Hydropower Sustainability Tools

Better hydro for biodiversity and people

February 18, 2020

João Costa, IHA Sustainability

The Nature Conservancy
Protecting nature. Preserving life.

IAIA
International Association for Impact Assessment

THE WORLD BANK
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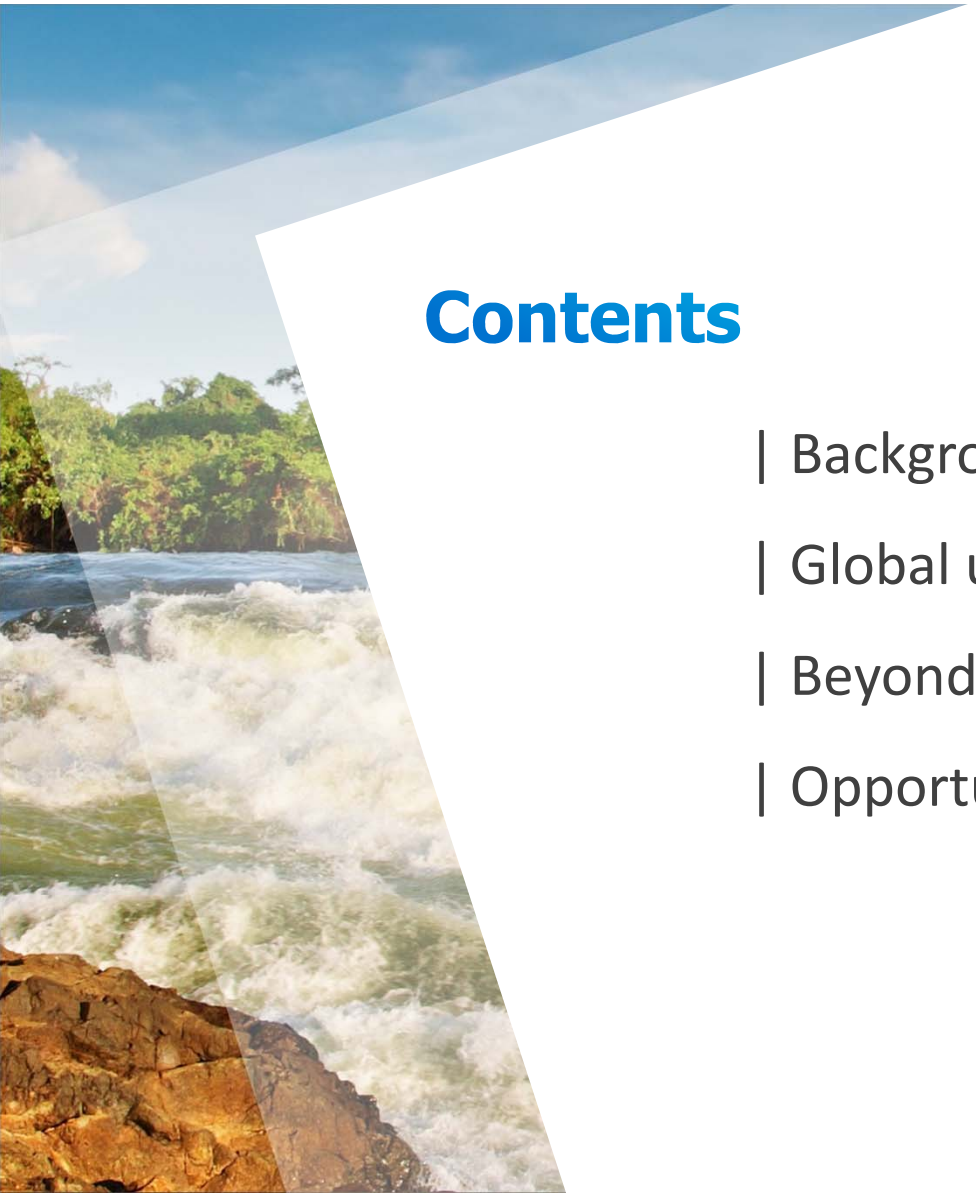

