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ENSURING NO NET LOSS FOR PEOPLE AS WELL AS BIODIVERSITY:

GOOD PRACTICE PRINCIPLES





PHOTOGRAPHS - COVER: One of the obligations under the Kalagala Offset for a major hydroelectric dam in Uganda is that Kalagala Falls and Itanda Rapids (sacred to some members of the local community), be preserved and that no further dams be developed that could negatively impact them (© V.F. Griffiths). **ABOVE - Top:** Farmers living on the edge of a biodiversity offset project in Madagascar face restrictions on natural resource use. While some benefitted from well-received agriculture development, there were challenges in ensuring all affected people benefitted (© J.P.G. Jones). **Bottom left:** A railway upgrade scheme in the UK involved clearing habitat for new infrastructure. As the habitats provided foraging resources for butterflies, the scheme achieved biodiversity net gain by enhancing and creating more habitat for butterflies both within the scheme footprint and directly adjacent (© D. Rogers). **Bottom right:** Extensive compensatory mitigation was implemented along the underground Trans Mountain pipeline in Jasper National Park, Canada to ensure the pipeline does not restrict use or non-use values of the park for both residents and visitors (© J. W. Bull).

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The principles were initially developed in discussion with members of the Darwin Initiative project team, particularly Francis Ogwal (National Environment Management Authority Uganda) and Dilys Roe (IIED). The document has been developed and refined through extensive consultation with a wide range of stakeholders including feedback from the 80 people who attended a BBOP webinar, and attendees at workshops in Kampala, Uganda (hosted by Nature Uganda) and in the UK at Cambridge (hosted by UNEP World Conservation Monitoring Centre), Oxford (hosted by University of Oxford) and London (hosted by Balfour Beatty).

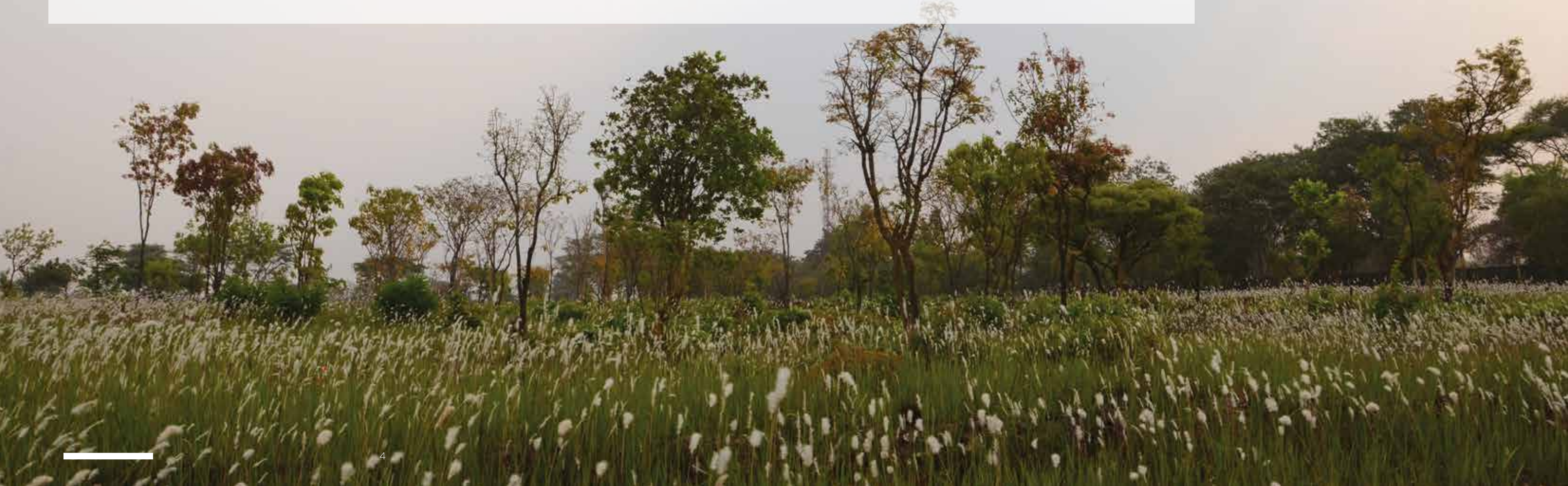
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This document has been developed and refined through extensive consultation with a wide range of stakeholders.



FOREWORD

IUCN has long supported businesses in reducing their impacts on biodiversity. Increasingly companies we partner with seek to achieve No Net Loss, or even Net Gain, in biodiversity. We strongly encourage the use of the mitigation hierarchy to avoid and minimise impacts on biodiversity as much as possible, but offsets can be useful to compensate for unavoidable residual impacts.

While actions to ensure NNL of biodiversity, including offsetting, have the potential to enhance conservation, there are potential pitfalls. Given the general lack of agreement about the state of knowledge regarding offset implementation, IUCN developed the first-ever global policy on biodiversity offsets, which was adopted by IUCN Members at the IUCN World Conservation Congress in September 2016. The policy acknowledges the need for efforts in NNL to consider people's use or cultural values. However, at the time we did not have full guidance on how best to ensure that people

are appropriately engaged in and impacted by conservation actions initiated as part of a NNL strategy. We are therefore delighted to support this document "Ensuring No Net Loss for people and biodiversity". The principles will provide governments, companies, investors and other people working in this field with explicit standards to work towards ensuring the best possible outcomes for people and biodiversity from their operations. We hope to see wide uptake of these principles and will be encouraging the companies and governments which we work with to consider them.

Stephen Edwards
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Extractive activities, the construction of infrastructure and changes in how we use land and sea are essential for development, yet they result in a significant loss of biodiversity. The Business and Biodiversity Offsets Programme (BBOP) was established in 2004 to bring together companies, financial institutions, government agencies and civil society organisations to develop best practice in achieving better conservation outcomes in the context of development.

From the start, we have highlighted that biodiversity matters for everyone and that people's use and cultural values must be considered. Our widely used Standard on Biodiversity Offsets (published in 2012) states that the objective should be No Net Loss or preferably a Net Gain of biodiversity with respect to "species composition, habitat structure, ecosystem function and people's use and cultural values associated with biodiversity".

The Cost-Benefit Handbook helps planners ensure that they do not leave the people affected by development and by mitigation measures any worse off, which is a vital part of both fairness and conservation success. The work we started 15 years ago cannot be described as "mission accomplished", but we have made major strides in establishing more

rigour in the application of the mitigation hierarchy, promoting planning for defined conservation outcomes such as 'No Net Loss' and 'Net Gain', and creating tools to mainstream these approaches in economic decision-making.

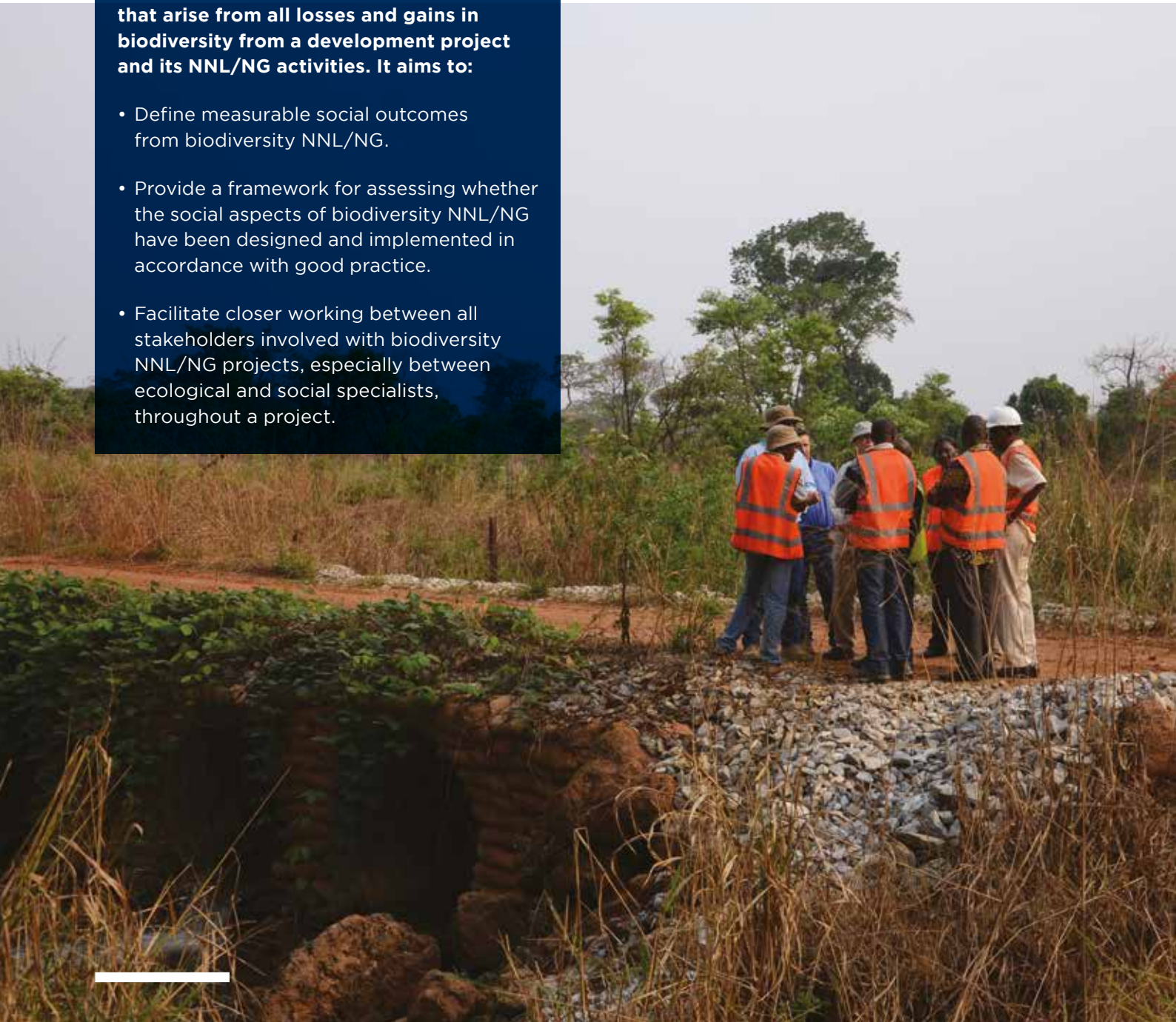
We are delighted to see a growing community of practice taking forward a proliferation of new initiatives. The emerging interest in doing justice to the social impacts of No Net Loss and Net Gain is an essential part of this evolution, and can be seen in the interest and support for developing these good practice principles. When BBOP closes we will leave a website hosting a large library of documents to inform and guide further developments in this area. We are delighted to be able to include this document and hope it will be widely used.

