Hydropower Sustainability Assessment Protocol

Background Draft3 Final 28th June 2010

About this Document

The Hydropower Sustainability Assessment Forum (HSAF, or "the Forum") is close to the end of its more than two year process of reviewing the IHA Sustainability Assessment Protocol 2006 and making recommendations on a Hydropower Sustainability Assessment Protocol 2010. Opportunities that were identified by the Forum in their review of the IHA SAP 2006 included better reflecting the inputs and views of other sectors, improving on emerging concepts (e.g. environmental flows, project benefits), increasing objectivity, greater clarity on thresholds and scoring, greater ability to scale to different size projects, improving support information (e.g. technical guidance notes), greater harmonisation with other standards, and broader ownership and wider application.

This document is one of a consecutive series of documents that has been developed through the Hydropower Sustainability Assessment Forum process, in working towards a Recommended Final Draft Hydropower Sustainability Assessment Protocol to present to Forum member organisations to consider for adoption (in the case of IHA) and endorsement (in the case of all other Forum members).

Leading up to this document has been:

- the HSAP Key Components Document (January 2009) released for the HSAF Consultation Phase 1;
- the Preliminary Draft HSAP (May 2009), circulated internally for Forum member comment;
- a draft Draft HSAP (June 2009), provided in the Forum Meeting 7 papers;
- the Draft Hydropower Sustainability Assessment Protocol (August 2009) released for the HSAF Consultation Phase 2 and global trialling;
- interim redrafting documents between Forum Meetings 8 and 9 (HSAP Outline Documents February and March 2010; HSAP Draft0 Final documents April 2010);
- HSAP Draft1 Final documents 26 April 2010, provided in the Forum Meeting 9 papers; and
- HSAP Draft2 Final documents 24 May 2010, incorporating agreements arising from Forum Meeting 9.

This document is one of a set of documents that comprise the HSAP Draft3 Final. This document provides the HSAP Draft3 Background (previously Introduction) document with acceptance of proposed edits from Forum members to the HSAP Draft2 Final 24th May 2010, as well as acceptance of Forum Coordinator proposals for the way forward where there were conflicts or issues with proposed edits. There is a track changes version of this same document that has been distributed that shows all proposed edits and accompanying comments and proposals. Colour codes used in the track changes version have been retained in this document. Those items that are highlighted in blue have been identified by the IHA as high priority proposed edits, and those in yellow as second order priority proposed edits.

The intention is for Forum members and their reference groups to review the Background documents (both track changes and changes accepted versions) and the other accompanying documents that comprise the HSAP Draft3 Final – Early Stage, Preparation, Implementation and Operation documents – in preparation for the Forum's final meeting via Webinar 6 on the 15th of July 2010. By viewing this version with all track changes and proposals accepted, the Forum members can read this cleaner version and consider if they have any issues with the acceptance of any of the proposed edits.

This and the preceding page would be deleted in the Hydropower Sustainability Assessment Protocol 2010 that is ultimately released as a public document, and the following represents what is proposed to be presented as the Forum's Recommended Final Draft Protocol – Background document.

Final Draft Protocol recommended by the Hydropower Sustainability Assessment Forum to its member organisations for adoption and endorsement

Published by the International Hydropower Association

INTERNATIONAL HYDROPOWER ASSOCIATION
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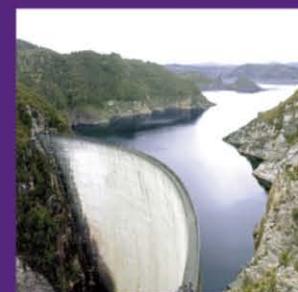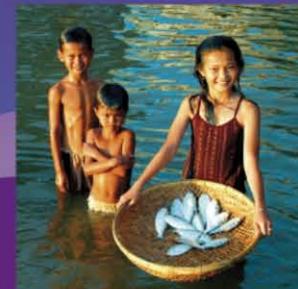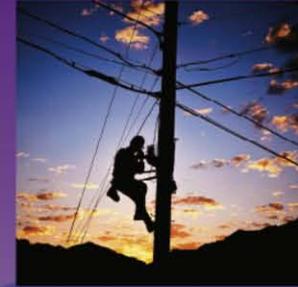
Recommended Final Draft
Hydropower Sustainability Assessment Protocol

July 2010

Background
Document

The following organisations endorse this Protocol

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Development of the Protocol

This document is the Background that accompanies a set of four stand-alone assessment tools, with all five documents being collectively referred to as the Hydropower Sustainability Assessment Protocol (the "Protocol").

The Protocol is a revision, update and expansion to the IHA's Sustainability Assessment Protocol 2006. It was developed at a time of a resurgence of interest in hydropower as a result of increasing requirements for a low carbon economy, energy security and improved water management. This growing interest has been alongside disparate approaches to assess new and existing hydropower projects at local, national and regional levels.

The IHA in close collaboration with a range of partners launched the Hydropower Sustainability Assessment Forum (the "Forum") in March 2008. The Forum's aim was to develop an enhanced sustainability assessment tool to measure and guide performance in the hydropower sector, to provide more consistency in the approach to assessment of hydropower project sustainability, based on the IHA Sustainability Assessment Protocol 2006. The Forum comprised representatives of organisations from a diversity of sectors, with differing views and policies on sustainability issues related to hydropower development and operation. The 14 Forum members included representatives of governments of developed and developing countries, commercial and development banks, social and environmental NGOs, and the hydropower sector.

The Forum operated for just over a two year period. Following the Forum launch in March 2008 in Washington DC, Forum meetings were held in July 2008 (USA), September 2008 (Zambia), October 2008 (China), December 2008 (Brazil), March 2009 (Turkey), June 2009 (Iceland), February 2010 (France), and May 2010 (Laos). Six webinar meetings were also held, to enable additional dialogue on key issues in between formal meetings. Forum members systematically discussed the sustainability issues important to hydropower, received expert input on these issues, evaluated important reference standards, evaluated experiences of application of the IHA Sustainability Assessment Protocol 2006, developed progressive drafts, undertook two global consultation processes, undertook a global trialling program of a Draft Protocol August 2009, and benefited from the inputs and advice of references groups to the Forum members in review of the progressive drafts. The HSAF Knowledge Base [weblink to Forum part of IHA website] houses many of the inputs into the Forum process.

The Forum operated with transparency, goodwill and by consensus. The Hydropower Sustainability Assessment Protocol 2010 captures a considerably high level of convergence amongst the diverse views of Forum member organisations on how to best incorporate into this assessment tool the issues relevant to hydropower sustainability. All Forum members can see how their input has influenced and added value to the final form of this Protocol. In many cases participants in the Forum process were willing to make compromises in the interests of achieving consensus and producing a product. There are divergent views amongst Forum member organisations on some Protocol content, and these will be part of a set of important priorities to focus on in future evolution of the Protocol. Full background on the Hydropower Sustainability Assessment Forum and the process leading to development of the Protocol, and more detail on these organisational views on the final Protocol, can be found at [weblink to Forum part of IHA website].

The Protocol has been adopted by the International Hydropower Association (IHA) and endorsed by those organisations whose logos appear on the front cover. In adopting and endorsing this Protocol, these organisations agree that the Protocol has the potential to make a substantial contribution to advancing sustainability in the hydropower sector, and these organisations will actively promote it. The Protocol will be subject to ongoing evaluation and refinement over time, as experience in Protocol application will assist future reviews and refinements of Protocol structure, content and instructions for use. More detail

on the governance of application and evolution of the Protocol can be found below, and on the IHA website.

The Protocol Purpose and Target Users

The Hydropower Sustainability Assessment Protocol is a sustainability assessment framework for hydropower projects and operations. It outlines the important sustainability considerations for a hydropower project, and enables production of a sustainability profile for that project. The scoring is calibrated against statements of basic good practice and proven best practice. By setting out a graded spectrum of practice, the Protocol educates, promotes and fosters continuous improvement in hydropower development and operation. Four assessment tools are dedicated to different life cycle stages of a hydropower development, as the critical topics to evaluate performance differ in these different stages. A Protocol assessment relies on objective evidence to support a score, that is, evidence that is factual, reproducible, objective and verifiable.

Evaluations may be used to inform decisions and can assist in continuous improvement. Reasons for undertaking an assessment are not limited; they could for example be for risk assessment and industry planning, to assist in external dialogue, or to support a case for decision-making.