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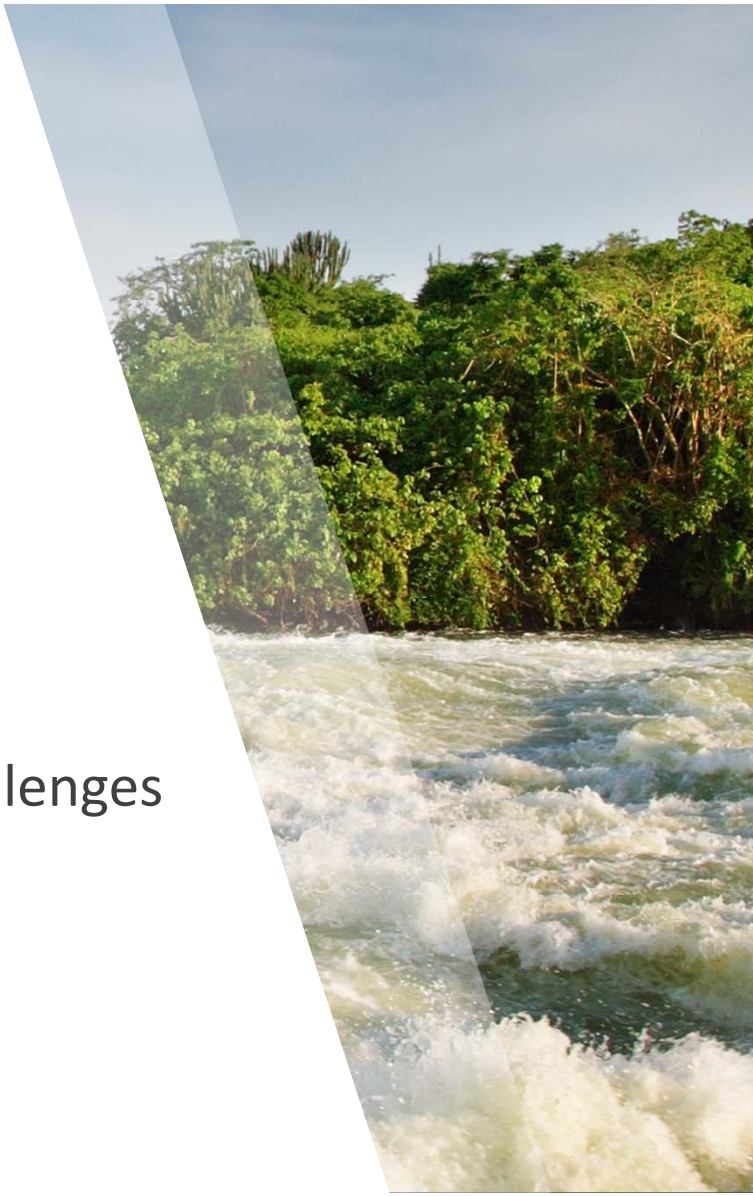

Guidelines

Assessment tools

Hydropower Sustainability
Assessment Protocol

Hydropower Sustainability
ESG Gap Analysis Tool

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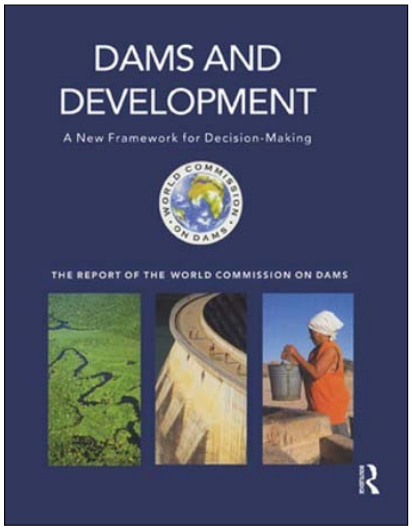
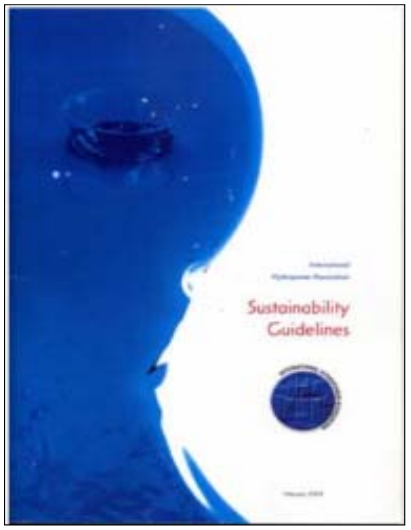


