# How to ensure social outcomes in restoration

## Why do social outcomes matter — and how can restoration deliver meaningful benefits for people and nature?


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### Summary

Effective restoration projects must generate meaningful benefits for both nature and people. While ecological gains are often well-documented, social outcomes — such as livelihoods, governance, well-being, equity, and cultural identity — are still less consistently measured and integrated across restoration literature and practice. This brief outlines why social outcomes matter and how to ensure they are integrated into restoration efforts. It proposes an organization in five key social outcome areas, compares how major international frameworks incorporate principles that support each of these social dimensions, and presents tools and practical frameworks to support evaluation of social goals. Through this analysis, it aims to provide insights into effective strategies for ensuring that restoration efforts are both ecologically and socially sustainable.



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# Understanding social outcomes in ecosystem restoration

Given the urgency of the escalating climate and biodiversity crises, ecosystem restoration has emerged as a central response strategy — gaining momentum and political relevance worldwide. This momentum has sparked an unprecedented wave of international commitments, including the Bonn Challenge, large-scale national pledges, and United Nations' declaration of 2021–2030 as the Decade on Ecosystem Restoration. As a result, **restoration efforts are expanding in both scale and ambition, becoming a key pathway** to recover ecosystems, meet climate goals, and deliver broader sustainability outcomes.

However, effective restoration efforts go beyond ecological recovery — it also involves rebuilding the relationship between people and nature. **The long-term success of restoration efforts depends not only on restoring ecosystems and biodiversity, but also on delivering tangible social benefits to local communities**, as explicitly highlighted in the UN Decade on Ecosystem Restoration. When well-designed, restoration efforts can improve livelihoods, strengthen governance, promote equity, and enhance human well-being. These social outcomes are not secondary; they are essential for securing local support, fostering long-term stewardship, and ensuring that restoration benefits endure over time.

Ecological and social objectives are not mutually exclusive — in fact, their integration is key to long-term restoration success, as emphasized in the UN Decade on Ecosystem Restoration. In practice, **they can and should be pursued together to ensure social-ecological resilience.** For example, the concept of Nature's Contributions to People (NCP), developed by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), reflects this integrated view. NCP expands on the traditional concept of ecosystem services by explicitly recognizing the diverse ways in which people interact with and benefit from nature, including cultural, spiritual, and relational values. This perspective helps **frame restoration not only as an environmental imperative, but also as a social opportunity.**

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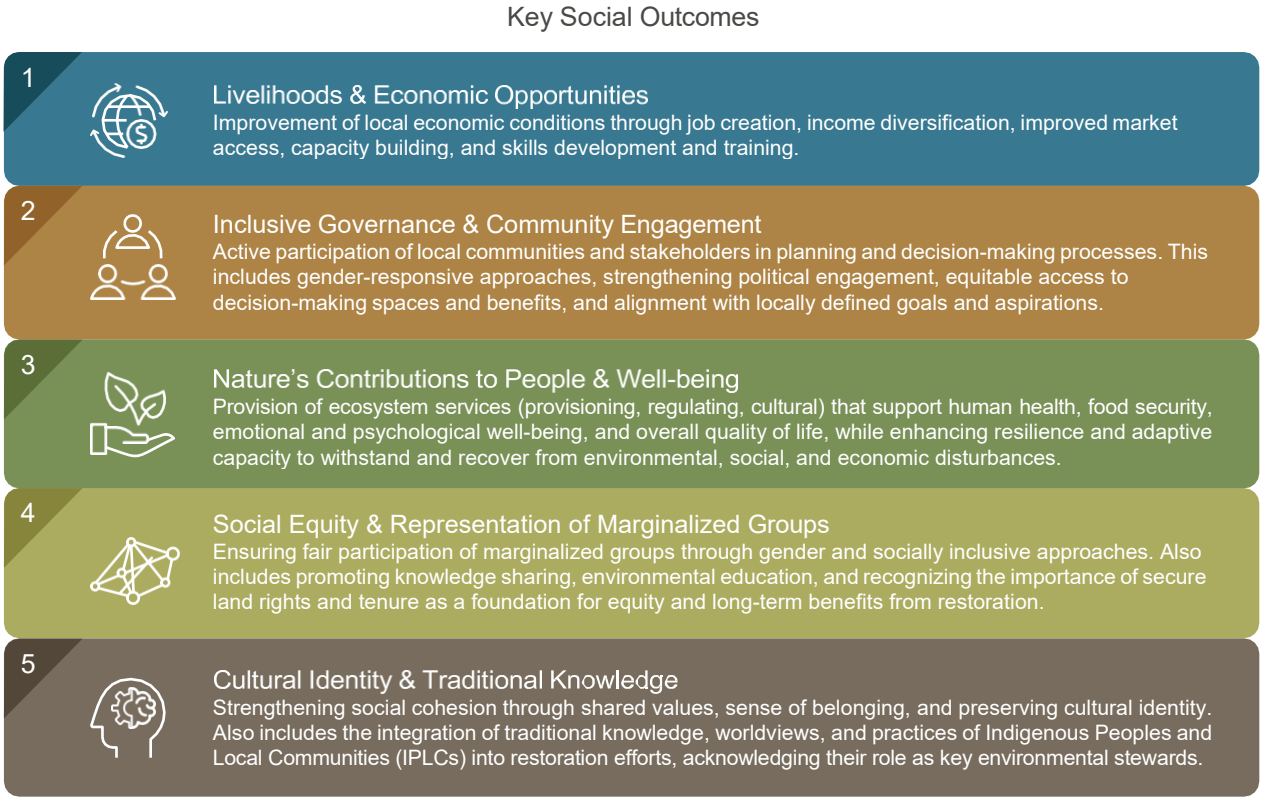
# Key social outcomes

