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Determination of Significance of Environmental Impacts of Development Projects: A Case Study of Environmental Impact Assessment of Indrawati-3 Hydropower Project in Nepal

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ABSTRACT

The environmental impacts are commonly quantified in the EIA studies by rating, ranking and scaling. The National EIA Guidelines, 1993, Nepal provides a guideline to score the impacts in terms of magnitude, extent, and duration. This step is commonly known as impact prediction in the EIA process. The predicted scores are multiplied by the weightage value of the resource; likely to be affected. The application of the weightage transforms the predicted values of the impacts into their "significance" —a concept used in the environmental decision making. In other words the significance value entails assignment of relative judgment values to the impacts. The impacts, thus, can ranked based on their significance. The impact ranking is more useful in evaluating the socio-economic impacts. Unlike air, water and noise quality, which can be assessed against established standards; the socio-economic impacts do not have standard scale and are difficult to rank. Importance weighting of socio-economic impacts are commonly determined by the consensus obtained from the interaction with the local people, agencies, NGOs and experts. The impact ranking in the EIA process is unavoidable, firstly to prioritize the urgent environmental issues and design mitigation measures accordingly and also provide coherent linkages among the issues, and plan monitoring and auditing linkage with the proposed mitigation measures. Furthermore, it also provide strong basis of decision making, and thus facilitate the decision makers. The process of impact prediction, determination of significance and ranking were applied in the EIA of Indrawati-3 Hydroelectric Project, which is one of the successful cases of EIA in Nepal. The authors believe that the impacts predicted and quantified through this method are being focussed to more on the local concerns, since it seeks an active involvement of the local people who are likely to be affected.

KEYWORDS

Environmental Impact Assessment, Environmental Significance, Ranking, Prediction of Impacts, Importance Weighting, Judgment Values

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