SUMMARY

Development projects worldwide are increasingly required to quantify and fully mitigate their impacts on biodiversity, with an objective of achieving ‘no net loss’ or a ‘net gain’ (NNL/NG) of biodiversity overall. Seeking NNL/NG outcomes can affect people because society relies on, uses and values biodiversity. However these social impacts are often not adequately considered, even when development projects mitigate their broader social impacts.

This document outlines good practice principles for addressing the social impacts that arise from all losses and gains in biodiversity from a development project and its NNL/NG activities. It aims to:

- Define measurable social outcomes from biodiversity NNL/NG.
- Provide a framework for assessing whether the social aspects of biodiversity NNL/NG have been designed and implemented in accordance with good practice.
- Facilitate closer working between all stakeholders involved with biodiversity NNL/NG projects, especially between ecological and social specialists, throughout a project.



The principles in this document are founded on international best practice that calls for development projects to achieve biodiversity NNL/NG while ensuring that affected people are ‘no worse off and preferably better off’. They are intended to set a high standard, which may be aspirational for some projects in practice. They build on existing literature and guidance, and reflect a substantial diversity of views captured during an extensive consultation process. However, we expect that they will undergo further refinement when tested in the field. The authors welcome feedback.

Development projects seeking biodiversity NNL/NG should achieve an outcome whereby:

People perceive the components of their wellbeing affected by biodiversity losses and gains to be at least as good as a result of the development project and associated biodiversity NNL/NG activities, than if the development had not been implemented.

To achieve this the following principles should be followed:

- 1** Measure change in wellbeing.
- 2** Focus on affected people within the project’s area of influence.
- 3** Maintain the desired social outcomes from NNL/NG throughout the project’s lifetime.
- 4** Compare social outcomes from NNL/NG against an appropriate reference scenario.
- 5** Exceed existing obligations to achieve the desired social outcomes from NNL/NG.
- 6** Assess wellbeing for defined groups of people e.g. by gender or interest.
- 7** Benefit the people who have been affected.
- 8** Align the biodiversity and social objectives of NNL/NG.
- 9** Achieve equitable social outcomes from NNL/NG.
- 10** Avoid impacts on wellbeing that are deemed unacceptable by the people affected and cannot be compensated for.
- 11** Design and implement social aspects of NNL/NG with inclusive stakeholder engagement.
- 12** Ensure biodiversity and social specialists collaborate on NNL/NG.
- 13** Implement effective conflict-resolution mechanisms.
- 14** Monitor social outcomes from NNL/NG throughout.
- 15** Validate social outcomes from NNL/NG throughout.
- 16** Be transparent throughout.

1 INTRODUCTION

1.1 WHO IS THIS DOCUMENT FOR?

This document is for those involved with economic development projects who are applying the mitigation hierarchy to achieve ‘no net loss’ (NNL) or ‘net gain’ (NG) of biodiversity (hereafter collectively referred to as NNL/NG) (Box 1).

It sets out good practice principles for development projects to achieve NNL/NG of biodiversity, while addressing negative effects on people and maximising opportunities for NNL/NG to generate positive social outcomes. These ‘social’ principles apply whether the NNL/NG objective is driven by national legislation, project finance conditions or voluntary corporate policies. They build on and complement existing principles, such as those developed by the Business and Biodiversity Offsets Programme,

and are intended to bridge the gap between biodiversity and social aspects of NNL/NG. They are also intended to facilitate closer working between biodiversity and social specialists on NNL/NG throughout the lifespan of a project.

While focusing on development projects, this document also supports those involved with policies and strategic approaches to NNL/NG by illustrating good practice regarding the social outcomes from NNL/NG at a project level.

BOX 1

Target audience

This document is for those involved in planning, commissioning, requiring, designing, implementing and monitoring biodiversity NNL/NG projects. Those who might find it particularly useful include:

- **Ecologists and other environmental specialists**, who are designing or reviewing the implementation of biodiversity NNL/NG measures for development projects.
- **Social specialists** who interact or collaborate with environmental specialists on biodiversity NNL/NG projects
- **Development commissioners and investors** setting biodiversity NNL/NG targets for development projects.
- **Academics and members of third sector organisations** involved with designing, implementing and monitoring biodiversity NNL/NG for development projects.
- **Company directors and sustainability managers** establishing biodiversity NNL/NG as part of a corporate strategy.
- **Policymakers** developing or updating policies containing biodiversity NNL/NG objectives.
- **Statutory bodies, regulators, competent authorities and auditors** reviewing biodiversity NNL/NG designs for specific development projects.
- **The public** including those affected by biodiversity NNL/NG projects and those involved with consultations as part of the development consent processes.
- **Contractors** implementing biodiversity NNL/NG designs for development projects.

This document supports development projects to achieve NNL/NG of biodiversity, while addressing negative effects on people and maximising opportunities for NNL/NG to generate positive social outcomes. The scope is the impacts on

people that arise from losses and gains in biodiversity from a development project, and the impacts of any associated NNL/NG activities. In the rest of the document we refer to this simply as social impacts of biodiversity NNL/NG.

1.2 WHAT IS BIODIVERSITY NO NET LOSS AND NET GAIN?

Governments, investors and businesses worldwide are increasingly adopting NNL/NG targets for biodiversity. NNL/NG is an approach to managing natural resources – specifically, with regards to the conservation of biodiversity – in the context of economic development.

Achieving NNL/NG requires quantifying both the losses of biodiversity caused by a development project and associated gains (including biodiversity offsets) through implementation of the mitigation hierarchy, in order to demonstrate that overall gains in biodiversity are equal to (NNL), or greater than (NG), the losses. Losses caused by development projects might be direct (e.g. forest clearance) or indirect (e.g. facilitation of poaching), and cumulative with other development projects; and losses and gains include both those that are expected (as a result of project design) and those that are unexpected. It is emphasised that conservation ‘gains’ under biodiversity NNL/NG primarily compensate for losses, such that they do not represent absolute gains for conservation.

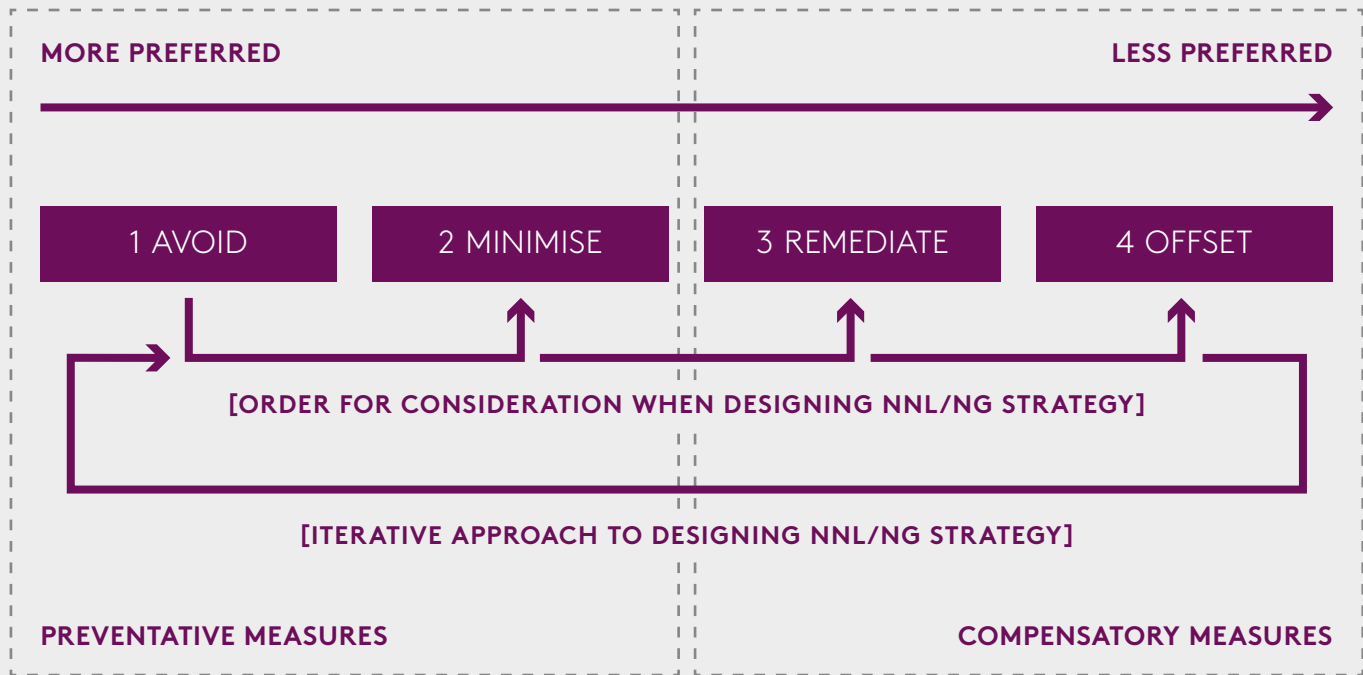
Development projects seeking NNL/NG should always follow the mitigation hierarchy (Figure 1). The first step is to avoid negative impacts on biodiversity where possible (e.g. redesigning a project footprint to avoid sensitive habitats), then to minimise impacts that cannot be avoided (e.g. the construction and maintenance of ‘fish ladders’, enabling fish to migrate upstream despite the presence of aquatic infrastructure). Avoidance measures typically involve carrying out a pre-screening of critical biodiversity issues for a project, identifying potential impacts, and then reconsidering the scope and location of the project. The difference between avoidance and minimisation measures is that the former requires no further action once incorporated into project design, whereas the latter does.

Where preventative measures (avoidance and minimisation) are not possible, the third step is to remediate damage (e.g. restoring habitat temporarily cleared for access roads). The final step is to fully compensate for any residual biodiversity loss (‘offset’). When seeking NNL/NG of biodiversity as part of this final stage, compensation can involve offsetting losses of biodiversity with measurable gains elsewhere, either inside or outside of the development footprint. Offsets generate changes in biodiversity that are considered positive (‘gains’) and are at least equivalent to residual losses. Offsets should always be considered as a last resort and in the context of the mitigation hierarchy as a whole; i.e. “biodiversity offsets must never be used to circumvent responsibilities to avoid and minimise damage to biodiversity, or to justify projects that would otherwise not happen”¹. The difference between remediation and offsetting is that the former reverses impacts caused by the development in the short term, whilst the latter compensate for those impacts by seeking measurable conservation gains elsewhere.