Although restoration efforts have the potential to generate a wide range of social outcomes, these are still less consistently measured and integrated across restoration literature and practice. In this brief, we refer to 'social outcomes' as the resulting social changes — intended or unintended, positive or negative — that emerge from restoration processes. Desirable social outcomes in restoration go beyond material gains, encompassing how people engage with, benefit from, and shape restored landscapes. Drawing from key frameworks and literature, we synthesized **five major dimensions that emerge as desirable social outcomes in restoration efforts**. These groupings were informed by themes and outcomes identified in Adams et al. (2016), and conceptually expanded based on key guiding frameworks aligned with the UN Decade on Ecosystem Restoration (described below). The five dimensions are: 1) Livelihoods & Economic Opportunities, 2) Inclusive Governance & Community Engagement, 3) Nature's Contributions to People & Well-being, 4) Social Equity & Representation of Marginalized Groups, and 5) Cultural Identity & Traditional Knowledge. **These dimensions offer a structured lens for understanding the diverse ways restoration can affect social conditions and strengthen human–nature relationships**, contributing to broader societal goals. The figure below offers a brief overview of the types of outcomes encompassed by each of these five categories.




Key social achievements desirable in restoration projects. Source: Developed by the authors based on Adams et al. (2016) and key frameworks described below.

## The risks of overlooking social dimensions

When social dimensions are not properly integrated into restoration projects, efforts can unintentionally generate negative impacts on local communities. For example, insufficient recognition of social-ecological connections may result in risks such as displacement of marginalized communities, appropriation of land by external actors, local conflicts over land use, and unintended spillover effects that shift environmental pressures elsewhere (Fischer et al. 2021). These outcomes often stem from mismanaged land use changes, unequal access to restored areas, or limited local influence over decision-making and benefit-sharing. Anticipating and addressing these risks is essential to avoid undermining the long-term success and legitimacy of restoration efforts. They underscore the importance of integrating social dimensions into project design to ensure restoration efforts are not only ecologically effective, but also socially just and inclusive.

# Frameworks with guiding principles for restoration projects

Given the need to scale up restoration efforts, there is a **growing demand for clear and consistent guidance to ensure effectiveness, sustainability, and social relevance**. Frameworks that establish guiding principles serve as essential tools to support the design, implementation, and evaluation of restoration initiatives. By establishing a common foundation, t**hese standards help align restoration actions with ecological and social goals**, clarify expectations, and promote good practices, supporting informed decision-making to achieve long-term, positive outcomes for both people and nature.

This section presents four widely adopted frameworks that provide guiding principles for restoration planning and implementation: (1) Principles for Ecosystem Restoration to Guide the United Nations Decade (2021–2030), (2) IUCN Global Standard for Nature-based Solutions (2020), (3) International Principles and Standards for the Practice of Ecological Restoration (2019), and (4) Standards of Practice to Guide Ecosystem Restoration (2022). Although each framework has its own structure and terminology, we apply a consistent vocabulary to support comparison and analysis. We refer to 'principles' as the broad, strategic commitments that define the overarching logic of restoration approaches. Some frameworks also include more detailed elements — which we refer to here as 'sub-principles' — that specify how these principles should be interpreted and applied in practice. This common structure allows for a clearer understanding of how different frameworks incorporate social dimensions into restoration. Together, the four frameworks outlined below represent widely recognized benchmarks for restoration, offering essential guidance to align practice with global sustainability, equity, and resilience goals.

