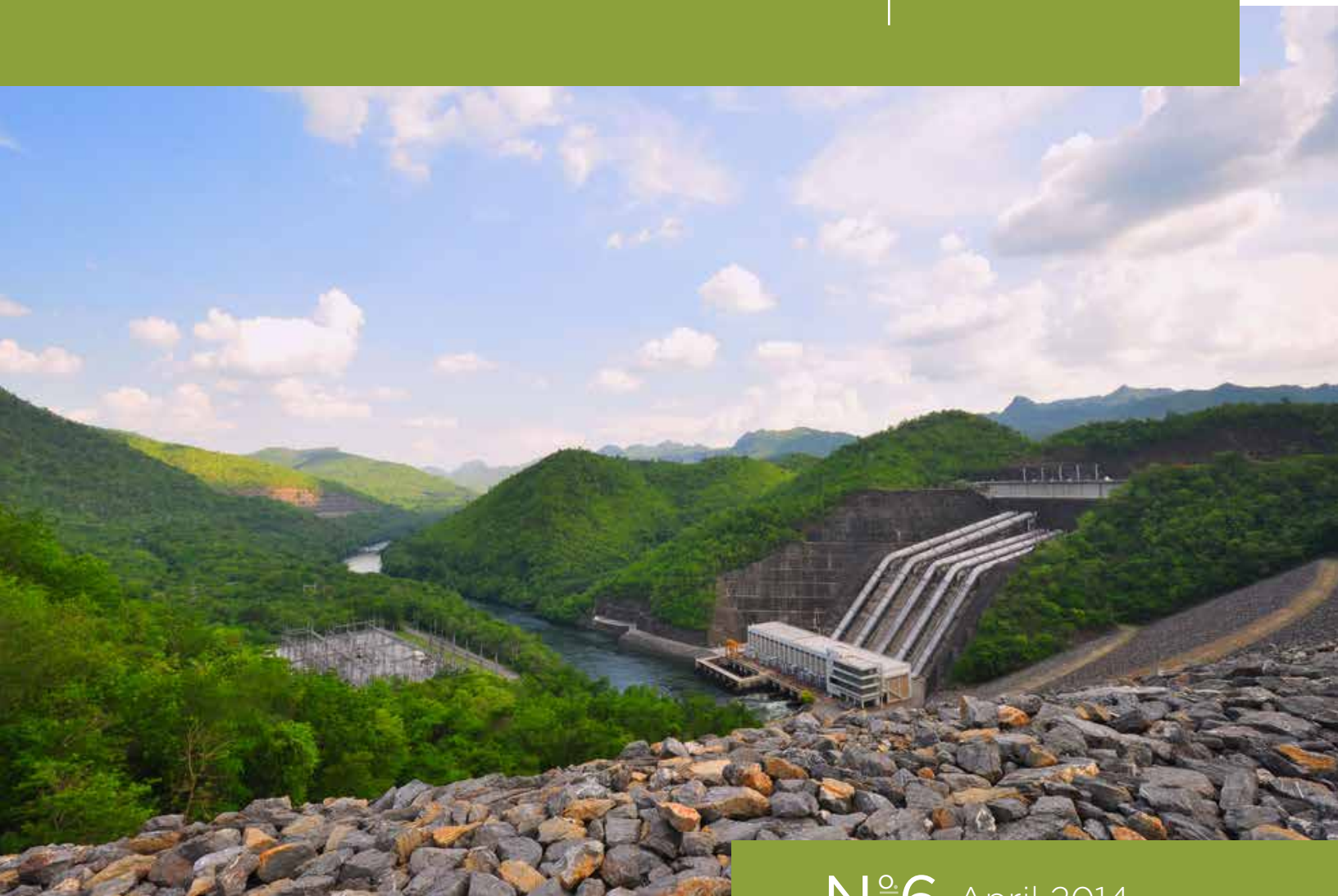




**Moving towards Greener Infrastructure:  
Innovative Legal Solutions  
to Common Challenges**

**DISCUSSION  
PAPER**



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## DISCUSSION PAPER

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# Moving towards Greener Infrastructure: Innovative Legal Solutions to Common Challenges

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# Executive Summary

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For most countries, developing transport and power-generation infrastructure is vital to progress. However, when infrastructure decisions fail to account for biodiversity and differentiated gender impacts, negative effects can be large – sometimes outweighing benefits. Legal frameworks play a central role in determining outcomes. This executive summary presents key findings from a review of innovative policies that seek to address some of the most common challenges to reconciling infrastructure, conservation, and gender concerns.

The review first considered the legal frameworks governing infrastructure development in four countries: Brazil, Peru, the Democratic Republic of Congo, and Uganda. It focused in particular on hydroelectric and road projects. Although each country has unique laws and structures regulating integration of biodiversity and gender issues into infrastructure decisions, the most critical challenges facing the regulatory processes are similar. They include:

- Inadequate funding, staff, equipment, and expertise within agencies responsible for environmental review and licensing;
- Challenges to unbiased decision-making due to conflicts of interest and pressure to move forward with large infrastructure projects independent of negative impacts;
- Unclear jurisdictional lines between agencies; and
- Inadequate implementation and enforcement of existing laws.

Building on this understanding of common challenges, we then surveyed a broader set of countries – more than 20 in all – to identify legal options for addressing weaknesses or opportunities as they relate to biodiversity and gender. Following are examples of some of the most noteworthy measures:

- 1) Ensuring that agencies responsible for environmental review and licensing have sufficient resources to carry out their functions. Fiji’s regulations allow the government to require project proponents to reimburse reasonable agency expenses, including related to reviewing proposals and Environmental Impact Assessment (EIA) reports, field visits, and inspections. These provisions reduce scope for project approvals due simply to insufficient funding to conduct rigorous reviews.
- 2) Guaranteeing that EIAs occur early in the decision-making process. In the USA, Regulations stipulate that until the relevant agency issues an EIA decision, project proponents are prohibited from actions that have adverse environmental impacts. Further, neither proponents nor government may take actions that would limit or prejudice the choice of alternatives.
- 3) Improving the quality of EIAs by making consultants accountable. Regulations in South Africa move towards this goal by creating a registry for qualified consultants. The country’s

licensing authority may refuse to accept reports from EIA consultants who do not comply with relevant regulations. In Uganda, regulations provide for criminal penalties to be imposed on EIA consultants who provide false or misleading information, including up to 18 months in prison.

- 4) Defining key issues to be considered in EIAs. Under Kenyan law, EIAs must consider potential impact on a wide range of biodiversity issues, including: wild animals, vegetation, soil fertility, breeding populations of fish or game, wetlands, ecosystem maintenance, food chains, aquifer recharge, fragile ecosystems, water sources, and landscapes.
- 5) Providing binding guidelines on compensation. In Colombia, the *Manual to Determine Compensation for Biodiversity Loss* describes both which impacts require compensation, and at what scale. It also requires that compensatory measures be carried-out in equivalent ecosystems to those affected by the specific project and lists acceptable conservation options, including support for new protected areas, creation of private conservation areas, restoration, and reforestation.
- 6) Requiring EIAs to evaluate differentiated impacts on men and women. Negative impacts on women in particular are often obscured where not considered explicitly. Regulations in the Philippines require projects that will have a significant impact on women to include in the EIA a specific chapter considering gender issues<sup>1</sup>.
- 7) Making it compulsory for developers to clearly disclose information on potential local impacts and take into account feedback from affected communities. Peru's regulations require that relevant information be broadcast in local languages. South Africa's regulations require EIA consultants to review and consolidate local comments into a written scoping report.
- 8) Providing legal options that create financial incentives and disincentives to improve compliance with mitigation and compensations plans. Regulations in the USA require performance bonds and insurance in a variety of cases including related to transportation infrastructure. Such up-front financial commitments help ensure that companies will comply with their environmental obligations and reduce government liability.
- 9) Empowering agencies to respond effectively where projects violate the terms of their approval. South Africa's regulations allow for immediate suspension of a project if there is non-compliance with an environmental authorization, or if the authorization was obtained with fraudulent information. In Uganda, the government may direct project proponents to undertake specific mitigation measures to ensure compliance with predictions made in their EIAs. In Tanzania, when projects cause or are projected to cause unacceptable environmental and social impacts, the Environmental Minister can recommend that

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<sup>1</sup> An extensive search, including literature review and discussion with experts, yielded mostly broad declarations about the need for "gender mainstreaming." The Philippines is an exception.

necessary licenses be revoked or withheld. Moreover, the licensing authority must follow the Minister's decision.