The identification, evaluation, preparation, implementation and operation of a hydropower project involves many different actors with different roles and responsibilities. In some cases, these may be public sector, private sector, or partnership projects. Roles and responsibilities can change as the project progresses through its life cycle. The organisation or partnership with the primary responsibility for a project at its particular life cycle stage will have a central role in any Protocol assessment. It is recognised this organisation may not have the major responsibility for all Protocol topics; roles and responsibilities for different sustainability topics will be discussed in a Protocol assessment and indicated in the assessment report.

IHA and the endorsing organisations encourage the Protocol to be used in support of advancing sustainable hydropower. It is available, without charge, to be downloaded from the IHA website by all interested parties. The Protocol is free to be used for non-commercial purposes, such as informing dialogue, guiding business systems and processes, and for in-house assessments.

The Protocol, with its previous drafts, is protected by IHA through international intellectual property law, including copyright. Translations and any commercial use of the Protocol are controlled by license. The Protocol may not be translated or reproduced, in full or in part, without prior written permission from the copyright holder. Training and formal use of the Protocol will be implemented by license agreement. Such activities include: training services and associated materials, accreditation of assessors, any income- and fee-generating activities relating to the Protocol, and disclosure of Protocol assessment results.

IHA and the endorsing organizations seek feedback and suggestions for improvement of future versions of the Protocol.

Principles Underpinning the Protocol

- Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
- Sustainable development embodies reducing poverty, respecting human rights, changing unsustainable patterns of production and consumption, long-term economic viability, protecting and managing the natural resource base, and responsible environmental management.

- Sustainable development calls for considering synergies and trade-offs amongst economic, social and environmental values. This balance should be achieved and ensured in a transparent and accountable manner, taking advantage of expanding knowledge, multiple perspectives, and innovation.

- Social responsibility, transparency, and accountability are core sustainability principles.

- Hydropower, developed and managed sustainably, can provide national, regional, and local benefits, and has the potential to play an important role in enabling communities to meet sustainable development objectives.

What is a Sustainable Hydropower Project?

The principles underlying this Hydropower Sustainability Assessment Protocol, combined with results of a Protocol assessment, provide an important framework for considering questions about the sustainability of any particular hydropower project.

There is a common view across a diversity of sectors (e.g. governments, NGOs, civil society, industry, banks) on the important sustainability considerations that need to be taken into account to form a view on hydropower project sustainability. The Protocol captures these considerations in a structured framework, and provides a platform from which to produce a sustainability profile for a project.

The Protocol is designed for the Level 3 scores, describing basic good practice, to be broadly consistent with the IHA Sustainability Guidelines 2004, and where there are gaps or inconsistencies that any future review of these IHA guidelines would consider these.

Organisations may hold different views on what levels of performance are linked to a sustainable project, and the Protocol makes no specification on requirements for acceptable performance. All countries and organisations adopting and endorsing this Protocol respect the need for institutions to have their own policies and positions on acceptable performance for a hydropower project. All organisations expressing support for the Protocol recognise that a Protocol assessment can make a substantial contribution towards understanding and achieving sustainable projects. In producing a sustainability profile, the Protocol can help inform decisions on what is a sustainable project; decision-making on projects is left to individual countries, institutions and organisations.

Protocol Structure

The Protocol comprises five documents –this Background document and four assessment tools for the different stages of the project life cycle, as shown in Figure 1.
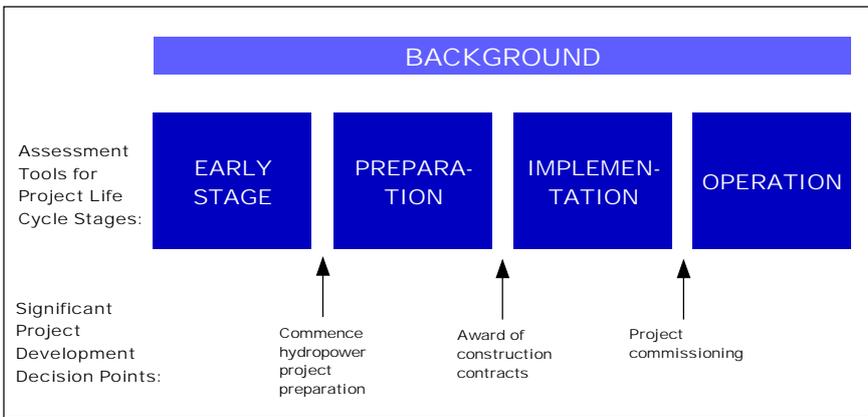

Figure 1 - Protocol Assessment Tools and Major Decision Points

Protocol Assessment Tools

The four Protocol assessment tools – Early Stage, Preparation, Implementation, and Operation – are designed to be stand-alone assessments applied at particular stages of the project life cycle. An assessment with one tool does not depend on earlier stage assessments to have been undertaken. The assessment tools are designed to be applicable up to major decision points in the project life cycle (shown in Figure 1), and are most effective where there are repeat applications to help guide continuous improvement measures. Results of assessments undertaken during a project stage have the potential to assist in defining further measures to be undertaken during that project stage, or to inform the key decisions that would be made at the end of that project stage.

The **Early Stage** assessment tool is a preliminary screening tool to assess the strategic environment from which proposals for hydropower projects emerge. It identifies project risks and opportunities at an early stage, in order to identify the challenges and management responses to proceed with a more detailed project investigation. The Early Stage assessment tool may also be usable for other broader purposes, such as the identification of opportunities to improve the sustainability context of hydropower investments. The Early Stage assessment tool differs from the other three assessment tools in that it is an assessment guide but not a scoring protocol. This is because there is not a clearly formulated project at this stage, nor a strong basis of information from which to derive sustainability scores. A further difference is that early investigations about potential project possibilities are often of confidential nature given the highly competitive context of a liberalised energy market and the fact that developers have not yet decided whether to invest in more detailed studies. As long as no public announcement about project intentions has been made, this Early Stage assessment tool offer a means to encourage better early stage analysis and identification of knowledge gaps. As soon as detailed technical, environmental, social and financial feasibility studies are undertaken, often under a strict governmental process, the use of the Preparation assessment tool will be appropriate.

The **Preparation** assessment tool assesses the preparation stage of a hydropower project, during which investigations, planning and design are undertaken for all aspects of the project. This project stage is normally subject to national regulatory processes regarding project-specific Environmental and Social Impact Assessment (ESIA) requirements as well as project management processes. Following project preparation, there is a critical decision point in the decision to award the construction contracts. An assessment conducted at this point in time would assess whether all preparatory requirements have been met, management plans are in place, and commitments are appropriate and binding. This Protocol assessment tool can be used prior to, and to inform, the decision to move forward with project implementation. This decision is governed by national regulatory processes to obtaining a construction permit and an operating license based on the ESIA and project specific governmental requirements. Following this point, construction commences along with relevant elements of environmental and social management plans.

The **Implementation** assessment tool assesses the implementation stage of a hydropower project, during which construction, resettlement, environmental and other management plans and commitments are implemented. Commissioning of the power station enables the project to start to earn money, and in fact often some units (i.e. turbines) of a multiple unit power station are commissioned while others are still being installed to assist in meeting the financial commitments of the project. An assessment made prior to the decision to commission any units would assess whether all commitments have been met, and can inform the timing and conditions of project commissioning.

The **Operation** assessment tool assesses the operation of a hydropower facility. This Protocol assessment tool can be used to inform the view that the facility is operating on a sustainable basis with active measures in place towards monitoring, compliance and

continuous improvement. This project phase is framed by the operating conditions put forth in a national governmental authorisation often called operating license.

A project may be at an early or late point in the project stage when an assessment is undertaken. Assessments may be forward looking (i.e. what activities should be undertaken) or backward looking (reflecting on how well activities were undertaken). The Protocol is designed for repeat application, and an assessment undertaken early in a life cycle stage may guide activities that would result in stronger performance in a later stage assessment. There may be overlap between stages of the project life cycle (e.g. implementation activities during project preparation, or turbines commissioned while implementation activities are still progressing). If a project is in transition between stages, the choice of which assessment tool to use depends on the purpose of the assessment.