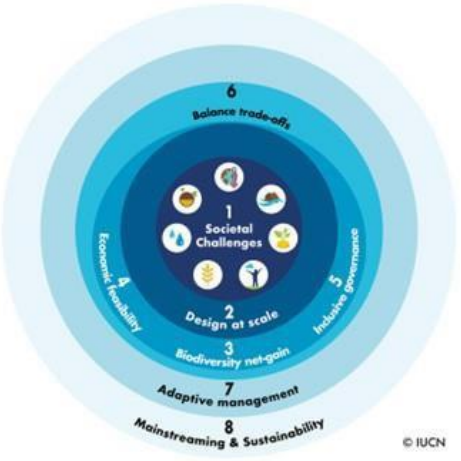
## Principles for Ecosystem Restoration to Guide the United Nations Decade (2021-2030)

Understanding the importance of restoring degraded lands, the United Nations declared 2021–2030 as the Decade on Ecosystem Restoration. To support its implementation and guide effective interventions, it presents a framework with ten foundational principles for planning and implementing restoration, based on multiple international standards, including some presented below. While broad and applicable across diverse contexts, nine out of ten principles explicitly emphasize the importance of promoting positive social outcomes — particularly through inclusive governance and community engagement. Thus, even in a high-level and globally scalable framework, the UN Decade places social equity and participation at the core of effective restoration.


FAO, IUCN, CEM & SER (2021)

## IUCN Global Standard for Nature-based Solutions (2020)

As a practical framework with 8 principles and 28 sub-principles, the IUCN Global Standard guides the design, implementation, and evaluation of NbS interventions that address societal challenges while delivering long-term benefits for people and nature. One of its key strengths lies in the emphasis on generating concomitant benefits to ensure interventions are environmentally sustainable, socially equitable and economically viable. By promoting participatory processes and adaptive management, the Standard supports a more just, sustainable, and scalable NbS, serving as a valuable tool for both practitioners and policymakers committed to integrating nature into sustainable development.




IUCN (2020)

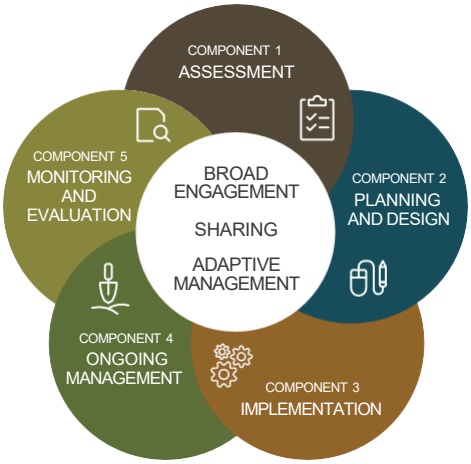
## International Principles and Standards for the Practice of Ecological Restoration

Developed by the Society for Ecological Restoration (SER), this framework offers a comprehensive foundation for designing and implementing ecological restoration projects. It articulates eight principles rooted in ecological science and practical experience, explicitly acknowledging the role of social dimensions in supporting sustainability goals, promoting inclusive processes, respect for socio-cultural contexts, and recognition of potential social risks and benefits. It introduces practical tools such as the Social Benefits Wheel (see below) to help projects monitor progress in areas like stakeholder engagement, equity, and benefit-sharing.


Gann et al. (2019)

