

Hydropower Sustainability Assessment Protocol

**Early Stage
Draft3 Final
28th June 2010**

About this Document

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).

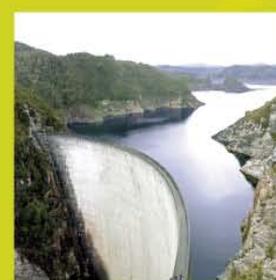
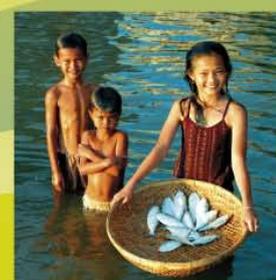
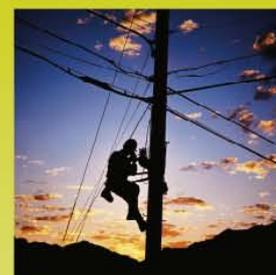
This document is one of a set of documents that comprise the HSAP Draft3 Final. This document provides the HSAP Draft3 Final Early Stage Assessment Tool with acceptance of proposed edits from Forum members to the HSAP Draft2 Final 24th May 2010, as well as acceptance of Forum Coordinator proposals for 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 Operation documents (both track changes and changes accepted versions) and the other accompanying documents that comprise the HSAP Draft3 Final – Background, 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 – Early Stage Assessment Tool.

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

Published by the International Hydropower Association



Recommended Final Draft Hydropower Sustainability Assessment Protocol

July 2010

Early Stage Assessment Tool

The following organisations endorse this Protocol



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The Hydropower Sustainability Assessment Protocol

The Hydropower Sustainability Assessment Protocol (the “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 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, and are most effective where there are repeat applications to help guide continuous improvement measures. The assessment tools and associated decision points are shown in Figure 1.

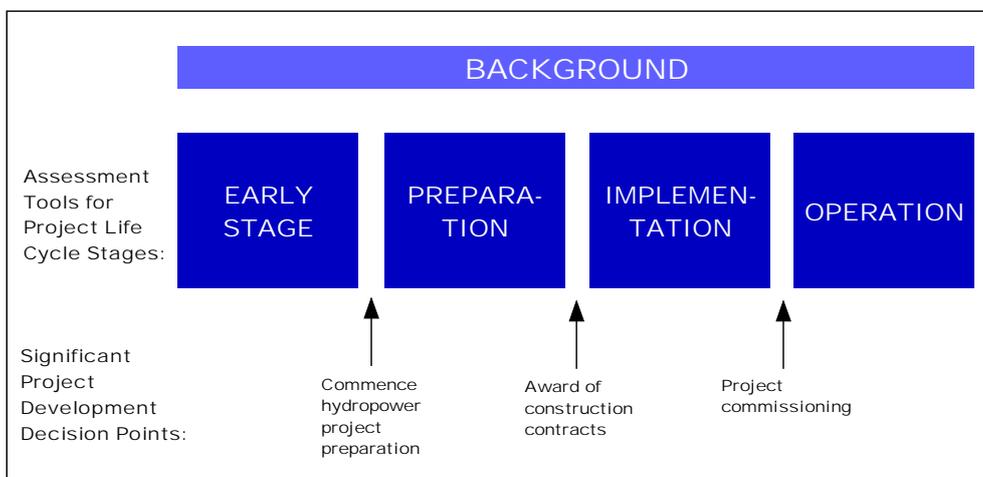


Figure 1 - Protocol Assessment Tools and Major Decision Points

Overview of the Early Stage Assessment Tool

This document provides the Early Stage assessment tool, and assumes that the user has already made him or herself familiar with the Protocol Background which describes the overall approach and use of the Protocol assessment tools. The Early Stage assessment tool is a preliminary screening tool, to assess the strategic environment from which proposals for hydropower projects emerge. It will identify 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 process should identify consistencies and conflicts relating to energy and water needs and opportunities in a sustainability context. Such an assessment would inform a proponent as to whether there is a strategic basis to move forward with a project proposal.

The Early Stage assessment tool includes key topics relating to the strategic environment; first reviewing existing needs, options and policies, then looking at the political situation and institutional capacities, followed by an assessment of the technical, social, environmental and economic risks. It is recognised that the results of such an assessment may carry a high level of confidentiality.