2000



2004

2006

Hydropower
Sustainability
Assessment Forum

2007

2010

2010

Hydropower
Sustainability
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ESG Gap Analysis Tool

2018

Define
good practice

Measure
performance

Hydropower
Sustainability
Assessment Protocol

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Sustainability
ESG Gap Analysis Tool

Contents

Social

- Communications and consultation
- Project benefits
- Communities and livelihoods
- Resettlement
- Indigenous peoples
- Labour and working conditions
- Public health
- Cultural heritage

Environment

- Biodiversity and invasive species
- Erosion and sedimentation
- Water quality
- Waste, noise and air quality
- Reservoir management
- Downstream flow regimes
- ES assessment and management
- Climate change mitigation and resilience

Technical

- Demonstrated need and strategic fit
- Siting and design
- Hydrological resource
- Asset reliability and efficiency
- Infrastructure safety

Economic

- Governance
- Procurement
- Integrated project management
- Financial viability
- Economic viability

Cross cutting issues

Human Rights

Livelihoods

Multi-Purpose Projects

Transparency

Legacy

Integrated Water Resource Management

Gender

Transboundary

Grievance Mechanisms

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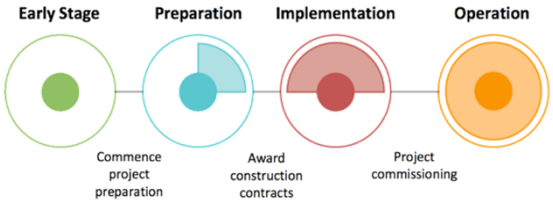
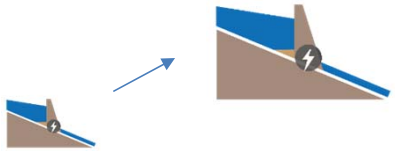
Hydropower Sustainability Assessment Protocol

Comprehensive

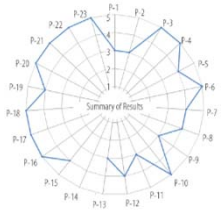
All stages



All projects



Performance



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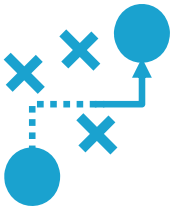
ESG Gap Analysis Tool

Cost and time effective

Access to climate bonds

Climate Bonds



Action Plan

Hydropower Sustainability
Assessment Protocol

Consistent
in quality and content

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Multi-stakeholder governance

Quality control

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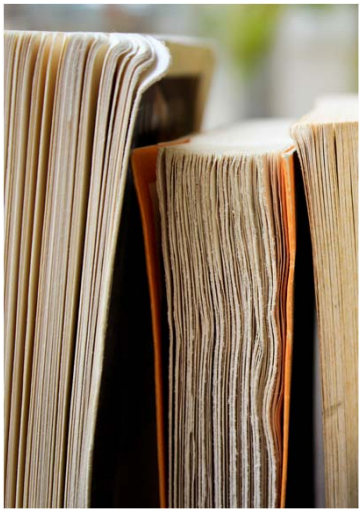
Evidence-based approach