## Standards of Practice to Guide Ecosystem Restoration

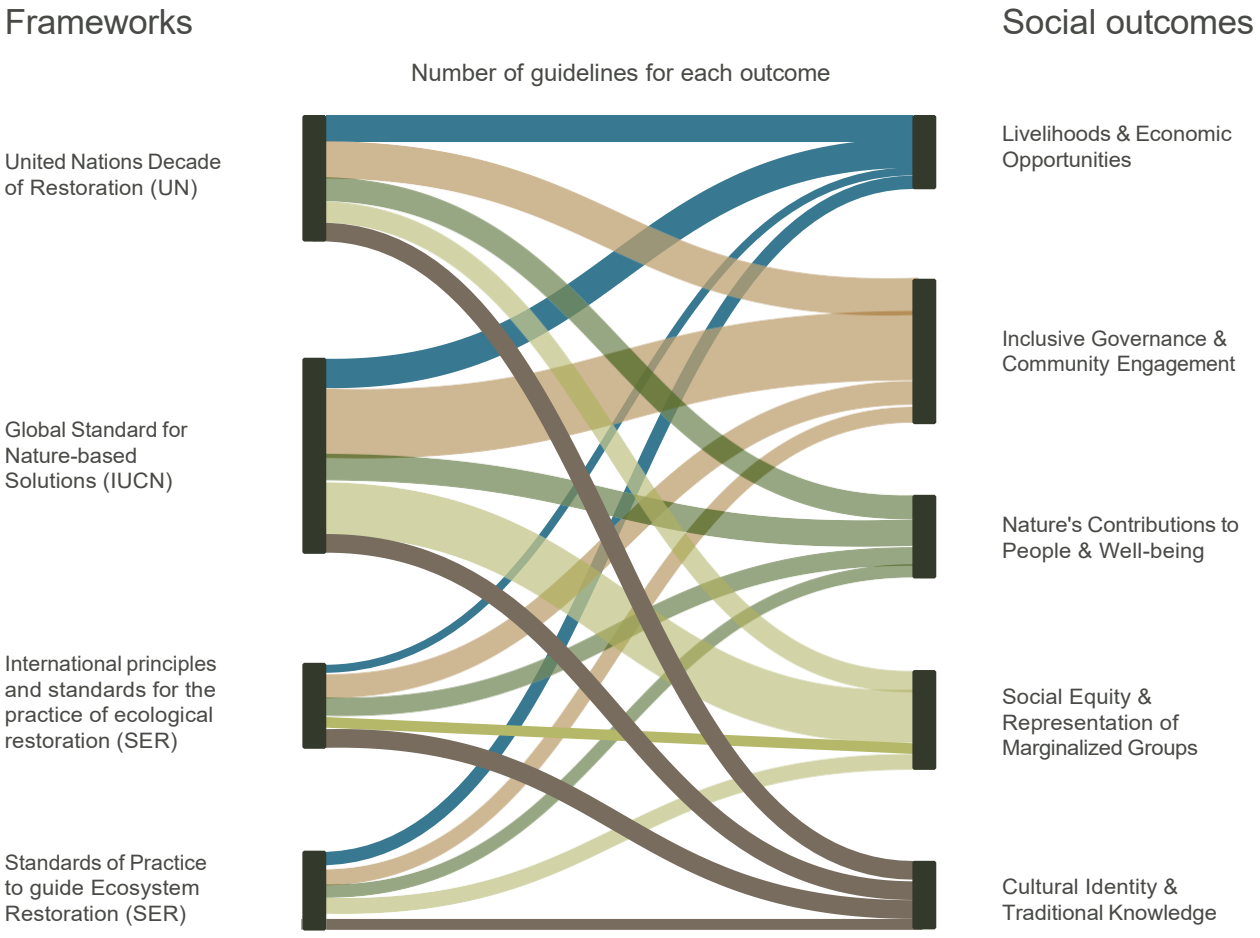
Designed to translate the principles of SER into actionable steps, the Standards of Practice — developed by FAO, SER, and IUCN CEM under the UN Decade on Ecosystem Restoration — provide a practical, field-oriented guide to support restoration practitioners. It is structured across five core components to guide project planning and implementation, including assessments, monitoring and adaptive management. While its primary focus is operational, it incorporates critical social considerations, including early engagement with local communities, respect for land tenure and community values. The standards offer a clear, actionable reference for integrating social elements into technical planning and day-to-day restoration activities.




FAO, SER & IUCN CEM (2023)

# How social outcomes are addressed across the frameworks

The four frameworks analyzed play a critical role in embedding social dimensions into restoration practice, as outlined in the figure below. **By articulating guiding principles that integrate people-centered considerations, they help ensure that restoration initiatives are not only ecologically sound, but also socially relevant and equitable.** This consistency reflects a growing consensus: restoration must deliver tangible benefits for people to be effective, legitimate, and sustainable.




Number of principles in each framework that account for each defined social outcome. Source: Developed by the authors.

**The figure illustrates how the principles and sub-principles of each framework correspond to the five desirable social outcomes**: Each outcome is represented by a different color. Each line indicates how many principles in a given framework address that specific outcome — thicker lines represent a higher number of related principles. The grey bars on the left (for frameworks) vary in size according to the total number of principles that address any of the five social outcomes. On the right, the size of each outcome bar reflects how broadly that topic is covered across all frameworks.

The figure reveals that all four frameworks incorporate principles related to each social outcome — yet the level of emphasis varies considerably across them. **Inclusive governance and community engagement emerges as the most consistently addressed theme** (i.e. thicker lines) — underscoring its fundamental role in building trust, ensuring local participation, and supporting long-term stewardship of restoration efforts for project success. Social equity and the representation of marginalized groups also receive notable attention, especially in the IUCN Global Standard for NbS. In contrast, outcomes related to livelihoods and economic opportunities, cultural identity and traditional knowledge, and even Nature's Contributions to People (NCP) and well-being are less prominently featured (i.e. thinner lines). The latter is particularly interesting given that most frameworks emphasize guidelines to

ensure ecological benefits, yet often without explicitly encouraging practitioners to plan for or quantify ecosystem services that directly enhance human well-being.

Among the frameworks, the IUCN Global Standard of NbS provides the highest number of guidelines on social dimensions (i.e. larger grey bar) — a valuable contribution for practitioners seeking operational clarity. It should be noted, however, that this standard includes 28 sub-principles overall, which naturally enables broader coverage compared to more high-level frameworks like the Principles for Ecosystem Restoration to Guide the United Nations Decade and the International Principles and Standards for the Practice of Ecological Restoration, each composed of 10 principles. The Standards of Practice to Guide Ecosystem Restoration, although offering fewer social guidelines (i.e. smaller grey bar), stands out for its practical application and specificity across all phases of restoration — from assessment to monitoring.