Hydropower projects tend to have an extensive lifetime, with many operating facilities having been in service for more than a century. The Early Stage assessment tool can provide guidance on some of the important considerations to take into account for decisions relating to facility or transmission network re-optimisation, facility life extension or decommissioning. Project decisions relating to major refurbishment would utilise the Preparation assessment tool. In the case of re-licensing or minor refurbishment, the Operations assessment tool would be appropriate for the assessment.

Protocol Topics

Within each Protocol assessment tool is a set of topics important to forming a view on the overall sustainability of that project at that point in its life cycle. Topics, when taken together, provide the list of issues that must be considered to confidently form a view on the overall sustainability of a hydropower project at a particular point in its life cycle.

Figure 2 shows the perspectives which are captured by the Protocol topics. It is recognised that an individual topic is not always neatly labelled as a particular perspective. For example, water quality may be typically seen as an environmental perspective, but poor water quality may have strongly negative social consequences. Some of the topics provide an integrative function across the other perspectives, for example Integrated Project Management.

Integrative Perspective			
Environmental Perspective	Social Perspective	Technical Perspective	Economic / Financial Perspective

Figure 2 – Perspectives Represented by Protocol Topics

Table 1 provides a list of topics for each assessment tool. As can be seen, there are topics which address each perspective shown in Figure 2, including topics which are integrative in nature such as Governance, or Siting & Design. Not every topic will be relevant to every project, and so at the front of the Preparation, Implementation and Operation documents is a Topic Relevance Guide to assist in determining relevant topics. For example, if there is no Resettlement the Resettlement topic does not need to be assessed.

ES - Early Stage	P - Preparation	I - Implementation	O - Operation
ES-1 Demonstrated Need	P-1 Communications & Consultation	I-1 Communications & Consultation	O-1 Communications & Consultation
ES-2 Options Assessment	P-2 Governance	I-2 Governance	O-2 Governance
ES-3 Policies & Plans	P-3 Demonstrated Need & Strategic Fit		
ES-4 Political Risks	P-4 Siting & Design		
ES-5 Institutional Capacity	P-5 Environmental & Social Impact Assessment & Mgmt	I-3 Environmental & Social Issues Mgmt	O-3 Environmental & Social Issues Mgmt
ES-6 Technical Issues & Risks	P-6 Integrated Project Management	I-4 Integrated Project Management	
ES-7 Social Issues & Risks	P-7 Hydrological Resource		O-4 Hydrological Resource
ES-8 Environmental Issues & Risks			O-5 Asset Reliability & Efficiency
ES-9 Economic & Financial Issues & Risks	P-8 Infrastructure Safety	I-5 Infrastructure Safety	O-6 Infrastructure Safety
	P-9 Financial Viability	I-6 Financial Viability	O-7 Financial Viability
	P-10 Project Benefits	I-7 Project Benefits	O-8 Project Benefits
	P-11 Economic Viability		
	P-12 Procurement	I-8 Procurement	
	P-13 Project Affected Communities & Livelihoods	I-9 Project Affected Communities & Livelihoods	O-9 Project Affected Communities & Livelihoods
	P-14 Resettlement	I-10 Resettlement	O-10 Resettlement
	P-15 Indigenous Peoples	I-11 Indigenous Peoples	O-11 Indigenous Peoples
	P-16 Labour & Working Conditions	I-12 Labour & Working Conditions	O-12 Labour & Working Conditions
	P-17 Cultural Heritage	I-13 Cultural Heritage	O-13 Cultural Heritage
	P-18 Public Health	I-14 Public Health	O-14 Public Health
	P-19 Biodiversity & Invasive Species	I-15 Biodiversity & Invasive Species	O-15 Biodiversity & Invasive Species
	P-20 Erosion & Sedimentation	I-16 Erosion & Sedimentation	O-16 Erosion & Sedimentation
	P-21 Water Quality	I-17 Water Quality	O-17 Water Quality
		I-18 Waste, Noise & Air Quality	
	P-22 Reservoir Planning	I-19 Reservoir Preparation & Filling	O-18 Reservoir Management
	P-23 Downstream Flow Regimes	I-20 Downstream Flow Regimes	O-19 Downstream Flow Regime

Table 1 - Hydropower Sustainability Assessment Protocol Topics by Section

Structure of Each Topic Page

Each topic has the following information provided on the topic page:

- **Statements of description and intent** for that topic. The statement of description defines the scope of the topic. The intent statement provides information to help orient the reader and users on why that topic is important to the overall sustainability of the project and what should generally be achieved; it is not tied to any particular scoring level.

- **Scoring statements** at levels 1, 2, 3, 4 and 5 to guide how to allocate scores. These statements are structured around criteria that are considered to be the most pertinent to that topic at that particular stage of the project life cycle. Scoring statements are not found in the Early Stage assessment tool, which is guidance only.

- **Assessment guidance** – this provides definitions, explanations or examples of words, themes or concepts referred to in the topic description, intent or scoring

statements. These are provided to assist the assessor in the assignment of scores. Also provided are examples of potential interviewees and examples of evidence which can guide the design, preparation for and undertaking of the assessment process. Where examples are cited, these are examples only and are provided to assist in understanding; these should not be interpreted as absolute requirements or assumed that all components must be met.

Assessment Criteria

There are six criteria that may be utilised for the scoring statements on each topic – Assessment, Management, Stakeholder Engagement, Stakeholder Support, Conformance/Compliance, and Outcomes. These provide an ability to assess both the processes in place to ensure sustainability of the project or operation, and the performance of that project or operation on that particular sustainability topic.

Understanding the Protocol's Gradational Assessment Approach

The gradational approach undertaken in the Preparation, Implementation and Operation assessments tools can be understood by examination of Table 2. This table provides general guidance on characteristics that are likely to be exhibited for these different criteria at the five different scoring levels. The scoring statements found in the Preparation, Implementation and Operation assessment tools have been guided by the approach shown in Table 2. This table is not intended to be the basis for assigning of scores, as sufficient information generally should be provided on the topic pages. However, this table can be referred to during an assessment if there is insufficient information in the topic scoring statements and in the topic-specific assessment guidance to help the assessor to determine a score. If there are questions in the assessment process about whether the assessment, management and stakeholder engagement approaches are sufficient for basic good practice, Table 2 may be of assistance.

Glossary of Terms

Definitions for terms that are commonly seen throughout the Protocol are found in the Glossary of Terms, found at the back of each of the four assessment tools, and at the back of this Background document. This glossary generally provides definitions that are not provided on the topic pages, although there may be some overlap if the definition is thought to be of general interest. For example, if there is a term whose definition is critical to a particular topic then the definition will be found on the topic page (e.g. the definition of "indigenous peoples" will be found under Assessment Guidance on the Indigenous Peoples topic page), but this is also provided in the Glossary of Terms.

HSAF Knowledge Base

The Hydropower Sustainability Assessment Forum (HSAF) developed an online HSAF Knowledge Base to capture knowledge brought forward during development of the Protocol. This website can be accessed at [***web link to Forum part of IHA website***]. The HSAF Knowledge Base is a resource with a depth of information on Protocol topics and high profile and cross-cutting issues that can be accessed by those who are interested. The HSAF Knowledge Base identifies a number of the standards that were important reference points for the different topics and themes addressed in the Protocol, and provides links to further information. Important reference points have included the World Commission on Dams 2000 report, the UNEP Dams & Development Project, the IFC Performance Standards, the World Bank and other multi-lateral safeguards policies, ISO standards, and numerous UN declarations and conventions.