Steps for development projects to take under the mitigation hierarchy are often outlined as part of the impact assessment process, such as in Environmental and Social Impact Assessments (ESIA), which should incorporate direct, indirect and cumulative impacts of development projects.

FIGURE 1

Steps of the mitigation hierarchy, in order of preference from a biodiversity conservation perspective. The process is often iterative where a development project's impact assessment informs the design and application of the mitigation hierarchy.



The social principles for biodiversity>NNL/NG in this document apply to all stages of the mitigation hierarchy. They should be applied as early as possible in the lifespan of a project, and concurrently with the design, implementation, maintenance and monitoring of biodiversity>NNL/NG.



1.3 WHAT ARE THE SOCIAL IMPACTS OF BIODIVERSITY>NNL/NG?

Development projects can cause losses and gains in biodiversity, which can affect the benefits people obtain from nature (often called ecosystem services) at local, national and international levels. This can be positive such as enhancing people's wellbeing by improving their access to green space, or negative such as when the loss of biodiversity at a development site reduces people's enjoyment from undertaking recreational activities. It can also cause severe consequences, for example when enhancing a nature reserve to achieve>NNL/NG prevents local people from gathering fundamental resources, such as timber, medicinal plants and other products that they depend on for subsistence.

In this context, 'social impacts from biodiversity>NNL/NG' refers to the impacts on people that arise from all losses and gains in biodiversity from a development project and from its>NNL/NG activities. These social impacts often arise from change in ecosystem service provision, and can be positive or negative.

It is well recognised in international policy, and core to the mission of some organisations including the World Bank, that social impacts of development projects should not just be considered in economic terms (for example by using indicators such as household income), but in terms of people's overall wellbeing. People's wellbeing can be affected by>NNL/NG in various ways. These include affecting material assets needed for a good life (e.g. access to products essential to the livelihoods of poor and vulnerable people), health (including feeling well), good social relations, security, and freedom of choice and action.

Social impacts arising from>NNL/NG (which are the focus of this document) are often nested within a broader set of social objectives associated with the development project. Coordination between specialists implementing the broader social objectives and those focussed on>NNL/NG is vital.

Measures to avoid, minimise and compensate for biodiversity loss through the mitigation hierarchy will influence the type and extent of social impacts incurred. Avoidance measures can ensure that people do not experience a loss in ecosystem service provision (see Box 2).

Minimising or remediating biodiversity loss can reduce ecosystem service provision even if>NNL/NG is achieved in the future. As the last stage of the mitigation hierarchy, offsetting can affect different people in different ways. For example, people living near a development project may lose ecosystem service provision but those living near the offset, where habitat is created some distance from the development, can benefit from new ecosystem service provision e.g. increases in pollination services, new recreational service opportunities. However, they can also be negatively affected, for example where offset activities prevent them from accessing ecosystem services (e.g. if the offset takes the form of a new protected area with restrictions, meaning that people can no longer use that area as they did before).



BOX 2

Terms for the relationship between people's wellbeing and nature

While NNL/NG is framed around biodiversity, discussions about social impacts in the context of environmental policy often use the term 'nature' because elements of the natural world that people value are not restricted to living organisms. Other elements might include those that are non-living but from which people derive services e.g. landscapes or seascapes, and these are included within this document.

Various terms describe the relationship between people and nature, including most prominently:

- The components of people's wellbeing that arise from nature via associated natural goods and services are collectively termed **ecosystem services**.
- **Natural capital** is the stock of naturally existing resources (biotic and abiotic) that generate flows of ecosystem service provision. Similarly to our usage of the term 'biodiversity' here, this includes biological components and non-living landscape features e.g. waterfalls, but also extends to e.g. abiotic resources such as oil and gas reserves.
- **Nature's Contribution to People** is an emerging term that places an emphasis upon the role of culture in defining all links between people and nature. It has appeared on the international policy stage (e.g. via the Intergovernmental Panel on Biodiversity and Ecosystem Services, or 'IPBES') as a response to the perception that the term ecosystem services inherently commodifies nature.

1.4 WHY CONSIDER PEOPLE WHEN SEEKING BIODIVERSITY NNL/NG?

For all involved with biodiversity NNL/NG projects, there are moral, practical, and regulatory arguments for ensuring that NNL/NG is sustainable and fair for people.

A **moral imperative** to ensure equitable outcomes from development and environmental protection underpins international agreements (e.g. the Convention on Biological Diversity) and targets (such as the UN Sustainable Development Goals, e.g. Goal 10 on 'reduced inequalities'). Contributing to these global goals is clearly the right thing for businesses to do. The prominent Business and Biodiversity Offset Programme (BBOP) Standard² states that biodiversity offsets should achieve no net loss of biodiversity with respect to "*species composition, habitat structure, ecosystem function and people's use and cultural values associated with biodiversity*" (emphasis added). Also BBOP's cost benefit handbook³ gives guidance for ensuring that efforts to achieve

conservation gains make local people "*no worse off*", for example, because of land and resource use restrictions created by a biodiversity offset.

Crucially, **in practice**, the implementation of NNL/NG is likely to prove easier and more efficient in the long term with local engagement and buy-in, which in turn is more likely when impacts on local people are addressed. Further, without local buy-in, development projects can face costly delays or rectification measures from objections and protests, especially during the process of obtaining regulatory approval to proceed. One reason for setting biodiversity NNL/NG targets for development projects is to secure a social license to operate and prevent risk of local conflicts; again this is more likely when the social impacts from biodiversity NNL/NG are addressed and people engaged in the process. Demonstrating adherence to good practice can also generate commercial advantages, such as more efficiently secured permits, improved brand perception, and access to finance.

Regional and national regulations in place or under development for up to 108 countries (according to the Global Inventory of

Biodiversity Offset Policies, 'GIBOP'⁴) make provisions for the mitigation hierarchy for biodiversity in some form. These regulations do not all explicitly require that biodiversity NNL/NG incorporate social considerations, but some do – and many more are linked to related policies on sustainable and equitable development. More generally, many countries have enacted relevant legislation, for example, that protects citizens from unlawful dispossession or harm.

Where projects are co-financed by financial institutions that have adopted the **performance standards** of the International Finance Corporation (IFC), developers are subject to IFC's Performance Standard 6, which require clients to demonstrate NNL of biodiversity for impacts in 'Natural Habitat' (where feasible), NG for impacts on 'Critical Habitat', and consideration of how the project might affect ecosystem services (Box 3). Similar standards are used by other financial institutions, with more emerging (e.g. the World Bank's Environmental and Social Framework).





BOX 3

Social considerations for biodiversity NNL/NG in the context of IFC Performance Standards

For development projects covered by the IFC Performance Standards, the main approach towards seeking biodiversity NNL is detailed in Performance Standard 6: **Biodiversity Conservation and Sustainable Management of Living Natural Resources**, in which it is recognised that maintaining ecosystem services is fundamental to sustainable development.

The IFC, as well as most development bank peers, do not apply biodiversity standards in isolation. Compliance is expected with the full set of Performance Standards simultaneously, which requires holistic consideration of on-site issues (e.g. health safety, labour, pollution) and how the development project interacts within a landscape context (e.g. with communities and biodiversity). Performance Standard 1: **Assessment and Management of Environmental and Social Risks and Impact** outlines how to jointly implement the Performance Standards in a coherent and integrated manner, as well as guiding requirements in relation to stakeholder engagement (especially those directly and differentially or disproportionately affected

by the project because of their disadvantaged status) and Free Prior and Informed Consent.

Performance Standard 5: **Land Acquisition and Involuntary Resettlement** recognises that project-related land acquisition causing physical or economic displacement and restrictions on land use can have adverse impacts on local people. These impacts often result in long-term hardship and impoverishment. On this basis PS5 seeks for involuntary resettlement to be avoided in the first place. Where resettlement cannot be avoided it should be minimised and appropriate mitigation measures put in place to mitigate adverse impacts on people, and the host communities. The mitigation approach and measures must seek to improve, or restore, the livelihoods and standards of living of displaced people. Land owners, occupiers and users, including those not legally recognised, are all recognised by PS5 and should be treated accordingly. Compensation (where in-kind replacement is not provided) for loss of assets must be at full replacement cost. PS5 is relevant to the design of NNL/NG activities because

anyone involuntarily displaced by a biodiversity offset deserves consideration under both PS5 and PS6; see Bidaud et al. (2018)⁵ for more information.

Performance Standard 7: **Indigenous Peoples** requires specific consideration of any indigenous peoples impacted by a project. Indigenous Peoples are particularly vulnerable if their lands and resources are transformed, encroached upon, or significantly degraded. This performance standard, and the accompanying explicit requirement for Free Prior Informed Consent (FPIC), influences how projects operating under all other IFC standards (including PS6) should consider social impacts where affected communities include indigenous people.

1.5 WHAT GUIDANCE ALREADY EXISTS, AND WHAT GAP DOES THIS DOCUMENT ADDRESS?

The principles here are not intended to govern the many and varied social issues arising from development projects more generally, for which a considerable body of well-established guidance literature and specialist expertise already exists⁶. The principles are to enable those involved with biodiversity NNL/NG projects to address negative effects on people and to maximise opportunities for NNL/NG to generate positive social outcomes.