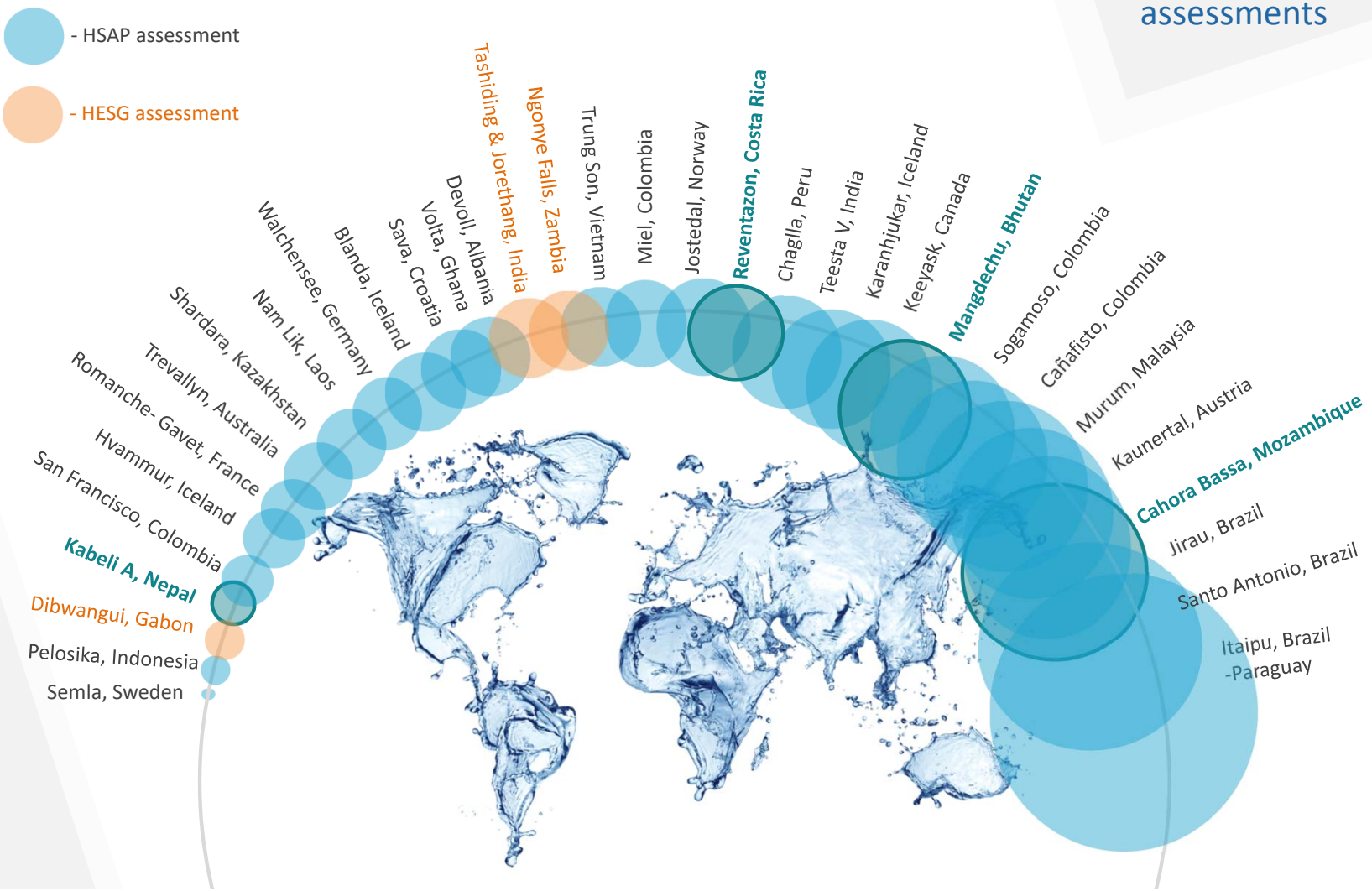
Review documents



Visual inspection

Interviews

Official assessments