The Early Stage assessment tool may also be useable for other, broader purposes, such as the identification of opportunities to improve the sustainability context of hydropower

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investments. The objective is to encourage better early stage analysis and identification of knowledge gaps.

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.

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ES-1: Demonstrated Need

This topic addresses the needs that justify management and infrastructure investments in water and energy services, as identified through broadly agreed local, national, and regional development objectives and in national and regional policies and plans. The intent is that the capability of a particular hydropower project under consideration to contribute to established needs can be demonstrated.

This topic is important in order to support sustainable development objectives at the local, national and regional levels; and avoid over-or under-investment in energy and water services. It is also important as it seeks a balanced approach between water management and needs and energy management and needs.

Basic Expectations:

- **Assessment:** An assessment of identified needs for water and energy services has been undertaken that includes environmental, social and economic considerations.
- **Outcomes:** Needs for energy and water service projects have been demonstrated.

Advanced Expectations:

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project can make a significant contribution to demonstrated needs, or can contribute to many demonstrated needs; or
- a broad interpretation of water and energy services with respect to considering environmental and social dimensions.

Assessment Guidance:

Needs for water and energy services are those identified through broadly agreed local, national, and regional development objectives, policies and plans. A hydropower development to meet the energy requirements of an energy-intensive off-taker (e.g. an aluminium smelter) would be considered a demonstrated need if it is included in broadly agreed development objectives, policies and plans.

Water services examples include: water for energy generation, fisheries, floodplain agriculture, food supply, water storage capacity, drinking water supply, sanitation, water for business and industry, irrigation water supply, flood management, navigation, recreation, domestic needs of riparian dwellers, tourist opportunities, vehicle for transboundary cooperation, ecosystem services (e.g. floodplain maintenance, connectivity for migratory species, maintenance of off-river wetlands, nutrient and sediment balance, delta sediment replenishment, estuarine flushing, spawning ground access and maintenance), etc.

Energy services examples include: provision of electricity to meet local, national, regional, and/or international demand or opportunities; provision of grid stability; provision of peak load; provision of ancillary benefits such as spinning reserve, system regulation and improved thermal efficiency, etc.

Examples of evidence: Energy Master Plan; Water Development Plan; country or regional development report; analysis of project fit with demonstrated needs, regional land use and infrastructure development plans

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ES-2: Options Assessment

This topic addresses the fit of a hydropower project under consideration amongst the options available to a region to meet energy and water needs, as well as the early stage process undertaken for considering project siting and design alternatives. The intent is that a hydropower project under consideration is supported as one of the priority options for addressing the need for energy and water services, and siting and design alternatives are considered at an early stage.

This topic is important because it compares hydropower options with other options such as other resources types and/or energy and water conservation. It adopts a sustainability perspective to ensure a realistic and comprehensive comparison of options across a range of economic, technical, environmental and social factors.

Basic Expectations:

- **Assessment:** An assessment has been undertaken of the options available to meet demonstrated energy and water needs that considers a range of planning approaches and a range of alternatives.
- **Outcomes:** The project is one of the priority options for addressing the need for energy and water services.

Advanced Expectations:

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project is one of the highest priority options; or
- a high quality approach taken to the options assessment, for example through the breadth of planning approaches considered, or the engagement of stakeholders in the analysis of options, or the criteria utilised for the analysis of options strongly emphasising sustainability or regional/basin-wide considerations.

Assessment Guidance:

Options assessment refers to an assessment that has been undertaken by government, river basin organisations, or other external organisations; however the absence of any available options assessment represents a significant risk for the developer which could be addressed in close collaboration with national authorities and financing agencies.

The full range of planning approaches includes policy, institutional, management and technical.

Energy options examples include: energy efficiency measures (conservation, policies, transmission and distribution measures), increased efficiency in generation (refurbishment and upgrades of existing power stations), the full range of types of energy, and the option of no development.

Water options examples include: a range of infrastructure options as well as conservation, policies, distribution mechanisms, demographic and land use issues.