- 10) Creating and implementing whistleblower protection laws to increase reporting when legal requirements are violated. Nepal's regulations place an affirmative responsibility on public employees to report corruption. They also provide protection for whistleblowers' identities and employment, and allow whistleblowers to receive compensation for undue harm.

The full report details these and numerous other laws. It concludes that, if done carefully, adapting existing legal options to new contexts offers significant potential to improve infrastructure development as it relates to both biodiversity conservation and gender-differentiated impacts.

# Introduction

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This report seeks to identify opportunities for the application of effective and innovative legal tools designed to reconcile infrastructure, conservation, and gender concerns. The report takes as its point of departure, the relevant regulatory structures and policies in Brazil, Peru, the Democratic Republic of Congo, and Uganda. For each country, an in-country legal expert analyzed strengths, weaknesses and opportunities (condensed reports in Appendix).

Although each of the countries we studied has unique laws and structures, we found significant challenges across the board in managing infrastructure development. Furthermore, many of the key regulatory issues are common across countries. In particular, we identified the following:

- 1) Agencies responsible for environmental review and licensing are not adequately funded or staffed, and do not have the necessary equipment, facilities, expertise, and training to carry out their jobs properly;
- 2) Individuals and agencies face significant challenges to unbiased decision-making, including the threat of job loss, corruption, conflicts of interest, and pressure to move forward with large infrastructure projects independent of negative impacts;
- 3) Jurisdictional lines between agencies are frequently blurred, resulting in unclear mandates for action. Even where this is not a problem on paper, environmental agencies frequently lack the political clout to oppose major development interests;
- 4) Existing laws are often poorly enforced due to a combination of the factors above or lack of specific provisions for their implementation.

Building on this understanding of common challenges, we then surveyed a broader set of countries to identify legal options for addressing weaknesses or opportunities as they relate to biodiversity and gender. The body of the report presents these policies in general order of when they become relevant during the infrastructure development process. We therefore begin with a discussion of agency resources. Next, we discuss a set of options related to improving various aspects of the Environmental Impact Assessment (EIA) and stakeholder consultation process. Finally, we consider policies that address construction, operation, and management of potential irregularities.

Several caveats are appropriate at the outset:

First, while legal reforms are central to addressing many of the problems identified, effectively resolving challenges related to issues such as budget, technical capacity, political will, and



overlapping jurisdictions between agencies will require reform in other areas as well. The focus of this report on legal issues is not intended to imply that such reform would be effective in isolation, only that it is likely a fundamental piece of the solution.

Second and related, the actual effectiveness of a particular policy will depend in large part on context-specific details, for instance related to underlying data, capacity, appropriateness to the cultural context, and how the policy fits into the broader policy landscape. Such details are beyond the scope of this report. Therefore, while the report highlights strong legal provisions, their actual effectiveness in context and potential effectiveness in other countries must be understood as a function of this combination of factors.

Finally, while each of the countries studied has at least some laws addressing impacts of infrastructure on biodiversity, none of them has laws specifically requiring analysis of a project's differentiated gender impacts. An extensive search, including literature review and discussion with experts, yielded mostly broad declarations about the need for "gender mainstreaming." Such statements do not guarantee that impacts related to gender are adequately considered. Of the countries reviewed, the Philippines provides the most specific requirements (Section 2.3).

The remainder of this report presents the set of policy and legal options we found most innovative and likely to be effective in addressing the common challenges. We discuss both what challenges they respond to, and where appropriate, provide relevant cautions in considering their application to other contexts.

# Effective or Innovative Policies

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There is no single, overarching model law that guarantees effective protection of biodiversity and appropriate consideration of gender impacts in infrastructure development. Instead, efforts to address these issues have aimed at specific challenges. The majority of models considered some aspect of EIAs. This is perhaps unsurprising given the fundamental role of the EIA process, as well as the number of challenges to it achieving its intended level of influence. Most of the rest seek to ensure that development proceeds in compliance with legal obligations related to environment and gender, as specified in the EIA and elsewhere. We found few policies attempting to provide legal solutions to problems such as agency budgets and capacity, possibly due to the difficulty of finding specifically legal solutions to that problem – most experts consulted felt that political will and other factors were more relevant.

The following sections present what we believe are some of the best measures found in each category.

## 1. Agency Funding

Inadequate funding for relevant management agencies is a core challenge to effectively managing infrastructure development – without sufficient funding, even the best regulations are likely to be implemented poorly. Budgets are largely determined by political priorities rather than policies. However, several countries have implemented policies that allow agencies to supplement their budget allocations.

Fiji: Fiji gives relevant regulatory agencies means to generate their own funds as a function of the scope and complexity of their regulatory burden. In particular, Fiji's approving authority may require project proponents to reimburse all reasonable costs incurred in screening proposals and reviewing EIA reports. Costs may include transport, employment of consultants, and out-of-hours pay for inspectors and other relevant Ministry staff. The Permanent Secretary of the Ministry responsible for the environment resolves disputes as to what constitutes a "reasonable cost".<sup>2</sup>

These provisions allow the authority to carry out necessary activities that would not be possible otherwise. Such activities include site visits, water and soil samples, and consultation with experts. It is appropriate to note that the provisions also create a potential risk. Specifically, they create a relationship in which the regulating agency receives funds directly from the groups it regulates. In some contexts, this relationship might generate corruption and decrease transparency, rather than increase it.

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<sup>2</sup> *Environment Management (EIA Process) Regulations 2007*, secs. 6(5), 29(6), and 34(9) [Fiji].

## 2. Environmental Impact Assessments

EIAs are a vital tool to ensuring that environment and gender are properly assessed and accounted for in infrastructure development decisions. However, their value is often undermined through poorly designed processes or failure to manage potential loopholes. This section presents several areas in which countries have implemented improvements to their EIA laws.

### 2.1 Timing

For EIAs to appropriately inform decision making, they must occur early enough in the planning process that they can inform major choices, including whether a project should be developed at all, as well as where and how.

United States: US regulations address timing in terms of when development and agency funding decisions may be made with respect to EIA acceptance or rejection. In particular, regulations require that “[a]gencies shall not commit resources prejudicing selection of alternatives before making a final decision”<sup>3</sup>. The regulations also state that “[u]ntil an agency issues a record of decision . . . , no action [by the project proponent] concerning the proposal shall be taken which would: (1) Have an adverse environmental impact; or (2) Limit the choice of reasonable alternatives”<sup>4</sup>. This wording helps ensure both that EIAs are done early, and also that their recommendations are used in relevant decisions.

### 2.2 Consultants

A common complaint from environmental advocates concerns the poor quality and/or biased conclusions in EIA reports prepared by private consultants. In some instances, this is attributable to consultant’s lack of qualifications or expertise in conducting environmental and social impact assessments. In other instances, consultants have a conflict of interest or are improperly influenced by the project developer. These problems are exacerbated where government agencies do not have the resources to closely review and scrutinize the information provided in EIA reports prior to licensing a project.

Several countries have adopted provisions aimed directly at EIA consultants in an effort to improve the quality and objectiveness of their work. These provisions fall into one of three categories: 1) establishing a registry of qualified EIA consultants; 2) holding consultants directly accountable for false or fraudulent information; and 3) imposing a general code of conduct for EIA consultants.

