Feasibility Study for a Peer Review of the Bonn Challenge

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List of Acronyms

AICPA – American Institute of Certified Public Accountants

APRM – African Peer Review Mechanism

CBD – Convention on Biological Diversity

CDM – Clean Development Mechanism

EPA - Environment Protection Agency

FLR – Forest Landscape Restoration

FSC – Forest Stewardship Council

GPFLR – Global Partnership on Forest and Landscape Restoration

IUCN – International Union for Conservation of Nature

IUFRO – International Union of Forest Research Organizations

NEPAD – New Partnership for Africa's Development

UNFCCC – United Nations Framework Convention on Climate Change

WGEA - Working Group on Environmental Auditing

WRI – World Resources Institute

Key messages

A peer review process for forest landscape restoration (FLR) projects within the Bonn Challenge would be a useful contribution to the overall intention to restore the world's degraded or deforested landscapes. This feasibility study aimed to review options for a peer review process to assist in the validation and follow up of pledges under the Bonn Challenge.

Through this study a number of key points emerged:

1. A peer review process for FLR projects under the Bonn Challenge would need to be **tailor made**.

2. Seven key elements can be identified for an effective peer review process under the Bonn Challenge: the overall **management** of the peer review process, the **credibility** of the reviewers, **standards** against which to assess or review, **baseline** data, **implementation** of the assessment process itself, **recommendations** emerging from it, and ultimately, the **use** of the review results.

3. The definition of a peer review process for the Bonn Challenge also provides an opportunity to improve **guidance** and standards for pledges under this initiative.

4. Different **stages** in Bonn Challenge projects would require different objectives for the peer review.

5. **Four objectives** are proposed for peer reviews under the Bonn Challenge which may all be applied together or individually to any given project or pledge. These are: a) ensuring that the projects/pledges really are undertaking FLR and demonstrating a case beyond "business as usual", b) confirming that the project is designed well, efficient, effective, and sustainable, c) providing recommendations and/or a roadmap to achieve pledge status (or to qualify as FLR projects), and lastly, d) lesson learning.

6. There are several **opportunities and challenges** associated with a peer review process under the Bonn Challenge, some of which are highlighted in Chapter IV.

7. A **pilot** phase might be an effective means of testing out a peer review process.

Suggested next steps include:

i. *Clarify guidance, terminology and standards for FLR within the Bonn Challenge*
ii. *Clarify who will manage a peer review process and with what capacity and budget*
iii. *Pilot a peer review with some of the existing pledges (or pre-pledges) with the three objectives of improving design, ensuring that the projects apply basic dimensions of FLR and providing recommendations or a roadmap for improvements.*
iv. *Use the above pilot phase to refine the peer review process.*
v. *Set up a learning platform to share lessons emerging from the reviews including facilitating discussion among implementers and interested parties.*

Introduction

Forest and landscape restoration is an approach being promoted under the Global Partnership on Forest Landscape Restoration (GPFLR) to bring "*people together to identify, negotiate and implement practices that restore an agreed optimal balance of the ecological, social and economic benefits of forests and trees within a broader pattern of land uses*" (GPFLR website). The GPFLR is a partnership of like-minded organisations, research institutes, governments and other stakeholders united to advance knowledge and promote the widespread adoption of forest and landscape restoration. It focuses on facilitating exchange and learning, generating new knowledge and tools, and acting as a vehicle to mobilise capacity and expert support to address the practicalities of forest and landscape restoration.

In September 2011, the German government hosted a meeting of the GPFLR at which the "Bonn Challenge" was launched, setting an ambitious target to restore 150 million ha of deforested and degraded land by 2020. This target emerged as a result of an analysis by WRI which estimated that a total of 2 billion ha of land worldwide was available for restoration (see: http://www.wri.org/tools/atlas/map.php?maptheme=restoration). To date, almost 20 million ha have already been pledged with potential commitments of a further 40 million hectares. According to IUCN estimates, net annual benefits to national and local economies of restoring 150 million hectares of forests amount to approximately USD 85 billion/year. Such an area of restored forest could also sequester an additional 1 GtCO2e per year, reducing the current emissions gap by 11-17% (IUCN website).

Furthermore, the Bonn Challenge directly relates to existing international commitments on climate change and biodiversity, notably the Aichi target under the CBD calling for the restoration of 15% of degraded ecosystems by 2020, and the REDD+ discussions under the UNFCCC calling for countries to slow, halt and reverse the loss and degradation of forests.

Pledges under the Bonn Challenge have been defined as being a commitment to improve land management practices in such a way as to increase demonstrably the flow of a number of ecosystem goods and services. These pledges thus far, have been rather loosely defined, with significant scope for improvement of both the design of the pledges and the subsequent review of these pledges.

While the Bonn Challenge is a recent global policy initiative, the GPFLR is broader and pre-dates this policy initiative. The GPFLR provides the institutional background to the Bonn Challenge.

Purpose

This feasibility study is intended to contribute to the Bonn Challenge by reviewing options for a peer review process to assist in the validation and follow up of pledges under this initiative. The purpose of this study is to analyse and evaluate the potential for a systematic peer review process to assess pledges made under the Bonn Challenge. It should be emphasised that this is a feasibility study and not the outline of the peer review process itself. In this context, the study, representing a first step in the development of an appropriate peer review process suited to FLR projects and programmes, addresses the following main issues:

- Presentation of relevant types of peer reviews and their use in various fields of application;
- Possible ways of framing a peer review process for the Bonn Challenge;

- Potential objectives for an FLR-focused peer review;
- Major aspects to be evaluated in such a peer review process;
- Analysis of opportunities and challenges associated with the peer review; and
- Operational considerations.

Methodology

This study was conducted by IUFRO scientists associated with the Research Group 1.06.00 "Restoration of degraded sites." It drew heavily on published literature as well as the expertise of a core group of scientists set up by IUFRO. The study was coordinated by a freelance scientist in conjunction with the deputy executive director of IUFRO. The core group provided its expertise to ensure the most useful and scientifically-grounded result. As each section of the report was drafted, the core group was asked specific questions and requested to comment on the draft. The study was conducted over a two month period (October-December 2013).

Chapter I. What is "peer review"?[1]

The aim of this chapter is to: a) cast the net widely on the possible dimensions of the term "peer review" (and related terms), b) highlight the importance and value of conducting a peer review process in the context of forest landscape restoration. For the purposes of this study, and to set the context for the following chapters, the application of peer review in different fields (including accounting, information technology and medicine) was briefly explored. We also explored related terms such as verification, certification, review, monitoring and evaluation, and evidence-based conservation.

Introduction

Peer reviews can be traced back to the late 9th century, with the Syrian physician Ishaq bin Ali al-Rahwi (854-931 CE) first describing a process whereby doctors were required to take notes of a patient's condition on every visit so that once the patient was cured or had died, the notes could be examined by a local medical council to determine whether the physician had acted according to required standards of medical care (Spier, 2002).

Today, in the scientific community the term "peer review" tends to be associated with scientific publishing whereby experts are called upon to review their peers' writing. A distinction can be made between the following forms of peer review: a) open peer reviews where the authors' and reviewers' names are known to each other, b) closed (or blind) peer reviews where the reviewers' names are not known to the authors and vice versa (in double-blind reviews). However, the peer review process can be expanded to any review by competent and unbiased experts of a given piece of work. According to Gelmon et al. (2013) two critical aspects of peer review are accountability and expertise. Indeed quality assurance or control is at the core of peer reviews. For the US Environment Protection Agency (EPA) the value of peer review is to *"uncover any technical problems or unresolved issues in a preliminary (or draft) work product through the use of independent experts*" (US EPA, no year). Peer review ensures the technical accuracy of projects and activities, the competency of the procedures to undertake those activities and their consistency with established quality criteria (US EPA, no year). Equally for the New Partnership for Africa's Development (NEPAD) a peer review process aims to "*promote mutual accountability, as well as compliance with best practice"* (NEPAD, 2003). However, the process should be seen as going beyond just control, but also as a means of innovating and extending the boundaries of knowledge (Horrobin, 1990).

Ultimately, a peer review would need to assess the acceptability of a given piece of work or project using some standard of reference (principles, criteria, indicators, or some other standard) as a filter and provide feedback to the author or proponent as well as to those managing the process (see Figure 1).

[1] This section benefited from background research by Joanna Li Yung Lung, an intern at IUFRO.

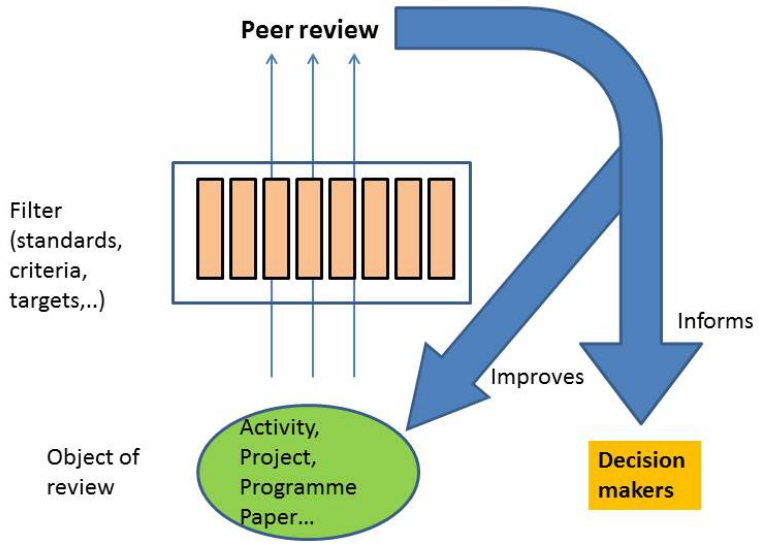

Figure 1: Peer review uses a given filter to assess a piece of work and provide feedback to the proponents as well as any other decision-maker involved in the process (generally, those managing the peer review process).