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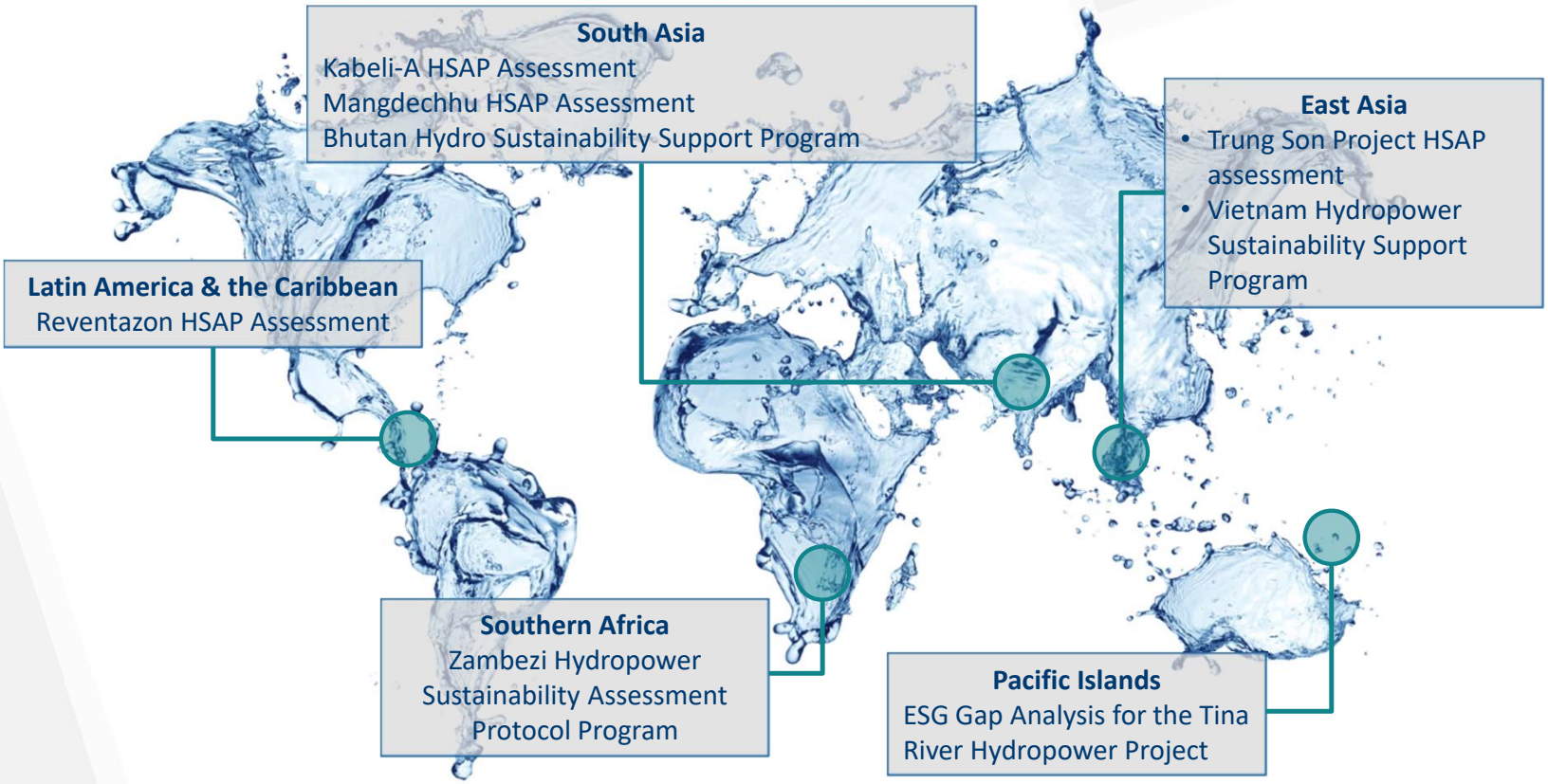
Beyond official assessments
World Bank's experience