#### 2.2.1 Consultants Registry

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<sup>3</sup> Title 40 *Code of Federal Regulations* part 1502.2(f) [United States].

<sup>4</sup> Title 40 *Code of Federal Regulations* part 1506.1(a) [United States].

Fiji: Fiji's Department of Environment maintains and publishes a list of consultants as part of its EIA Consultant Registration Scheme. Project developers must select a consultant from this list to prepare the technical portions of their EIA reports.<sup>5</sup> There are four categories of consultants who are accredited based on their education and experience. Consultants are also permitted to identify from three to five areas of expertise (depending on their category) and must provide evidence of their training in these particular disciplines.<sup>6</sup>

Malta and Uganda: Malta's and Uganda's EIA consultant registration and qualification systems are similar to Fiji's except that they are overseen by an independent board, as opposed to a government agency. Both systems categorize consultants by level of experience and responsibility, as well as certify each consultant's area(s) of expertise.<sup>7</sup>

### 2.2.2 Accountability

South Africa: In South Africa, if the competent authority has reason to believe that an EIA consultant is not complying with relevant regulations or is not acting independently, it may refuse to accept further reports or input from the consultant. The competent authority may further request the project proponent to commission an external review of the reports prepared by the consultant, redo any specific aspects of the work, or complete any unfinished work, at the project proponent's cost.<sup>8</sup>

Uganda: In Uganda, EIA consultants who make false or misleading statements in their EIA reports can be subject to criminal penalties, including up to 18 months in prison.<sup>9</sup>

Malta: A consultant's registration certificate may be revoked if the consultant submits substandard or deliberately misleading work in an EIA.<sup>10</sup>

### 2.2.3 Code of Conduct:

Uganda: Ugandan law establishes that EIA consultants must follow a code of practice.<sup>11</sup> Among relevant provisions, the Code of Practice and Professional Ethics makes consultants personally responsible for work undertaken on behalf of project proponents, aiming to increase their incentive to generate impartial reports. Conversely, consultants are permitted to withdraw from preparation of an EIA without

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<sup>5</sup> *Environment Management (EIA Process) Regulations 2007*, sec. 22(3) [Fiji].

<sup>6</sup> Department of Environment, *EIA Consultant Registration Scheme* [Fiji]. (available at: <http://www.environment.gov.fj/wp-content/uploads/2012/01/consultants-registration-criteria-final.pdf>).

<sup>7</sup> See generally, *Environmental Impact Assessment Regulations*, 2001, L.N. 204 of 2001, Part VI: Register of Consultants and Reviews [Malta]; *National Environment (Conduct and Certification of Environment Practitioners) Regulations*, 2003 [Uganda].

<sup>8</sup> *Environmental Impact Assessment Regulations* (R. 543 of 2010) (South Africa), sec. 18.

<sup>9</sup> *National Environment Act*, sec. 96 [Uganda].

<sup>10</sup> *Environmental Impact Assessment Regulations*, 2001, L.N. 204 of 2001, sec. 40(c) [Malta].

<sup>11</sup> *Environmental Impact Assessment Regulation*, S.I. No. 13/1998, sec. 11(3) [Uganda].

prejudice to contractual obligations if the project proponent instructs the consultant to act in a manner that is contrary to any Ugandan law or the Code of Practice—this permission aims to decrease pressure on consultants to falsify results at the request of their employers.<sup>12</sup>

Fiji: As in Uganda, registered consultants in Fiji must abide by a Code of Practice. In Fiji, the Code forbids consultants from representing conflicting or competing interests and requires them to disclose to any client or employer any relationship that may influence the consultant's judgment. Consultants are not permitted to intentionally communicate false or misleading information that may compromise the integrity of any EIA study. Registered individuals can be deregistered or suspended if they fail to comply with the Code of Practice or fail to fulfill the minimum requirements.<sup>13</sup>

## 2.3 Guidelines

Assessing the potential environmental and gender impacts of infrastructure development projects is a complex task. Allowing discretion in the way these issues are evaluated within EIAs creates significant scope for important potential impacts to be omitted, both unintentionally and intentionally. Many countries have sought to address this by developing detailed guidelines. Guidelines can pertain to the preparation of consultant Terms of Reference (ToRs), as well as to the assessment of biodiversity, social, and gender-specific impacts. The aim is to provide a measure of specificity and expertise to guide the preparation of EIAs for complex infrastructure projects.

### 2.3.1 TORs

Nepal: The government of Nepal has specific guidance for the preparation of ToRs for hydropower projects.<sup>14</sup>

India: The Ministry of Environment and Forests (MoEF) of India has published a manual containing sector-specific terms of reference.<sup>15</sup> The MoEF convened expert groups to prepare and provide peer review of standard ToRs for 10 different sectors.

### 2.3.2 Biodiversity impacts

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<sup>12</sup> *National Environment (Conduct and Certification of Environment Practitioners) Regulations*, 2003 Schedule 5 [Uganda].

<sup>13</sup> Department of Environment, *EIA Consultant Registration Scheme*, secs. 7 and 13 [Fiji].

<sup>14</sup> *Manual for Preparing Terms of Reference (TOR) for Environmental Impact Assessment (EIA) of Hydropower Projects, with Notes on EIA Report Preparation* (2001) [Uganda], available at: [www.doed.gov.np/documents/Manual-for-Preparing-Terms-of-Reference.pdf](http://www.doed.gov.np/documents/Manual-for-Preparing-Terms-of-Reference.pdf).

<sup>15</sup> *Terms of Reference [TOR] for EIA Report For Activities/Projects Requiring Environmental Clearance* (2009) [India], available at <http://environmentclearance.nic.in/writereaddata/Form-1A/HomeLinks/EIA%20TORs%20Aug09.pdf>.

Kenya: Under Kenya's environmental law, an EIA must be prepared for any major road or proposed hydroelectric project and, in addition, an EIA must be prepared for any project that would introduce foreign species to an area.<sup>16</sup> Regulations include a specific list of issues related to biodiversity that must be considered in an EIA, including: biological diversity itself, wild animals, vegetation, soil fertility, breeding populations of fish, game or wild animals, wetlands, ecosystem maintenance, food chains, aquifer recharge, fragile ecosystems, water sources, and landscapes (among others).<sup>17</sup>

Colombia: Colombian regulations specify impacts that must be included in an EIA (or in some cases Alternative Environmental Diagnosis) for hydroelectric facilities and roads.<sup>18</sup> For example, EIAs for hydroelectric projects need to contain a description of the biotic environment directly and indirectly affected by the project, including affected flora, fauna (amphibians, reptiles, birds and mammals), and aquatic ecosystems. Additionally, EIAs must include a description of existing vegetation, sensitive and protected habitats, endemic, threatened, endangered, important and valuable flora and fauna, migratory routes, and fishing zones. EIAs must also establish expected effects to aquatic communities under different flow regimens and establish a minimum water flow that guarantees these communities' survival.

### 2.3.3 Compensation for Biodiversity Loss

Most infrastructure development is likely to cause some negative impact to biodiversity, even where developers follow both country-specific legal requirements and adopt international best practices. In these contexts, there is a growing interest in laws that require development activities to compensate or offset their impacts.

Colombia: Colombia's *Manual to Determine Compensation for Biodiversity Loss* was adopted on August 31, 2012. The Manual applies to all impacts on living ecosystems. Its overarching objective is no net loss of biodiversity. In pursuit of this goal, the manual describes both which impacts require compensation and how to determine the appropriate amount of compensation. It also requires that compensatory measures be carried-out in equivalent ecosystems to the ones affected by a specific project, and preferably within a project's zone of influence. Acceptable conservation measures are also specified, and include: support for new protected areas, creation of new private conservation areas, restoration, and reforestation.