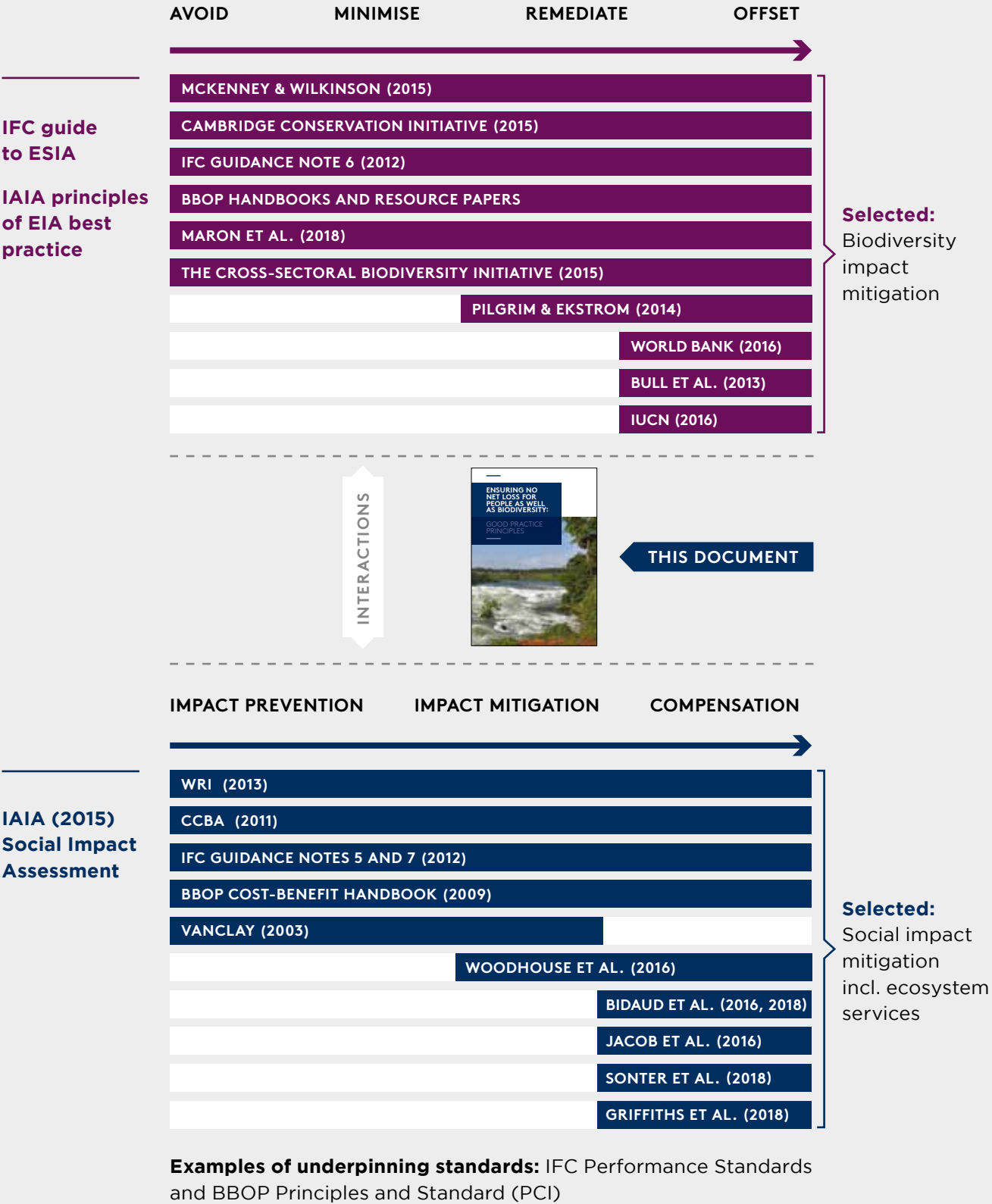
Guidance exists on designing, implementing, maintaining and monitoring NNL/NG². There is related guidance³ and recent literature specifically on social impacts of NNL/NG.

However despite regulatory and policy drivers requiring consideration of the social outcomes from NNL/NG, those social outcomes are often poorly accounted for or treated in an *ad hoc* manner. Equally, those tasked with managing broader social impact mitigation on development projects may not have sufficient expertise to account for ecosystem services, whilst conversely, NNL/NG might be designed too late in the development process to be truly aligned with social aspects.

Figure 2 (overleaf) highlights an illustrative (but far from comprehensive) set of key technical guidance and academic papers on both the social and biodiversity aspects of NNL/NG, and shows the gap that this document is intended to fill – to address negative social impacts from NNL/NG and to maximise the opportunities for NNL/NG to generate positive social outcomes.

FIGURE 2 - Selected key resources on technical implementation of impact mitigation

Key resources on technical implementation of biodiversity NNL through the mitigation hierarchy (purple), and related documentation concerning social impact mitigation through the ESIA process (blue). Full references are given at the end of the document.



2 ACHIEVING NO NET LOSS / NET GAIN FOR PEOPLE AND BIODIVERSITY

2.1 THE DESIRED SOCIAL OUTCOME FROM BIODIVERSITY NNL/NG

Development projects seeking biodiversity NNL/NG should achieve an outcome whereby:

People perceive the components of their wellbeing affected by biodiversity losses and gains to be at least as good as a result of the development project and associated biodiversity NNL/NG activities, than if the development had not been implemented.

This applies to people affected both by the development project and its biodiversity NNL/NG activities, including offsets, appropriately aggregated into groups. People’s perceptions of being no worse off should last for the lifespan of the project and the duration of associated mitigation measures.

This outcome aligns with the desire specified within other guidance, notably the BBOP Principles and Standard and the IFC Performance Standard Guidance Notes, to seek sustainable and equitable outcomes from biodiversity NNL/NG. It also advances practice - firstly by emphasising the social aspects of biodiversity NNL/NG, and secondly by making explicit, and measurable, what the desired social outcome from NNL/NG is. Its key components are:

People

The approach should cover all people (individually or collectively) significantly affected, directly or indirectly, by losses and gains in biodiversity from a development project and its NNL/NG activities. Primarily, this means people within the area of influence of the project who experience a change in ecosystem service provision. Defining ‘significantly affected’ should be in accordance with a standardised impact assessment process, such as ESIA, which would be expected to involve transparent, culturally sensitive and participatory stakeholder consultation and engagement.

Wellbeing

Social outcomes should be measured in terms of changes to people’s wellbeing that are caused by losses and gains in biodiversity from a development project and its NNL/NG activities. Wellbeing is defined as a positive physical, social and mental state (see Technical Note B). A person’s wellbeing is based on their perceptions, expectations and aspirations and is, in part, subjective. Consequently, wellbeing assessments should be undertaken by an experienced social specialist who also incorporates an independent assessment of wellbeing.

Appropriately aggregated

Assessment of change in wellbeing can be undertaken at various scales, e.g. at the level of individuals, households, villages, specific interest groups (such as people with similar livelihood activities or gender), or a region. Wellbeing assessments should be undertaken for defined groups of affected people, and at a level where significant impacts are experienced.

Throughout the project's lifespan

The desired social outcome from biodiversity NNL/NG projects should be achieved continuously throughout the lifespan of a project and for as long as the biodiversity impacts from the development and associated mitigation measures endure. This is as opposed to the requirement being met only at some future point in time.

Compared to no development being implemented

The desired social outcome from biodiversity NNL/NG projects should be demonstrated by comparing the social outcomes from the development plus NNL/NG measures against a fixed baseline of current wellbeing, in most cases.

If wellbeing is expected to stay the same or decrease in the absence of development, this comparison leads to the project making people no worse off or potentially better off with respect to biodiversity. However, if the wellbeing of affected people is expected to improve in the absence of the development, social outcomes from NNL/NG should be evaluated against the hypothetical scenario in which there is 'no development' (i.e. the development and associated NNL/NG measures were never implemented⁷). If this is not done, then these improvements in wellbeing could be wrongly attributed to NNL/NG and people could in fact be worse off compared to how they would otherwise have been.

2.2 THE GOOD PRACTICE PRINCIPLES

The following principles encapsulate good practice for people when designing, implementing, maintaining and monitoring biodiversity NNL/NG for a development project. They underpin the desired social outcome from NNL/NG (see Section 2.1) and are grouped into three categories:

- **Conceptual:** theoretical and design considerations
- **Operational:** practical considerations
- **Institutional:** organisational and governance considerations

When applying these principles, it is assumed that all other social impacts of a development project (beyond those related to biodiversity NNL/NG) have been addressed in accordance with best practice. It is also assumed that technical principles for achieving NNL/NG of biodiversity have been followed. The principles here are to encourage biodiversity and social specialists involved in impact mitigation on development projects to collaborate more closely and meaningfully. These principles are not prescriptive, but rather provide a high-level framework that is intended to be applied proportionately according to the scale of the biodiversity NNL/NG project and its impact on people.

Conceptual

1. Measurement

Social outcomes from biodiversity NNL/NG are measured in terms of wellbeing.

Wellbeing includes material assets, health, social relations, security, and freedom of choice and action; as well as individual perceptions and expectations in relation to all of these (see Technical Note B). Individual components of wellbeing affected by biodiversity losses and gains should be measured separately rather than aggregated into a single number. A different measurement may be used if it is justified as being appropriate following engagement with affected people. But simple economic indicators, such as income, are not sufficient for measuring the social outcomes from biodiversity NNL/NG. Biodiversity losses may substantially impact people's future wellbeing without them necessarily being currently aware of it, e.g. habitat that provides flood regulation services. These potential impacts should also be included.

2. Spatial scale

The spatial scale for evaluating social outcomes from biodiversity NNL/NG is the area encompassing all people significantly affected by losses and gains in biodiversity from a development project and its NNL/NG activities. This is often referred to as the 'area of influence' of the project. Where mitigation includes biodiversity offsets, the area of influence may be discontinuous.

3. Timescale

Social outcomes from biodiversity NNL/NG are maintained continuously throughout the lifespan of the project (including operation, closure and any subsequent remediation) and for as long as the biodiversity impacts from the development and associated mitigation measures endure, including 'in perpetuity' where relevant.

This may require transitional mitigation measures while longer-term activities are realised.

4 Reference scenario

The appropriate reference scenario/s against which to evaluate social outcomes from biodiversity NNL/NG is, in most cases, a fixed baseline from before development commenced. The exception is when the affected people's

wellbeing is anticipated to improve in the absence of the development; in these cases the appropriate reference scenario/s are the hypothetical scenario/s if no development or associated biodiversity NNL/NG activities were to occur.

Fixed and dynamic reference scenarios can both be used to evaluate social outcomes from biodiversity NNL/NG, depending on how people's wellbeing is expected to change over time whether or not the development project occurs. Constructing dynamic reference scenarios should incorporate predicted change in wellbeing from external data sources, such as independent social and economic forecasts, as well as from consultation with the affected people themselves. Scope should be retained for recalculation of dynamic baselines as the role of different ecosystem services in people's wellbeing shifts over time, in consultation with the affected people.

5. Additionality

Actions undertaken to generate positive social outcomes from biodiversity NNL/NG projects should demonstrably exceed existing obligations.

That is, the actions should not be something that would have occurred anyway according to the relevant reference scenario, such as the ongoing protection of a nature reserve for cultural and recreational services. Actions to compensate people can be out-of-kind i.e. relating to different components of, or contributors to, wellbeing than those components affected by NNL/NG - so long as the biodiversity NNL/NG goal is achieved and affected people consider that their wellbeing is at least as good as before the development and its NNL/NG.

Operational

6. Aggregation of affected people

The assessment of wellbeing outcomes from biodiversity NNL/NG should be undertaken for defined groups of people e.g. households, or groups by gender or wealth. However where social impacts are likely to be significant, person-by-person assessment may be required.