Altogether, these frameworks offer complementary strengths. **Practitioners can benefit from using them in combination: leveraging the strategic vision of broad frameworks, the operational guidance of more detailed standards, and the tools available for context-specific monitoring**. Doing so can help ensure that restoration efforts are socially inclusive, responsive to local realities, and equipped to generate lasting benefits for both people and nature.

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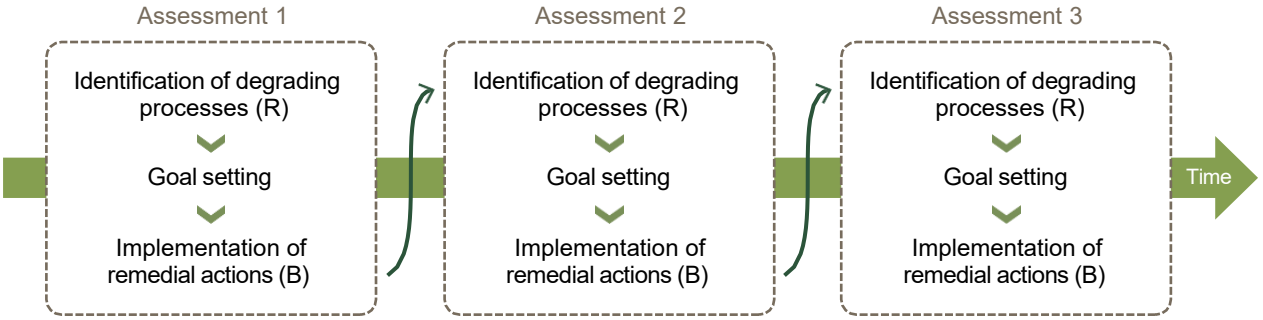
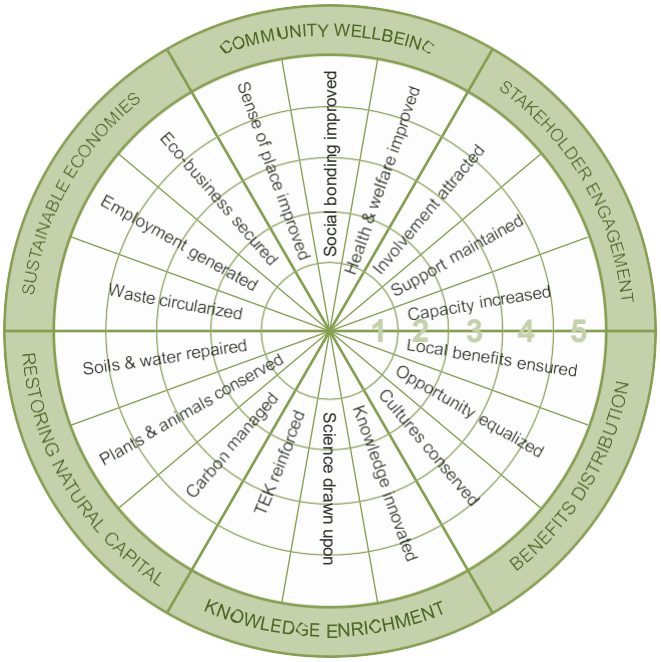
# Keeping track of restoration goals

While the frameworks presented above offer guiding principles for the planning and design of restoration projects, **it is equally important to recognize that restoration goals may shift over time in response to changing needs, values, and ecological or social conditions**. Frietsch et al. (2024) propose the 'social–ecological ladder of restoration ambition' as a conceptual tool to support dynamically shifting social and ecological restoration goals. The model outlines three key elements — identifying degrading processes (drivers for the need of restoration), setting restoration goals (ecological and social objectives), and implementing remedial actions (restoration interventions) — and **highlights the need to reassess and adjust over time**. The ladder offers a valuable perspective for understanding how both social and ecological ambitions can evolve throughout the restoration process, promoting adaptive management approaches and supporting decision-making.




The steps in the social–ecological ladder of restoration ambition. Source: Frietsch et al. (2024).

To support this adaptive perspective, visual tools can help keep track of the social outcomes of restoration over time. The **Social Benefits Wheel**, presented within the *'International principles and standards for the practice of ecological restoration'* framework (Gann et al. 2019), is a radial scorecard **designed to assess how well a restoration project is meeting its social development goals**. Each segment of the wheel represents a key social dimension — such as stakeholder engagement, benefit distribution, knowledge sharing, and community wellbeing — with a star-based scale from one to five indicating the degree of progress. These levels are defined by concrete milestones, which can be adapted to the context and objectives of each project. **The wheel serves as a useful tool at different stages of project design and implementation to monitor progress, identify strengths and gaps, and guide adaptive management**. As such, it complements ecological monitoring tools by offering a structured yet flexible approach to evaluate and enhance the social impacts of restoration.