### 2.3.4 Social impacts

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<sup>16</sup> *Environmental Management and Co-Ordination Act*, Laws of Kenya, Chapt. 387 (1999), Second Schedule [Kenya].

<sup>17</sup> *Environmental (Impact Assessment and Audit) Regulations, 2003*, Second Schedule [Kenya].

<sup>18</sup> Resolución 1255 del 30 de Junio de 2006 [Colombia]; *Por la cual se acogen los términos de referencia para la elaboración del Estudio de Impacto Ambiental para la construcción y operación de centrales hidroeléctricas generadoras y se adoptan otras determinaciones.*

Kenya: Kenyan regulations governing the EIA process require the inclusion of a section analyzing the social, cultural, and economic impacts of proposed projects. Specifically, EIA reports must include *“the environmental effects of the project including the social and cultural effects and the direct, indirect, cumulative, irreversible, short-term and long-term effects anticipated [.]”*<sup>19</sup> In addition, the EIA report must include *“an economic and social analysis of the project,”*<sup>20</sup> where *“social analysis”* is defined to mean *“assessing or estimating in advance the social consequences from specific policy actions or project development including social justice and equity, social uncertainty, social cohesion, social networks and interactions, social status and gender desegregation.”*<sup>21</sup> Documents listing potential social impacts are also provided. These include: economic impacts, social cohesion or disruption, effect on human health, immigration or emigration, communication via roads opened up, closed, and/or rerouted, and effects on culture and objects of cultural value.

United States: In the United States, regulations governing the EIA process require agencies to assess both direct and indirect effects of a proposed project. The regulations define *“effects”* to include effects that are *“aesthetic, historic, cultural, economic, social or health, whether direct, indirect, or cumulative,”*<sup>22</sup> as well as ecological.

### 2.3.5 Gender impacts

As mentioned in the introduction, consideration of gender-differentiated impacts of infrastructure development is promoted only through broadly worded laws in most countries. In Nepal, for instance, the Good Governance Act of 2006 requires the Government to pursue a list of policies *“while carrying out the administrative functions of the country.”* That list includes *“social justice”* and *“empowerment of women and promotion of gender Justice.”*<sup>23</sup> The impact of such laws depends critically on the intention of the individuals and agencies applying them.

Philippines: A notable exception is the Philippines, which has incorporated some gender-related provisions specifically into the regulations and guidance for EIAs of infrastructure projects. In particular, regulations governing the content of EIA reports require that: *“For projects or undertakings with significant impact on women, a specific chapter in the socio-economic impact assessment shall be devoted to a discussion and consideration of gender issues.”*<sup>24</sup>

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<sup>19</sup> *Environmental (Impact Assessment and Audit) Regulations, 2003*, sec. 18(h) [Kenya].

<sup>20</sup> *Environmental (Impact Assessment and Audit) Regulations, 2003*, sec. 18(o) [Kenya].

<sup>21</sup> *Environmental (Impact Assessment and Audit) Regulations, 2003*, sec. 2 [Kenya].

<sup>22</sup> Title 40 *Code of Federal Regulations* part 1508.8 [United States].

<sup>23</sup> *Good Governance (Management and Operation) Act, 2064 (2006)*, sec. 7 [Nepal].

<sup>24</sup> Department Administrative Order 96-37, Art. III, sec. 9(k) [Philippines].

The Philippine Plan for Gender-Responsive Development (PPGD), directs all government agencies at the national, regional and local levels to institutionalize gender and development (GAD) efforts by incorporating gender concerns when agencies formulate, assess and update their respective annual plans and their inputs to the medium and long term development plans. Agencies are also directed to include GAD in their annual budget proposals, work and financial plans.<sup>25</sup>

## 2.4. Stakeholder participation

Public participation in decisions about infrastructure development is vital. A number of countries incorporate public involvement early in the EIA process to help ensure that the affected groups have an opportunity to inform EIA reports. Several countries also mandate communication in local languages to boost participation where potentially affected people do not speak the common language. However, regulations that require local input do not necessarily specify the degree to which such input must be prioritized in infrastructure design, representing a potentially significant limitation on their impact.

United States: US regulations require an “*early and open process for determining the scope of issues to be addressed [in an environmental impact statement (EIS)] and for identifying significant issues related to a proposed action.*”<sup>26</sup> Members of the public must be notified of this process in advance and allowed an opportunity to express their concerns and opinions about the issues that should be evaluated in the EIS.<sup>27</sup>

Nepal: In Nepal, regulations are even more specific, stipulating means of communication appropriate to the context. The Environmental Protection Rules state: “*In regard to any proposal requiring environmental impact assessment, the proponent shall publish a notice in any national level news paper, requesting the Village Development Committee or Municipality where the proposal is to be implemented, as well as the schools, hospitals, health posts and concerned individuals or institutions of the area to offer in writing their suggestions concerning to the possible impact of the implementation of the proposal of the environment with giving Fifteen days of time period.*”<sup>28</sup>

South Africa: At the outset of the licensing process the project proponent (through an EIA consultant) must hold a public meeting to solicit comments and opinions from the public concerning the proposed project. This input is then incorporated into a scoping report, which must contain (among other things) a detailed description of the public participation

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<sup>25</sup> Executive Order 273 (September 8, 1995), sec. 1 [Philippines].

<sup>26</sup> Title 40 *Code of Federal Regulations* part 1501.7 [United States]

<sup>27</sup> Title 40 *Code of Federal Regulations* part 1501.7(a)(1) [United States].

<sup>28</sup> Environment Protection Rules of the year 2054 (1997), sec. 4 [Nepal].



efforts, a summary of the issues raised by interested and affected parties, and responses to those issues.<sup>29</sup>

Philippines: Public participation in the Philippines is defined as: *“open, transparent, gender-sensitive, and community-based process aimed at ensuring the social acceptability of a project or undertaking, involving the broadest range of stakeholders, commencing at the earliest possible stage of project design and development and continuing until post-assessment monitoring.”*<sup>30</sup>

Peru: The Peruvian Government may require the Executive Summary of the EIA to be translated into the predominant language of the locality where the project is to be proposed. When the predominant language is such that a written translation of the Executive Summary is not possible, the Competent Authority may request the submission of a magnetic version, digital audio, or other appropriate means for broadcast.<sup>31</sup>

New Zealand: In New Zealand in *“determining an appropriate procedure for the purposes of [public hearings], the authority shall . . . recognize Tikanga Maori [Maori traditional rules and culture] where appropriate, and receive evidence written or spoken in Maori .”*<sup>32</sup>

### 3. Strengthening compliance

Even where EIAs are early, thorough, unbiased and include appropriate local participation, a range of challenges can appear once construction and operations begin. Most basically, these relate to detecting non-compliance with relevant laws and permits, and enforcing compliance once problems are detected. This section presents legal options that respond to these challenges.

#### 3.1 Financial incentives and disincentives

United States: Regulations in the United States require performance bonds and insurance in a variety of cases including related to transportation infrastructure. Such up-front financial commitments help ensure that companies will comply with their environmental obligations, and reduce government liability.

#### 3.2 Investigation of non-compliance

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<sup>29</sup> *Environmental Impact Assessment Regulations*, secs. 27-30 [South Africa].

<sup>30</sup> Department Administrative Order 2003-30, sec. 3(aa) [Philippines].

<sup>31</sup> Decreto Supremo No 019-2009-MINAM, Art. 67 [Peru].

<sup>32</sup> Resource Management Act 1991, sec. 39(2)(b) [New Zealand].

Kenya: In Kenya, environmental inspectors are required to monitor compliance with environmental law and conduct environmental audits. Inspectors are granted significant authority to carry out this task. An inspector “*may, in the performance of his duties under this Act or any regulations made thereunder, at all reasonable times and without a warrant*” enter the premises of a development, take samples, review records, and gather other information.<sup>33</sup> As with several other laws presented here, it should be noted that this policy represents both an opportunity and a risk.