1. Application in related fields, terminology and methods

1a) Application in related fields

Medicine is most frequently associated with some of the first peer reviews. In medical practice colleagues are called upon to ensure the quality of care provided by a physician. The term "clinical or medical audit" is also sometimes used. The Cochrane collaboration is a result of this desire by healthcare professionals to improve their practices (see: http://www.cochrane.org/about-us). It is a network of more than 31,000 people from over 120 countries working together to help relevant health-related stakeholders take well-informed decisions about health care. This is done through so-called "Cochrane Reviews" which are evidence-based reviews of primary research in human health care and health policy, and are published online in the Cochrane Library.

In accounting, peer review can be traced back to the 1960s when large firms opened up to a system of internal inspection to monitor their accounting and auditing practices, and to ensure that their offices maintained consistent standards. In the 1970s firm-on-firm peer review became widespread (AICPA website).

In **information technology** Wiegers (2002) describes seven types of "peer review", namely: *inspections* (which follow a well-defined multistage process with specific roles assigned to individual participants), *team reviews* (less formal and less rigorous than inspections), *walkthroughs* (informal reviews in which the author takes the dominant role and describes the product to colleagues and solicits comments), *pair programming* (where two developers work on the same programme simultaneously and continuously

review their joint work), *peer deskcheck* (an informal review where one outside person examines the product), a *passaround* (where several people are invited to provide comments).

1b) Terminology

Various terms are associated with forms of "peer review" in the environmental and more specifically the forest sector. A selection of these terms is briefly described below.

Auditing – Auditing in the context of environmental projects and specifically forest projects, relates to compliance with a given set of standards. The Working Group on Environmental Auditing (WGEA) identifies three types of environmental audits: audits of financial statements, compliance audits and performance audits (INTOSAI WGEA, 2000). Forest audits frequently consider financial, compliance and performance issues (INTOSAI, 2010).

Verification – In the environmental sector, "verification" tends to be associated particularly with respect to carbon-sequestration projects. The Clean Development Mechanism (CDM) provides guidance on verifying carbon projects (see the latest booklet at: http://cdm.unfccc.int/methodologies/documentation/meth_booklet.pdf#AR-AMS0007). Typical measurements applied under CDM projects are very specific to forest and carbon values and include: crown cover of trees; basic wood density and carbon fraction for tree species/species group; area forested (by species); diameter, number, and possibly height of planted trees; diameter of pieces of dead wood; area used for agricultural activities displaced by the project activity; area subjected to burning for site preparation and clearing of harvest residue and forest fires (CDM website). For REDD+, measures would need to be broadened to include both policy (e.g. progress in land titling, benefits to indigenous groups, increase monitoring capacity etc.) and direct forest-related activities (e.g. stakeholder consultations, biodiversity protection, decreased deforestation etc.) (Dutschke, 2013).

Certification – in forestry two forms of certification can be distinguished: 1) systems-based certification where environmental management systems are defined and the certification process serves to ensure that the forest organisation respects these standards and 2) performance-based certification where the levels of achievement are defined and then the assessment process determines whether these levels are met by the forestry operations (Elliott, 2000). The certification process itself covers four areas: a) firstly the development of agreed standards that define sustainable forest management at the management unit, national or international level; b) secondly, an auditing stage whereby the actual forest operations are reviewed and certificates are issued to those companies meeting the agreed standards; c) thirdly, auditing of the chain-of-custody to ensure that a company's products come from certified forests; and d) finally, labelling products so that consumers can recognise certified products (FAO, 2011).

Monitoring and evaluation – In environmental conservation, monitoring and evaluation (M&E) help to determine how well a strategy is doing and to identify the conditions under which an action will succeed or fail. The ultimate purpose of M&E is to improve conservation. A distinction can be made in conservation projects between evaluations for: a) status (of a given species), b) knowledge, c) accounting purposes (vis-a-vis a donor), and d) measuring effectiveness, with the latter divided into impact assessment and adaptive management (Stem et al., 2005). Conservation more broadly has frequently been hampered by a lack of clear and measurable goals, or tools to assess which actions work, which do not work, and why. Individuals and institutions active in conservation have also frequently lacked the knowledge and skills needed to make conservation more effective (Salafsky et al., 2002).

Evidence-based conservation - Evidence-based conservation emerged in the 2000s because of the perception by many scientists that much of the conservation work that was happening was based on myth and anecdotal evidence rather than concrete scientific results (see for e.g. Pullin and Knight, 2001; Sutherland et al., 2004). Systematic reviews are at the heart of evidence-based conservation and are intended to sum up the best available research on a specific question by synthesizing the results of several studies. Pullin and Stewart (2006) identify four important stages for systematic reviews: question formulation, methodology development, developing review protocol: search strategy, assessing quality of methodology and data extraction.

1c) Methods

The various "peer-review" processes outlined above all use similar methods. These can be summarised as:

- Field visits
- Interviews
- Expert opinion
- Expert review (against given standards, principles, criteria or indicators, as appropriate)
- Literature reviews
- Data analysis
- Sampling
- "inquiry and response" (where a peer review team asks questions or requests additional information from pledge proponents who then have an opportunity to respond).

Not all methods are appropriate for all forms of review, and some require more time, money and effort (e.g. field visits). Furthermore while typically independent and unbiased experts are involved, simpler forms of peer review may involve colleagues. Depending on the complexity of the review, either a multi-disciplinary team or an individual may be called upon.

2. Process and its relevance to the Bonn Challenge

A number of key elements can be identified for the process of peer reviewing. For example, the US Office of Energy Efficiency and Renewable Energy provides a checklist for peer reviews which includes: determining the leadership of the process; setting a clear scope, purpose and criteria; setting a timeframe and deadline for the process; defining a budget; defining the methodology and defining the profile of candidates to undertake the peer review process (see: http://www1.eere.energy.gov/analysis/pdfs/prga_b.pdf). At the heart of the process also lies the question of who will administer the peer review process; it also raises questions concerning the costs of administering the process.

Outlined below are seven basic elements to consider for peer reviews, using as a basis the above checklist:

a) Managing the peer review process (including setting a timeframe and deadline for the process, defining a budget and defining the methodology) **–** for any given peer review a manager or managing entity will be required. The manager defines the terms of the peer review, appoints reviewers and receives (and processes) the feedback from the peer review. Furthermore, for more complex reviews

that require travelling, interviews etc. the manager would need to support the entire process (including financially). A clear scope and purpose for the review would be defined by the manager who would also be the primary audience for the review results. For example, the African Peer Review (APRM) process under NEPAD is managed by a Secretariat which supports a panel of 5-7 "eminent persons" who are elected for a four-year term to undertake the peer review (NEPAD, 2003).

Application to Bonn Challenge Pledges:

- The Global Partnership on FLR would be the most likely manager of any peer review process under the Bonn Challenge. Within the partnership, the secretariat of the GPFLR would be responsible for administering the process.

b) **Credibility of reviewers** – The professionalism, level of expertise and lack of bias of reviewers lie at the heart of any review. "*The credibility of evaluation depends on the expertise and independence of the evaluators, the degree of transparency of the evaluation process and the quality of evaluation"* (UN Environmental Group, 2012). It is important to clearly define the profile of peer reviewers and to ensure that they are credible both because of their knowledge and their neutrality. By definition reviewers should be experts in the subject, dedicated to advancing knowledge in their field and without any vested interests or conflicts of interest.

Application to Bonn Challenge Pledges:

- Because of the stakes involved, and the high political visibility of the Bonn Challenge, it will be particularly important for pledges to be verified by credible reviewers with clear terms of reference. The question of remuneration for peer reviewers will also affect their credibility. On the one hand, as with traditional peer reviews, these should arguably be non-remunerated, but on the other hand, the process could be lengthy and require travel which at the very least would need to be covered by a budget.

c) **Standards for the assessment** – clear standards of some sort are needed against which to assess the given piece of work. The term "standards" is used here in its broadest sense to encompass the different tools one would apply to assess a piece of work. For example, the following publishers and journals highlight specific criteria that should guide peer reviews:

- **Elsevier publisher:** Originality, structure and link to previous research (see: http://www.elsevier.com/reviewers/reviewer-guidelines#conducting-a-review).
- **Oxford journals**: Originality and quality, structure, engagement with previous research and results (e.g. does the author engage with current/ relevant research in the field) and language (see: http://www.oxfordjournals.org/our_journals/computer_journal/reviewerguidelines.html)
- **Plos One journal:** Is the manuscript technically sound, and do the data support the conclusions? Has the statistical analysis been performed appropriately and rigorously? Does the manuscript adhere to standards in this field for data availability? Is the manuscript presented in an intelligible fashion and written in standard English? (see: http://www.plosone.org/static/reviewerGuidelines#reviewer).
- **Springer publisher:** Overall quality and structure (see: http://www.springer.com/authors/journal+authors/peer-review-academy?SGWID=0-1741413-12-959510-0).