Social Benefits Wheel. Source: Gann et al. (2019)

This five-star scoring approach allows practitioners to assess and visualize the current status and progress of each social dimension in their project, compare across sites or time periods, communicate achievements and identify priorities for improvement using the Social Benefits Wheel. The figure below presents an example of how the five-star scale can be applied to the dimension of stakeholder engagement (adapted from Gann et al. 2019).

## Stakeholder engagement

1 to 5 star example of the Social Benefit Wheel


Five-star stakeholder engagement process within the Social Benefits Wheel. Source: Figure developed by the authors reflecting the stakeholder engagement ranks from Gann et al. 2019.

The stakeholder engagement model presented above offers a general example that can be adapted to the specific context of each restoration project. It is encouraged that practitioners tailor engagement milestones and expectations according to local conditions. For example, projects should explicitly define steps for the **active and ongoing involvement of Indigenous Peoples and Local Communities (IPLCs) as key stakeholders.** IPLCs often hold critical ecological knowledge, customary rights, and deep cultural connections to the land, and must be actively involved in decision-making and benefit-sharing processes from the outset to ensure restoration efforts are socially just and inclusive.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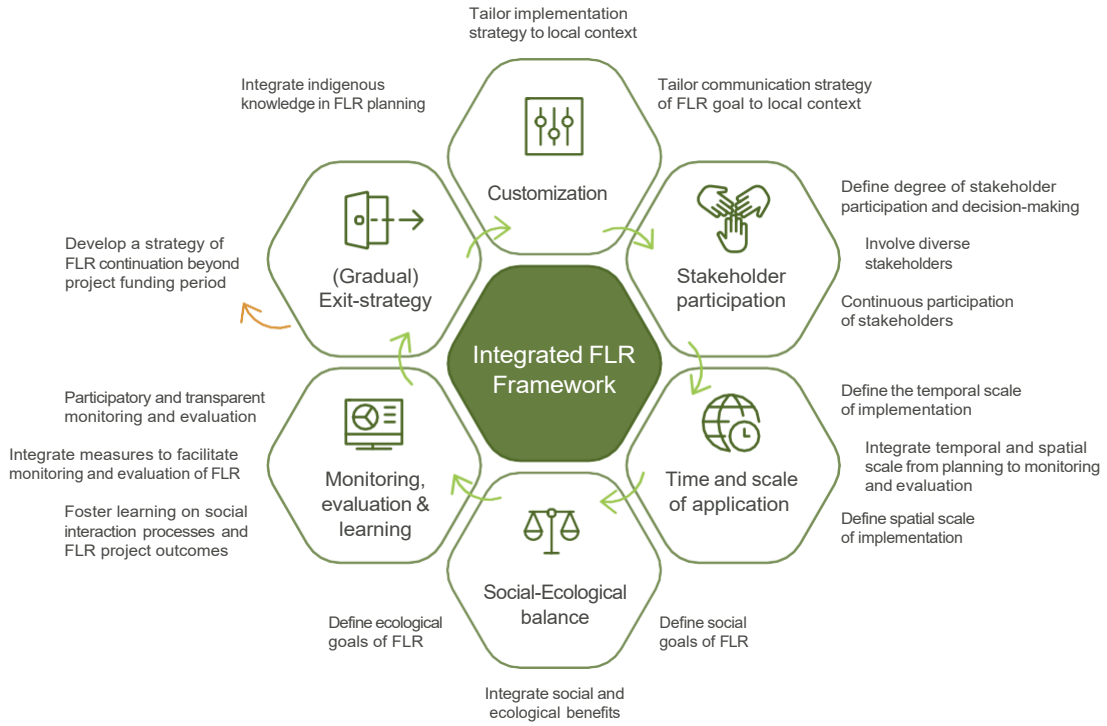
# Metrics for assessing social impact in restoration

While some social outcomes of restoration can be quantified through indicators (e.g., income levels or participation rates), many important aspects — such as cultural identity, empowerment, or social cohesion — are best captured through qualitative methods. Therefore, both quantitative and qualitative metrics are needed to fully understand social impacts. Selecting appropriate metrics to measure social impacts in restoration initiatives is essential but can be challenging due to their complexity and context-specific nature. There are numerous methods and metrics available, and **the choice of suitable metrics depends heavily on the specific context of each restoration project**, including its social, cultural, and ecological characteristics. Context-specificity significantly influences the appropriateness and effectiveness of social impact measurement tools.