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Table 2 - Understanding the Protocol's Gradational Approach
This table captures characteristics that are likely to be exhibited at different scoring levels for each of the criteria used in the Hydropower Sustainability Assessment Protocol

Level	Assessment	Management	Stakeholder Engagement	Stakeholder Support	Outcomes	Conformance / Compliance
5	• Suitable, adequate and effective assessment with no significant opportunities for improvement; • In addition to basic good practice (Level 3), the assessment are likely to take a relatively broader, external or regional view or perspective; emphasise opportunities; and show a high level of examination of interrelationships amongst relevant sustainability issues	• Suitable, adequate and effective management processes with no significant opportunities for improvement; • In addition to basic good practice (Level 3), management plans and processes are likely to show excellent anticipation of and response to emerging issues or opportunities; senior management and/or executive decisions are likely to be timely, efficient and effective in response to monitoring data, investigations and issues arising; and in cases commitments in plans are public, formal and legally enforceable.	• Suitable, adequate and effective stakeholder engagement processes with no significant opportunities for improvement; • In addition to basic good practice (Level 3), the engagement is likely to be inclusive and participatory with the directly affected stakeholders; • thorough feedback is likely to be available on how directly affected stakeholder issues are taken into consideration; • In cases there is likely to be directly affected stakeholder involvement in decision-making; and • Information identified through engagement processes to be of high interest to stakeholders is released publicly in a timely and easily accessible manner	• There is support of nearly all directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or no opposition by these stakeholders; • In cases formal agreements or consent with the directly affected stakeholder groups have been reached for management measures for that topic	In addition to basic good practice (Level 3), there may be exhibited enhancements to pre-project conditions; contributions to addressing issues beyond those impacts caused by the project; leveraging of opportunities; or significant contribution to capacity building	• No non-compliances or non-conformances
4	• Suitable, adequate and effective assessment with only a few minor gaps; • In addition to basic good practice (Level 3), the assessment is likely to exhibit some recognition of broader, external or regional issues; opportunities; and interrelationships amongst relevant sustainability issues	• Suitable, adequate and effective management processes with only a few minor gaps; • In addition to basic good practice (Level 3), management plans and processes are likely to exhibit good anticipation of and response to emerging issues or opportunities; and in cases commitments in plans are public and formal.	• Suitable, adequate and effective stakeholder engagement processes with only a few minor gaps; • In addition to basic good practice (Level 3), there is likely to be good feedback on how directly affected stakeholder issues have taken into consideration; and information on sustainability topics understood to be of high interest to stakeholders is voluntarily released publicly	• There is support of a large majority of directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or only very low opposition by these stakeholders	• In addition to basic good practice (Level 3), there may be exhibited full compensation of negative impacts; some positive enhancements; or evidence of capacity building associated with the project	• Very few minor non-compliances and non-conformances that can be readily remedied
3	• Suitable, adequate and effective assessment with no significant gaps. This would typically encompass (as appropriate to the topic and life cycle stage) identification of the baseline condition including relevant issues, appropriate geographic coverage, and appropriate data collection and analytical methodologies; identification of relevant organisational roles and responsibilities, and legal, policy and other requirements; appropriate utilisation of expertise and local knowledge; and appropriate budget and time span. At level 3 the assessment encompasses the considerations most relevant to that topic, but tends to have a predominantly project-focused view or perspective and to give stronger emphasis to impacts and risks than it does to opportunities.	• Suitable, adequate and effective management processes with no significant gaps. These would typically encompass (as appropriate to the topic and life cycle stage) development and implementation of plans that: • integrate relevant assessment or monitoring findings; • are underpinned by policies; • describe measures that will be taken to address the considerations most relevant to that topic; • establish objectives and targets ; • assign roles, responsibilities and accountabilities; • utilise expertise appropriate to that topic; • allocate finances to cover implementation requirements with some contingency; • outline processes for monitoring, review, and reporting; and • are periodically reviewed and improved as required.	• Suitable, adequate and effective stakeholder engagement processes with no significant gaps. These would typically encompass (as appropriate to the topic and life cycle stage): • Identification of directly affected stakeholders; • Appropriate forms, timing, frequency and locations of stakeholder engagement, often two-way; • Freedom for affected stakeholders to participate; • Attention to special stakeholder engagement considerations relating to gender, minorities, cultural sensitivities, level of literacy, and those who might require particular assistance; • Mechanisms by which stakeholders can see that their issues are recognised and acknowledged, and how they have been or are being responded to; and • disclosure of information on significant sustainability topics (in cases this may be on request)	• There is general support amongst directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or no significant ongoing opposition by these stakeholders	As appropriate to the topic and the life cycle stage, there may be exhibited avoidance of harm; minimisation and mitigation of negative impacts; fair and just compensation; fulfilment of obligations; or effectiveness of implementation of plans	• No significant non-compliances and non-conformances
2	• A significant gap in assessment processes relative to basic good practice (Level 3).	• A significant gap in management processes relative to basic good practice (Level 3).	• A significant gap in stakeholder engagement processes relative to basic good practice (Level 3).	• There is support amongst some directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, with some opposition.	•A significant gap relative to basic good practice (Level 3), for example some deterioration in baseline condition	• A significant non-compliance or non-conformance
1	• Significant gaps in assessment processes relative to basic good practice (Level 3).	• There are significant gaps in management processes relative to basic good practice (Level 3).	• There are significant gaps in stakeholder engagement processes relative to basic good practice (Level 3).	• There is low support amongst directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or a majority oppose	• Significant gaps relative to basic good practice (Level 3), for example deterioration in baseline condition with delay or difficulties in addressing negative impacts	• Significant non-compliances and non-conformances

The HSAF Knowledge Base is not an essential reference for undertaking a Protocol assessment. All information that is essential for assigning scores is found in the assessment tool appropriate to that project life cycle stage. The information presented in the Knowledge Base has neither been the object of a consensus like the five Protocol documents, nor has it undergone a quality control. It will provide a valuable record for future development of knowledge-based support material to accompany the Protocol.

Assigning Scores and Presenting Results

The Preparation, Implementation and Operation assessment tools enable development of a sustainability profile for the project under assessment. For each topic, scoring statements describe what should be exhibited by the project to address that important sustainability issue. It is recognised that different organisations may have the primary responsibility for different sustainability topics. Because it is likely that these responsibilities vary amongst countries and at project life cycle stages, no specification on organisational responsibilities is made in the Protocol scoring statements. It would be expected in the assessment reports to indicate where organisational responsibilities lie.

Scoring Levels

In the Preparation, Implementation and Operation assessment tools, each topic is scored from Level 1 to 5. The Level 3 and Level 5 statements provide meaningful and recognisable levels of performance against which the other scores are calibrated.

Level 3 describes **basic good practice** on a particular sustainability topic. Level 3 statements have been designed with the idea that projects in all contexts should be working toward such practice, even in regions with minimal resources or capacities or with projects of smaller scales and complexities. Note that the Protocol does not state that Level 3 is a standard that must be achieved; expectations on performance levels are defined by organisations that make decisions or form views based on Protocol assessments.

Level 5 describes **proven best practice** on a particular sustainability issue that is demonstrable in multiple country contexts. Level 5 statements have been designed with the idea that they are goals that are not easy to reach. However, they have been proven that they can be attained in multiple country contexts, and not only by the largest projects with the most resources at their disposal. 5s on all topics would be very difficult to reach, because practical decisions need to be made on priorities for corporate/project objectives and availability/allocation of resources (time, money, personnel) and effort.

On the topic pages, the Level 3 statements are provided in full, and the Level 5 statements provide what is exhibited in addition to that described in the Level 3 statement. Consequently, the Level 5 statements are meant to be read in conjunction with the Level 3 statements.

The other scoring levels are represented by standard statements which use basic good and proven best practice as reference points:

Level 1 - There are significant gaps relative to basic good practice.

Level 2 - Most relevant elements of basic good practice have been undertaken, but there is a significant gap.

Level 4 - All elements of basic good practice have been undertaken and in one or more cases exceeded, but there are one or more significant gaps in the requirements for proven best practice.

Methodology for Assigning Scores

The Protocol has been designed so a score can be readily assigned for each sustainability topic in the Preparation, Implementation and Operation assessment tools. The following steps are involved in the assignment of a score for each Protocol topic:

1. The assessor evaluates if the scoring statements for each of the criteria specified at Level 3 are met by the project.

2. If there is a significant gap relative to the Level 3 statements (all or part of a criterion is not fulfilled), then a score of 2 is assigned to the topic.

3. If there is more than one significant gap relative to the Level 3 statements, then a score of 1 is assigned to the topic.

4. If all of the Level 3 statements are met, then the assessor evaluates if the scoring statements for each of the criteria specified at Level 5 are met by the project.

5. If there are one or more significant gaps relative to the Level 5 statements, then a score of 4 is assigned to the topic.

6. If all of the Level 5 statements are met, then a score of 5 is assigned to the topic.

"Significant" means important in effect or consequence, or relatively large. If there are minor gaps, these will not affect the score. That is to say, if there are minor gaps in meeting the requirements specified in the Level 3 statements, a score of 3 is still assigned. The significance of any gap is tested by the assessor through inquiry about the importance or magnitude of the effect or consequence of that gap.