For project reviews and evaluations, typically the review process would compare results against agreed indicators set at the start of the project. In sustainable forest management, principles are defined as aspects of forest management that are considered important (for example, community relations and workers' rights – FSC principle 4, see: www.fsc.org) which should guide the assessment, while criteria are the more specific quantitative, qualitative or descriptive attributes that, when measured or monitored periodically, indicate the direction of change in the principles (INTOSAI, 2010). In the African Peer Review Mechanism, countries benchmark good governance *vis à vis* shared African and international norms and standards (NEPAD, 2003).

Application to Bonn Challenge Pledges:

- As concerns the FLR pledges under the Bonn Challenge, clear guidance should be given to potential pledge proponents. Such guidance would also help reviewers to assess these pledges. To date there is limited guidance on how to frame pledges (also see Chapter 3), and ultimately this would impact on the review of these pledges (since it would be important for both proponents and reviewers to have the same understanding of what the pledges consist of).

d) **Baselines** – the term baseline here is loosely used to refer to the starting conditions. A baseline helps the peer review process to assess changes and improvements in conditions (projects) or knowledge (journals).

Application to Bonn Challenge Pledges:

- For pledges under the Bonn Challenge, the baseline is particularly important as the process of FLR assumes a change (an improvement) in the landscape. Therefore, part of the process would require assessment of change against these baseline conditions. It would be the role of those committing the pledges to provide reliable baseline data.

e) **Implementation of the "peer review" process** - the review itself entails different processes depending on the nature of what is reviewed. For journals, it will require peers making an informed judgement of the article based on their expertise, and writing up their comments. In contrast for environmental projects or programmes the process may be more complex, requiring in part informed judgement, but also comparison against given standards (criteria or indicators) and a baseline, and the opinion of key stakeholders (through interviews for example). It may also require field visits (also see "methods" sub-section above).

Application to Bonn Challenge Pledges:

- The FLR process is complex, long term and multi-level. Some changes may appear at the level of policies or institutions, others may be visible on the ground. The review process would therefore require most probably a mix of methods and a multi-disciplinary team.

f) **Recommendations for change/improvements** – an outcome of most types of reviews is generally a set of recommendations for changes and/or improvements. These recommendations are provided generally to the managers of the process who transmit them to the authors or project proponents.

Application to Bonn Challenge Pledges:

- For pledges under the Bonn Challenge, the recommendations will be particularly important since one important outcome of the "peer review" process is intended to be guidance to

those signing up to the pledges. It will also help longer term internal and external monitoring.

g) **Utility of peer review** – Ultimately, rather than playing simply a control function, the peer review process should be seen as a useful investment to those generating the work and to others. "*To have an impact on decision-making, evaluation findings must be perceived as relevant and useful and be presented in a clear and concise way*" (UN Environmental Group, 2012). Peer reviews should inform and serve to improve the quality of future work.

Application to Bonn Challenge Pledges:

- Under the Bonn Challenge, the peer review process should be of value and use to the submitting party (i.e, advice on improvements or changes should help the party improve their FLR-related activities). It should be seen as a learning process which will also be of value to other parties wishing to implement similar projects. Importantly, the peer review process will also help the aggregation of pledges by providing some form of defining common denominators for all pledges.

Conclusions

This chapter sought to present different aspects of "peer review" taken in its broadest sense, focusing more specifically on those that appeared most relevant and useful to help define a peer review process within the context of the Bonn Challenge forest landscape restoration work. A quick review of the literature demonstrates that there are several different perceptions and interpretations of "peer review". However, taken at its broadest level, the process seeks to ensure quality, promote innovation and advance science. A number of essential building blocks can be recognised in the overall approach to "peer reviewing": the overall management of the peer review process, the credibility of the reviewers, defining standards (against which to assess or review), identifying baselines, implementation of the assessment process itself, the recommendations emerging from it, and ultimately, use of the results of the assessment process (see Figure 2).

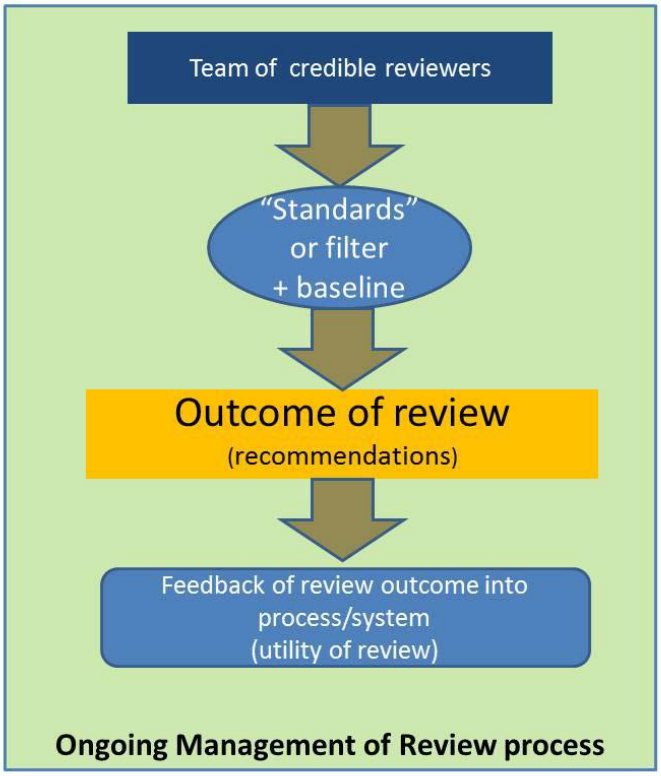

Figure 2: Minimum elements for an effective peer review

Chapter II. Forest Landscape Restoration and the Bonn Challenge

Introduction

What are pledges under the Bonn Challenge?

The "Bonn Challenge on forests, climate change and biodiversity" called on governments, the private sector and civil society to rise to the challenge of restoring 150 million hectares of lost and degraded forests by 2020 (see: http://www.bmu.de/en/bmu/press-and-speeches/current-press-releases/detailansicht-en/artikel/call-to-restore-150-million-hectares-of-forest/). Further to the call in September 2011, a number of parties were quick to commit to the effort. However, there has been very limited guidance and clarity on what pledges actually signify and to what parties are actually contributing.

As a result it is unclear what the commitments to date entail and what proponents have committed to doing. The challenge today is to retroactively suggest clearer guidance and criteria, while working with committed parties to meet these standards and bringing in new commitments that would be easier to manage through such standards. This represents an opportunity to ensure that the Bonn Challenge contributes in a positive manner to restoring forest landscapes. The GPFLR steering committee perceives the peer review process as a means to empower and encourage parties submitting their pledges under the Bonn Challenge Target.

> **Recommendation 1:** *There needs to be a clear description of what it signifies to commit a pledge under the Bonn Challenge.*
>
> **Recommendation 2:** *A manager or managing entity needs to be identified for the peer review process under the Bonn Challenge and operational details (e.g. budget, roster of reviewers, modalities of review process.) should be clarified.*

What is Forest Landscape Restoration?

Taking a step back, forest restoration can be defined in several different ways. For the purposes of this work and under the Global Partnership on Forest Landscape Restoration, the terminology chosen is forest landscape restoration (FLR), a term coined by WWF and IUCN (at a meeting that brought together over 30 experts) and defined as "*a planned process that aims to regain ecological integrity and enhance human wellbeing in deforested or degraded landscapes" (*WWF and IUCN 2000). While there is nothing significantly new about the ideas and practices behind FLR, in reality adhering strictly to an optimization of forests at a landscape scale and to enhancing both the ecological and human dimensions are quite unique to FLR. In practice, the approach will translate into different forms of implementation depending on where it is applied and on the local contexts.

Phases of the Bonn Challenge

Currently the Bonn Challenge implementation is in its infancy, yet at the same time the deadline of 2020 is looming. While new pledges need to be brought in, this process would be greatly facilitated with clear guidance upfront of what the pledge should consist of and how proponents can be accompanied through the process. In practice at least three steps can be envisaged: the commitment or "pre-pledge" phase, the pledging phase and the implementation phase.

The **commitment** or **pre-pledge** phase would consist of the proponent proposing a realistic contribution which would then require further definition together with the managers of the Bonn Challenge. Together, they would then refine the proposal, including identifying the current baseline (and source(s) of data) and ensuring that the proposed project qualifies as FLR (see next section for more details).

Once the proposal is clearly outlined, then a more formal **pledge** would be announced. Such pledges would need to be within the framework of FLR but also would need to be realistic and context specific. **Implementation** would then follow.

Peer review can occur at all three stages. Peer input can help to refine the pledge and the process upfront. Later in the process peer review can actually be more about quality, performance and likely impact. Throughout the stages, peer review can contribute to capacity building.

> **Recommendation** 3: *Capacity building should be an essential consideration when reviewing ongoing pledges under the Bonn Challenge.*

Clarifying alignment of pledges to FLR

While FLR is a loose concept, defined differently by different institutions, there are some basic dimensions or principles of FLR that can be considered as critical and these should at the very least be considered for a peer review process of FLR projects under the Bonn Challenge.