In this context, Löhr et al. (2024) presents a **practical step-by-step integrated framework for social impact measurement in social-ecological assessments of forest landscape restoration**. This integrated framework addresses gaps identified across 22 previously developed frameworks, particularly the underrepresentation of socio-cultural values and recognition of the importance of context-specificity. The framework comprises six interlinked components: customization ensuring that projects are tailored considering context-specificities, active stakeholder participation, temporal and spatial scale considerations, maintaining social-ecological balance, robust monitoring, evaluation and learning processes, and an exit strategy to ensure perpetuity post-restoration. Furthermore, Löhr et al. provides a SWOT analysis of the 22 reviewed frameworks regarding principles like degree of stakeholder participation, adaptive management for resilience, and the generation of multiple benefits such as Nature's Contributions to People (NCP), **highlighting guidance over which frameworks are most effective to be applied across different spatial-temporal scales and restoration timeline stages**.

Complementing this, Smyth & Vanclay (2017) propose the **Social Framework for Projects — a tool specifically designed to support practitioners in assessing, planning, and managing the social dimensions** of large-scale projects in a tangible and participatory manner. While aligned with existing standards and practices of Social Impact Assessment (SIA), this framework provides a simplified yet comprehensive structure to identify and monitor social impacts. At its core is the enhancement of people's well-being, structured around eight socio-ecological categories: people's capacities and freedoms, social support and governance, culture and religion, livelihoods, infrastructure and services, housing and enterprises, the living environment and land and natural resources. These categories are accompanied by **practical examples of aspects to monitor, helping teams structure inclusive dialogues, map local values, and design meaningful indicators**. The framework has been used effectively to identify both risks and opportunities (positive and negative impacts) across all project stages, spatial and temporal scales, and serves as a practical entry point for integrating social dimensions in restoration planning and monitoring.


The Social Framework for Projects. Source: Smyth & Vanclay (2017)

**For practitioners seeking further specific examples of metrics and indicators**, Feor et al. (2023) conducted a systematic review, **identifying 72 well-established indicators for social impact measurement**. These indicators are designed to measure actual social impacts following restoration interventions, as post-intervention tools based on the theory of change. The authors also **provide practical recommendations to improve social impact measurement**, including involving stakeholders throughout the measurement process, making better use of existing data, building local capacity to improve measurements, and combining both qualitative and quantitative methods to quantify impacts. The review covers key considerations such as clearly defining impacts, selecting appropriate measurement tools, recognizing common challenges, and identifying strategies to enhance measurement quality. The findings and recommendations from Feor et al. offer **valuable insights for practitioners aiming to effectively quantify and demonstrate the social benefits of their restoration efforts**.

The following page provides a case-study to illustrate some social indicators used in the Atlantic Forest.

# Illustrative case study: quantifying social outcomes in the Atlantic Forest

Historically impacted by intense deforestation and habitat fragmentation, **Brazil's Atlantic Forest is a global biodiversity hotspot undergoing significant restoration efforts in the last decades**. Given its ecological importance, global conservation status, and scale of ongoing restoration projects, the Atlantic Forest serves as an ideal case study for understanding how social outcomes can be quantified alongside ecological recovery.

The **Atlantic Forest Restoration Pact (PACTO)** is a large-scale restoration initiative that has been instrumental in advancing restoration across the biome. Established in 2009, PACTO involves over 250 institutions committed to restoring 15 million hectares by 2050, including NGOs, private companies, governmental agencies, and research organizations. Since 2013, PACTO has adopted a **structured socio-economic monitoring protocol** developed through a collaborative, iterative process involving over 200 stakeholders and field-tested across multiple regions of the Atlantic Forest (Viani et al. 2017). This protocol consists of 7 socio-economic criteria with several indicators, including:

| Criteria | Example indicators |
|---|---|
| 1. Work and/or income from restoration areas | Generation of jobs and investment levels in the project |
| 2. Revenues and financial incentives from restoration | PES payments, tax incentives, timber/non-timber commercialization |
| 3. Source of resources for restoration | Investigation of resources invested in restoration |
| 4. Job opportunities, training, and services to communities | Hiring local labor, income generation |
| 5. Woker well-being in forest restoration | Health and safety compliance and benefits for workers |
| 6. Ensuring appropriate work safety conditions | Availability and use of personal protective equipment (PPE) |
| 7. Relationship with surrounding community | Community participation, environmental education activities |

More recently, several studies have refined and specified key social indicators for restoration in the Atlantic Forest, providing deeper insights to guide effective monitoring. For instance, Oliveira et al. (2021) analyzed **52 potential indicators** across six categories — physical, biodiversity, environmental services, ecological processes, economic, and social — and **identified the top ten most effective indicators** based on input from 48 expert stakeholders and practitioners from five sectors (universities, public agencies, research institutions, NGOs, and service providers). The study emphasized that social indicators, such as community acceptance and local participation, are especially critical during the early stages (2–3 years) of restoration, when local engagement and project legitimacy are established. In contrast, during later stages, indicators related to Nature's Contributions to People (NCP) and human well-being became more prominent, such as pollination, water regulation, and income from timber/non-timber products. This temporal shift highlights the **necessity of continuously adapting monitoring protocols to reflect evolving priorities throughout the restoration lifecycle**, reinforcing the importance of sustained integration between social and ecological outcomes.