South Africa: If the competent authority in South Africa “*reasonably suspects*” that a person holding an environmental authorization has violated a condition of the authorization and that the violation has caused or may cause harm to the environment, the competent authority may direct the person to conduct an environmental audit. There is also the option of appointing an independent party to conduct the audit. The person or entity being audited must pay all of the costs of the audit.<sup>34</sup>

Egypt: One of Egypt’s laws focuses on requiring good and transparent record keeping. The party implementing a project “*shall keep a written record of the impact of his establishment on the environment (Environmental Record).*” The Egyptian Environmental Affairs Agency (EEAA) is then required to “*follow up these records to ensure their genuineness, take necessary samples and conduct appropriate tests to determine the impact of the establishment activities on the environment and the extent of its compliance with environmental protection standards or the pollutants (sic) loads.*” The EEAA “*shall notify the competent administrative authority to demand the establishment’s proprietor to rectify*” violations if “*the establishment is not keeping an environmental record, not updating data regularly or is not genuine, or that the establishment is not complying*” with current environmental law.<sup>35</sup>

### 3.3 Whistleblowers

In many countries, it is risky for individuals (whether in government, companies, or members of the public) to report illegal activity. This facilitates non-compliance with applicable laws. In response, some countries have passed laws explicitly protecting “whistleblowers,” in an attempt to support people who know about and would like to report irregularities but are fearful of doing so.

Nepal: Nepal’s laws make it the responsibility of government employees to report ongoing or probable corruption or irregularities. The laws also provide several protections for whistleblowers. These include the provisions that a) the person who receives the relevant information must keep the identity of whistleblower confidential, b) the whistleblower

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<sup>33</sup> Environmental Management and Co-Ordination Act, 1999, sec. 117 [Kenya].

<sup>34</sup> Environmental Impact Assessment Regulations, 2010, sec. 69 [South Africa].

<sup>35</sup> Law for the Protection of the Environment (Law 4/1994, as amended by Law 9/2009), sec. 22 [Egypt].

cannot be fired or otherwise punished or harmed, and c) if any punishment or harm is done to the whistleblower, s/he may file a complaint and seek appropriate compensation.<sup>36</sup>

### 3.4 Citizen enforcement

Activist citizens can provide a vital complement to government activities in ensuring that laws are followed. Several countries have legislated procedures for such action.

Trinidad and Tobago: In Trinidad and Tobago the Environmental Management Act contains provisions establishing a "*direct private party action*". A private party may institute a proceeding before the Environmental Commission against any person who violates environmental requirements, including failure to obtain a certificate of environmental clearance or failure to comply with the terms and conditions in such a certificate.<sup>37</sup> The Act specifically addresses the issue of standing. It states: "*[A]ny individual or group of individuals expressing a general interest in the environment or a specific concern with respect to the claimed violation shall be deemed to have standing to bring a direct private party action.*"<sup>38</sup>

There are prerequisites to filing a direct party action. A citizen must provide written notice to the Environmental Management Authority of the alleged violation at least 60 days before filing the action with the Commission.<sup>39</sup> If the Authority decides to commence an enforcement action, the direct private party action may not be filed. The Attorney General may also intervene in the proceeding at any time.<sup>40</sup>

Uganda: In Uganda, a "*member of public, after showing reasonable cause, may petition the Executive Director [of the National Environmental Management Authority], to cause an audit to be carried out on any project.*"<sup>41</sup> The purpose of the audit is to determine whether the project proponent is fulfilling the predictions made in the project brief and Environmental Impact Statement. As a result of audit, authorities may require implementation of additional mitigation measures.

Phillippines: The Philippines' Rules on Criminal Procedure allow for citizens' arrests. The Department of Environment and Natural Resources may deputize citizens after training them, either as deputized forest wardens or wildlife enforcement officers. Regulations also establish the right of any offended party or a public officer charged with the enforcement of an environmental law to file a complaint. The rules state: "*Any real party in interest, including the government and juridical entities authorized by law, may file a civil action*

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<sup>36</sup> Right to Information Act, 2064 (2007), sec. 29 [Nepal].

<sup>37</sup> Environmental Management Act, 2000, sec. 69 [Trinidad and Tobago].

<sup>38</sup> Environmental Management Act, 2000, sec. 69(2) [Trinidad and Tobago].

<sup>39</sup> Environmental Management Act, 2000, sec. 69(1)(a) [Trinidad and Tobago].

<sup>40</sup> Environmental Management Act, 2000, sec. 69(3) [Trinidad and Tobago]; see also sec. 89 (additional procedural provisions governing direct party actions).

<sup>41</sup> Environmental Impact Assessment Regulations S.I. No. 13/1998, sec. 32 [Uganda].

involving the enforcement or violation of any environmental law.”<sup>42</sup>

### 3.5 Procedures in the event of Non-Compliance

A final piece of the chain in ensuring compliance relates to the power granted to government agencies where they detect legal violations. If these procedures do not provide means to hold infrastructure developers accountable where there are infractions, they can undermine the effectiveness of otherwise solid legal frameworks. Several countries have laws addressing this challenge specifically.

Uganda: On the basis of an audit of a project proponent’s performance, the National Environment Management Authority may direct the project proponent to “*undertake specific mitigation measures to ensure compliance with the predictions made in the project brief or environmental impact statement.*” These may be measures in addition to those included in the project authorization.<sup>43</sup> If the project proponent does not comply with these additional measures, it is subject to civil or criminal enforcement.<sup>44</sup>

South Africa: The competent authority in South Africa is permitted to suspend “*with immediate effect*” an environmental authorization if there are “*reasonable grounds for believing that the contravention or non-compliance with a condition of the [environmental] authorization is causing harm to the environment*” or if suspension is “*necessary to prevent harm or further harm to the environment.*”<sup>45</sup> In addition, immediate suspension of an authorization may be ordered if the competent authority discovers that the authorization was obtained through fraudulent means or through the misrepresentation or non-disclosure of relevant information.<sup>46</sup>

Tanzania: Tanzania’s Environmental Management Act grants power to the Environmental Minister to reject projects that may cause unacceptable environmental and social impacts. Specifically: “*The Minister shall disapprove and recommend to the licensing authority that the project should not be licensed or, where the license has been issued, be cancelled if (a) the project or undertaking is likely to cause significant adverse impact on the environment; (b) there are no alternatives which can mitigate or remedy the significant likely harm to the environment; (c) the proponent has failed to abide to the mitigation measures stated in the Environmental Impact Statement or conditions issued by the Minister; or (d) there are compelling social, economic, health, cultural, or religious reasons which may or are likely to lead to irreversible impact on the society.*”<sup>47</sup>

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<sup>42</sup> A.M. No. 09-6-8-SC, Rules of Procedure for Environmental Cases, AM. No. 09-6-8 (2010), sec. 4 [Philippines].

<sup>43</sup> Environmental Impact Assessment Regulations, S.I. No. 13/1998, sec. 33(1) [Uganda].

<sup>44</sup> Environmental Impact Assessment Regulations, S.I. No. 13/1998, sec. 33(3) [Uganda].

<sup>45</sup> Environmental Impact Assessment Regulations, 2010, sec. 47(1)(a) and(b) [South Africa].

<sup>46</sup> Environmental Impact Assessment Regulations, 2010, sec. 47(1)(d) [South Africa].

<sup>47</sup> Environmental Management Act, 2004, sec. 93 [Tanzania].