Options to better define whether a proposed project is aligned with FLR can be seen on a "more stringent to less stringent" scale (see Table 1).

	Methods	**Implications for peer review**	**Pre-requisite**
Most stringent	Assessing proposed pledges against a set of FLR **criteria**	Clear task for reviewers addressing well-defined criteria Need for field visits Team of reviewers Costly	Defining principles and criteria for FLR under the GPFLR
Moderately stringent	Assessing proposed pledges against a set of FLR principles	Assessment against broader FLR principles Team of reviewers is small Less costly	Agreement on one set of FLR principles
Least stringent	Assessing against simple **dimensions** of FLR (e.g. improving socio-economic conditions, enhancing ecological integrity, being at the landscape scale..)	More vague Small team of reviewers (or even a single person) Quicker Cheaper	Agreement on 4-5 key dimensions against which to review

Table 1: Possible approaches for peer reviewing to define whether projects are implementing FLR

Recommendation 4*: Simple but clear guidance will need to be developed and made widely available to those interested in submitting pledges. This guidance should include agreed standards for FLR (e.g. clear sub-elements of the definition of FLR, minimum requirements, principles and criteria for FLR projects etc.) which can also be used during the peer review process.*

Starting with the least stringent of the proposed options one can define some dimensions for FLR using existing definitions. Thus, going back to the WWF/IUCN ***definition*** of FLR: "*a planned process that aims to regain ecological integrity and enhance human wellbeing in deforested or degraded landscapes"* (WWF and IUCN, 2000), the key elements that can be extracted from the definition are:

"*a planned process*" – in other words there is an *active* intention to restore, even if this ends up being through natural regeneration.

"*regain ecological integrity*" - whereby ecological integrity (defined as improvements in ecological structure, composition and functionality) is improved.

"*enhance human wellbeing*" – whereby stakeholders benefit from the process of restoration.

"*deforested or degraded landscapes*" – the location of the actions are at the scale of landscapes, and these have undergone forest loss or degradation so that they require restoration.

Another definition is provided by the GPFLR: "*Bringing people together to identify, negotiate and implement practices that restore an agreed optimal balance of the ecological, social and economic benefits of forests and trees within a broader pattern of land uses*" (GPFLR website). In the same way, the following key elements could be extracted from this description:

"*Bringing people together*" – highlighting the participatory nature of the process.

"*identify, negotiate and implement practices*" – stakeholders coming together to define and implement restoration practices. This would involve negotiation among different stakeholder groups.

"*agreed optimal balance of ecological, social and economic benefits of forests*" – this part of the description implies: a) that agreement on the "optimal balance" has been reached, b) that the benefits from the forests are of three dimensions: ecological, social and economic.

"*within a broader pattern of land uses*" – different patterns of land use would need to form part of the context for the landscape within which FLR would occur.

One could categorise these elements of the **<u>two definitions</u>** according to the **actions** engaged, the location or **scale** and the **benefits** considered, as per Table 2 below:

Actions	**Location/scale**	**Benefits**
A planned process	Deforested or degraded landscapes	Ecological (e.g. increasing forest cover, increasing forest quality, etc.)
Regain ecological integrity	within a broader pattern of land uses	social (e.g. increase flow of ecosystem goods and services)
Enhance human		economic

wellbeing				
Bringing people together				
Identify, negotiate and implement practices				

Table 2: Dimensions of FLR definitions

Using these, a simple peer review process at the "least stringent" end of the spectrum could consider whether each of these basic dimensions is covered by the proposed pledge. This (or an adaptation thereof) would be one of the most flexible means of reviewing FLR projects. Such a review could be done via a questionnaire for example. Alternatively, proponents could be asked to complete a template (when submitting a pledge) to demonstrate to what extent their project was in line with each of the given dimensions. Peer reviewers would use these documents combined with any additional data and their own knowledge to assess the pledges.

Such a process would be relatively straightforward and simple. It would place most of the onus of demonstrating alignment to the FLR dimensions on the proponents. A small peer review team (representing at least two disciplines) would review the documentation and use their own expertise to assess the pledge. This could be done through a desk top review, thereby, at no or limited cost.

At the other extreme, a more stringent option might be to consider progress against a given set ***of principles and criteria*** for FLR.

In general terms, within a hierarchy of assessments, four levels can be identified: principles, criteria, indicators and verifiers (Stork et al., 1997).

- **Principles** are defined as a fundamental truth or law as the basis of reasoning or action.
- **Criteria** represent standards against which something is judged.
- **Indicators** are any variable or component used to infer attributes of the sustainability of the resource and its utilisation.
- **Verifiers** are the actual data or information that provide specific details to indicate or reflect a desired condition of an indicator.

To date the following guidance is available on the GPFLR website to those potentially interested in pledging:

At the level of principles, 10 principles for a landscape approach are proposed by the GPFLR (based on Sayer et al., 2013, and see: http://www.forestlandscaperestoration.org/tool/our-approach-landscape-approach).

- Principle 1: Continual Learning and Adaptive Management – learning from outcomes thus enabling adaptive management.
- Principle 2: Common Concern Entry-Point – finding easy-to-reach solutions that are acceptable to all stakeholders through a negotiated process.
- Principle 3: Multiple Scales – awareness of how processes at different scales interact and impact on the landscape.
- Principle 4: Multi-functionality – recognising the diverse range of goods and services provided by a given landscape.

- Principle 5: Multi-stakeholder – recognising the diverse number of stakeholders impacted by actions within a given landscape, and ensuring a fair distribution of benefits and incentives.
- Principle 6: Negotiated and Transparent Change Logic – ensuring transparency throughout the process so that all stakeholders understand and accept a given course of action.
- Principle 7: Clarification of Rights and Responsibilities – clarifying rules concerning land use and rights, as well as the rights and responsibilities of different stakeholders.
- Principle 8: Participatory and User-Friendly Monitoring – using a wide source of readily available information, all stakeholders should engage in monitoring.
- Principle 9: Resilience – increasing the system's ability to resist threats and to recover.
- Principle 10: Strengthened Stakeholder Capability – providing a platform for stakeholders to improve their capacity to assess landscape changes and respond to them, as well as learn.

It should be noted that while the landscape approach and FLR overlap they are not exactly identical. As such, the 10 principles for a landscape approach may not be necessarily the most adequate and helpful for FLR.

> **Recommendation 5***: The GPFLR should consider adapting the 10 landscape approach principles specifically to FLR.*

At the same time, the GPFLR flyer highlights the following as principles for FLR:

1. Decisions about what to restore and where are taken at the level of the whole **landscape**, not just individual bits and pieces. Working across a wider context allows trade-offs to be made between conflicting interests, and the potential for future disputes minimised.

2. Local **stakeholders** are actively engaged in the decision-making, collaboration and implementation of the solution; inclusion of the local community is vital.

3. The landscape is restored and managed not only to increase forest cover but to provide an **agreed balance of ecosystem services and goods.**

4. A wide range of restoration **strategies** are considered, from managed natural regeneration to tree planting.

5. **Monitoring**, **learning** and **adaptation** take place continuously.

Three specific principles are further highlighted in another GPFLR document (GPFLR, no date), namely:

1. The specific landscape restoration activities are **negotiated** and **planned** with **local** stakeholders / communities.

2. Restoration focuses on a **mixture of goods and services** - i.e. it is not just one large-scale, industrial scale plantation but a mix of interventions.

3. There is a **landscape focus** – i.e. not just a single (therefore small-scale) site.

A comparison of these two sets of principles demonstrates that the last two principles related to strategies and adaptive management are not reflected in the three principles.

Thus, three different (albeit overlapping) sets of principles can be found on the GPFLR website which can lead to confusion.

> **Recommendation 6:** *If principles for FLR are going to be used within the framework of the GPFLR and the Bonn Challenge, one single set should be used and then consistently applied.*
>
> **Recommendation 7:** *It might be helpful to develop a glossary of terms associated with the GPFLR and with the Bonn Challenge.*

A recent paper (Newton et al. 2012) also suggests four key principles for FLR which also have useful elements which the GPFLR could consider:

*1. FLR is a **flexible** process, which embodies three key features: (i) it is participatory, requiring the engagement of stakeholders to be successful; (ii) it is based on adaptive management and is therefore responsive to social, economic and environmental change; and (iii) it requires both an adequate monitoring program and an appropriate learning process.*

*2. FLR seeks to restore **ecological processes** at the landscape scale that will ensure maintenance of biodiversity and ecosystem functions, and confer **resilience** to environmental change.*

*3. FLR seeks to **enhance human well-being**, through restoration of ecosystem services.*

*4. FLR implementation is at a **landscape scale**; in other words, site-level decisions need to be made within a landscape context.*

Below these principles, criteria for FLR could be developed (that should be applicable internationally).

Currently in terms of criteria, the following guidance exists for pledges (GPFLR, no date):

First Level Criteria (which apply to preliminary pledges):

- Commitment to the application of the principles of the forest and landscape restoration approach;
- Specification of the scale, location and nature of the project;
- Identification of the initiative owner;
- Definition of the landscape restoration objectives;
- Description of additionality (beyond "business as usual");
- Evidence of stakeholder support; and
- Definition of time-frames (establishment of initiative; accomplishment of activities etc.)

