A flood recession farmer in the Zambezi Basin, in Zimbabwe. Photo by International Rivers.

Project Impact Management: Once Projects Begin

Preparation of Mitigation Action Plans

Once risks and impacts are assessed in the ESIA, dam developers must create mitigation action plans that detail how the developer will mitigate the negative social and environmental impacts of a project. Affected communities have the right to participate in defining the scope and outcomes of mitigation action plans, while their implementation should be transparent and enforceable through independent monitoring by civil society and other third parties.

Mitigation plans should include actions based on the ESIA, including those types of assessments listed in the previous sections, including, but not limited to:

- A Human Rights Impact Action Plan
- An Indigenous Peoples' Action Plan
- A Gender Impact Action Plan
- A Resettlement Action Plan
- A Biodiversity Action Plan
- A Water Quality and Quantity Impact Action Plan

Mitigation action plans usually follow a *mitigation hierarchy*, which may be defined as a decision pyramid meant to produce the best possible social and environmental outcome given the range and scope of a project's potential impacts. The pyramid usually includes four possible decisions: avoid, reduce, restore, and offset, which roughly correspond to the severity of the potential impact or impacts.

The World Bank and the IFC use the following mitigation hierarchy:

- **Avoid:** Measures taken to avoid creating impacts from the outset, such as careful spatial or temporal placement of elements of infrastructure, in order to completely avoid impacts on certain components. This results in a change to the "business as usual" approach. Avoidance measures include the prohibition of projects that would lead to significant loss or degradation of critical natural habitats, and conditions the conversion of natural habitat on strict alternatives analysis, the maintenance of minimum downstream environmental flows (both water quality and quantity), and the identification of "no go" basins.
- **Minimize/Reduce:** Measures taken to reduce the duration, intensity, and/or extent of impacts that cannot be completely avoided, as far as is practically feasible.
- **Rehabilitate/Restore:** Measures taken to rehabilitate degraded ecosystems or components or restore cleared ecosystems or components following exposure to impacts that cannot be completely avoided and/or minimized.
- **Offset:** Measures taken to compensate for any residual significant, adverse impacts that cannot be avoided, minimized, and/or rehabilitated and restored, in order to achieve no net loss or a net gain of biodiversity. Offsets can take the form of positive management interventions such as restoration of degraded habitat, arrested degradation or averted risk, protecting areas where there is imminent or projected loss of biodiversity.

The Hydropower Sustainability Assessment Protocol uses a slightly different mitigation hierarchy, in which "Mitigate" replaces the terms "Rehabilitate/Restore," and the term "Compensate" replaces the term "Offset."

The Mitigation Hierarchy should form the basis of each topic-specific Action Plans that the dam developer must create and implement across all further stages of the project cycle: construction, implementation, and operation.

Timely Public Disclosure of and Consultation over the ESIA and Action Plans

As a common rule, ESIAs and action plans should be disclosed to the public, and consultations over the content of the ESIA and action plans should be held well in advance of any decision to license, auction, or finance a dam. In the best cases, ESIAs have been made available 120 days before any project decision is made. Commonly, this is reduced to 60 days, 30 days, or even none at all, before the decision to go forward with a project is made. Even worse, many developers may have decided to go forward with a project before the ESIA is even created; as a result, the information found in an ESIA may even go so far as to substantiate a project by ignoring or hiding its impacts and risks.

Implementation of Mitigation Action Plans

Project implementation is where many of the impacts of dams will be felt in an ongoing way. The mitigation plans should be formulated based on the risks and rights identified earlier in this document, as part of the ESIA process. Throughout project construction and operation, these mitigation plans must be implemented, monitored, and evaluated.

Measuring and Auditing Outcomes

However, it is not enough to receive a promise from the developer or financier that mitigation plans are ongoing. It is the dam developer's responsibility to illustrate internal accountability to the commitments it has made. Concurrently, it is your right to hold the developer publicly accountable to its commitments, in order to make sure that there are no gaps between discourses and outcomes.

Assuring corporate responsibility and public rights is best implemented by way of audits. Dam builders will be auditing their performance against mitigation plans as a regular part of their business cycle. As a result, investing in strong programs to monitor progress, commitments, and levels of compliance can help achieve better outcomes for dam-affected communities.

During negotiations over a dam, then, you should demand that mitigation actions be rigorously and regularly audited by independent, third-party actors, rather than the dam developer or financier. Simultaneously, you should design and implemented your own, community-controlled and managed audits of mitigation activities.

Typical Construction Activities

The construction activities of a dam leading up to its operation consist of various stages, though ultimately these depend on the type of dam being built, and its final chosen design. Broadly, the stages of dam construction could be characterized as the following:

- Site preparation: roadwork, easement areas, electricity tunnels, worker encampments, and others each have their own impact. Dynamiting may begin at this moment.
- Construction of the coffer dam
- Diversion of the river
- Impoundment
- Installation
- Rerouting

Typical Operation Activities

Once all construction activities on a dam have finished, operation begins when the dam begins serving its purpose(s). For example, when turbines start generating electricity, or when stored water is pumped for irrigation purposes, it is clear that operation has begun. Often, the dam developer must obtain an Operation License from the national environmental authority in order to begin operation.

Though a dam has begun operation, all is not lost. Mitigation plans must continue to be implemented throughout the operational life of the dams, and you should continue to promote the highest standards and respect for your rights. A few of the common issues that regularly occur throughout dam operation include:

Environmental Assessments vs. Environmental Audits

Some project developers or financiers may choose to perform a social and environmental audit, rather than a full ESIA, to assess project impacts. In practice, environmental audits are usually accepted by financial institutions for dam projects that are categorized as Risk Category B ("significant impacts that may be mitigated"), or for existing projects that are undergoing rehabilitation or expansion.

The Hydropower Sustainability Assessment Protocol (HSAP) has been used as an auditing tool to assess dams that are operational or under construction, and as a screening tool to assess dams that are not yet built. However, the HSAP should not be used in place of an ESIA. The HSAP does not include all topics that dam assessments should cover; for example, human rights, gender impacts, and cumulative impacts are not given much attention in the HSAP. In contrast, a good ESIA will assess all potential social and environmental impacts related to the project, in explicit connection to strategic plans related to the region, including strategic environmental assessments, basin plans, and water and energy resources plans, and will create relevant mitigation action plans.

- Accumulation of sediment and necessity of regular sediment removal
- Incremental cumulative impacts on VECs
- Effects of climate change on operational efficacy
- Dam safety concerns such as geological activity
- Sudden floods or glacial lake outbursts
- Lack of implementation of mitigation plans
- Compensation for resettled families does not materialize

FURTHER READING:

- Read the IFC's Guide to Human Rights Impact Assessment and Management: http://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Guide+to+Human+Rights+Impact+Assessment+and+Management/Guide+to+HRIAM/MITIGATION/
- Read the IFC's Guide to Preparing a Resettlement Action Plan: http://www.ifc.org/wps/wcm/connect/22ad720048855b25880cda6a6515bb18/ResettlementHandbook.PDF?MOD=AJPERES

IDEAS FOR ACTION:

- Negotiate for independent, third-party audits of mitigation implementation in any agreements that you are party to with the dam developer, builder, and financier. Simultaneously, create your own, community-controlled and managed audit so you can hold parties accountable to any discrepancies.