Moreover, the licensing authority must follow the Minister's decision: *"No licensing authority under any law in force in Mainland Tanzania shall issue a certificate for any project for which an environmental impact assessment is required under the Act unless the applicant produces to the licensing authority a certificate of environmental impact assessment issued by the Minister."*<sup>48</sup>

Nepal: In Nepal, in cases where it is discovered during the course of carrying out monitoring and evaluation activities that the actual environmental impact caused by a project is higher than that specified in the conditions prescribed at the time of approving the project, authorities *"shall issue necessary directives to the proponent to adopt measures to reduce or control such impact and it shall be the duty of the concerned proponent to comply with such directives."*<sup>49</sup>

Malta: If a project developer violates the conditions of the project authorization, the developer may be required to post a financial bond to restore damage that might be caused to the environment. *"[I]n the event that after a development permission is issued the development is not carried out in accordance with the permission, or is otherwise causing damage to the environment or to the infrastructure, [the Authority may] demand, as a condition of the continuance of the permission, that the person in whose favor the permission is issued should provide a bond in favor of the Authority in order to guarantee payment in respect of damages which may be caused to the environment or to the infrastructure. . . ."*<sup>50</sup>

Cameroon: Companies or individuals who begin operations in Cameroon without carrying out required EIAs, or who undertake projects that do not comply with the provisions in their EIA may be fined and/or imprisoned (for periods from six months to two years).<sup>51</sup>

#### 4. Infrastructure specific laws

This section presents several laws particular to the two types of infrastructure that are the focus of this report – major roads and hydroelectric facilities. While many of the relevant legal issues are similar to those reviewed above, these laws also introduce issues particular to the type of infrastructure in question.

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<sup>48</sup> Environmental Impact Assessment and Audit Regulations, 2005, sec. 4(2) [Tanzania].

<sup>49</sup> Environment Protection Rules, 2054 (1997), sec. 13 [Nepal].

<sup>50</sup> Environmental Impact Assessment Regulations, S.L. 504.79, sec. 44(4) [Malta].

<sup>51</sup> Loi No. 96/12 du 5 août 1996 portant loi-cadre relative à la gestion de l'environnement, Art. 79 [Cameroon].

## 4.1 Roads

India: The Ministry of Environment and Forests of India has published EIA guidance for proposed highways. To help minimize impact on wildlife, the guidance requires the baseline environmental information section of the EIA to include the “[l]ocation of national parks, sanctuary, and biosphere reserve, tiger reserve, elephant reserve and wildlife migratory routes with in aerial distance of 10 km either side of proposed alignment.”<sup>52</sup>

In addition, the EIA must include in its description of anticipated impacts, the “Impact on wildlife habitat and biodiversity due to change in land use; Impact due to fragmentation of wildlife habitat and territories; Impact due to changes in water quality, soil profile, noise, light and air pollution, which may affect the nature and character of habitats; and Pressure on habitats wildlife as a result of increased access provided by roads.”<sup>53</sup>

Finally, the guidelines provide a range of supporting information. For instance, they describe specific means by which roads can impact wildlife: “Most animal species tend to follow established patterns in their daily and seasonal movements. The areas, which they travel on their way to and from feeding, breeding and birthing grounds, and between their seasonal ranges, are known as corridors. When a highway projects intersects or blocks a wildlife corridor, the result is either cessation of use of the corridor because animals are reluctant to cross the road, an increase in mortality because of collisions with vehicles, or a delay in migration which may result in the weakening of the population.”<sup>54</sup>

Botswana: Botswana’s guidance for planning road infrastructure also directly addresses wildlife issues. The guidance specifies both required survey methodologies and also states objectives as they relate to balancing development and conservation: “The main objective is to look for the best corridor in order to minimize the impacts of human activity on wildlife and vegetation. The survey must cover the area within which the alternative corridors will be located. The objective should be to locate valuable and vulnerable areas in order to avoid major impacts in these areas. The surveys can be in the form of a desk study supplemented by visual surveys. A biologist can point out the ecologically most valuable and vulnerable areas based on registrations of soil, vegetation, climate and rainfall, water resources, geology, wildlife, topography, existing settlements, infrastructure and on visual surveys in the area.”<sup>55</sup>

Botswana’s guidance also notes that one of the important aspects to be considered in an EIA is the potential “[b]arrier effect of the road on wildlife. . . especially for migrating species and especially if the road is fenced.”

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<sup>52</sup> Environmental Impact Assessment Guidance Manual for Highways (February 2010), sec. 4.6 [India].

<sup>53</sup> Environmental Impact Assessment Guidance Manual for Highways (February 2010), sec. 5.5 [India].

<sup>54</sup> Environmental Impact Assessment Guidance Manual for Highways (February 2010), sec. 5.5 [India].

<sup>55</sup> Roads Department - Ministry of Works, Transportation and Communications: “Planning and Environmental Impact Assessment of Road Infrastructure” (September 2001) [Botswana]. (available at: [http://www.vegvesen.no/\\_attachment/336327/binary/585462](http://www.vegvesen.no/_attachment/336327/binary/585462))

## 4.2 Hydroelectric power

Nepal: Nepal's Electricity Act contains a general prohibition on power-generation activities that may cause substantial adverse effects to the environment: *"While carrying out electricity generation, transmission or distribution, it shall be carried out in such manner that no substantial adverse effect be made on environment by way of soil erosion, flood, landslide, air pollution etc."*<sup>56</sup>

The rules governing implementation of the Electricity Act require an EIA to be submitted with an application for a license to generate electricity.<sup>57</sup> The Rules define the purpose of an EIA as *"measures to be taken to minimize the adverse affect due to project on environment, social and economic effect of project on the said area, utilization of local labor, source and materials, benefits to be taken by the local people after the completion of the project, training to be provided for local people in relation to construction, maintenance and operation, facilities to be required for construction site, safety arrangements and effect on landowners due to operation of the project, details of people to be evacuated and necessary plan for their rehabilitation also should clearly be shown."*<sup>58</sup>

United States: The US Federal Power Act (FPA) grants the Federal Energy Regulatory Commission (FERC) licensing authority for hydroelectric projects. That section provides that: *"In deciding whether to issue any license under this subchapter for any project, the Commission, in addition to the power and development purposes for which licenses are issued, shall give equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of, fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality."*<sup>59</sup>

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<sup>56</sup> Electricity Act, 2049 (1992), Sec. 24 [Nepal].

<sup>57</sup> Electricity Rules, 2050 (1993) (as amended through 2009), sec. 12(f) [Nepal].

<sup>58</sup> Electricity Rules, 2050 (1993) (as amended through 2009), sec. 12(f) [Nepal].

<sup>59</sup> Federal Power Act, sec. 4(e), 16 U.S.C. § 797(e) [United States].

# Conclusion

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This report has reviewed legal options for including biodiversity and differentiated gender impacts into infrastructure development decisions. In particular, it focused on innovative responses to some of the most common challenges.

With regard to biodiversity, we found numerous policies with potential to address major issues, ranging from improving consultant performance on EIAs to supporting citizen participation in ensuring compliance with the law. With regard to gender, most countries have so far chosen a more general approach, potentially setting a strong foundation for specific action but also potentially leaving sufficient discretion that the intention of the laws may not be followed.

In both cases, we see significant scope for innovative laws to be adapted to new contexts. Doing so in a manner that bears in mind a country's particular cultural, political, and existing legal context offers potential to improve infrastructure development as it relates to both conservation and human development objectives.



## Appendix: Country Reports

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This section contains summary reports focusing on opportunities for legal reform in the study's four focal countries. Each country's report was contributed by lawyers in-country, and represents an expert opinion rather than the result of a comprehensive review. Accordingly, each report is structured somewhat differently to capture what the authors believed were the key issues for their country. The reports presented here have been edited, and responsibility for any errors introduced rests with the authors of this document.

Brazil recognizes the importance of its vast biological resources and has numerous laws designed to ensure that impacts to biodiversity are considered in decision making about infrastructure projects. For instance, Brazil's law, *Economic and Environmental Planning for Region* (Decree 4297/2002), requires that projects that directly or indirectly use natural resources must maintain natural capital and ecosystem services. Projects analyzed under this decree must in principle include analysis of impacts to biodiversity. Incompatible projects may be relocated. However, perhaps due to the demand for infrastructure projects associated with rapid economic development, political will to support this and related laws is frequently weak, resulting in limited implementation.