"Level 2 Criteria" (for peer-reviewed pledges):

- A monitoring and reporting plan to track the progress of (i) preliminary establishment and (ii) meeting the initiative's principal objectives.
- Institutional arrangements to support implementation such as the provision of a platform for stakeholder coordination and support for any necessary capacity building.
- Established mechanisms and capacity to satisfactorily resolve potential grievances and operationalize free, prior and informed consent on Indigenous Peoples and community lands.

If one tries to map these criteria against the 10 proposed principles for a landscape approach, there is a certain level of mismatch, with some principles not having criteria and vice versa (Table 3):

Principle for a landscape approach (Sayer et al. 2013)	**Proposed draft criteria for FLR pledges** (GPFLR, no date)
Principle 1: Continual Learning and Adaptive Management	
Principle 2: Common Concern Entry-Point	Commitment to the application of the principles of the forest and landscape restoration approach Definition of the landscape restoration objectives
Principle 3: Multiple Scales	Specification of the scale, location and nature of the project
Principle 4: Multi-functionality	
Principle 5: Multi-stakeholder	
Principle 6: Negotiated and Transparent Change Logic	Evidence of stakeholder support Institutional arrangements to support implementation such as the provision of a platform for stakeholder coordination and support for any necessary capacity building.
Principle 7: Clarification of Rights and Responsibilities	Established mechanisms and capacity to satisfactorily resolve potential grievances and operationalize free, prior and informed consent on Indigenous Peoples and community lands.
Principle 8: Participatory and User-Friendly Monitoring	A monitoring and reporting plan to track the progress of (i) preliminary establishment and (ii) meeting the initiative's principal objectives.
Principle 9: Resilience	
Principle 10: Strengthened Stakeholder Capability	
Outside the 10 principles:	Identification of the initiative owner; Description of additionality Definition of time-frames (establishment of initiative; accomplishment of activities etc.)

Table 3: Mapping 10 principles of a landscape approach (Sayer et al., 2013) against criteria for pledges (GPFLR, no date)

Recommendation 8: *If the Bonn Challenge plans to use criteria, these should be further refined and should coincide with a single set of clear principles for FLR.*

Looking at the next level, that of indicators, these will necessarily be specific to given local conditions. Some broad guidance can be found for example by the CBD (see: http://www.cbd.int/doc/strategic-plan/targets/T15-quick-guide-en.pdf) which suggests possible indicators to achieve Aichi Target 15[2]:

• Status and trends in extent and condition of habitats that provide **carbon storage**

• **Population trends** of forest-dependent species in forests under restoration

• Trends in **area of degraded ecosystems restored** or being restored

• Trends in **proportion of degraded/threatened habitats**

• Trends in **primary productivity**

• Trends in proportion of **land affected by desertification**

Other indicators that would be specific to a given setting could relate to the specific ecosystem services that are restored.

Indicators are helpful for reviewers to look at specific quantifiable changes. Nonetheless, these would be more useful once a project is well advanced.

Alternatively, guidance can also be provided through the Society for Ecological Restoration's guidelines on restoration which include 51 specific guidelines in the context of returning an ecosystem to its historical trajectory, even if it does not necessarily signify recovering its former state (Clewell et al., 2005). Hallett et al (2013) identified different purposes (that fall under the broad categories of form, function, purpose and social) for restoration actions in a review of over 200 projects. At a broader level, Kapos et al (2008) offer a framework presenting seven categories of conservation management actions that could be used as a basis to design or refine principles for FLR. These are:

- *Management of sites*, *habitats, landscapes and ecosystems*
- *Management of species and populations*
- *Efforts to develop, adopt or implement policy or legislation*
- *Efforts to enhance and/or provide alternative livelihoods*
- *Training and capacity building*
- *Education and awareness-raising*
- *Research and conservation planning*

The process for reviewing FLR pledges against a set of principles, criteria and/or indicators would have to be done through field visits and interviews with stakeholders by a multi-disciplinary review team. A thorough understanding of the local conditions would be necessary to cover the different dimensions of FLR.

A peer review process that would consider whether pledges are aligned with FLR principles and criteria would have the advantage that once clear principles and/or criteria are agreed, a consistent and

[2] Aichi Target 15 states that: "By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks have been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification"

systematic approach can be taken across all pledges. On the other hand, at this stage in the process, reaching agreement on principles, criteria and/or indicators is unlikely, and it would require significant time and effort.

Ultimately, specific and consistent guidance and terminology are needed both for those engaging in pledges (so that they know exactly the dimensions that need to be addressed), and for those reviewing pledges, who will need to have a comparable method to assess different pledges.

Conclusions

The Bonn Challenge was launched without much explicit guidance for pledges. Designing a peer review process for the Bonn Challenge pledges presents an opportunity to frame the way pledges are both defined and reviewed. Options to improve the clarity of pledges vary from more stringent to less stringent, with the more stringent options being akin to the process of forest certification (including principles, criteria and indicators), while the least stringent could use the key dimensions of FLR as outlined in the definition of the term, to define some basic filters for pledges (and for reviewing them). In all cases, the specific filters will need to be locally-adapted.

Chapter III. Objectives for a peer review process under the Bonn Challenge

Introduction

In this section we explore possible objectives for a peer review process for FLR pledges under the Bonn Challenge.

In general, the objectives of a peer review are varied. At its most simple, it is perceived as being a means of ensuring quality. However, other dimensions of peer review are frequently overlooked, as highlighted by Horrobin (1990), one in particular being innovation. Within the framework of FLR a number of different objectives for peer reviewing can be considered.

Stages

The Bonn Challenge has been sufficiently loosely defined that it is possible to consider at least three different stages: the pre-pledge stage, the pledge stage and the implementation stage.

Different objectives may be appropriate at different stages of an FLR project within the Bonn Challenge. For example, at the pre-pledging stage, the objective of peer reviewing might be to work with the proponent to design the elements of the pledge (or ensure "readiness", including such things as appropriate consultation, institutional set up etc.). At the actual pledging phase the objective may be to confirm that the set-up of the proposed action corresponds to the basic principles of FLR as described by the GPFLR. Later on however, a peer review might look specifically at whether the proponents had implemented recommendations that may have been offered earlier in the process or on collecting lessons learnt emerging from the process, making specific recommendations on perceived gaps, or determining whether questions of efficiency, effectiveness and sustainability are addressed. Later still, a review might focus on questions of impact and sustainability of the pledge. Thus the whole continuum can be considered (see Figure 3).

In this respect the effort engaged in peer reviews might also differ. At the commitment phase, pledges may need to be reviewed "on paper" by a small team of experts. Later however, once implementation has started, field visits and interviews with stakeholders would be warranted.

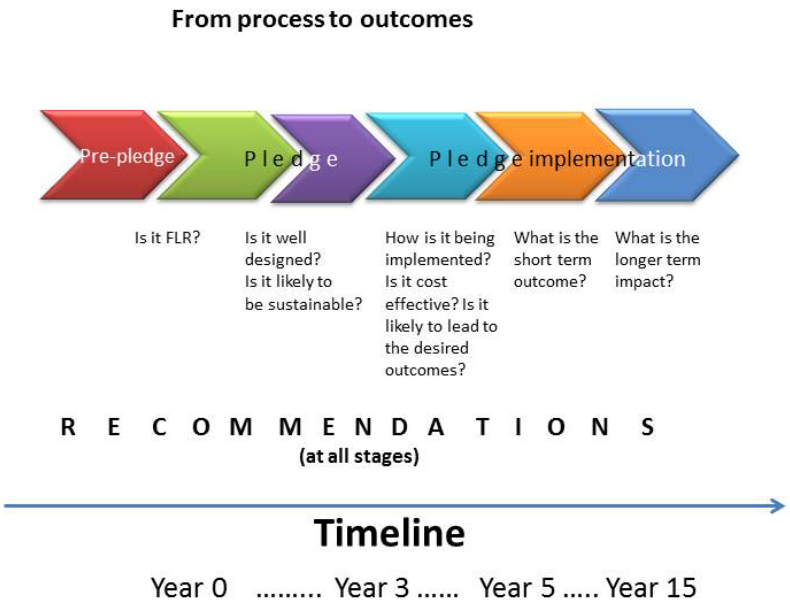

Figure 3: Objectives of peer reviews might vary over time

Recommendation 9*: Reviews under the Bonn Challenge should not be considered a "one-off" but should instead be repeated at different stages as a means of adding value to the entire GPFLR and Bonn Challenge process. At different stages, as information and progress increase, the type and/or extent of review might differ.*

Objectives

We propose **four objectives** for the peer review process of FLR projects within the framework of the Bonn Challenge. The first relates to questions of design, efficiency, effectiveness and sustainability. The second concerns assessing whether projects reflect the true dimensions of FLR as defined by a set of GPFLR standards. This will be the most challenging objective for a peer review of FLR pledges. The third objective concerns providing recommendations for improvements employing broader FLR principles. Finally, the last objective concerns lesson learning. Each objective is described in more detail below. In any given peer review exercise to be established under the Bonn Challenge **more than one** of these objectives could be considered. Figure 4 below frames these objectives in the context of FLR projects, the GPFLR and the Bonn Challenge.