Measuring and assessing wellbeing outcomes for every individual is unlikely to be possible, so aggregation into groups should be based

on appropriate geographic, socio-economic and wellbeing groupings (e.g. household, age, gender, wealth, livelihood). The choice of aggregation unit should be transparently communicated and justified and should pay particular attention to vulnerable groups. This principle recognises that it is unlikely that every single relevant individual will consider their wellbeing to be at least as good as a result of NNL/NG, and that the choice of groups for aggregation is critical to ensuring that social outcomes from NNL/NG are equitable. Aggregated groups of people may have some overlap, which should be recognised to avoid double-counting.

7. People affected by losses and gains

People affected by losses and gains in biodiversity from a development project and its NNL/NG activities, directly or indirectly, should benefit from the compensation. These people should perceive the compensation (biodiversity offsets or otherwise) to be commensurate with the losses they incur.

Implementing this principle should incorporate relevant guidance and standards (e.g. IFC PS5 and IAIA's SIA principles) for adhering to the mitigation hierarchy and compensating for any residual impacts, and for maximising positive social outcomes where possible. Loss of access to any ecosystem services legitimately used by people (this may include traditional use even if not formally sanctioned) should be considered. Implementing this principle should also include that expert opinion is not the sole consideration by competent authorities in granting environmental and social licences for a development project. Rather, it should be demonstrated that people affected by biodiversity NNL/NG (defined into groups, principle #6) consider that the compensation is commensurate to the losses they incur. For a definition of competent authorities, **see Technical Note D.**

8. Aligning objectives

NNL/NG should be achieved for biodiversity while addressing any negative social impacts, such that achievement of one is not traded-off against the other.

Biodiversity and social outcomes from NNL/NG should be aligned as efficiently as possible, and

both should be achieved. Synergies should be identified and incorporated early, for example, by enhancing natural areas to realise both biodiversity gains and improved ecosystem service provision. Where appropriate, social outcomes from biodiversity NNL/NG for affected people should contribute towards wider societal goals such as poverty alleviation and improving health, for example, those captured by the UN Sustainable Development Goals.

9. Equity

Social outcomes from biodiversity NNL/NG should be equitable at the level of each aggregated group of affected people. These groups should perceive the outcomes to be equitable.

Equity is the fair or just treatment of individuals or groups (**see Technical Note C**). Implementing this principle should incorporate relevant guidance and standards, such as IAIA's SIA principles that equity is a fundamental element of impact assessment for development planning and that impacts on the worst-off members of society are a major consideration. Implementing this principle should also include that expert opinion is not the sole consideration by competent authorities in granting environmental and social licences for a development project. Rather, it should be demonstrated that people affected by biodiversity NNL/NG (defined into groups, principle #6) consider the social outcomes from NNL/NG to be equitable. For a definition of competent authorities, **see Technical Note D.**

10. Unacceptable impacts

Avoid adverse impacts on people's wellbeing from losses and gains in biodiversity that are deemed unacceptable by the people themselves and/or an appropriate and competent authority. It is not possible to compensate these impacts to achieve sustainable and equitable social outcomes from biodiversity NNL/NG.

There might be situations where people depend on access to biodiversity for cultural or livelihood reasons and losing that access is unacceptable to them. In such cases, a negotiated solution must be found, which may involve continued access, avoidance of the impact or free, prior, informed consent to the loss.

Institutional

11. Inclusive and meaningful stakeholder engagement

Stakeholders, including but not limited to the affected people, should be engaged early in the lifespan of the project, and throughout, in a participatory process by which social considerations are incorporated into biodiversity NNL/NG.

This includes consultation on the project's biodiversity NNL/NG design and application of the mitigation hierarchy, as well as on feasibility testing of the design and monitoring its implementation.

12. Collaboration between specialists

Social outcomes from biodiversity NNL/NG should be designed, implemented and monitored by suitably qualified and experienced specialists in social impact evaluation, in collaboration with the biodiversity specialists working on NNL/NG.

Social specialists should lead the integration of social considerations for biodiversity NNL/NG into measures implemented through social components of an impact assessment (e.g. ESIA), and alignment with broader development issues such as human rights.

13. Conflict resolution

A fair and transparent conflict-resolution process should be implemented when affected people disagree on optimal outcomes from biodiversity NNL/NG. This includes mechanisms for identifying and resolving grievances, and the appointment of an appropriate authority for mediation.

This process can build upon existing conflict-resolution and grievance resolution processes designed for the project or via, for example, ESIA or associated Environmental and Social Management System. However, some form of the process should continue post-construction and during operation.

14. Monitoring

Monitoring social outcomes from biodiversity NNL/NG (and vice-versa) should be undertaken regularly and on a participatory basis with stakeholders, to demonstrate that the desired social outcomes are achieved continuously

throughout the lifespan of the project. This monitoring should feed into adaptive management regimes to achieve the desired social outcomes when factors external to the project change. Outcomes experienced by affected people should be reported as part of a Biodiversity NNL/NG Management Plan (or related document).

Monitoring requirements should be budgeted for at the start of the project and could where feasible be linked to financial incentives at the project level, such as withholding of project finance until monitoring data are submitted, or the individual level, such as performance-based payments where managers are paid once biodiversity NNL/NG and the associated social outcomes can be demonstrated.

15. Validation

Social outcomes from biodiversity NNL/NG should be validated by a suitably qualified expert and/or independent third party.

Validation should take place over a similar timescale to monitoring (see principle #14), be reported as part of a Biodiversity NNL/NG Management Plan (or related document), incorporate participatory approaches for affected people, and feed into adaptive management regimes.

16. Transparency

Full transparency should be maintained throughout the lifespan of the project (including operation, closure and any subsequent remediation) with respect to the measurement, design, implementation, monitoring and long-term reporting of social outcomes from biodiversity NNL/NG.

Transparency requires information to be readily accessible to the public on a timely basis (i.e. not just at the end of a project) and should include full details of all evidence used to demonstrate that the desired social outcomes are achieved.

2.3 CASE STUDY EXAMPLES

The following case studies are all fictitious and intended to illustrate how the principles can be applied in practice.

Applying the principles: rural case study from a low income country

Scenario

An area of native forest has been cleared for the construction of an open-ended mining project. In keeping with the application of the mitigation hierarchy to biodiversity impacts, (i) development design has been modified to **avoid** loss of forest habitat wherever possible, (ii) strict rules have been put in place to prohibit mining company trucks from transporting bushmeat to **minimise** wildlife impacts, and (iii) areas abandoned after extraction have been replanted (**remediation**). Nonetheless, a small area of forest will remain cleared as a result of the mine development. To **offset** the loss of this area of forest and complete the NNL biodiversity strategy, the developer has proposed to clear invasive alien trees in the buffer zones of a nearby forest reserve, replant with native trees to stimulate forest habitat expansion, and protect the newly expanded area of forest until the native trees have regrown. This proposal was based on a participatory approach to identifying potential activities with local stakeholders.

Social impacts identified

Two of the social issues identified by baseline research will be discussed here. This research used participatory methods to identify affected groups and understand the main components of their wellbeing potentially impacted by creation of the offset for the development. Firstly, the biodiversity offset will restrict access to the forest buffer zone previously used, legally, by local people for recreational hunting purposes. Secondly, the alien trees in the buffer zone are a valued resource collected for firewood, and preferred for that purpose to native trees. The relevant social groups identified as significantly impacted by the offset associated with the development were: recreational hunters (in this case who are typically relatively affluent men) and those collecting and using firewood (who are typically local female residents).

Conceptually

Impacts of both the infrastructure project and the activities in the forest buffer zone would be included in scope (principles #2, #3). Both social groups identified should end up ‘no worse off’ in terms of their wellbeing (#1), and offset activities would need to begin before or at the same time as the construction of the infrastructure project (#3, #4).

Practically

For the sake of evaluating social outcomes from the combined offset and development, affected people could be aggregated into affluent hunters, and local female residents (#6).

Following consultation, an agreed plan for minimizing social impacts involved:

- (1) working with the hunters to deliver tenure rights (currently held by the mining company) over another area of forest where they are keen to hunt, combined with the development of an agreed community-based sustainable management plan for the area (#10, #11);
- (2) leaving sufficient stands of aliens trees in some areas of the buffer zone for a transitional period, while working with fuelwood collectors to develop woodlots nearer their homes and provide fuel-efficient stoves to reduce fuelwood needs (#7, #8). An issue for consideration would be the time taken for planted trees to mature, and how this would factor into the project’s timescales (#3).

Institutionally

Annual reports on progress with the removal of alien trees and restoration of the forest buffer zones could be published openly online and through an official national registry (#14, #16). A condition for receipt of a financial bonus on the part of the manager of the infrastructure project might be that they report consistently at an adequate standard for a minimum ten-year period (#14). An international certification organisation or research institution might be asked to provide independent validation of community perceptions of the wellbeing impacts of the project, as well as progress towards restoration of the forest buffer and provision of alternative fuelwood and energy-efficient stoves (#15).

Applying the principles: rural case study in an industrialised country

Scenario

An underground oil pipeline is being upgraded to increase flow capacity. The pipeline passes through a National Park, and upgrading it will mean temporary excavation and construction activities. In keeping with the application of the mitigation hierarchy to biodiversity impacts, (i) the pipeline upgrade has been designed to **avoid** activities in the Park wherever possible, (ii) construction has taken place in the winter when the most vulnerable components of biodiversity are absent or dormant to **minimise** disturbance to wildlife, and (iii) the pipeline footprint has been **remediated** through replanting of native vegetation. To **offset** temporary grassland habitat clearance, the developer has proposed to carry out equivalent habitat restoration measures elsewhere in the Park. These proposals were based on a participatory approach to identifying potential activities with local stakeholders.

Social impacts identified

Despite the proposed mitigation measures, Park residents and the conservation officers working in the Park perceive the upgrade to (i) substantially reduce the natural appeal of the area (a subjective assessment), and (ii) present a risk of more severe oil spills in ecologically sensitive parts of the Park.

Conceptually

Even though the direct habitat impacts of the pipeline project have been offset, there is a residual impact on the perceived wellbeing (principle #1) of those living near and working within the Park (#2), which is associated with the outcomes from the biodiversity NNL strategy. Further, these affected people consider the likelihood of oil spills over coming decades (#3) to have been substantially increased by the project, whether or not this is the case (#4).