Additionally, it is also possible to strengthen social outcomes using active approaches since project conception. For example, the **PACTO has also actively advanced gender-responsiveness within restoration monitoring and implementation in the Atlantic Forest.** Recognizing that restoration initiatives had historically been gender-blind, PACTO created a Gender Inclusion Working Group structured around **capacity building, communication, and political advocacy** (Siqueira et al. 2021). This group promoted gender-responsive restoration practices, resulting in tangible achievements such as the inclusion of a chapter on gender equity within the national policymaking report on restoration of the Brazilian Platform on Biodiversity and Ecosystem Services (national branch of IPBES), pioneering gender-responsive practices at the biggest restoration conference in Brazil (Society for Ecological Restoration conference), and advancing female leadership within the PACTO coalition. This initiative exemplifies how disseminating and integrating gender-responsive approaches into project conception and monitoring can enhance both social equity achievements and the effectiveness of restoration initiatives.

# Key Takeaways & Recommendations

Restoration that delivers long-term impact must prioritize both ecological and social outcomes. Integrating social dimensions is not only ethically necessary — it also strengthens project legitimacy, effectiveness, and resilience. Based on the analysis presented in this brief, the following recommendations aim to support restoration practitioners, funders, and decision-makers:

→ **Integrate social and ecological goals from the outset**, as emphasized in the UN Decade on Ecosystem Restoration (FAO, IUCN, CEM & SER 2021). Social outcomes are not secondary to ecological gains — they are mutually reinforcing and essential for long-term restoration success. Restoration should be a people-centered process that enhances both nature and human well-being. Without addressing these dimensions, projects risk failure due to lack of community support or unintended negative impacts.

→ **Recognize that ecological and social gains are not interchangeable.** Restoration projects should aim to maximize both ecological and social outcomes without assuming that progress in one domain can compensate for harm in the other. This distinction is critical to uphold environmental justice, legitimacy, and long-term support.

→ **Use guiding frameworks to support inclusive and effective planning.** International standards, such as those from SER, IUCN, and the UN Decade, provide valuable principles to guide socially responsible restoration. Each has strengths — consider combining their use to address multiple dimensions. These frameworks can help standardize assessments and improve accountability in restoration efforts.

→ **Recognize and plan for context-specificity.** The selection of appropriate social metrics, methods, and outcomes must reflect the social, cultural, and ecological conditions of each restoration project.

→ **Select social indicators aligned with project goals, phases, and restoration trajectories.** While individual restoration projects may last only a few years, they are often part of broader efforts that unfold over several decades — requiring long-term thinking in how social outcomes are planned and measured. The relevance of social metrics may shift across the restoration timeline. Early stages may prioritize community participation and legitimacy, while later stages may focus on long-term well-being and economic benefits.

→ **Adopt a dynamic approach to social values and objectives.** Restoration is a long-term process, often unfolding over decades. Social priorities, community values, and desired outcomes may evolve over time, making it essential to embed flexibility, participatory reflection, and adaptive strategies throughout the restoration journey.

→ **Apply practical tools to monitor and adapt social strategies.** Use resources like the Social Benefits Wheel and the 'social–ecological ladder of restoration ambition' to track progress, adjust strategies, and strengthen adaptive management over time.

→ **Use participatory frameworks to engage stakeholders.** Frameworks like the Social Framework for Projects (Smyth & Vanclay) and the integrated model by Löhr et al. emphasize the value of co-design, dialogue, and transparency to identify and mitigate social risks while amplifying benefits.

→ **Avoid unintended negative consequences.** Social risks such as displacement, exclusion, or loss of cultural identity must be proactively addressed through inclusive planning, governance and benefit-sharing mechanisms.

→ **Ensure active engagement of Indigenous Peoples and Local Communities (IPLCs).** Recognize IPLCs as key partners in restoration. Their participation is essential to ensure projects respect customary rights, draw on local ecological knowledge, and maintain cultural connections to the land. Practitioners should actively involve IPLCs from the earliest stages of planning through implementation and monitoring, embedding co-design and benefit-sharing mechanisms to achieve socially just and effective restoration.

→ **Ensure equity, inclusion, and social acceptability.** Restoration projects should actively promote equity, diversity, and inclusion across all stages — from planning to implementation and monitoring. This includes addressing the differentiated needs, values, and rights of diverse social groups (e.g., women, youth, ethnic minorities), and ensuring that restoration efforts are socially acceptable and aligned with local values, perceptions, and cultural norms. Recognizing and responding to these dimensions strengthens the social legitimacy and long-term success of restoration initiatives.

→ **Invest in local capacity and long-term learning.** Strengthen the ability of communities and project teams to co-develop, monitor, and learn from social outcomes — promoting equity, ownership, and sustainability in restoration efforts.

# Useful resources

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