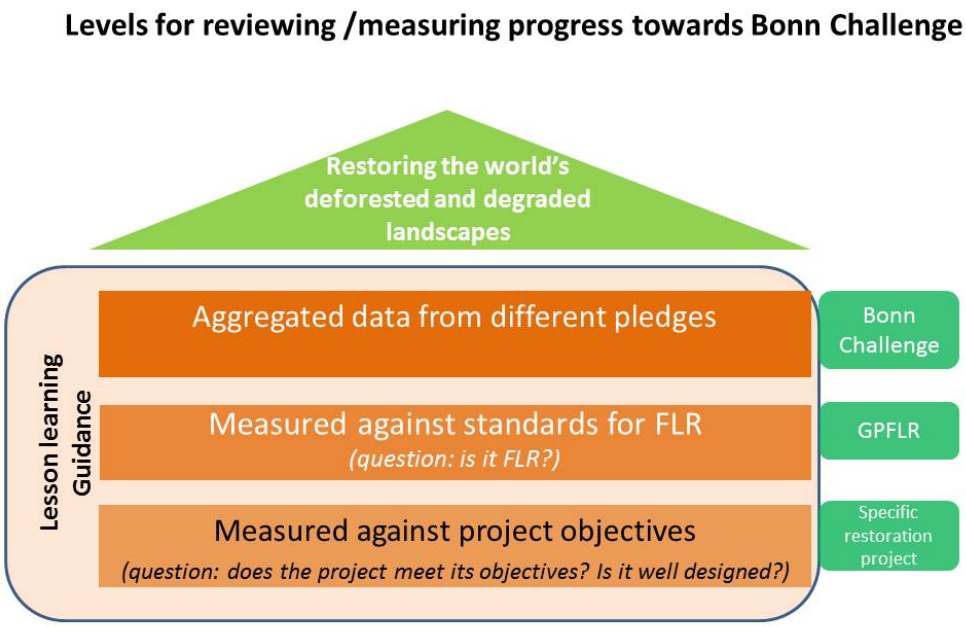

Figure 4: A hierarchy

At the project level, the objective of the peer review would be to assess project design, effectiveness, efficiency and sustainability. At the level of the GPFLR, the objective of the peer review would be to assess whether the project really is about FLR and represents a clear case for being "beyond business as usual" (both in terms of implementing a change process and providing additional funding). Across all of these levels, objectives could be to learn lessons and offer guidance for improvement. Ultimately, at the level of the Bonn Challenge, projects should be aggregated to count towards the overall 150 million ha target.

1. Improving design, efficiency, effectiveness and sustainability

One contribution that the peer review process can make if it is framed as a traditional project evaluation, would be to support improvements in project design, efficiency, effectiveness and sustainability. Indeed traditional "monitoring and evaluation (M&E)" in the framework of conservation projects underpins adaptive management (Salzer and Salafsky, 2006). A peer review process focusing on design, efficiency, effectiveness and sustainability would serve to identify whether the design of the project was right to achieve the desired outcomes, assess existing achievements, determine whether resource allocation was suitable, and whether the outcomes are likely to be sustainable. Depending on the stage at which such reviews were to be done, it may or may not include the assessment of outcomes and achievements. The process would require desk top reviews, interviews and field visits. A fully informed evaluation would need to take place half way or towards the end of the project. However, an assessment of the design of the project could be envisaged early in the process (e.g. pre-pledge).

2. Confirming that proposed actions qualify as forest landscape restoration

One of the more complex aspects of forest landscape restoration, and specifically within the context of a hectare-based target as per the Bonn Challenge, is related to the "boundaries" of the FLR approach; simply put, what is FLR and what isn't? In this respect, the peer review would need to consider whether the proposed projects/programmes indeed qualify as forest landscape restoration. Some sort of filter would need to be applied to make that judgement (see Chapter 2).

Different options can be envisaged to assess whether projects qualify as FLR and include at one end of the spectrum rating the project against a pre-determined set of FLR criteria (yet to be defined), or at the other end, using the FLR definition more loosely and agreeing a minimum number of elements that would need to be considered (for example, resilience, the landscape scale, addressing underlying causes of forest loss etc..). In all cases, if the ultimate aim is to achieve quality, landscape level restoration that achieves twin goals of enhancing ecological integrity and improving human wellbeing, then some standards would be needed to assess pledges against these elements of FLR.

3. Guidance for improvement

One important objective of all peer reviews is for peers to offer useful feedback and recommendations for improvement. In the context of FLR, and specifically of pledges under the Bonn Challenge, a peer review at the start of the process would provide valuable advice to pledge proponents on specific issues to be addressed and recommendations for improving the FLR process within the framework of the Bonn pledges. Thus, even if pledges were considered "in progress", the offer of expert advice, or of a road map to achieve pledge status, would be valuable to proponents. In this way, rather than turning away pledges, the peer review process would be a means of setting the proponents on the right course to achieve pledge status. Furthermore, in some cases even if pledge status was recommended by peer reviewers, additional useful recommendations for implementation could be offered for improving the proposed approach. This objective is unlikely to be a standalone one and would most probably be combined with one of the others. Providing recommendations can best be done further to a field visit, although valuable recommendations can also be provided further to a desk top review (particularly at the start of a project).

4. Lesson learning

The GPFLR describes itself as a learning platform. One of the objectives of the peer review process in this context could be to collect and share diverse experiences in contributing to the Bonn Challenge. Thus, the peer review process could focus on extracting and collecting specific lessons from implementation of FLR projects, with a view to putting together some form of database of practical experiences which could then be made widely available to inform future projects. Indeed lessons emerging from the peer review process and the diverse approaches and steps taken by FLR implementers, would be of significant value to other potential proponents and ultimately would serve to encourage future proponents to engage in the Bonn Challenge. Lesson learning would be most valuable once implementation had started. In this respect, the peer review could be more about assessing progress and the direction of the work, rather than determining early on if the pledge really reflects FLR standards. Focusing on lesson learning would also serve to share experiences and avoid pitfalls. Lesson learning can also serve to inspire others and encourage future pledges. Ultimately, emerging lessons also provide good communications material.

The process would at the very least require field visits and interviews with relevant stakeholders. A culmination of the Bonn Challenge process could be a "lesson learning" workshop at the end of the target period (i.e. 2020) to learn from experiences and projects developed under this process.

Conclusion

Four different objectives for the peer review process of FLR projects under the Bonn Challenge can be envisaged. Each offers different outcomes: one focusing on whether the project is well designed, efficient, effective, and sustainable, one on whether the projects/pledges really are undertaking FLR and demonstrating a case beyond "business as usual", yet another on providing guidance and/or a roadmap to achieve pledge status (or to qualify as FLR projects), and finally, one focusing on lesson learning. A combination of these objectives can be applied to any given peer review under the Bonn Challenge. One can envisage that at a minimum, pledges should be assessed to determine whether they qualify as FLR, however, applying all four objectives to a given peer review could also be an extremely valuable contribution of the Bonn Challenge to restoring the world's landscapes.

Chapter IV. Analysis of opportunities and challenges

Introduction

The Bonn Challenge has been successful in receiving several pledges to date. A number of questions arise today related to current and future pledges. For example:

- how can pledges be aggregated?
- how sustainable are these pledges? (in terms of finance, but also stakeholder involvement, policy environment etc.)
- Do they represent business as usual or a real change?
- Have they displaced an underlying problem of deforestation elsewhere?

For this reason, a peer review process could provide a useful means of determining whether the pledges are in effect making the desired change, i.e. restoring forested landscapes for the benefit of people (including future generations) and biodiversity. As demonstrated in Chapter 1, the peer review process is useful in part for quality control, but more importantly it allows innovation and advancement of knowledge. In the context of projects and specifically, of pledges under the Bonn Challenge, several other reasons can be considered including transparency and communications.

In this section we aim to identify the opportunities that a peer review process could offer the Bonn Challenge and FLR more generally, and also highlight some challenges related to peer reviewing FLR projects.

While the proposed opportunities and challenges are presented in broad terms, some will be more applicable at the pre-project stage while others for projects that are underway.

1. Opportunities:

In considering reasons and options for peer reviews of forest landscape restoration pledges, we highlight six important opportunities, some of which helped to define the objectives as described in the previous section. For reasons of completeness and to put more emphasis on these opportunities however, they are repeated here.

a) Identifying knowledge gaps/deficiencies

The process of reviewing projects would be valuable to identify specific gaps in knowledge, in implementation approach or also to point out potential stumbling blocks or concerns. A review could serve to define a roadmap for potential pledges so that they can eventually achieve "pledge status". In other words, it may be a means of empowering some potential contributors who are not yet at the stage of contributing a pledge but who could, with the right guidance and recommendations, eventually become full contributors to the Bonn Challenge.

> *For example, the African Peer Review Mechanism (NEPAD, 2003) aims to review the policies and practices of participating states to "ascertain progress being made towards achieving mutually agreed goals and compliance with agreed political, economic and corporate governance values, codes and standards as outlined in the Declaration on Democracy, Political, Economic and Corporate Governance."*

b) Strengthening credibility of the pledges

A major opportunity and value of the peer review process would be to provide greater credibility to the pledges. Having a process whereby experts can endorse the pledges and/or provide recommendations for their future, ensures that these pledges can indeed be safely considered as validated. The alternative is that without such a process, bold statements could be made by the GPFLR and other advocates of the Bonn Challenge but with limited tangible results, leading to a loss of faith in the value of the Bonn Challenge and in the reliability of the pledges.