The assessment guidance for each topic is provided to assist the assessor in understanding what is meant by different terms or phrases in the scoring statements. These are not absolute lists of requirements that must be met, but rather are often expressed as examples. The Glossary of Terms is also found in each assessment tool document, and contains many of the commonly used terms throughout the Protocol. The table entitled "Understanding the Protocol's Gradational Assessment Approach" is also included in each assessment tool document; if the assessor is having difficulties assigning scores based only on the topic page information, this table could be referred to as a form of assistance in determining scores,

There is the potential to assign scores for each of the topic criteria appearing on a topic page, in the interests of eliciting greater insights from the assessment. If this approach is taken, the overall score for the topic must be the lowest of all the individual criterion scores for that topic, so that there is no difference in overall outcome between these approaches.

Objective Evidence

The score for each sustainability topic is assigned by the assessor during the Protocol assessment based on review of objective evidence. The Protocol 'assessment' is understood to be the defined and agreed time period during which the assessor is conducting interviews and reviewing evidence towards assigning scores.

The term objective evidence refers to evidence brought to the attention of the assessor by relevant documentation and interviewees. This evidence is used by the assessor to verify whether and to what degree the scoring requirements for a particular Protocol topic have been met.

Objective evidence can be qualitative or quantitative information, records or statements of fact, either verbal or documented. It is retrievable or reproducible, is not influenced by emotion or prejudice, and is based on facts obtained through observation, measurements, documentation, tests or other means. Personal observation by the assessor counts as objective evidence, which makes the site tour an important part of the assessment process.

Interviewees are those individuals with whom the assessor formally meets during the Protocol assessment, and who bring forward information that has bearing on the score assigned for a Protocol topic. A number of interviewees will be representatives of the organisation or partnership with the primary responsibility for the project at that particular life cycle stage; these will hereafter be referred to as "project representatives". Other interviewees may be from key government agencies or stakeholder groups with particular responsibilities, knowledge or insight on a particular sustainability topic or group of topics.

An assessment process is always a sampling process given time and logistical limitations, and the assessor will need to assign scores based on the evidence presented. A nominated lead project representative will be ultimately responsible for ensuring that evidence is provided to justify scores; this includes arrangement of interviews with key stakeholders who are not project representatives. The assessor will be highly conscious of the need for the assessment to be credible. The assessor should work with the lead project representative ahead of time to agree on the purpose of the assessment, how it will be used, what relevant documentation can be provided in advance and how it can be best structured to ensure as high a degree of credibility as possible given the time and logistical constraints.

Documentary evidence as a form of objective evidence is clearly retrievable and reproducible, and so can be a very efficient form of evidence provision in an assessment process. In cases documents may be provided to the assessor on a confidential basis, for example financial data, and this would need to be noted in the assessment report. In the absence of documentary evidence on a particular topic, personal observation and/or interviews can be sources of evidence. Interviews are selective, and should always be targeted at those who are accepted as having clear responsibilities, knowledge or insight on a particular sustainability topic or group of topics (and conversely should not exclude those who are accepted as having clear responsibilities, knowledge or insight on a particular sustainability topic or group of topics). Interviews should never be construed as an opinion poll on the project's sustainability performance, but rather they should be designed to "triangulate" verbal evidence, meaning to get verification from other sources.

The assessor may choose to conduct independent research to identify issues that may have been raised in relation to the project (e.g. media or internet search). This would need to be disclosed to the lead project representative ahead of time, and the project representatives given the opportunity in the Protocol assessment to address and verify any issues identified by the assessor through such means.

Assigning "Not Relevant"

The Protocol is a global assessment tool and there is a lot of variety that must be accommodated, for example project scale and complexity, public or private sector projects, mainstem or tributary stream siting, multi-unit versus single-unit design, single versus multi-use purpose, or reservoir versus run-of-river design. In addition, in the particular context of the hydropower project certain issues may not be relevant; for example, there may be no resettlement or cultural heritage issues that need to be managed.

To accommodate the amount of variety that will be encountered, assessors can identify a topic as Not Relevant if evidence presented supports such a conclusion. At the front of each assessment tool is a topic relevance guide to support such considerations. Also, early in each of the Preparation, Implementation and Operation assessment tools is found the topic relating to assessment and management of environmental and social issues – review of the Environment and Social Impact Assessment documents or related Management Plans should provide credible evidence that helps determine if later topics in the Protocol are not going to be relevant. Assessment guidance notes have also been provided for some topics to assist the assessor in determining if it is Not Relevant.

It may be that in some cases a component of a topic is not relevant. Depending on the project stage of the assessment and specific national contexts a criterion might not be

relevant. In this case the assessor is able to assign a score based on the relevant content of the topic, but should make it clear in the assessment report what was considered not relevant and the evidence on which this determination was based.

Assigning "Not Scored"

The assessor assigns the score at the lowest level for which evidence is available to support the score. Verbal reassurances that evidence exists are not sufficient. In the absence of any interviews or objective evidence the assessor indicates that that topic is "Not Scored". Assigning Not Scored would be appropriate in the case that an important scheduled interviewee is not able to be present at the last minute, in which case a topic may not be able to be assessed. If the assessor commences assessment of a topic, but is not able to verify the objective evidence to support a score, Not Scored should be assigned.

Assigning Not Scored to particular topics will also be relevant in the case that there is an agreement ahead of time that the assessment is a partial assessment, and not all topics will be assessed. The objective of a Protocol assessment is to produce a sustainability profile for the project, so an outcome with Not Scored assigned to any of the topics is considered an incomplete assessment. A project sustainability profile with Not Scored indicated on any of the topics should not be accepted as a representation of that project's sustainability performance.

Relationship of Scores to Compliance with Regulatory Obligations

The preparation, implementation and operating phase of a hydropower project are framed by national regulations. First and foremost, a project is expected to comply with the laws and concessions/permits of the government. The Protocol offers a complementary tool, on a voluntary basis and in the spirit of continuous improvement, that identifies opportunities for improvement with respect to sustainability criteria relevant to an international context.

Compliance with relevant regulatory requirements is expected for all projects, and is an essential component of good practice. National or state requirements may be more or less stringent than the Level 3 statements in the Protocol. The Protocol is a globally applicable assessment tool, and makes no judgements on national requirements which are set for reasons of relevance to that country. There may in fact be cases where local law sets out, for example, compensation measures that a proponent should not legally go above or below.

Compliance with regulatory requirements does not equate to a particular scoring level in the Protocol, but should be recorded by the assessor if it is a substantive issue for the assessment.

If a conflict between regulatory requirements and the level of statements in the Protocol arises as a point of issue in the assessment, the assessor should note if the project has met the regulatory requirements for a particular criterion and what these regulatory requirements are with respect to the Protocol specifications, in addition to assigning a scoring level based on the Protocol specifications. Decision-makers will then be able to determine their own views on this information.

Presenting the Results

Based on the Protocol assessment, a report is developed, a typical structure and content of which might be consistent with that shown in Figure 3. A formal template for reporting and presentation of results will be developed in the future, based on review of application experience as well as better understanding of the needs and interests of utilising organisations.

Analysis of areas of strength, weakness and opportunity, and recommendations for the project, could be included if this has been specifically requested for the assessment report.

EXECUTIVE SUMMARY: Brief statements about the project, purpose of assessment, and outcomes including summary table and diagram of assessment results and any important explanatory or interpretive comments, in a form suitable for presentation to company Executive and Board.

PART 1: ABOUT THE PROJECT AND THE ASSESSMENT

o Project name, location, owner or main responsible organisation

o Assessment dates

o Assessor name(s), title(s), organisational name(s), credentials

o Any observers or partners in the assessment – names, titles, organisations, credentials

o Project lead representative(s) name(s)

o Background information about the project including purpose of the project, capacity, and major lay-out and design features, and stage in the development cycle

o Purpose of the Protocol assessment and agreements on its scope, process and intended outcomes including level of confidentiality

o Disclaimers and confidentiality agreements if any (these may relate to evidence cited, for example financial data)

o Schedule of the assessment

PART 2: PROTOCOL ASSESSMENT FINDINGS

o Summary of outcomes including table and diagram of assessment results and any important explanatory or interpretive comments

o For each topic:

  ▪ Several paragraphs on project context with respect to the topic, including primary organisational responsibilities.

  ▪ Interviewees.

  ▪ Objective evidence by type (visual, documentary, verbal) with comments as appropriate.

  ▪ Scores assigned and reasons for.