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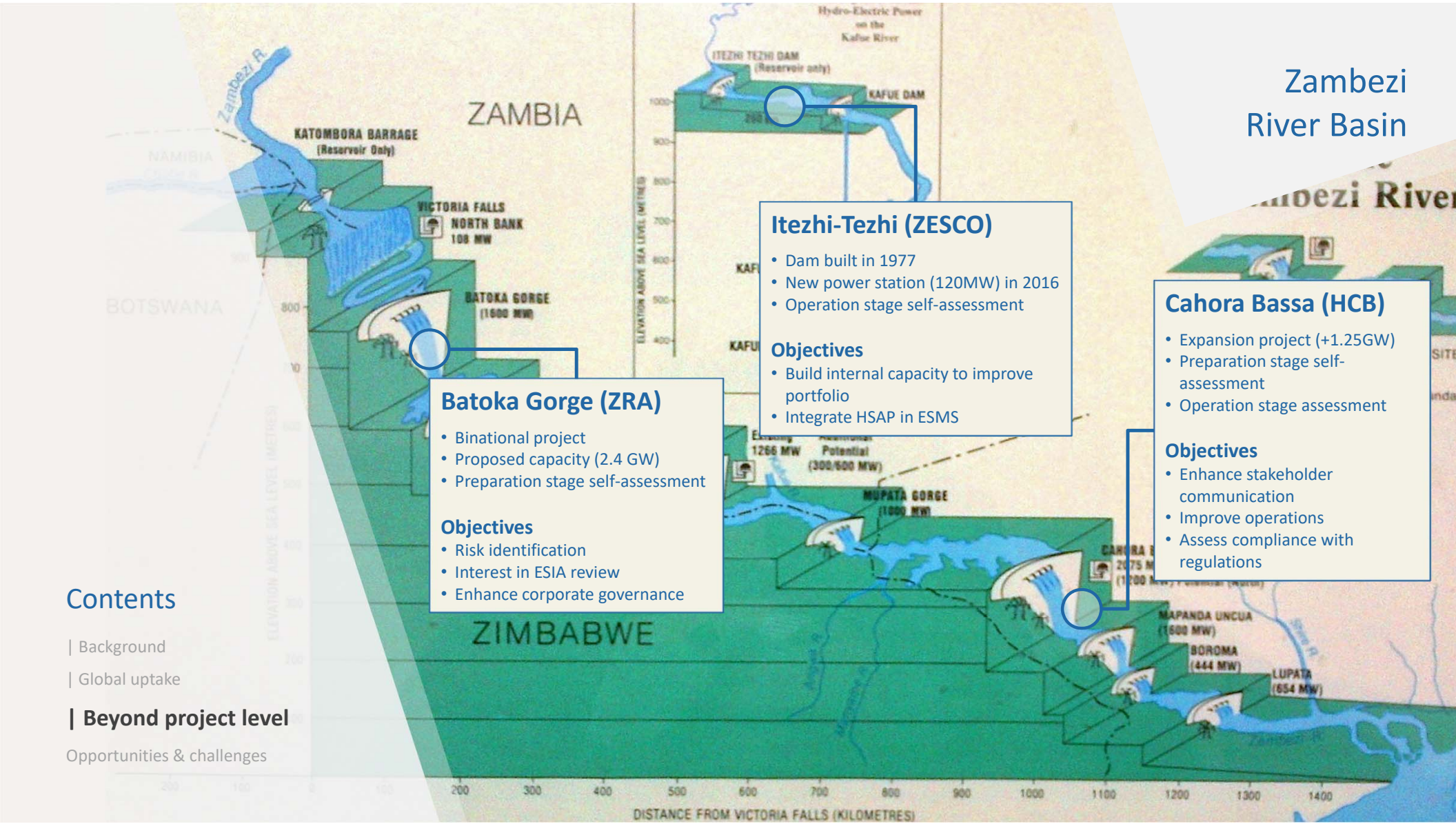
Zambezi River Basin



Itezhi-Tezhi (ZESCO)

- Dam built in 1977
- New power station (120MW) in 2016
- Operation stage self-assessment

Objectives

- Build internal capacity to improve portfolio
- Integrate HSAP in ESMS

Batoka Gorge (ZRA)

- Binational project
- Proposed capacity (2.4 GW)
- Preparation stage self-assessment

Objectives

- Risk identification
- Interest in ESIA review
- Enhance corporate governance

Cahora Bassa (HCB)

- Expansion project (+1.25GW)
- Preparation stage self-assessment
- Operation stage assessment

Objectives

- Enhance stakeholder communication
- Improve operations
- Assess compliance with regulations