Criteria or principles for analysis of alternatives might include, by way of example, siting on tributary streams rather than mainstem rivers; avoidance of high value biodiversity areas; avoidance of resettlement, increasing the effectiveness of existing water and energy infrastructure; etc.

Examples of evidence: options assessments, analysis of existing options assessments

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ES-3: Policies & Plans

This topic addresses the context set by national and/or regional policies and plans for hydropower project planning, implementation and operations. The intent is that shortfalls, gaps or complexities in national and regional policies and plans can be managed with respect to development and operation of a particular hydropower project under consideration.

This topic is important because the sustainability of hydropower development can be influenced by the quality of integrated planning for resource development, and if the planning context is weak compensation measures on the part of the developer will be required (for example through corporate policies).

Basic Expectations:

- **Assessment:** An assessment of the most relevant policies and plans has been undertaken, including any basin development or integrated water resource management plans.
- **Outcomes:** The project fits with existing policies and plans, and any gaps or shortfalls can be managed.

Advanced Expectations:

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project fits with the policy and planning context, and that gaps or shortfalls can be managed; or
- a broad approach taken with identification and analysis of relevant policies and plans, including social and environmental; or
- an analysis undertaken of strengths, weaknesses, opportunities and threats of a project with respect to managing gaps or shortfalls in the policy and planning context.

Assessment Guidance:

National and regional policies and plans examples include: development, energy, water (including IWRM), biodiversity, climate, conservation, transboundary, land use, urban and regional infrastructure planning etc. Because hydropower sits at the nexus of energy and water, it touches on a wide array of types of policies and planning instruments. There may be an absence of planning frameworks relevant to certain critical hydropower issues, or dated, poor quality or even contradictory with other policies and plans. Policies and plans may provide insufficient guidance on regulatory requirements for project preparation, approvals, implementation and operation. Potential hydropower projects may have implications that cross jurisdictional boundaries, in which case different sets of policies and plans would be relevant.

Social and environmental related policies and plans examples include: poverty eradication, food security, maintenance of fisheries, protection of high value sites (e.g. national parks, World Heritage sites, Ramsar wetlands, sites of cultural significance, recognised significant landscapes), etc.

Examples of evidence: national and regional policies and plans, evaluation of project fit with policies and plans, evaluation of status of river basin plans and river basin sustainability issues

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ES-4: Political Risks

This topic addresses political risks of a region that may have implications for hydropower project development and operations. The intent is that political risks influencing development and management of a hydropower project under consideration are understood and can be managed.

This topic is important because the risk that a government may unilaterally repudiate its obligations or prevent others in its jurisdiction from honouring their obligations may affect the level and lending terms of financing for hydroelectric projects in its jurisdiction, as well as long term sustainability of the projects themselves.

Basic Expectations:

- **Assessment:** An assessment has been undertaken of political risks most relevant to the project, including transboundary issues.
- **Outcomes:** The project can manage identified political risks.

Advanced Expectations:

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project can manage a broad range of political risks; or
- opportunities for the project to contribute to or cooperate with measures that encourage reduction or mitigation of political risks; or
- an analysis undertaken of strengths, weaknesses, opportunities and threats of a project with respect to managing political risks.

Assessment Guidance:

Political risk is 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.

Transboundary issues would take into account upstream and downstream of the project and basin-wide sharing of resources

Reduction or mitigation of political risks can be through, for example: energy sector reform, sound fiscal management, transboundary agreements, anti-corruption strategies, etc.

Examples of evidence: analysis of political risk, analysis of transboundary issues, agreements and institutions; authoritative assessment of political risk / sovereign stability; National Governance Audits; options to address political risks; records of meetings with representatives from governments, transboundary institutions and other key stakeholder groups

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ES-5: Institutional Capacity

This topic addresses the capacities of the institutions that have a role in the development and operation of hydropower projects. The intent is that institutional capacity requirements and the existing capacity with respect to the hydropower project under consideration have been evaluated, and capacity shortfalls can be addressed.

This topic is important because the development of water and energy services in general, and of a hydropower project in particular, requires a comprehensive and balanced set of capacities amongst a range of stakeholders, namely governments/regulators, developers, financial institutions, contractors, suppliers, labour force, civil society and affected people. Where such skills are lacking in any of these sectors, such shortfalls may be mitigated by drawing on externally available resources, with the eventual objective of developing local capacity by transferring skills and technology.