Practically

The affected people could in this case be aggregated into residents, local NGOs and Park employees (#6). Though synergies in implementation of mitigation measures should be maximised (#8), in this case additional measures could be necessary to satisfy these three groups. For example the developer, in consultation with local NGOs and to allay concerns about the impact of spills, might implement additional wetland restoration measures for ecologically impoverished parts of the Park, to increase aquatic connectivity

for native fish and increase the resilience of the ecosystem to future shocks (note that this would represent an out-of-kind trade, which we consider acceptable within the framework of the good practice principles). Within the aggregated groups there may be some individuals who still consider the approach unacceptable (#10), but the stakeholder engagement should be properly implemented so as to establish what is considered acceptable across each aggregated group as a whole. Note that the precise process for determining agreement about what is ‘acceptable across an aggregated group’ would need to be context-specific (e.g. using majority rule, or an independent arbitrator), but crucially should always be open and transparent. Further, the need for an independent and competent authority to determine which impacts should be considered acceptable or otherwise, on the basis of consultation, should be clear (#10).

Institutionally

Annual reports on progress with grassland and wetland restoration measures might be published openly online and via the developer’s corporate site (#14, #16). An academic group might be asked to provide independent validation of regional perceptions of the outcomes from the project and associated mitigation measures after a decade of operation (#15).

Applying the principles: urban case study in an industrialised country

Scenario

A railway station is being expanded to increase train connections between major cities. The station is in a city centre, and its expansion will destroy a public park. This loss is considered **unavoidable** because otherwise businesses, residential homes and shops would be demolished. The park has limited biodiversity value, containing grassy areas lined by trees that are occasionally used by nesting birds. To **mitigate** for the loss of nesting bird habitat, the commissioning agency instructs the designer to include nesting opportunities in the station design, in ways that do not conflict with operational or safety requirements. The agency also mandates that loss of the park’s biodiversity is **offset** by measurable enhancements of similar habitats in other public parks. There are no other parks nearby, so the offset is within a park 5km away. Given the park’s limited biodiversity value, the national consenting authority accepts the designer’s assessment that the nesting bird mitigation plus offset will achieve an overall NNL of biodiversity.

Social impacts

While the design is predicted to achieve NNL, it causes a net loss in green space because biodiversity loss was offset by enhancing existing habitat. This affects the local council’s target to increase habitat cover within the city to benefit both wildlife and people. In addition, people benefitting from the biodiversity offset are not the same as those losing ‘their park’. In recognition of these social impacts, the commissioning agency instructs the designer to address the social impacts using the good practice principles.

Addressing social impacts

To address the loss of habitat cover within the city, the commissioning agency funds the conversion of disused industrial areas on city outskirts into new public parks. To understand the impacts on people using the park to be lost, the designer’s biodiversity and social team (#12) assess and measure people’s wellbeing associated with the park (#1). They find that the park is well-used and loved by different groups (#6): office workers meet colleagues for lunch; residents use the park for recreation including

the children’s play area; the school undertakes educational activities there; a runners group include the park in their circuits; and the local council run a volunteer group to maintain the park, which is a valuable social interaction for the volunteers. The team then assess what would happen if the station expansion did not occur, using local development plans and forecasts on economic growth and population density (#4). This shows that the park is protected from development, but housing density around it will increase. While this will likely increase use of the park (and require additional resources for the park’s upkeep), the park’s positive effect on people’s wellbeing is not expected to diminish. So the team work with engineers and contractors, and people directly affected by loss of the park (#11), to develop compensation measures that exceed existing obligations (#5):

- **Design of the station expansion**
Changing the design to retain space for small grassy areas lined by trees for the public’s use; substantially increasing green infrastructure features including green walls, trees and wildflower borders along public paths.
- **Before construction starts**
Expanding the project footprint to convert disused shops and offices into a new community

space with a children’s play area; improving existing routes for runners within the locality via safety measures, signage and planting urban trees; creating a wildlife garden for the school within its grounds; lining streets of nearby residential areas with flower beds and trees.

- **During construction**
For the school - giving presentations on the station expansion design and construction, supporting STEM activities (science; technology; engineering and mathematics) and offering internships for older children. For nearby residents - offering work experience and apprenticeships. On site - using temporary green walls to fence off construction areas from the public.
- **After construction, during operation**
Installing educational signage about the station’s green infrastructure; funding equipment for the park’s volunteer group to be involved with maintenance of the green infrastructure features.

The people affected by the loss of the park were engaged throughout the design process, and considered that the variety and - more importantly - early implementation of compensation measures was sufficient.



2.4 ALIGNING BIODIVERSITY NNL/NG WITH SOCIAL OUTCOMES

There are well-recognised challenges to achieving biodiversity NNL/NG⁸. Some of these are relevant when applying the social good practice principles in this document. However, there are differences including those illustrated in Table 1.

A key difference is the concept of ‘out-of-kind’ compensation, and what should be considered as ‘trading up’ in social terms. Out-of-kind compensation is sometimes acceptable for biodiversity NNL/NG, such as when losses to a common and unthreatened habitat are offset by gains in conservation priority habitats. However the compensation always has to relate to biodiversity.

For people, social gains received as compensation could relate to different (out-of-kind) and more highly-valued biodiversity components than those which are lost. Or they could relate to different, non-biodiversity-related components of wellbeing, for example the affected groups could prefer investment in their local school or in small enterprises. **In both cases, out-of-kind compensation for people should only be considered when the people affected by the loss consider that their wellbeing remains at least as good as if the development project and biodiversity NNL activities had not occurred, and the biodiversity NNL/NG objective is still achieved.**



TABLE 1

Key challenges associated with achieving biodiversity NNL/NG and parallels challenges in terms of the social aspects of biodiversity NNL/NG.

FACTOR	BIODIVERSITY NNL/NG	SOCIAL OUTCOMES FROM BIODIVERSITY NNL/NG
Measurement	Choose from a wide range of possible metrics to generate proxy values for the relative biodiversity value of a place before and after the development and associated activities under the mitigation hierarchy.	Measure wellbeing as related to biodiversity. This requires accounting for both subjective and objective components (Technical Note B). Standard simple indicators, such as household income, are not sufficient but should be incorporated.
Reference scenario	Evaluate against a defensible reference scenario. This may be a dynamic reference scenario (e.g. ‘no development and no offset’), but in practice is very often a fixed baseline (which is a static reference scenario).	Evaluate against a fixed baseline in most cases – unless the wellbeing of affected people would be expected to improve without the development. In the latter case, the wellbeing of affected people should improve at the same rate as if there were no development.
Equivalence	In some cases, out-of-kind compensatory actions can be appropriate provided they entail ‘trading up’.	Compensation may differ from the losses - so long as affected groups consider that their wellbeing is at least as good as if the development project and biodiversity NNL activities had not occurred (and biodiversity NNL is still achieved).
Longevity	Biodiversity NNL/NG should be achieved for at least as long as the associated development impacts that are being mitigated.	The component of wellbeing associated with biodiversity NNL/NG should be maintained (or enhanced) for at least as long as the associated development impacts that are being mitigated.
Time Lag	Time lags between impacts on biodiversity and the realisation of compensation measures should be limited as far as possible, with NNL/NG activities implemented before biodiversity loss from the development where possible. Technical solutions to help address time lags that do occur (e.g. multipliers) are available, but not always appropriate	Since perceptions of wellbeing are not fixed in time, expectations should be managed such that the wellbeing of affected people is not diminished during the project lifetime. That is, time lags should be avoided, which might require transitional activities to overcome short-term time lags while longer-term activities are realised.
Uncertainty	Incorporate consideration of relevant uncertainties, in e.g. measurement of biodiversity losses and gains, ecological restoration outcomes and associated timescales.	Incorporate consideration of relevant uncertainties, in e.g. subjective assessments of personal wellbeing, quantification of relational components of wellbeing.
Reversibility	Biodiversity losses should be reversible in principle (e.g. through remediation).	Social losses should be reversible in principle (e.g. through re-establishment of ecosystem service provision).
Thresholds	Certain biodiversity impacts cannot be offset to achieve NNL/NG (e.g. species extinction is an extreme example).	Certain social impacts cannot be compensated for to achieve sustainable and equitable social outcomes from biodiversity NNL/NG (e.g. loss of irreplaceable cultural sites, loss of natural life-support systems).
Additionality	Biodiversity NNL/NG activities, which are designed to deliver gains, achieve conservation outcomes that would not have occurred otherwise.	Measures to improve wellbeing, so as to counteract losses in wellbeing associated with biodiversity NNL/NG, should demonstrably exceed existing obligations and plans.

3 NEXT STEPS

This document is to encourage joint-working on biodiversity NNL/NG projects between biodiversity and social specialists, throughout the lifespan of the development project from scoping and feasibility through to project design, construction, operation, decommissioning and post-development monitoring.

The good practice principles reflect policy guidance, practitioner experience and the academic literature on delivering sustainable and equitable social outcomes from biodiversity NNL/NG. They provide a framework for all parties involved with biodiversity NNL/NG to follow at the project level.

The principles are broad by necessity so that they apply to wide-ranging industries at the international level. To build on these principles, future work should include:

- Reviewing practical application of the principles so that they are refined and updated;
- Producing practitioner guidance for specific industry sectors and specific countries;
- The collation of case studies to share lessons learnt;
- Consideration of how cumulative impacts of many developments within one landscape should be accounted for.

There is also a need to incorporate social considerations into biodiversity NNL/NG at the policy level, especially to make explicit social and cultural aspects of biodiversity so that these are accounted for within policy decision-making.

While these principles are the result of extensive consultation, they need to be tested in practice and are likely to need to be further refined in response to practical application.

The authors strongly encourage feedback. Please contact us if you are interested in taking part in formal pilot application of the principles in your project.

The good practice principles reflect policy guidance, practitioner experience and the academic literature on delivering sustainable and equitable social outcomes from biodiversity NNL/NG.

GLOSSARY OF TERMS

A

Affected people

Persons who: live nearby; will hear, see, feel, or smell the proposed project; are forced to relocate either voluntarily or involuntarily; have an interest in the project or policy changes (whether or not they live in primary or secondary zones of influence); are interested in the potentially impacted resources; might normally use the land affected; could be affected by the influx of seasonal, temporary, or permanent residents associated with the project.

Area of influence

The landscape in the vicinity of the project containing people likely to be significantly affected by project activities. This includes the project itself, unplanned but predictable developments caused by the project, and other developments that would not have been constructed or expanded if the project did not exist and without which the project would not be viable.

B

Baseline

The conditions that would pertain in the absence of the proposed project at the time that the project would be constructed / operated / decommissioned.

Biodiversity

The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems (Convention on Biological Diversity).