As in most countries, in Brazil there are multiple potential avenues for legal reform that would significantly improve decision-making related to major infrastructure projects. However, due to significant challenges related to political support, the best opportunities for law reform are seen to come from focusing on a few important changes, rather than any major overhaul. The list below presents several such opportunities.

### **1. Licensing and EIA process**

Perhaps the best target for realistic law reform is to address major deficiencies in the Environmental Impact Assessment (EIA) system.

#### *Challenges*

Brazil is one of the only countries in the world that has a three-stage environmental licensing process<sup>61</sup>. This process is seen as overly complex, causing uncertainty and delays without necessarily contributing to development or environmental objectives<sup>62</sup>.

A recent World Bank report summarizes as follows: *"Most of the problems associated with environmental licensing in Brazil occur at the first stage of a three-step process - the preliminary licensing stage. Major problems include the lack of adequate planning at government level, a lack of clarity about which level of government (federal or state) possesses the legal authority to issue environmental licenses, and delays in issuing the terms of reference (TORs) for the environmental impact assessments (EIA) required by law. Other problems include the poor quality of the EIAs submitted by project proponents, the subsequent*

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<sup>60</sup> Full report contributed by Mauro Figueiredo, co-founder of Ações para Preservação dos Recursos Naturais e Desenvolvimento Econômico Racional (APRENDER), and Raul Silva Telles do Valle of the Instituto Socioambiental (ISA).

<sup>61</sup> Federal Decree No. 99274/90 and CONAMA Resolution No. 237/97.

<sup>62</sup> World Bank, *Environmental Licensing for Hydroelectric Projects in Brazil: A Contribution to the Debate* (Summary Report), Report No. 40995-BR (March 28, 2008).

*uneven evaluation of the EIAs (by the Government), [and] the lack of a suitable dispute resolution system[.]”<sup>63</sup>*

Another problem stems from the fact that EIAs are prepared too late in the decision-making process related to large infrastructure projects. In particular, the EIA process generally does not start until the decision to move forward with a project has already been made, giving little scope for the EIA to influence decisions.

### *Opportunities*

Because environmental licensing in general is seen by many in Brazil as an obstacle to development, it will be challenging to implement major improvements to the process in the near term. Even the World Bank is not currently recommending drastic changes to Brazil’s complex system. However, several smaller-scale changes related to EIAs may be both feasible and impactful:

1. Earlier EIAs. Move the environmental and social impact assessment to an earlier stage of the process. Changing timing alone could have a significant impact on project design, helping to ensure that biodiversity and gender impacts are addressed.

Assessments should take place when a project is still in the proposal stage, but at a point when the design includes detailed engineering plans that can be evaluated. Assessments could then meaningfully inform the decision about whether to approve the project and how best to design it to avoid and mitigate impacts to biodiversity. Related, where significant time has passed between EIA approval and implementation, it would be useful to require EIA updates before a project moves forward.

In addition to serving environment and gender goals, these changes would also streamline the licensing process and likely reduce the time needed to get a project up and running. As such, they would benefit developers as well, and are therefore likely among the most politically feasible reforms.

2. Improve ToRs. Ensure that Terms of Reference (ToRs) are prepared by people with the needed expertise and with input during the scoping stage from affected people. In the case of several World Bank-funded projects, the federal environmental licensing body (Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis- IBAMA) has held public consultations to help draft the ToR for particular EIAs. Replicating this practice across all

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<sup>63</sup> World Bank, Environmental Licensing for Hydroelectric Projects in Brazil: A Contribution to the Debate (Summary Report), Report No. 40995-BR (March 28, 2008), page 9.

large infrastructure projects would lead to more local input and better products, especially if local communities are involved.

## **2. Approval and regulation of highways and hydroelectric dams**

### *Challenges*

With regard to dams, a government entity evaluates the energy generation potential of a river and particular sites along the river. This agency is responsible for determining the water available for a hydroelectric power generation project, and for issuing a preliminary license prior to entering the phase of project design. After this step is complete, the government solicits bids for developing a hydroelectric facility. The project developer must then obtain construction and operation permits. However, the project developer may significantly change the project from that which was proposed and licensed at the preliminary stage. Civil society organizations have challenged projects that do not comply with the preliminary license, but so far the challenges have not succeeded. Another challenge comes from the absence of comprehensive rules for social compensation for populations affected by hydropower projects.<sup>64</sup>

Similar problems apply to the proposal, approval, and construction of roads. An additional challenge particular to roads arises from the ability of project proponents to divide plans into smaller projects for the purposes of environmental review and approval.

### *Opportunities*

Reforming decisions related to hydropower and roads would have a significant impact. In the case of hydropower, for instance, Brazil plans to continue to add significant new resources to its grid, with hydropower expected to meet 75% of Brazil's electricity needs by 2015. While this percentage is lower than the 2008 level of 85%, it still represents significant new construction, because an additional 3000 MW of electricity generation capacity are anticipated.<sup>65</sup>

In both the energy sector and transportation sector, it would be valuable to carry out national planning exercises, including environmental impact assessment. These national plans should include strong public participation, bringing in local knowledge of remote areas that would be impacted. Without such planning, each proposed segment of a highway or each new energy generation project is proposed and evaluated on its own. In this context, each individual project is generally presented as fulfilling a dire need and

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<sup>64</sup> World Bank, Environmental Licensing for Hydroelectric Projects in Brazil: A Contribution to the Debate (Summary Report), Report No. 40995-BR (March 28, 2008), pg 9.

<sup>65</sup> World Bank, Environmental Licensing for Hydroelectric Projects in Brazil: A Contribution to the Debate (Summary Report), Report No. 40995-BR (March 28, 2008), pg. 15.

critical to development. A robust planning process, in contrast, would identify the best new energy sources and transport options, accounting for environmental considerations, to meet growing demand. The identification of good options would make it more politically feasible to halt badly designed projects.

Legal reform would be needed to require such national plans and strategic assessments. Unfortunately, such reform is seen as challenging. The World Bank notes “*The environmental licensing of hydropower projects in Brazil is perceived as a major obstacle for the expansion of the country’s electricity generation capacity.*”<sup>66</sup> This perception could create a significant obstacle to strengthening laws to ensure that impacts to biodiversity and differentiated gender impacts are studied well. However, it is again possible that some reform that could strengthen the process would be politically attractive on the grounds that it would lead to a more streamlined process.

### **3. Gender laws**

We could not identify any laws that specifically ensure that gender impacts are considered in infrastructure development.

### **4. Structure**

#### *Challenges*

Agency staff sometimes lack political backing necessary to enforce the law. One cause is that the federal environmental licensing body (IBAMA) is politically subordinate to the central government. It is therefore politically difficult for IBAMA to argue that projects supported or proposed by the central government should not move forward for environmental or social reasons.

For instance, IBAMA legally has the power to stop the construction of a project and issue a fine if mitigation plans are not properly implemented. However, no delays are tolerated for major dams or highways where these have support from the central government. Even when citizens or the federal prosecutors bring a case to court demonstrating that laws have been broken, large infrastructure projects are allowed to move forward.

Furthermore project proponents hold significant power over project development itself. The project proponent is responsible for preparing the EIA, and IBAMA is sometimes unable to independently verify the information provided. Inspections generally depend on

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<sup>66</sup>World Bank, Environmental Licensing for Hydroelectric Projects in Brazil: A Contribution to the Debate (Summary Report), Report No. 40995-BR (March 28, 2008);pg. 9.

reports written by developers. Sometimes agency staff does make field studies, but project staff usually guides them.

