

WCD Thematic Reviews

## V.2 Environmental and Social Impact Assessment for Large Scale Dams

### **EXECUTIVE SUMMARY**

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## Executive Summary

Environmental Impact Assessment has become the major tool worldwide for integrating environmental and social concerns into project design, and experience shows that when done properly it can be effective in filtering socially or environmentally unsound projects before they reach implementation. Much damage has already been avoided by such procedures, however the practice is not yet successful worldwide. Therefore, the purpose of the review is to:

- evaluate the effectiveness of Environmental Impact Assessment (EIA) and Social Impact Assessment (SIA) in incorporating environmental and social issues into the decision making process for dams (including the consideration of alternatives);
- identify ways to improve the usefulness of EIA and SIA drawing upon lessons of good practice; and
- recommend new approaches that could be incorporated into the planning and implementation of dams.

EIA is the process of identifying, predicting, evaluating and managing the biophysical, social, health and other relevant effects of development proposals before major decisions are taken and commitments are made. EIA is applied primarily to minimise the adverse effects that large-scale development schemes have on natural resources and ecosystems. The scope of EIA includes consideration of all potentially significant effects -- direct, indirect and cumulative.

SIA is the process of analysing (predicting, evaluating and reflecting) *and managing* the intended and unintended consequences on the human environment of interventions (policies, plans, programs, projects and other social activities) and social change processes so as to create a more sustainable biophysical and human environment. Social impacts are about changes to one or more of the following: people's way of life, their culture, their community, environment, health and wellbeing and fears and aspirations. SIA is increasingly seen as a unique "discipline" within EIA.

EIA/SIA has been extensively adopted by OECD countries, developing countries, and bilateral and multilateral donors and has gradually evolved into the single most important tool for generating information and participation concerning the environmental and social consequences of a given project. EIA has also provided a space for negotiating project outcomes, as well as providing the baseline from which future change can be monitored.

### *Process Limitations and Deficiencies*

1. The fundamental criticism levelled at EIA/SIA is that, in far too many cases, the process is perceived to have failed the basic test of addressing and mitigating significant impacts. Instead, critics feel that EIA and SIA have been used to legitimise proposals and to confirm previously held positions. Almost all EIA systems are based upon 'self assessment' by the proponent and acceptance of the burden of proof as resting on the opponents of development proposals, i.e. to demonstrate why a project should *not* go ahead and to argue for modifications on environmental and social grounds. This is largely because EIA/SIA occurs too late in the decision-making cycle when designs have become difficult and expensive to change.
2. **The key deficiencies of EIA/SIA include :**
  - Structural: EIA/SIA has operated as a 'stand alone' process, poorly related to the project cycle and approval process and consequently of marginal relevance.

- Compliance: even when an environmental management plan is agreed in the decision-making process, it is often poorly implemented, or not at all. Non-compliance can have severe and irreversible impacts when it is too late for redress.
  - Technical – poor quality of EIA/SIA and unsuitable mitigation measures: EIA/SIA reports are voluminous, poorly organised and descriptive technical documents that are seen as unhelpful or irrelevant to decision-making. Environmental impacts may be understated and insufficiently mitigated and, as a result, the whole process loses credibility and buy-in. For example it is unusual for an EIA of a dam to adequately take downstream impacts into consideration.
  - The scope of EIA/SIA is affected by institutional capacity : social, health factors and cumulative effects are inadequately covered. Some of the complex problems such as displacement, resettlement and social unrest associated with dam projects have their origins in poor, inadequately and hastily done EIA/SIAs. In some cases, such as Arun III, Nepal, funding has been withdrawn due to lack of institutional capacity to deal with the impacts.
  - Health impacts of large dams and irrigation systems are largely ignored : despite the fact that dam projects can have profound effects on human health and well-being, relatively few international agencies or countries have requirements, principles or guidelines for health to be considered as part of EIA. In developing countries, especially, certain health impacts of large dams are of primary concern, e.g. schistosomiasis, water borne parasites and mosquito vectors in resettlement areas, or in irrigation areas.
  - Limited use of EIA as a participatory and regulatory tool : public participation, inclusion of affected parties in the broadest sense, is a crucial aspect in making linkages to resettlement policy provisions and of ensuring that mitigation measures address the range of impacts of dams. Although the value added by participation is widely acknowledged, the reality is that many EIAs of dams fail to involve those affected in a meaningful way. Public consultation may be perfunctory and substandard, undertaken too late and with little reference to the requirements of affected groups. In many developing countries, the EIA process is relatively closed and relevant information and results are inaccessible. In the recent case of SOIWDP in Botswana the project was overturned due to opposition based in part on the lack of prior consultation concerning impacts.
3. **Good Practice and Performance.** A number of case examples demonstrate what EIA can and should do, namely:
- facilitate informed decision making by providing clear, well structured, objective analysis of the effects and consequences of proposed projects;
  - assist the selection of alternatives, including the selection of the best practicable or most environmentally friendly option;
  - influence both project selection and design by screening out environmentally unsound projects, as well as modifying feasible proposals;
  - direct the content of formal approvals; including the establishment of terms and conditions for project implementation and follow up;
  - result in the satisfactory prediction of the adverse effects of projects and their mitigation using conventional and customised techniques; and

- serve as an adaptive, organisational learning process in which the lessons of experience are fed back into policy, institutional, and project design.
4. In conclusion, EIA is too often a stand-alone independent review, leading to a document that is hard to implement, or ignored by the implementing agency that may not have ownership of the process. Good practice is achieved largely by ensuring that environmental and social concerns are integral components of the early planning process and of team composition. They are addressed as early as possible in the options assessment and planning cycle to allow “worst case” projects to be weeded out before substantial time and money has been invested in their feasibility and design.

This review proposes adopting EIA as the process of identifying and managing social and environmental implications of the project from the beginning of options assessment to ten or fifteen years after commissioning. EIA must be seen as a long term process, implemented by the developer, not a one-shot report to identify compensation measures. Environmental and social change is unpredictable (“dams are an experiment with uncertain outcomes”) and needs to be monitored with responses adjusted to changing needs. While lack of data can be a problem in some areas, it is mainly lack of an agreed and transparent process, from identification to implementation, that prevents EIA from being affective.