Biodiversity offset

Conservation interventions that (1) provide additional substitution or replacement for unavoidable negative impacts of human activity on biodiversity, (2) involve measurable, comparable biodiversity losses and gains, and (3) therefore enable the project as a whole to demonstrably achieve, as a minimum, no net loss of biodiversity.

C

Compensation

In order to distinguish ‘compensation’ from ‘biodiversity offsets’ (see above). Compensation here involves recompense for some loss of or damages to biodiversity, and associated services. But compensation may fall short of full recompense (i.e. not meet the No Net Loss objective) and might be financial (which is typically to be avoided as part of a biodiversity offset).

Competent authority

In SIA/EIA terms, any person or organisation who has the legally-delegated or invested authority, capacity or power to grant an environmental licence for a development project to proceed (see [Technical Note D](#) for more details).

D

Development project

The process of converting land or water to a new purpose, by constructing infrastructure, or by making use of the natural resources contained therein. As the activities have start and end dates, the term ‘project’ is applied.

E

Ecosystem services

The contributions that ecosystems make to human wellbeing. They are seen as arising from the interaction of biotic and abiotic processes, and refer specifically to the ‘final’ outputs or products from ecological systems. That is, the things directly consumed or used by people. Following common usage, the classification recognises these outputs to be provisioning, regulating and cultural services, but it does not cover the so-called ‘supporting services’ originally defined in the Millennium Ecosystem Assessment.

Environmental and Social Impact Assessment

A formal process used to predict the likely environmental and social consequences (positive or negative) of a plan, policy or project, usually undertaken as part of a regulatory environmental licensing procedure.

Equity

Fair or just treatment of individuals or groups (see [Technical Note C](#) for more details).

G

Good practice

Practice considered to be appropriate and expected, i.e. conventional rather than cutting edge. In contrast, best practice can be defined as leading practice, which is good to advocate for but cannot be expected in all circumstances.

M

Mitigation hierarchy

Avoid, Minimise, Remediate, Offset. Predicted biodiversity impacts on projects subject to a No Net Loss requirement should first be avoided through design, then minimised in implementation, then remediated where possible and, finally, any residual impacts compensated for via offsets.

N

Net Gain

(also referred to as **Net Positive Impact; NPI**)

A target for a development project in which the impacts on biodiversity caused by the project are outweighed and exceeded by measures taken to avoid and minimise the project’s impacts, to undertake on-site remediation and finally to offset the residual impacts, so that no loss remains.

No Net Loss

A target for a development project in which the impacts on biodiversity caused by the project are balanced by measures taken to avoid and minimise the project’s impacts, to undertake on-site remediation and finally to offset the residual impacts, so that no loss remains. No net loss (or net gain) of biodiversity is a policy goal in several countries, and is also the goal of voluntary biodiversity offsets.

S

Significant impact

In the context of ESIA’s, significant impacts are impacts that are unacceptable in the environmental and social context of a development project. Significance assessments should define clear, unambiguous criteria for determining whether an impact is significant. Such criteria should be based on both physical characteristics (e.g. duration, frequency of an impact) as well as context-specific value characteristics (e.g. ecological and social values of the affected environmental feature).

W

Wellbeing

A positive physical, social and mental state (see [Technical Note B](#) for more details).

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TECHNICAL NOTES

TECHNICAL NOTE A:

Frequently asked questions

This note gives brief answers to the most frequently asked questions about this document, and provides references where readers can find more information.

Why consider people when seeking No Net Loss or Net Gain in biodiversity?

There are two main reasons:

- Firstly**, people use, depend on, and value biodiversity. So losses and gains in biodiversity from development projects can easily affect people. For example, people may lose a nature reserve where they enjoy bird-watching, or lose access to a forest where they collect firewood, medicine and other subsistence resources that they depend on. If these social impacts are not accounted for, development projects can have devastating consequences for people living nearby the development site and any biodiversity offset.
- Secondly**, seeking biodiversity NNL/NG can generate substantial benefits for people and a country's economy, such as improved air quality, increased pollination and better flood prevention. So not considering people is a missed opportunity. Chapter 1.3 describes various social impacts from biodiversity NNL/NG, and terms describing people's relationship with nature.

Aren't these social impacts already covered by Environmental and Social Impacts Assessments?

Not always. Often the biodiversity and social assessments of an ESIA are undertaken in isolation and miss these social impacts of a project's biodiversity-associated activities, including its NNL/NG measures. This document helps bridge that gap and, by doing so, make ESIA's more effective – as well as generating truly sustainable and beneficial outcomes for both biodiversity and people. [Chapter 1.5](#) illustrates the ecological and social guidance that exists and the gap between them that this document addresses.

Do people outweigh biodiversity?

No. This is about achieving biodiversity NNL/NG while **also** making sure that people

affected by NNL/NG are no worse off, or preferably better off in terms of their wellbeing. This can be done by aligning objectives for people and biodiversity. In practice, this means seeking win-wins, such as ensuring people can enjoy a new nature reserve without comprising the biodiversity objective. This also means recognising where one set of compensation measures is needed for biodiversity and another for people. For example, a development project seeks to achieve biodiversity NNL by removing non-native trees from a nature reserve. People living nearby were using the non-native trees for firewood and building materials, and preferred them over native trees for these purposes. A plot of non-native trees is created specifically for them, in addition to the biodiversity NNL measures. [Principle 8](#) describes good practice for aligning social and biodiversity objectives, ensuring that any trade-offs between the two are recognised and addressed.

This document contains social good practice principles for biodiversity NNL/NG, who are the principles for?

Anyone involved with development projects seeking NNL/NG of biodiversity, for example:

- Governments, financial institutions and commissioning agencies can stipulate adherence to the principles for their projects.
- Consenting authorities and auditors can use the principles to check good practice has been applied through a development project's lifespan.
- ESIA consultants can use the principles as a framework to follow and to demonstrate that good practice has been applied in design.
- Contractors and maintainers can use the principles to demonstrate good practice during the construction and operational stages.

While the principles are for development projects, they also show policy-makers what good practice looks like regarding social outcomes from biodiversity NNL/NG at the project level.

What's the business case for applying the principles?

Efficiencies in design and construction, a smoother transition through the consent process, and reduced risk to delivery of biodiversity NNL/NG - these are the main commercial advantages from applying the principles. [Chapter 1.4](#) describes many more reasons for applying the principles, including compliance, as many countries have incorporated social considerations into regulations on biodiversity NNL/NG. Also some financial institutions require their projects to address impacts on ecosystem service provision.

Are these principles just for major development projects?

No. A small development project can greatly affect people, both negatively and positively, through its impact on biodiversity. All development projects should apply the principles in proportion to the scale of the project, its impact on biodiversity, and the associated impact on people.

What outcome for people should biodiversity NNL/NG projects aim for?

International guidance calls for people to be no worse off, and preferably better off, from biodiversity NNL/NG projects. This document builds on that: [Chapter 2.1](#) defines a measurable social outcome that is more tangible for developers to work towards and demonstrate has been achieved – it is framed in terms of wellbeing.

How should outcomes for people be measured?

The desirable outcome for people is worded in terms of wellbeing ([Principle 1](#)). Wellbeing is a broad concept that encompasses material wellbeing, relationships with family and friends, emotional and physical health, security, and how one feels about one's community. [Technical Note B](#) provides more information on wellbeing and how to measure it. Where wellbeing is not mainstream within ESIA's, practitioners can use alternatives while adopting wellbeing. But alternatives should be demonstrated as appropriate following

engagement with affected people. It is not appropriate to rely solely on simple economic indicators that do not fully reflect people's quality of life.

Is assessing and measuring ecosystem service provision enough?

It's a good start, as ecosystem service assessments will help to understand the benefits people obtain from biodiversity, and what they lose if that biodiversity is damaged or removed for a development project. However, the benefits that people obtain from ecosystem services are affected by their social context and by their subjective perceptions of the value of these services to them, which are not captured in ecosystem service assessment. An assessment of the wellbeing associated with biodiversity gives a more holistic and realistic view of what people stand to gain or lose from NNL/NG activities.

Is measuring wellbeing for each person necessary?

It will often not be practical or feasible to measure wellbeing for each person. It's important to adopt a proportionate approach, where wellbeing is measured at the level where significant impacts occur, for example at the village level or by interest group. But this level must genuinely reflect significant impacts from NNL/NG on wellbeing, otherwise impacts that have devastating consequences could be missed, especially for poor, marginalised and vulnerable people. [Principle 6](#) describes the aggregation of wellbeing assessments, and [Principle 2](#) describes the spatial scale for evaluating social outcomes from biodiversity NNL/NG projects.

Will it cost more to apply these social principles for NNL/NG?

Development projects involving ESIA's will already be undertaking many activities associated with the principles. Together with early planning and budgeting, this ensures efficiencies when applying the principles throughout a project's lifespan. More importantly, applying the principles can reduce costs from a lengthy and complex consent process, or from protests about a development project.

Is this only about biodiversity offsetting?

No. [Chapter 1.2](#) describes the cornerstone of biodiversity NNL/NG - applying the mitigation hierarchy, taking each step in turn, focusing first and foremost on avoiding biodiversity loss (and associated impacts on people). NNL/NG can be achieved at any stage of the mitigation hierarchy, not just at the end. Only when all possibilities to avoid and then mitigate and remediate biodiversity loss have been considered, residual losses can be offset with measurable gains elsewhere, within or outside a development site. [Chapter 1.2](#) describes how the social principles apply to all stages of the mitigation hierarchy. They should be applied as early as possible in the project lifespan, and concurrently with the design, implementation, maintenance and monitoring of biodiversity NNL/NG.

What if people are using biodiversity illegally?

This is a difficult question and what is appropriate will depend on the local conditions. For example, if collection of medicinal plants has recently been made illegal, but local people have used them for many generations, compensation may be required if NNL/NG actions prevent people from using the plants. What is appropriate will also depend on whether the development project is adhering to any standards or requirements, such as IFC's PS5.

Development projects often include compensation measures for people, are these ok to use?

No. [Principle 5](#) makes clear that compensating people for losses from biodiversity NNL/NG should not be anything that would have occurred anyway, either by the development project or another intervention. Measures to compensate people for losses from biodiversity NNL/NG should clearly be distinguishable in their own right.

Who should evaluate claims of social good practice for biodiversity NNL/NG?

[Principle 15](#) describes that good practice should be validated by a suitably qualified expert and/or independent third party, over a similar timescale to monitoring (see [Principle 14](#)).

Sometimes people's values associated with a specific biodiversity feature cannot be replaced when that feature is lost, what happens in those situations?