In the case of Integrated Watershed Environmental Assessments, for instance, an assessment of the cumulative impacts of dams on the same river or in the same basin is required. However, there is no civil society participation in this assessment. The developer proposing a dam prepares the study. The studies are therefore seen to frequently only legitimize the proposed projects rather than serve as a meaningful way to evaluate and refine them.

Finally, there are a number of laws that specifically create obstacles to protecting biodiversity. For example, in the Atlantic Forest zone, there is an exemption for projects of public utility, including energy and transportation projects, from requirements to protect native vegetation. Similarly new forest code revisions would allow all projects of public utility, including highways and dams, to be built in fragile areas, without obligation to demonstrate that there was no viable alternative location, restore the impacted areas, or provide compensation beyond that required for any environmental license.

#### *Opportunities*

Overall, the decision-making processes would be strengthened by reorganizing agency structures, better integration and coordination between agencies, and clarifying jurisdiction. However, these changes are seen as challenging, and would require significant shifts in political will to become feasible.

### Context and challenges

The Democratic Republic of Congo (DRC) is still in a fragile post-conflict period. The country currently faces pressure to exploit its vast natural resources so that it can grow its economy, as well as provide its citizens with access to water and other basic services.

A recent UNEP report finds that “[t]he DRC has a huge hydropower potential of 100,000 MW, the equivalent of 13 percent of the world’s hydropower potential. Yet the domestic rate of electrification remains low, and is currently estimated at no more than nine percent, while less than three percent of the DRC’s hydropower potential is exploited.”<sup>68</sup> In this context there is significant pressure to build hydropower facilities.

The same report concludes that the DRC holds half of Africa's forests and water resources, and several trillion dollars’ worth of mineral deposits. The drive to exploit these natural resources for economic development creates significant pressure for investment in transportation infrastructure, including new roads.

Fortunately, the significant international attention on the country as it works to recover from the long conflict has brought with it funding for law reform related to the use of natural resources. Since 2002, the DRC has worked with the support of the World Bank to develop and pass significant new laws. These include a general environmental law adopted in 2011.<sup>69</sup> This law requires an environmental and social impact assessment for all infrastructure projects.<sup>70</sup> In addition, Ministerial Order No. 043/CAB/MIN/ECN-EF/2006 (December 8, 2006) requires environmental and social assessment of any development project. Therefore, there is ostensibly an obligation to prepare environmental and social impact assessments for infrastructure development projects, including hydropower and roads.

The DRC has also developed several sectorial laws governing natural resources, including minerals and forests, but it does not yet have laws to specifically address licensing of hydropower development or construction of major road projects. Finally, there are important law reform efforts currently underway, such as a law to privatize the electricity sector.

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<sup>67</sup> Contributed by Avocats Verts (Green Lawyers).

<sup>68</sup> *The Democratic Republic of the Congo- Post-Conflict Environmental Assessment - Synthesis for Policy Makers*, United Nations Environment Programme (2011), pg. 47 (available at: <http://www.unep.org/drcongo/>).

<sup>69</sup> Loi No. 11/009 of July 9<sup>th</sup> 2011 portant principes fondamentaux relatifs a la protection de l'environnement.

<sup>70</sup> Loi No. 11/009 (July 9, 2011), Art. 21.

In this context, it is particularly important to ensure better implementation of existing laws overall, and also to ensure that infrastructure projects follow sector-specific requirements.

### **Opportunities**

Reforms aimed at these challenges are seen as fundamental to protecting DRC's ecosystems and people from the devastating impacts that can come with poorly planned development of roads and hydropower facilities.

Robust implementation of all laws will require significant investment in the agencies and infrastructure of the country. Government institutions themselves need to be strengthened and provided with the resources they need to protect the rights of citizens, protect the environment, and develop sustainably.

With regard to legal reform, the most obvious need related to infrastructure projects is for comprehensive sectorial laws governing licensing and development of hydropower projects and major road construction. For the sake of certainty, sectorial laws specifically regulating EIAs for these projects should be adopted. Such laws should incorporate provisions specifically addressing issues such as biodiversity and differentiated gender impacts. Given the recent adoption of a strong general environmental law as well as several sectorial laws, there does appear to be some likelihood that additional sectorial laws can be adopted. This same climate may also permit the adoption of other relevant provisions reviewed in the main text of this report.



## Context

Peru is plagued with social conflicts over large infrastructure and natural resource development projects that impact the environment and local communities. Improving protection of biodiversity and better addressing social issues related to these projects could help reduce such conflicts.

A number of legal reforms are already underway. For instance, one current effort aims to ensure that the appropriate regional governments participate in the evaluation of environmental and social impacts of proposed projects. This reform is important because the regional governments frequently have better information about the likely impacts to biodiversity and women than the national government. The current political atmosphere favors reform, and may be conducive to further changes.

## Opportunities

As with the legal systems in most countries, there are many avenues for improvement. The following are seen as being both feasible to implement, and also potentially impactful. Several of these could be accomplished through reforms to Peru's Sistema Nacional de Evaluación de Impacto Ambiental (National System of Environmental Impact Assessment or SEIA).<sup>72</sup>

1. Require a social impacts analysis and creation of a social inclusion plan as part of the project review process. This would help alleviate differentiated gender impacts.
2. Develop regulations or guidelines governing the EIA process for sectors such as electricity and transportation infrastructure. This would improve the Terms of Reference and the overall quality of the EIA process for what are often complex and controversial projects.
3. Adopt regulations governing environmental compensation. The law currently requires some environmental impact assessments to include compensation plans, but accompanying regulations to facilitate implementation have not been adopted. Therefore, it is not clear when these plans must be prepared nor is there consistency in the design and execution of these plans from project to project.

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<sup>71</sup> Contributed by Isabel Calle Valladares of Sociedad Peruana de Derecho Ambiental (SPDA).

<sup>72</sup> For more detail, see SPDA's report detailing the needed changes to the SEIA: Propuestas para el Fortalecimiento del Sistema Nacional de Evaluación de Impacto Ambiental en el Perú, [http://www.spda.org.pe/\\_data/publicacion/20120904135110\\_Cuaderno%209%20-%20SEIA.pdf](http://www.spda.org.pe/_data/publicacion/20120904135110_Cuaderno%209%20-%20SEIA.pdf).

4. Authorize the Ministry of the Environment (MINAM) to develop a registry of qualified EIA consultants and require project proponents to hire listed consultants to prepare EIAs. This would contribute to more accurate and impartial information on project impacts

5. Give MINAM the authority to adopt special guidelines governing EIAs for projects in areas that are particularly important because of their rich biodiversity or because they are particularly fragile. Fragile areas include: deserts, semi-arid lands, mountains, swamps, marshes, bays, small islands, wetlands, highland lakes, coastal hills, and cloud forests.

### **Context**

Uganda's legal system is considered one of the strongest in Africa and is used as a model by other countries. In-country advocates could not identify any significant opportunities for law reform, and noted furthermore that it can take up to five years to get a new law passed.

Given the strength of Uganda's legal framework, the highest priority for reducing the impact of infrastructure development on biodiversity is seen to be in strengthening the capacity of the relevant implementing agencies, through both training and increased funding allocations. As in all of the countries studied, these agencies' ability to approve and manage projects according to what is in the best interest of Ugandan citizens will also depend on their ability to evaluate projects objectively.

### **Opportunities**

The relatively minor legal reforms below address the issue of allowing/requiring relevant agencies to make objective and independent decisions. Particularly valuable options include:

1. Change decision-making processes so that technical reports have greater influence on the outcome.
2. Improve public participation processes to better include the opinions and concerns of people who do not understand notices published in English only.
3. Remove discretion currently granted to authorities to approve a project without the preparation of a full EIA (article 9). In particular, specific criteria should be added to the EIA law that more thoroughly guide EIA screening decisions.

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<sup>73</sup> Contributed by Kenneth Kakuru, at the time Executive Director of Greenwatch, and Frank Tumusiime of Advocates for Natural Resources Governance and Development (ANARDE).