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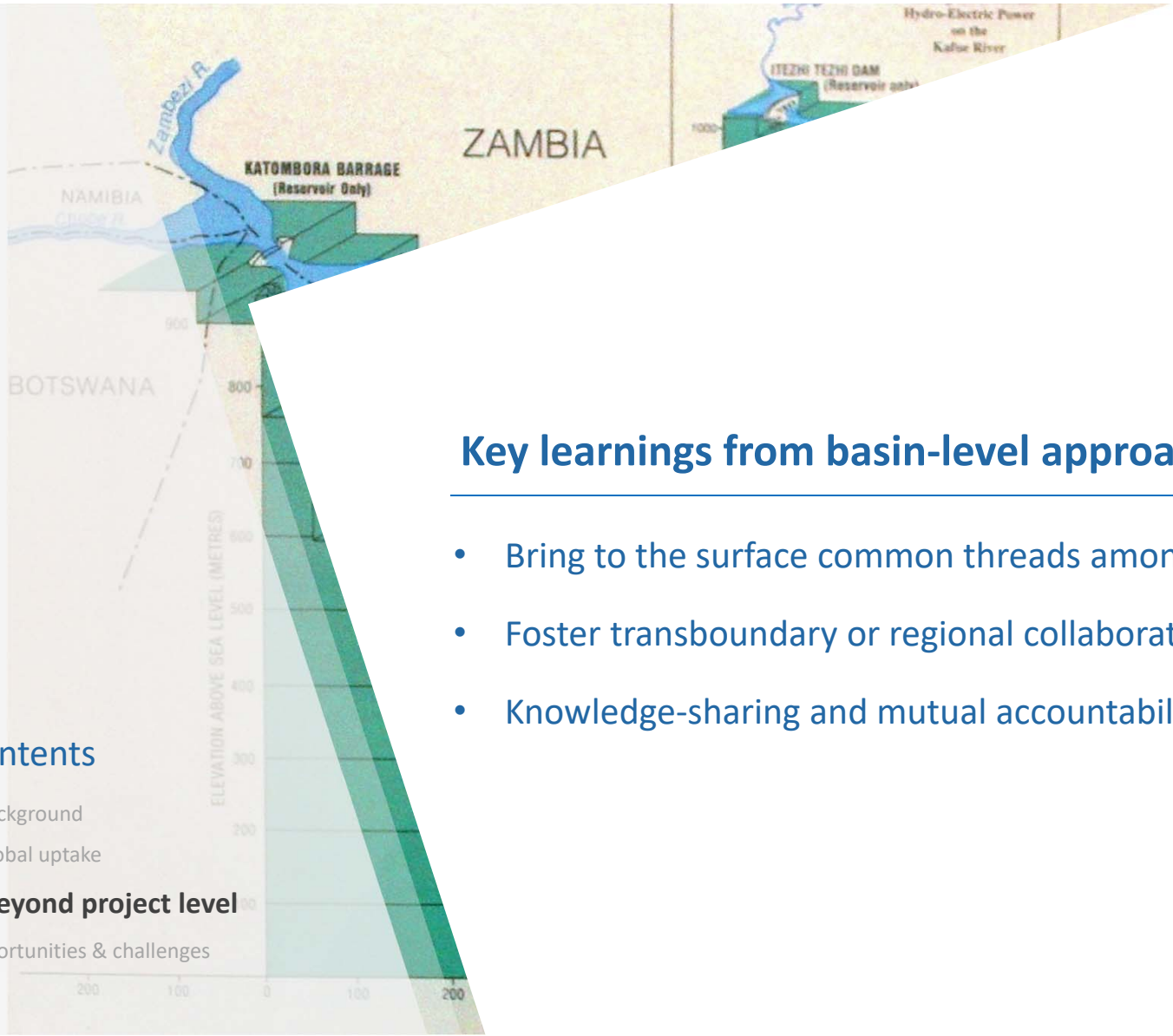

Zambezi
River Basin

Key learnings from basin-level approach

- Bring to the surface common threads among different operators
- Foster transboundary or regional collaboration
- Knowledge-sharing and mutual accountability

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Project-level approach

The assessment

- **Developer:** confidential
- **Date:** 2016
- **Project Stage:** Implementation

Findings under the topic: ES Issues Management

- There has been no Cumulative Impact Assessment or Strategic Environmental Assessment (SEA) for current and proposed hydropower and other development in the river basins.
- Cumulative impacts are relevant to this project, in the project area arising from multiple construction activities (including the hydropower project and major roadworks) and also from a basin perspective with multiple planned hydropower projects.
- The lack of proper scoping of cumulative impacts leads to reactive management of environmental and social issues, and may in turn lead to significant cumulative impacts in the project area, basin and/or downstream being “missed”.
- The weaknesses identified in the EIA and the lack of scoping of cumulative impacts constitute a significant gap against the criteria for basic good practice.

Project-level assessment + basin-level planning

- An assessment can highlight the need for an SEA or basin level study
- Coordinated assessments across the river basin can inform an SEA or river basin planning
- Assessments after an SEA or river basin planning could contribute in the project supervision and verification of conformance/compliance

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Thank you

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Working with IHA:

| Training across sectors: private, government, consultant, MDB

| Managing capacity building programs in developing countries

| Assisting developers in assessments

To learn more about training and enquire about assessments, please visit:
www.hydrosustainability.org