Basic Expectations:

- **Assessment:** An assessment of the capacities of institutions most relevant to the hydropower project has been undertaken.
- **Outcomes:** The project can manage critical shortfalls, gaps or complexities in institutional capacities.

Advanced Expectations:

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project can manage critical shortfalls, gaps or complexities; or
- a rigorous and broad approach taken to identification and assessment of institutions and capacities; or
- opportunities for the project to contribute to or cooperate with measures that encourage strengthening of institutional capacities; or
- an analysis undertaken of strengths, weaknesses, opportunities and threats of a project with respect to managing critical shortfalls, gaps or complexities in institutional capacities.

Assessment Guidance:

Institution examples include: the executive, the legislature, political parties, anticorruption organizations, judiciary, grievance addressing mechanisms (e.g. the Ombudsman), specific civil service/public sector agencies, law enforcement agencies, Freedom of Information, media, local and regional government, civil society, private sector, international institutions (e.g. some provide peer review of anti-corruption efforts), audit/oversight institutions, public contracting system, etc.

Institutional capacity in the context of a hydropower project primarily relates to the capacity of a given national institutional framework to handle the administration of the planning, implementing and operation of hydropower projects in a predictable, responsible and timely manner. Examples for hydropower related institutional capacity may include the existence and rigorous application of the following key processes implying the availability of appropriate human resources both in term of quantity and competences: project-specific assessment and licensing processes, meaningful stakeholder engagement, establishment of independent review committees, monitoring and following-up of license conditions, treatment of grievances, harmonisation of different governmental agencies requirements, the transparency of decision-making processes, etc.

Examples of evidence: analysis of institutional capacities; options to address institutional capacity shortfalls; records of meetings with representatives from government, key institutions, independent analysts and other key stakeholder groups

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ES-6: Technical Issues & Risks

This topic addresses early identification and analysis of technical issues and risks that may influence decisions to invest in preparation of a hydropower project under consideration. The intent is that technical issues and risks have been evaluated at an early stage, and decisions to invest in project preparation are informed on these matters.

This topic is important because without an early stage analysis, technical issues and risks may be encountered after the developer has made significant investments into project preparation and it may be difficult to consider an alternative project.

Basic Expectations:

- **Assessment:** An assessment has been undertaken of technical issues and risks most relevant to the project.
- **Outcomes:** The project is likely to be able to manage technical issues and risks.

Advanced Expectations:

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project can fully manage technical risks; or
- an analysis undertaken of strengths, weaknesses, opportunities and threats of a project with respect to managing technical risks.

Assessment Guidance:

Technical issues and risks might relate to, for example: availability and reliability of the hydrological resource, seismic stability, other natural hazards, geotechnical stability, access to construction materials, asset safety, etc.

Examples of evidence: desk-top analyses of technical issues and risks, area-specific analyses, expert opinions; records of meetings with relevant technical experts

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ES-7: Social Issues & Risks

This topic addresses early identification and analysis of social issues and risks that may influence decisions to invest in preparation of a hydropower project under consideration. The intent is that social issues and risks have been evaluated at an early stage, and decisions to invest in project preparation are informed on these matters.

This topic is important because without an early stage analysis, social issues and risks may be encountered after the developer has made significant investments into project preparation and it may be difficult to consider an alternative project.

Basic Expectations:

- **Assessment:** An assessment has been undertaken of social issues and risks most relevant to the project.
- **Outcomes:** The project is likely to minimise and manage negative social impacts and deliver net benefits to project-affected communities.

Advanced Expectations :

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project can avoid, minimize, mitigate and/or fully compensate negative social impacts; or
- the assessment takes into account opportunities, and there is potential for some social opportunities or enhancements to existing environmental issues to be realised; or
- the assessment takes into account risks relating to legacy issues or cumulative impacts; or
- an analysis undertaken of strengths, weaknesses, opportunities and threats of a project with respect to managing social risks.

Assessment Guidance:

Social issues and risks might relate to, for example: potential land and water use conflicts, project affected community composition, socio-economic status and livelihoods, likelihood of resettlement requirements, labour and workforce capacity, community safety, public health, cultural heritage, likelihood of community acceptance, communication and consultation needs and issues, legacy issues, cumulative impacts, social unrest, etc.