  ▪ Explanations for topics that are assigned Not Relevant or Not Scored.

  ▪ Any notes of importance (e.g. regulatory requirements, information gaps, etc).

PART 3: ATTACHMENTS

o Register of documentary evidence viewed (preferably numbered or coded)

o Register of individuals interviewed

Figure 3 –Example Protocol Assessment Report

The emphasis is not on an overall single score or a pass/fail for a project, but rather on provision of a sustainability profile for the project accompanied by information that assists in systematically analysing and understanding the strengths, weaknesses and pathways towards improvement.

In provision of a summary table and diagram, the scores are presented to show topic by topic performance and are not aggregated. If a topic is Not Relevant or is Not Scored, it is shown as such in the report, summary table and summary figure. A simple bar chart, histogram or webgram could work well for a summary figure. Averaging, totalling, or calculating percentages with scores is not intended, as it will mask areas of low performance and hence diminish credibility in the Protocol assessment as an aid to advancing project sustainability.

Preparing for and Conducting a Protocol Assessment

The following is provided as guidance on what might typically be involved in preparing for and conducting a Protocol assessment, based on the experience of utilisation of the previous IHA Sustainability Assessment Protocol 2006 and trialling of the Draft Hydropower Sustainability Assessment Protocol 2009. More formal guidance on steps in preparing for and conducting a Protocol assessment will be developed in the future, based on review of application experience as well as better understanding of the needs and interests of utilising organisations.

Assessments are conducted at the hydropower project site and often also at the project head office. The participants in and time allocated for a Protocol assessment will vary depending on project complexity, key issues, and how the results are intended to be used. One to two assessors would be considered appropriate for an assessment; the advantage of two would be if they provide different experiences, expertise and insights into the evaluation process. For particularly complex assessments, a team may be required so that interviews can be done in parallel. Assessors could be internal or external to the project, depending on the level of need for independence. Of necessity would be that the assessors have credible sustainability assessment and/or auditing experience. If there are reasons to have a high level of transparency or partnership in such an undertaking, an assessment could be observed by or undertaken in partnership with an external party (e.g. a representative from an NGO, civil society, development bank, commercial bank, bilateral donor or government as long as these are distinct from interviewees for the project).

Considerable preparation, in the order of one month for multiple representatives of the project, would be expected prior to an assessment, although this should diminish as users become more familiar with the Protocol. The organisation or partnership with primary responsibility for the project at that life cycle stage identifies a lead project representative to be the main point for coordination in arranging the assessment. This lead project representative would be available to the assessment team at all times so that he/she is aware of the information gaps and needs of the assessors and how best to address them.

Prior to the arrival of the assessors on site, the lead project representative would ensure:

- clarification on the purpose of the assessment and the expectations for its process (time, depth, breadth, range of interviewees, etc) and outcomes (how results will be presented, degree of interpretation, provision of recommendations, etc);
- identification of internal staff or external individuals who can provide information to support assessments on particular topics, and prior briefing of those individuals;
- review of the relevant assessment tool(s) of the Protocol by participants;
- identification of objective evidence that can be brought to the interviews to support scoring for each topic;
- provision of any background reading material for the assessors;
- preparation of an agenda and interview schedule for the visit, to be agreed with the assessors; and
- preparation of project overview presentation.

During the assessment, the lead project representative would ensure:

- availability of the lead project representative at all times;
- provision of an interpreter if required;
- relevant staff and external stakeholders attending meetings and interviews;
- provision of site tour to include all locations pertinent to the scoring requirements, meeting of project affected stakeholders, and viewing of objective evidence;
- provision of relevant documentary evidence for viewing; and

- provision of rooms where initial and close out meetings can be held, interviews conducted, and documentation viewed.

On each topic page are examples of potential interviewees and also examples of evidence. These will vary depending on the context. In the assessment, interviewees will vary with topic, and could include relevant project representatives, government representatives, community representatives and experts with particular responsibilities, insight and knowledge about the topic under focus. If major decisions are tied to the Protocol assessment outcomes, and transparency and credibility are important to establish, an interview schedule involving diverse stakeholder perspectives can help increase confidence in the findings.

In the assessment, a careful record is documented that captures all sites viewed, all individuals interviewed (titles, names, positions, organisations, relevant topic), and all evidence viewed (document titles, date, where held, relevant topic).

As a preliminary guide, at least five working days from arrival to departure of the assessors should be planned on for a Protocol assessment, although this will be more or less for an individual project depending on project scale and purpose of the assessment. A full-blown in-depth sustainability assessment might be done where the purpose is to support external decision-making, whereas a more cursory assessment might be done for internal self-assessments to guide project management directions by identifying project risks and opportunities for improvement. As mentioned above, more formal guidance on steps in preparing for and conducting a Protocol assessment will be developed in the future.

A typical assessment itinerary might be as follows:

- **First Day** - Initial meeting, often with introductory presentations by assessor(s) about the assessment process, and by the project representatives and others (such as government agencies) about the project. This is typically followed by a tour of the project, including downstream impacted areas and resettlement areas as far as practicable given travel times, logistical constraints, and key areas of focus for the project.

- **Intermediate Days** - Interviews by the assessor in relation to all Protocol topics. These interviews would be with project representatives and with other stakeholders (e.g. government, experts, NGOs, civil society, project affected communities) relevant to the different Protocol assessment requirements. The assessor will also spend time reviewing evidence typically in the form of reports and documents. The number of days depends on size and complexity of the project, level of formality of the assessment, breadth and depth of the interviews involved, and also travel times.

- **Final Day** - Close out meeting between the assessor and the project representatives, which could involve a presentation and/or discussion on key assessment findings, information gaps, and areas of strength, weakness and opportunity for the project.

Some topics may benefit from visiting twice in the assessment process. For example, the Governance Topic is second in the order of topics in the Preparation, Implementation and Operation assessment tools, and is critical for assessing the policies and practices that a developer or owner/operator has in place in the planning, construction and operation phases. An assessment of the Governance topic early in the Protocol assessment process enables an overview of the systems in place; a later revisit of this topic might allow for a finer assessment of the effectiveness of the systems in place. Typically some final meetings in the company's head office enables some of the questions about higher level policies that govern practices observed on site to be asked and evidence viewed.

Further Information

High Profile and Cross-Cutting Issues

There are a number of high profile and cross-cutting issues that are addressed in the Protocol but may not be apparent in the names of the topics and criteria. In the following, the letter codes refer to the different Protocol assessment tools (ES – Early Stage, P – Prepraration, I – Implementation, O – Operation), followed by the topic number within that assessment tool.

Climate change is one of the issues that permeates through many facets of the Protocol assessment tools. Because it has many different dimensions, it does not appear as a single topic but is referenced in many different ways in a number of topics. Climate change provides a changed framework for consideration of many hydropower projects relative to a decade ago. Demonstrated Need (ES-1) and Demonstrated Need & Strategic Fit (P-3) address water and energy needs that may have strong climate change drivers, for example the need to have low carbon energy options and the need to mitigate climate induced changes to water supply. Policies & Plans (ES-3) and Demonstrated Need & Strategic Fit (P-3) include consideration of climate-related policies and plans. Options Assessment (ES-2) and Siting & Design (P-4) include consideration of a range of issues including the potential for greenhouse gas emissions generation. Financial Viability (P-9) includes options for finance including carbon finance. Hydrological Resource (P-7, O-4) includes understanding of hydrological trends and long-term availability which may be influenced by climate change, and includes consideration of the ability of the project to anticipate and adapt to any hydrological changes. Reservoir Planning (P-22) includes reference to reservoir clearing of vegetation, which may or may not be undertaken for the purpose of addressing greenhouse gas emissions. There is no distinct requirement to assess greenhouse gas emissions from reservoirs in this 2010 version of the Protocol because there is no established methodology as yet to do this; it is anticipated that in the future when a methodology is determined that it could be built into the Protocol.

