning frameworks.

For more details and the full report please click on the link below or scan the QR code or email me at rowena.shivam.24@ucl.ac.uk

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