Examples of evidence: desk-top analyses of social issues and risks and social benefit opportunities; area-specific analyses; expert opinions; records of meetings with representatives from government, NGOs, potential project affected communities, indigenous communities and other key stakeholder groups.

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ES-8: Environmental Issues & Risks

This topic addresses early identification and analysis of environmental issues and risks that may influence decisions to invest in preparation of a hydropower project under consideration. The intent is that environmental issues and risks have been evaluated at an early stage, and decisions to invest in project preparation are informed on these matters.

This topic is important because without an early stage analysis, environmental issues and risks may be encountered after the developer has made significant investments into project preparation and it may be difficult to consider an alternative project.

Basic Expectations:

- **Assessment:** An assessment has been undertaken of environmental issues and risks most relevant to the project.
- **Outcomes:** The project is likely to minimise and manage negative environmental impacts.

Advanced Expectations :

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project can avoid, minimize, mitigate and/or fully compensate negative environmental impacts; or
- an accounting of opportunities for environmental enhancement, and there is potential for some of these enhancements to be realised; or
- an accounting of risk relating to legacy issues or cumulative impacts; or
- an analysis undertaken of strengths, weaknesses, opportunities and threats of a project with respect to managing environmental risks.

Assessment Guidance:

Environmental issues and risks might relate to, for example: biodiversity, migration of aquatic species, threatened species, wetlands of significance, critical habitats, weeds, pest species, greenhouse gas emissions from the reservoir, erosion, sedimentation, water quality, air quality, legacy issues, cumulative impacts, etc.

Examples of evidence: desk-top analyses of environmental issues and risks and environmental enhancement opportunities; strategic environmental assessments; area-specific analyses; expert opinions; records of meetings with representatives from government, NGOs, local and other key stakeholder groups

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ES-9: Economic & Financial Issues & Risks

This topic addresses early identification and analysis of economic and financial issues and risks that may influence decisions to invest in preparation of a hydropower project or system of projects. The intent is that economic and financial issues and risks have been evaluated at an early stage, the project will deliver a net benefit, and decisions to invest in project preparation are informed on these matters.

This topic is important because without an early stage analysis, economic and financial issues and risks may be encountered after the developer has made significant investments into project preparation and it may be difficult to consider an alternative project.

Basic Expectations:

- **Assessment:** An assessment has been undertaken of financial issues, risks and opportunities most relevant to the project, and likely costs and benefits.
- **Outcomes:** The project or the corporate entity to which it belongs is likely to manage financial issues, attract finance, and deliver a net benefit within the sphere of influence of the given hydropower project.

Advanced Expectations :

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence that a project or corporate entity to which it belongs can manage financial issues under a broad range of circumstances, fund environmental and social mitigation measures, and readily attract finance; or
- a high level of confidence supported by a broad consideration of potential costs and benefits including social and environmental externalities that the project can be deliver significant and sustainable net benefits; or
- an analysis undertaken of strengths, weaknesses, opportunities and threats of a project with respect to managing financial risks.

Assessment Guidance:

Financial issues and risks examples include: very high project costs; inability to meet required costs; uncertainties with respect to revenue streams; currency exchange instability; difficulties in access to project finance; access to renewable incentive schemes; regional pricing; market stability; market access; likelihood of major inflation or depreciation; etc.

Economic issues and risks examples include: few identifiable opportunities for additional benefits; early stage cost-benefit analysis shows no net project benefit; excessive social and environmental costs; etc.

Some financial and economic information may have a high degree of commercial sensitivity, and evidence for this topic may need to be viewed under a confidentiality agreement.

Social and environmental externalities refers to by-products of activities that affect the well-being of people or damage the environment, where those impacts are not reflected in market prices (for example, pollution); costs or benefits associated with externalities do not enter standard cost accounting schemes.

Examples of evidence: evaluation of financial issues and risks; early stage cost-benefit analysis; identification of sources of finance; economic and finance issues and risk assessment; records of meetings with representatives from government, financial institutions, development banks and key stakeholder groups

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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).

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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.

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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.

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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.

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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.