Human rights is another issue that permeates through many facets of the Protocol assessment tools. There is an ever-growing body of support material on how companies can establish human rights policies and processes governing their business, and conduct human rights impact assessments in relation to their projects and operations. In fact because of the many facets of human rights that are addressed through a Protocol assessment, it could be used to help demonstrate how a project addresses human rights. Various human rights are addressed through almost all topics shown in Table 1, as well as through references in scoring statements to stakeholder engagement and public disclosure. The definition of a directly affected stakeholder is one with substantial rights, risks and responsibilities in relation to the project, and these are commonly referred to throughout the Protocol. Respecting human rights is directly built into the intent statements for the Resettlement (P-14, I-10, O-10) and Indigenous Peoples (P-15, I-11, R-11) topics. The Environmental & Social Impact Assessment & Management (P-5) scoring statement for Level 5 refers to social impact assessments that incorporate assessment of human rights. The Labour & Working Conditions topic (P-16, I-12, O-12) scoring statement for Level 5 refers to consistency of labour management policies and practices with internationally recognised labour rights.

Further high profile and cross-cutting issues that may not be apparent from Protocol topic titles, and which may be of interest to stakeholders to know how they are addressed in the Protocol assessment tools include: Communication, Corruption, Gender, Grievance Mechanisms, IWRM (Integrated Water Resource Management), Legacy Issues, Livelihoods, Multi-Purpose Projects, and Transparency. Some of these are actually specific human rights in themselves. Table 3 provides a summary of where these issues are addressed in the Protocol.

Corruption	Corruption is addressed in Political Risks (ES-4), Institutional Capacity (ES-5), Governance (P-2, I-2, O-2), and Procurement (P-12, I-8).
Gender	Gender is addressed to varying degrees in the topics Social Issues & Risks (ES-7), Communications & Consultation (P-1, I-1, O-1), Environmental & Social Impact Assessment & Management (P-5), Environmental & Social Issues Management (I-3, O-3), Project Affected Communities & Livelihoods (P-13, I-9, O-9), Resettlement (P-14, I-10, O-10), Labour & Working Conditions (P-16, I-12, O-12), and Public Health (P-18, I-14, O-14).
Grievance Mechanisms	Complaints or grievance mechanisms are directly addressed in Communications & Consultation (P-1, I-1, O-1), Governance (P-2, I-2, O-2) and Resettlement (P-14, I-10, O-10). Many other topics refer to processes for stakeholders to raise issues and get feedback through the wording of the stakeholder engagement criterion.
IWRM	Integrated Water Resource Management (IWRM) is addressed most directly in the topics called Policies & Plans (ES-3), Demonstrated Need & Strategic Fit (P-3), Siting & Design (P-4) and Hydrological Resource (P-7, O-4). It is indirectly relevant to many topics, and is specifically mentioned in the assessment guidance for Environmental & Social Impact Assessment & Management (P-5), Environmental & Social Issues Management (I-3, O-3), Project Benefits (P-10, I-7, O-8), and Downstream Flow Regimes (P-23, I-18, O-17).
Legacy Issues	Legacy issues are addressed in Social Issues & Risks (ES-7), Environmental Issues & Risks (ES-8), Environmental & Social Impact Assessment & Management (P-5), and Environmental & Social Issues Management (I-3, O-3). Topics Project Affected Communities & Livelihoods (P-13, I-9, O-9), Resettlement (P-14, I-10, O-10), and Indigenous Peoples (P-15, I-11, O-11) also refer to legacy issues in the assessment guidance. The Operation assessment tool indirectly refers to legacy issues as part of almost all topics, in the scoring statement references to identification of ongoing issues.
Livelihoods	Livelihoods are addressed most directly in Project Affected Communities & Livelihoods (P-13, I-9, O-9), and are also addressed in Social Issues & Risks (I-7), Demonstrated Need & Strategic Fit (P-3), Environmental & Social Impact Assessment & Management (P-5), Environmental & Social Issues Management (I-3, O-3), Economic Viability (P-11), Resettlement (P-14, I-10, O-10), Indigenous Peoples (P-15, I-11, O-11), and Downstream Flow Regimes (P-23, I-18, O-17).
Multi-Purpose Projects	Multi-purpose projects are most directly addressed in Reservoir Planning (P-22), Reservoir Preparation & Filling (I-19), and Reservoir Management (O-18). They are also addressed in Demonstrated Need (ES-1), Policies & Plans (ES-3), Social Issues & Risks (ES-7), Demonstrated Need & Strategic Fit (P-3), Siting and Design (P-4), Hydrological Resource (P-7, O-4), Environmental & Social Impact Assessment & Management (P-5), Environmental & Social Issues Management (I-3, O-3), Economic Viability (P-11), Project Affected Communities & Livelihoods (P-13, I-9, O-9), and Downstream Flow Regimes (P-23, I-18, O-17).
Transparency	Transparency is addressed most directly in Governance (P-2, I-2, O-2), and also addressed through references to public disclosure in Demonstrated Need & Strategic Fit (P-3), Environmental & Social Impact Assessment & Management (P-5), Project Benefits (P-10, I-7, O-8), Economic Viability (P-11), Resettlement (P-14, I-10, O-10), Indigenous Peoples (P-15, I-11, O-11), and Downstream Flow Regimes (P-23, I-18, O-17).
Transboundary Rivers	Transboundary Rivers are most directly addressed under Political Risk (ES-4) as well as indirectly in Environmental & Social Impact Assessment & Management (P-5), Environmental & Social Issues Management (I-3, O-3), Hydrological Resources (P-7) and Downstream Flow Regimes (P-23, I-20, O-19)

Table 3 – High Profile and Cross-Cutting Issues in the Hydropower Sustainability Assessment Protocol

Glossary of Terms

Additional Benefits: Benefits for the region that can be leveraged from the project.

Accountability: Obligation of an individual, firm, or institution to account for its activities, accept responsibility for them, and to disclose the results in a transparent manner.

Accountable: Responsible to or liable to account for someone or for some activity.

Adequate: Sufficient or enough to satisfy a requirement or meet a need.

Agreement: A recorded understanding between individuals, groups or entities to follow a specific course of conduct or action. It may be incorporated into, for example, a memorandum of understanding, minutes of a meeting, a letter of intent, a joint statement of principles, a contract, an operating licence, etc.

Appropriate: Suitable for a particular person, condition, occasion, or place; fitting; meeting identified needs or requirements.

Baseline: A set of measurements, statistics, or conditions used as a basis for later comparison. The baseline refers to the pre-project conditions, prior to the initiation of the project, against which post-project changes can be compared. For operating hydropower facilities, if a pre-project baseline does not exist then the present condition is taken as the baseline.

Commitment: A binding pledge or promise to do, give, or refrain from doing something.

Community Groups: Groups of people with common characteristics or interests living together within the larger society. There are many different ways to view these groups, and these will need to be defined in meaningful ways for the project. These may include, by way of example, urban dwellers, rural dwellers, indigenous peoples, ethnic minorities, people of a common profession or religion, disabled, elderly, illiterate, women, men, children, etc.

Compliance: Adherence to legal requirements, policies and public commitments.

Comprehensive: All relevant components have been considered and addressed.

Conformance: Addresses the level of conformance of implementation measures with most up-to-date project-related plans.

Consent: Signed agreements with community leaders or representative bodies who have been authorised by the affected communities which they represent, through an independent and self-determined decision-making process undertaken with sufficient time and in accordance with cultural traditions, customs and practices.

Corruption: Lack of integrity or honesty (especially susceptibility to bribery); use of a position of trust for dishonest gain.

Credible: Capable of being believed; plausible; worthy of confidence; reliable.

Cultural Heritage: The legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations.

Cumulative Impacts: The phenomenon of changes that result from numerous human-induced alterations, either through persistent additions or losses of the same materials or resource, or through the compounding effects as a result of the coming together of two or more effects.

Deception: The fact or state of being deceived; to be given cause to believe what is not true; to be mislead.

Developer: The lead entity or consortium of entities investing in the development of a hydropower project.

Directly Affected Stakeholder: Those stakeholders with substantial rights, risks and responsibilities in relation to the issue. These may be inside the project affected area (e.g. project affected communities) or outside the project-affected area (e.g. government regulators, finance institution representatives, or investment partners).

Disclosure: Made publicly available (see also "Publicly disclosed").

Economic Displacement: Loss of assets, access to assets, or income sources or means of livelihoods as a result of (i) acquisition of land, (ii) changes in land use or access to land, (iii) restriction on land use or access to natural resources including water resources, legally designated parks, protected areas or restricted access areas such as reservoir catchments and (iv) changes in environment leading to health concerns or impacts on livelihoods. Economic displacement applies whether such losses and restrictions are full or partial, and permanent or temporary.

Effective: Producing or capable of producing an intended, expected and/or desired effect.