Just as with biodiversity aspects of NNL/NG, there are thresholds to the social aspects. [Principle 10](#) describes these social thresholds and makes clear that, in those situations, it's not possible for compensation to achieve sustainable and equitable social outcomes from biodiversity NNL/NG.

TECHNICAL NOTE B:

Wellbeing and how to measure it

Wellbeing has been defined in the research literature as 'a positive physical, social and mental state'. Over the past decades, thinking about development and social progress has shifted away from a narrow unidimensional focus on poverty (e.g. income), to a more multi-dimensional holistic evaluation of the human condition, reflecting the importance of social, psychological and cultural needs required to thrive.

Successfully measuring wellbeing requires that both objective and subjective indicators be considered. This combines the objective circumstances of a person with their subjective evaluation of those circumstances. Objective indicators show tangible, observable changes (e.g. changes in material resources such as food, income and assets). Subjective indicators of wellbeing provide insight into people's feeling and experiences about the change (e.g. how people feel about their situation and quality of life), which ultimately influences their participation in and acceptance of development projects and NNL activities.

Several frameworks for measuring wellbeing have already been widely adopted, and which one is appropriate in a given situation should be decided in consultation with the social science experts who are carrying out the wellbeing assessment. A valuable review of the wellbeing frameworks which could be used for assessment of people's relationships to biodiversity and ecosystem services was published by Agarwala et al. (2014)¹.

In these Principles, we use the theoretical framework for wellbeing developed by Woodhouse et al. (2015)², because it was developed specifically for measuring wellbeing in respect to biodiversity and the environment. Under this framework, wellbeing has three interacting dimensions: objective/material, relational and subjective (Figure 3).

How to measure wellbeing

Below we briefly outline the main steps in carrying out wellbeing assessments. Good wellbeing assessments rely heavily on participatory methods and it is recommended that they be carried out by experienced

individuals during the ESIA/SIA process. de Lange et al. (2016)³ give more detailed guidance for practitioners on assessing the wellbeing impacts of conservation interventions.

Step 1: Define wellbeing indicators

Wellbeing is a social construct. The components of wellbeing which are important are likely to differ between groups of people, particularly socio-demographic groups. For example, women and men, or richer and poorer groups may prioritise different aspects of their wellbeing. Therefore a stakeholder profiling exercise is required as a first step.

People predicted to be impacted by a development project and associated NNL/NG activities need to have a strong voice in what constitutes an impact and in selecting the relevant wellbeing indicators⁴ to be used in the ESIA/SIA process. Indicators need to cover all the different aspects of wellbeing which local stakeholders consider likely to be impacted by a NNL/NG project (e.g. Figure 3). Focus groups can be a valuable way of identifying appropriate indicators.

Step 2: Understand people's relationship to biodiversity

Once locally appropriate indicators have been identified, these can be used to develop a survey with local stakeholders to be used in the SIA baseline assessment. The questions used in the survey will be used to establish how people feel about the role of biodiversity in their wellbeing. The results can also be used to decide on appropriate units for aggregation of assessment of the wellbeing impacts of biodiversity NNL/NG actions.

FIGURE 3

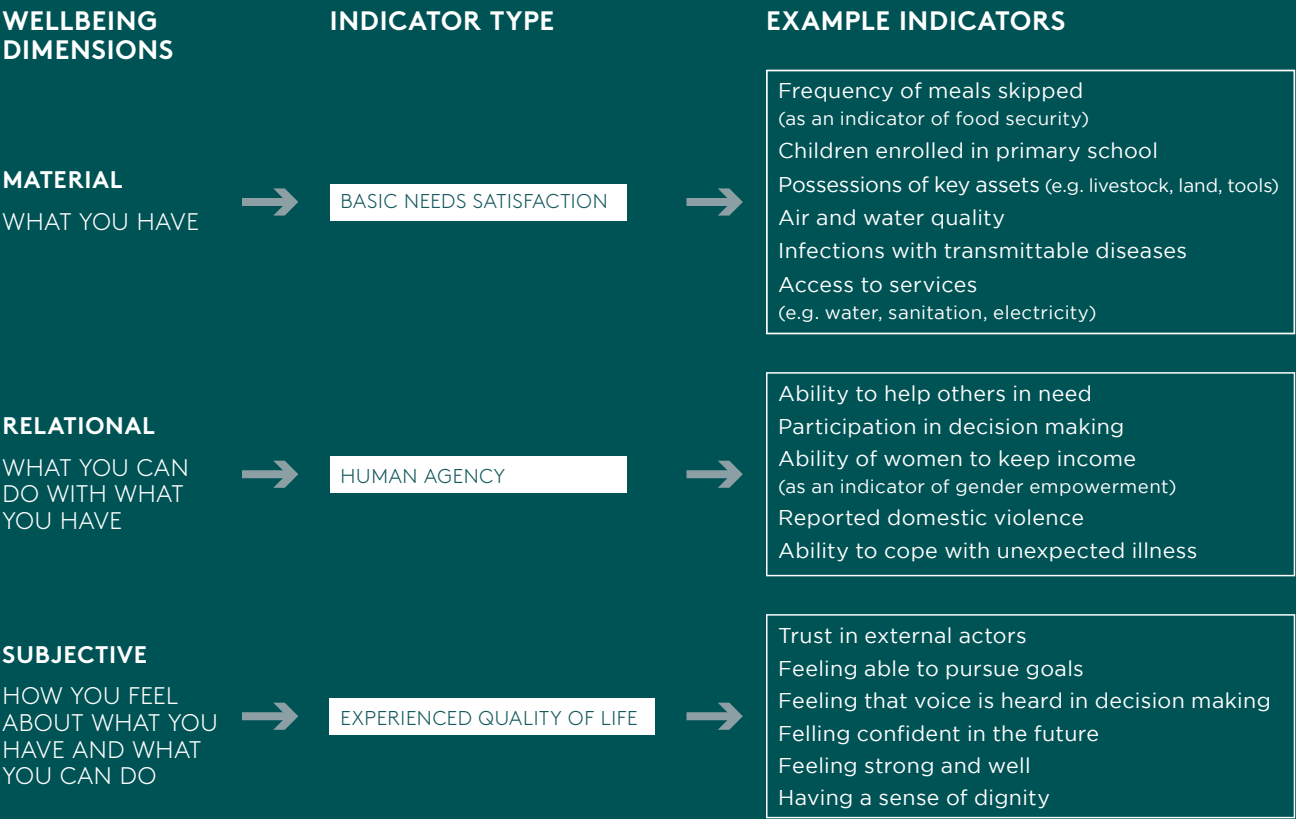


Figure 3: How different indicators of wellbeing map onto the different dimensions of wellbeing. The example indicators are to show which types of indicator relate to which dimension; actual indicators will be case-specific and should be developed in a participatory manner. **Source:** Woodhouse et al. (2016)⁵.

Step 3:
Explore how the project will affect wellbeing, and appropriate mitigation actions

Surveys and focus groups can be used to explore with affected people how the project will affect their wellbeing, and how these impacts can be managed so as to leave them no worse off in terms of their wellbeing.

Step 4:
Monitor and adapt

As the project progresses, steps 1-3 will need to be repeated, because the relationship between biodiversity and wellbeing will change as people's circumstances change. Although it may not be possible to revise an impact mitigation plan on a frequent basis, the capacity to adapt the plan as people's relationships to biodiversity change, and stakeholder groups change, should be built into the project.

References

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⁴ Rasolofoson, R. A., M. R. Nielsen, and J. P. Jones. 2018. The potential of the Global Person Generated Index for evaluating the perceived impacts of conservation interventions on subjective well-being. *World Development* 105:107-118.

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TECHNICAL NOTE C:

Components of environmental equity

Equity can be considered as the 'fair or just treatment of individuals or groups'. Not only is the concept of equity often an environmental policy aspiration, it is also a pragmatic consideration as achieving stakeholder equity can be instrumental to successful conservation outcomes¹.

- Equity is often thought of as having three key dimensions²:**
- Recognition: this is about acknowledging and respecting rights and the diversity of identities, knowledge systems, values and institutions of different actors.
 - Procedure: this is about participation of actors in decision making, transparency, accountability, and processes for dispute resolution.

- Distribution: this is about the allocation of benefits and costs across the set of actors, and, how the costs/burdens experienced by some actors are mitigated.
- It may be important to consider equity at a range of scales from the individual to the national/international, and in terms of the fairness in terms of how the actions of people around today affect the wellbeing of people in the future (intergenerational equity).

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² Franks, P., F. Booker, and D. Roe. 2018. Understanding and assessing equity in protected area conservation. *International Institute for Environment and Development (IIED)*, London, UK. Available at: <http://pubs.iied.org/14671IIED>

TECHNICAL NOTE D:

Defining the competent authority

The social principles for biodiversity NNL/NG refer to ‘an appropriate and competent authority’. As the principles draw on widely accepted international good practice for ESIAs and SIAs, for these principles the competent authority is defined as:

Any person or organisation who has the legally-delegated or invested authority, capacity or power to grant an environmental licence for a development project to proceed¹.

In this context, essentially the competent authority is responsible for granting an environmental licence for the development project based on findings of an impact assessment, which is often an EIA or ESIA.

The authority reviews environmental information (typically an impact assessment) to determine whether the proposed development project, with mitigation measures, complies with legal requirements for the environment, such as legal protection for wildlife and sites. The competent authority also determines whether conditions are required as part of the consent, and would specify the stage of the project lifespan when the conditions need to be discharged (e.g. at design, construction or operational stage).

It is vital that the competent authority is provided with all the information needed to assess and evaluate the likely environmental effects of a proposed development project. The information is often provided in the ESIA/SIA, meaning that the findings of these assessments are a material consideration in the consent process.

Country-specific definitions of competent authorities for the EIA process include:

UK

An organisation or individual who is responsible for determining an application for consent for a [development] project. The authority determines whether the mitigated project complies with legal requirements, meets national and local policy goals and objectives, and requires conditions or legal obligations attached to the consent².

European Commission

Those which Member States designate as responsible for performing duties that arise from the EIA Directive³.

References

¹ Vanclay, F., A. M. Esteves, I. Aucamp, and D. M. Franks. 2015. Social Impact Assessment: Guidance for assessing and managing the social impacts of projects. International Association for Impact Assessment, USA.

² CIEEM. 2018. Guidelines for Ecological Impact Assessment in the UK and Ireland. CIEEM, UK.

³ Raymond, K. and Coates, A. 2001. Guidance on EIA Review. Environmental Resouces Management, UK.