> *For example, assertions that "The Bonn Challenge target is ambitious but attainable; achieving it will have a dramatic impact on jobs, economic growth and the natural environment in parts of the world with currently bleak prospects" (GPFLR, no date) could be justified only by some form of monitoring. In Algeria for example, in the 1970s-1980s job-creation among youth was considered a key reason for afforestation. However, as this socio-economic priority took precedence over ecological considerations, such as the choice of species and methods, the result was relatively poor levels of forest establishment (Bensouiah, 2004).*

c) Addressing feasibility and viability

At the most basic level, a peer review serves to identify the feasibility and viability of a proposed project. Forest restoration is a long term process, and any commitment at the landscape scale will need to be both feasible and sustainable. A peer review process would consider the basic elements of an evaluation which could be related to: scope, funding, stakeholder engagement, etc. In essence, the peer review would serve to define whether the proposed pledge is realistic and can be effectively implemented in the long term (and if not, make the necessary recommendations for it to be so).

> *For example Zhai et al. (2013) found that on Hainan Island, after 13 years of implementing the Sloping Land Conversion Programme which was intended to help restore forest cover, the area of natural forest had actually decreased and was replaced by pulpwood plantations. A review earlier in the process may have helped to improve the implementation of the policy.*

In the context of FLR and the Bonn Challenge, it would signify looking specifically at implementation arrangements and whether these are likely to lead to improved design, effectiveness, efficiency, impact and sustainability using guidance from standard project evaluations. Sustainability would consider in particular the following dimensions: a) financial sustainability, b) stakeholder engagement, c) policy and enabling framework and d) whether the underlying causes of forest loss and degradation have been addressed.

d) Seizing a communication opportunity

The peer review process presents communication opportunities and a means of promoting a project as well as engaging other stakeholders in a project area. In this respect, communications is important not only to promote a project (and concept) but also to officialise it and engage stakeholders.

e) Comparing and aggregating pledges

Another important opportunity provided by the peer review process would be to offer a means of comparing and aggregating pledges. Without a common methodology to consider pledges, it may be difficult to add up pledges to determine overall progress on the target of 150 million ha.

For example, in the early 2000s WWF had a target to achieve 10 forest landscape restoration initiatives. The target was purposefully chosen not to be a hectare-based one because of the recognized risks in simply counting hectares regardless of quality. Nevertheless, it still proved difficult to compare different types of projects (e.g.: some policy-based projects against field-based ones). The organization distinguished between different types of projects: Type I representing projects that built on existing work, Type II representing specific interventions that helped to create the right conditions for FLR to happen and Type III representing integrated, multi layered projects/programmes with interventions at different levels (community, policy, research etc.).

f) Lesson learning

*"The Global Partnership on Forest Landscape Restoration is facilitating interested parties to make these voluntary pledges, to network with and **learn** from each other, to **share** and **document** their experiences and celebrate their successes, and to record progress made against the Bonn Challenge target and the contribution to CBD and UNFCCC commitments that governments have already made."* (GPFLR, no date).

A peer review process, as seen above in Chapter I, represents an opportunity to innovate, raise the bar and learn. The peer review process could be a highly valuable tool in the framework of the GPFLR learning approach. Implications are that emerging lessons can be collected, shared and benefit others.

For example, in Madagascar's Fandriana-Marolambo landscape, while before the WWF projects (Roelens et al., 2010) communities only had knowledge about a handful of exotic species of trees, thanks to the French-funded WWF project, over 80% of trees planted after 2010 were indigenous. The project thus helped to expand local restoration knowledge and also contributed to a wider body of knowledge on FLR (Mansourian and Vallauri, 2013).

2. Challenges

A number of challenges and risks arise for a peer review process related to FLR pledges. Some of these challenges and risks relate to the nature of the **peer review process,** specifically as concerns the overall organisational and management aspects of peer reviewing such projects.

2.1. Challenges related to the peer review process

a) Independence of reviewers

"The objectivity of editors and reviewers can also be jeopardized by ideological differences, avoidance of unconventional ideas, and conflicts of interest. Reviewers may allow their beliefs to influence their reviews." (Benos et al. 2007)

The selection of reviewers, both in terms of their impartiality and the overall composition of the team (see next item) are critical to the value of the review process. Because of the potential costs involved, however, there may be a risk that reviewers closer to the projects might be selected, at the cost of the overall objectivity of the review. Equally, depending on who remunerates reviewers, there could be a potential loss of objectivity. Clearly, a reviewer should not have a financial or political interest in a pledge or project that would substantially compromise his/her ability to contribute useful information and unbiased opinions to the review process. At the same time, too much emphasis on impartiality may disqualify too many potential reviewers with requisite expertise.

b) Composition of review team

Given the cross-sectoral nature of FLR, reviewers would need to have complementary expertise and include at least both social and bio-physical sciences. While this would add to the cost of the process and the overall complexity, it would be essential in order to effectively consider the different dimensions of FLR. For example, while foresters may assess the choice of species and techniques applied for restoration practices, sociologists or political scientists may focus on the level of community engagement and any underlying policies that may influence the likely success of the actions. Ultimately an effective review team will have a good balance of expertise and represent a range of affiliations that will strengthen their ability to make judgements about trade-offs likely to be encountered in FLR projects (e.g., among economic, ecological, and social considerations).

c) Cost of review

Methods highlighted in Chapter 1 for a review process include interviews and field visits which are costly. Nevertheless, depending on the type of project and scale, they are a highly valuable means of assessing the real nature of the actions and of progress. This is even more important for complex projects such as FLR. Inevitably, however, the level, extent and periodicity of peer reviews will be constrained by costs.

d) Limited manpower and time to carry out peer reviews

The scale of the Bonn Challenge signifies that a vast number of individual pledges will be required to reach the target, thus, leading potentially to a large number of peer reviews. Furthermore, more than one peer review per project may be necessary. This will have implications in terms of experts' availability and a large pool of experts is likely to be necessary.

e) Availability, reliability and accuracy of data

Reviewers will need access to several sources of data, and will rely to a large extent on the proponents of pledges for this data. In this respect, there may be a risk that some data may not be available, or may not be of sufficient reliability or quality. Indeed incomplete information may lead to poor peer review outcomes.

f) Timeframe between reviews

Reviews may be necessary at different phases of an FLR project. For example, early in the pledging process a peer review would be important to assess the proposed approach. However, importantly as the project or actions evolve, it would seem useful and/or appropriate to undertake further reviews in order to: a) define whether progress is according to expectations, b) to identify whether any changes are necessary, c) assess the sustainability of actions and d) make any useful recommendations to ensure the long term success of the initiative.

g) Over-inclusion

"The pledging mechanism is only designed to support and collectively report on voluntary action and does not aspire to assume a verification or accountability function." (GPFLR, no date).

There is an underlying intention of the Bonn Challenge not to reject pledges, but rather to be highly inclusive. As a result there is a risk that less attention might be paid to the quality of pledges. An objective review process would help to minimize this risk.

Further challenges relate to the **FLR process** per se in the framework of the Bonn Challenge. They relate to the specific content of FLR projects. These include:

2.2. Challenges related to a review process of FLR projects within the Bonn Challenge

a) What is actually counted?

A clear challenge presented by the nature of the Bonn Challenge target, which is in hectares, relates to measurement of the area impacted. There may be cases where the pledge relates to a political statement, translated through a new law, which in turn may be reflected in a forest policy. However, ultimately the number of new hectares on the ground may take several years to even start to appear as a result of that policy. Should the commitment (new policy) count or should the translation of the commitment into reality on the ground count? And in that case is it the specific number of hectares restored or is it the area impacted (landscape) that is counted (given that the latter may be subject to much interpretation)?

b) Comparability of results

Within the Bonn Challenge some pledges may be at the level of policies, others may be more specifically about projects to reforest large areas. The challenge will be to find ways of comparing and aggregating such disparate projects (which all ultimately lead to the same result of increasing the area of forested landscapes). In this respect, some results may be more apparent in the shorter term, while others may take much longer to be visible.

c) Duration and sustainability of results

The ultimate aim of FLR initiatives and of the Bonn Challenge is to contribute to long term ecological processes (including increasing resilience) with benefits for humankind (including future generations). However, there is a risk that unless undertaken appropriately, the "race" to achieve the Bonn Challenge target could lead to a number of unsustainable efforts being included.

d) Scale at which assessment is made

The scale of the impact of FLR (the landscape) begs the question of the scale of review. For instance which stakeholders would need to be interviewed? In some cases it may suffice to focus on a part of the landscape where specific actions are taking place, but in others, in order to assess the broader ecosystem services or the overall benefits provided to local populations, a much larger scale would need to be considered.

e) Double-accounting

Pledges for FLR projects under the Bonn Challenge, represent a unique opportunity to improve forest cover around the world. However, it will be important to ensure that these pledges represent additional commitments and are not already ongoing processes. Existing initiatives and pledges could be re-packaged to contribute to the Bonn Challenge, thus leading to double accounting. In this respect, given that the Bonn Challenge was launched in September 2011, officially pledges should be all post-September 2011. Nevertheless, it will be difficult to clearly demarcate efforts that were in the pipeline just before that cut-off date from those that are clearly additional and emerging exclusively in response to the Bonn Challenge.

f) Use of unsuitable practices given local conditions

While there is no standard recipe for FLR, the strict interpretation of the approach or its replication in different places may lead to practices that are not suitable to local conditions. As a result, while the approach may adhere to specific FLR requirements or guidelines, the actual practices may in some cases not be sustainable because of the local reality.