Engaged: Interacted with, often through consultation processes.

Equitable: Fair, just or impartial

Evidence: Evidence provided by an auditee and used by an assessor to verify whether and to what degree a criterion has been met. Evidence can be qualitative or quantitative information, records or statements of fact, either verbal or documented. It is retrievable or reproducible; not influenced by emotion or prejudice; based on facts obtained through observation, measurements, documentation, tests or other means; factual; reproducible; objective and verifiable.

Expert: A person with a high degree of skill in or knowledge of a certain subject, as a result of a high degree of experience or training in that subject.

Gender Analysis: The process of assessing the impact that an activity may have on females and males, and on gender relations. It can be used to ensure that men and women are not disadvantaged by development activities, to enhance the sustainability and effectiveness of activities, or to assess and build capacity and commitment to gender sensitive planning.

Governance: The combination of processes and structures that inform, direct, manage and monitor the activities of the project toward the achievement of its objectives.

Grievance Mechanisms: The processes by which stakeholders are able to raise concerns, grievances and legitimate complaints, as well as the project procedures to track and respond to any grievances.

Human Rights: The basic rights and freedoms to which all humans are entitled, encompassing civil, political, economic, social, and cultural rights, and enshrined in international declarations such as the Universal Declaration on Human Rights 1948.

Hydrological Resource: Water inflows to the project.

Impact: Effect or consequence of an action or event; the degree to which an impact is interpreted as negative or positive depends on context and perspective.

Independent Review: Expert review by someone not employed by the project and with no financial interest in profits made by the project.

Indigenous Peoples: A distinct social and cultural group possessing the following characteristics in varying degrees: self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories; customary cultural, economic, social or political institutions that are separate from those of the dominant society or culture; an indigenous language, often different from the official language of the country or region.

Integrated: Merged, interspersed, embedded into something.

Integrated Water Resources Management (IWRM): A process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

Invasive Species: A species that does not naturally occur in a specific area and whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Land Rehabilitation: The process of returning the land to some degree of its former state after disturbance or damage associated with project implementation.

Legacy Issues: Impacts of previous projects that are unmitigated or not compensated with a similar good or service, or long-standing issues with a present (existing) project, or pre-existing issues in the present location of a new project.

Livelihood: The capabilities, assets (stores, resources, claims and access) and activities required for a means of living.

Living Standards: The level of material comfort as measured by the goods, services, and luxuries available to an individual, group, or nation; indicators of household well-being; examples include: consumption, income, savings, employment, health, education, nutrition, housing, and access to electricity, clean water, sanitation, health services, educational services, transport, etc.

Local: Administrative subdivisions of a national territory (e.g. with reference to local land use plans)

Long-Term: The planned life of the hydropower project.

Maintenance: The work of keeping something in proper condition; upkeep.

Management Plan: A management plan is a tool used as a reference for managing a particular project issue, and establishes the why, what, how, who, how much, and when for that issue.

Management System: The framework of processes and procedures used to ensure that an organisation can fulfill all tasks required to achieve its objectives.

Maximised: Achieved to as great an extent practicable, taking into account all constraints.

Minimised: Achieved to as little an extent practicable, taking into account all constraints.

Mitigation: Moderation, alleviation, and/or relief of a negative impact

Non-Compliance: Not meeting legal, licence, contractual or permit obligations

Non-Conformance: Not meeting targets and objectives in the management plans; these may or may not be publicly stated commitments, but they are not legally binding and violation can not incur legal action.

Non-Critical: Not essential for something to be suitable, adequate and/or effective

Occupational Health and Safety: Protecting the safety, health and welfare of people engaged in work or employment, for example through preventing disease or injury that might arise as a direct result of the workplace activities.

Optimal: Best fit, once all considerations have been factored in, based on the outcomes of a consultative process

Optimisation Process: The process by which alternatives have been considered towards determining the best fit

Outstanding: Not settled or resolved.

Plans: Management measures to address an identified issue, that may or may not be formalised into business management plans. Plans can include documented planned arrangements, for example based on agreements for forward actions made at meetings. Plans may also be those of the developer, owner or operator, or plans of the relevant government agency or other institution which has the primary responsibility for that sustainability topic. Plans can also be those developed by the contractor responsible for implementation.

Political Risk: A risk of financial loss or inability to conduct business faced by investors, corporations, and governments due to government policy changes, government action

preventing entry of goods, expropriation or confiscation, currency inconvertibility, politically-motivated interference, government instability, or war.

Practicable: Capable of being done with means at hand and circumstances as they are.

Process: A series of actions, changes, or functions bringing about a result.

Procurement: The acquisition of goods and/or services at the best possible cost, in the right quality and quantity, at the right time, in the right place and from the right source for the direct benefit or use of the hydropower project or operating facility, generally via a contract.

Programme: Relates to the hydropower development programme, which encompasses all project components (construction, environmental, social, resettlement, finance and procurement, and communications, etc.).

Project-Affected Area: The catchment, reservoir, and downstream of the project site and associated dams, and the area affected by any associated developments (e.g. roads, transmissions lines, quarries, construction villages, relocation areas, etc).

Project Affected Communities: The interacting population of various kinds of individuals in the project affected area who are affected either positively or negatively by the hydropower project preparation, implementation and/or operation.

Project Catchment: The portion of the river basin that drains into the project reservoirs, either to pass ultimately through the generation turbines or to spill over the dams into the downstream rivers.

Project Components: Components of the overall hydropower development programme, including design, construction, environmental, social, resettlement, finance, communications and procurement.

Project Lands: The land that is owned, utilised and/or affected by the project.

Protection: To keep in safety and protect from harm, decay, loss, damage or destruction.

Publicly Disclosed: The public is informed that the agreement, commitment, assessment, management plan or significant report has been made or completed, and it is made publicly available either voluntarily (e.g. posted on a website) or on request in a timely manner.

Refurbishment: The state of being restored to its former good condition.

Regional: Refers to a supranational entity in an international context. To refer to administrative subdivisions of a national territory (e.g. with reference to local land use plans) this protocol uses the designation of local.

Relevant: Directly related, connected, applicable, current or pertinent to a topic.   In the Protocol, relevance will be determined based on project-specific considerations and analyses. Project representatives make a case for what is relevant and provide evidence to support this, e.g. support of regulatory authorities; the assessor views and seeks evidence to affirm relevance.

Reservoir: Any artificial pondage or lake used by the project for the storage and regulation of water.

Reservoir Area: The area that is inundated when the reservoir is at its maximum expected level and the dry buffer zone above this level.

Resettlement: The process of moving people to a different place to live, because due to the project they are no longer allowed to stay in the area where they used to live.

Resettlees: Those people who are required to be resettled, including those who have formal legal rights, customary or traditional rights, as well as those who have no recognizable rights to the land.

River Basin: The area drained by a river and all its tributaries

Resettlement Action Plan: A document or set of documents specifically developed to identify the actions that will be taken to address resettlement. It would typically include identification of those being resettled; the socio-economic baseline for the resettlees; the measures to be implemented as part of the resettlement process including those relating to resettlement assistance and livelihood support; the legal and compensation frameworks;

organisational roles and responsibilities; budget allocation and financial management; the timeframe, objectives and targets; grievance redress mechanisms; monitoring, reporting and review provisions; and understandings around consultation, participation and information exchange.

Sensitivity Analysis: Investigation into how projected performance varies along with changes in the key assumptions on which the projections are based

Short-Term: Covers day-to-day operations.

Significant: Important in effect or consequence, or relatively large.

Stakeholder: One who is interested in, involved in or affected by the hydropower project and associated activities.

Stakeholder Group: A set of stakeholders with common characteristics or interests.

Strategic Fit: The compatibility of the project with local, national and regional needs identified through the priorities and objectives put forth in options assessments and other relevant local, national and regional and multi-national policies and plans.

Suitable: Appropriate for the desired purpose, condition or occasion.

Timely: Occurring at a suitable or opportune time

Transboundary Agreements: Agreements made amongst riparian states about how shared water resources will be utilized by the parties involved, and the processes that will be followed to sustain these understandings.

Transparent / Transparency: Open to public scrutiny, publicly available, and/or able to be viewed or disclosed to the public on request.

Upgrade: To improve to a higher grade or standard.

Vulnerable Social Groups: Social groups who are marginalised or impoverished with very low capacity and means to absorb change.