> *For example in the Brazilian cerrado it was found that restoration techniques involving soil and vegetation disturbances, such as ploughing or mechanically digging holes to plant seedlings, may actually slow recovery by reducing the density of naturally regenerating trees (Sampaio et al., 2007).*

g) Poor level of consultation

To date the vast majority of pledges have been made by governments, although pledges are anticipated and encouraged from a range of proponents including communities and the private sector. There is a risk that in a rush to submit pledges, proponents fail to consult local stakeholders to the extent necessary. While in some cases such consultation may happen after the pledge has been made, in other cases this lack of consultation may actually lead to low buy-in and ultimately impede or slow implementation.

h) Policy impediments

Supportive policies are necessary for the effective implementation of FLR. Furthermore, FLR may be negatively affected by some policies. For example, policies that support wide-scale agriculture or plantations via subsidies may seriously hamper the development of effective FLR by providing a perverse incentive for monoculture plantations with limited or no social or ecological benefits.

i) Failing to address underlying drivers of forest loss and degradation

Unless the underlying causes of forest loss and degradation are effectively addressed, the implementation of forest landscape restoration will not be sustainable. Yet underlying drivers of deforestation and degradation may be overlooked in the urgency to achieve hectares-based targets.

j) Lack of clear performance metrics

Currently there is a lack of clear performance metrics for FLR within the GPFLR and unless this can be addressed, it will have a direct impact on reviewing progress towards the Bonn Challenge. Without clear performance metrics, there is significant room for interpretation with resulting vagueness. Specifically, unless there is clear guidance on how to define pledges, it will be difficult to review pledges. Equally, unless there is clear guidance on what counts towards the hectare-based Bonn Challenge target, it may prove not only difficult to achieve, but may also lead to hectares of restored forest of limited quality and benefit.

Conclusions

There are several opportunities and challenges related to reviewing FLR pledges under the Bonn Challenge. These relate to the implementation of FLR per se but also to the peer review process of such complex and long term projects. Such considerations will need to be taken into account when finally designing an efficient peer review process.

Chapter V. Conclusions and Recommendations

A peer review process for forest landscape restoration projects would be a useful contribution to the overall goal to restore the world's degraded or deforested landscapes. This is even more valuable in the framework of the Bonn Challenge which aims to restore 150 million ha of forests by 2020.

Through this study a number of key points emerged:

1. A peer review process for FLR projects under the Bonn Challenge would need to be **tailor made**, taking into account the various considerations and examples raised through this feasibility study.

2. From an organisational point of view, peer reviewing FLR projects will require at the very least an **administrative body responsible** for organising peer reviews, a pool of competent, multi-disciplinary and unbiased reviewers, and a dedicated budget.

3. Seven key elements can be identified for an effective peer review process under the Bonn Challenge: the overall management of the peer review process, the credibility of the reviewers, standards against which to assess or review, baseline data, implementation of the assessment process itself, recommendations emerging from it, and ultimately, the use of the review results.

4. Defining a peer review process for the Bonn Challenge also provides an opportunity to improve guidance and standards for pledges under this initiative.

5. A peer review process within the Bonn Challenge could take place at different **stages**: firstly at the stage of defining pledges, then during different stages of implementation. In each case, the **objective** of the peer review would differ (Figure 5).

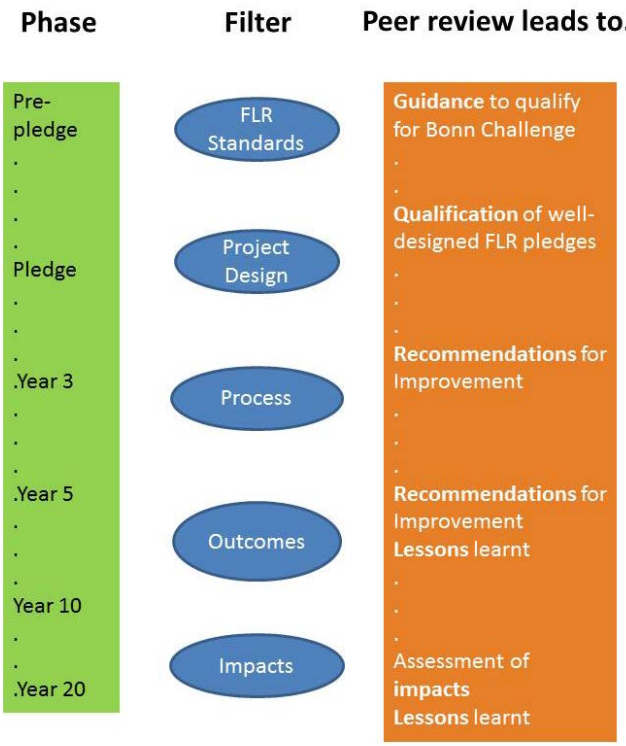

Figure 5: at different stages, a peer review process leads to different outcomes

6. Reviewing FLR projects implies having first clear **standards** against which reviewers can assess FLR pledges. Such standards currently do not exist and would need to be developed as a matter of urgency.

7. **Four objectives** are proposed for peer reviews under the Bonn Challenge which may all be applied together or individually to any given project or pledge. These are: whether the projects/pledges really are undertaking FLR and demonstrating a case beyond "business as usual", whether the project is well designed, efficient, effective, and sustainable, providing guidance and/or a roadmap to achieve pledge status (or to qualify as FLR projects), and lastly, lesson learning.

8. A close examination of **opportunities and challenges** for a peer review process reveals the complexity of the process and should be taken into consideration to pre-empt some of the possible pitfalls associated with designing the peer review process for the Bonn Challenge.

9. This feasibility study has aimed to identify a range of issues that need to be considered for the development of a peer review process for the Bonn Challenge. Follow up on these issues will include a number of steps, possibly including a pilot phase.

Next steps could include the following:

i. Clarify guidance, terminology and standards for FLR within the Bonn Challenge
ii. Clarify who will manage peer review process and with what capacity and budget
iii. Pilot a peer review with some of the existing pledges (or pre-pledges) with the three objectives of improving design, ensuring that the projects apply basic dimensions of FLR and providing recommendations or a roadmap for improvements.
iv. Use the above pilot phase to refine the peer review process.
v. Set up a learning platform to share lessons emerging from the reviews including facilitating discussion among implementers and interested parties.

Overview of Recommendations:

Recommendation 1: *There needs to be a clear description of what it signifies to commit a pledge under the Bonn Challenge.*

Recommendation 2: *A manager or managing entity needs to be identified for the peer review process under the Bonn Challenge and operational details (e.g. budget, roster of reviewers, modalities of review process) should be clarified.*

Recommendation 3: *Capacity building should be an essential consideration when reviewing ongoing pledges under the Bonn Challenge.*

Recommendation 4*: Simple but clear guidance will need to be developed and made widely available to those interested in submitting pledges. This guidance should include agreed standards for FLR (e.g. clear sub-elements of the definition of FLR, minimum requirements, principles and criteria for FLR projects etc.) which can also be used during the peer review process.*

Recommendation 5*: The GPFLR should consider adapting the 10 landscape approach principles specifically to FLR.*

Recommendation 6: *If principles for FLR are going to be used within the framework of the GPFLR and the Bonn Challenge, one single set should be used and then consistently applied.*

Recommendation 7: *It might be helpful to develop a glossary of terms associated with the GPFLR and with the Bonn Challenge.*

Recommendation 8: *If the Bonn Challenge plans to use criteria, these should be further refined and should coincide with a single set of clear principles for FLR.*

Recommendation 9*: Reviews under the Bonn Challenge should not be considered a "one-off" but should instead be repeated at different stages as a means of adding value to the entire GPFLR and Bonn Challenge process. At different stages, as information and progress increase, the type and/or extent of review might differ.*

Recommendation 10: *Next steps could include the following:*

i. *Clarify guidance, terminology and standards for FLR within the Bonn Challenge*
ii. *Clarify who will manage a peer review process and with what capacity and budget*
iii. *Pilot a peer review with some of the existing pledges (or pre-pledges) with the three objectives of improving design, ensuring that the projects apply basic dimensions of FLR and providing recommendations or a roadmap for improvements.*
iv. *Use the above pilot phase to refine the peer review process.*
v. *Set up a learning platform to share lessons emerging from the reviews including facilitating discussion among implementers and interested parties.*

Importantly, a peer review process provides useful information that enables decision-makers to take informed decisions. However, for decision-makers to be able to use such a peer review process to guide them, it should include a minimal set of elements (including for example, credible reviewers and standards - see Figure 2), without which it would not qualify as a real peer review.

Ultimately the peer review process for pledges under the Bonn Challenge should be simple, clear and provide useful data to proponents, potential proponents and relevant decision-makers. It should be grounded in a solid framework that includes adequate metrics.

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