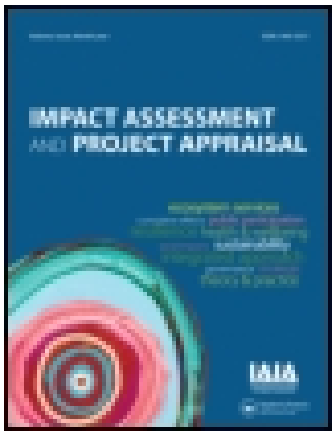


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# Public involvement in environmental impact assessment: a case study of hydro development in Kullu District, Himachal Pradesh, India

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# Public involvement

## Public involvement in environmental impact assessment: a case study of hydro development in Kullu District, Himachal Pradesh, India

**A John Sinclair and Alan P Diduck**



***The Governments of India and the Indian state of Himachal Pradesh (HP) recently adopted policy changes intended to expedite development approvals for power projects. This paper focuses on the 1997 changes to the Environmental Protection Act that establish procedures for public hearings as a component of EIA. Three hydro project public hearings in the Kullu District (HP) in 1998 show that public involvement and public hearing processes are in their nascent stages despite the rapid pace of development. Many constraints, such as inaccessibility of information, lack of familiarity with EIA, and lack of institutional capacity, hinder serious public involvement. Public concerns focused on safety issues (blasting), new road construction and jobs, with little consideration of environmental impact.***

Keywords: public involvement; hydro development; India

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NUMEROUS AUTHORS have highlighted the important role of public involvement (PI) in environmental impact assessment (EIA) (for instance, Grima 1985; Gibson 1993; Sinclair and Diduck 1995). Most EIA legislation recognizes this role and calls on project proponents to engage the public in meaningful participation programs. Typically, EIA legislation also establishes detailed public hearings processes as the main vehicle of formal involvement within EIA.

The Government of India passed EIA legislation in 1994 to assist in the "conservation, protection and preservation of the environment … cornerstones of the Indian ethos, culture and traditions" (Singh *et al*, 1994, page 1). In 1997, the process enacted in this legislation was amended to include provisions for mandatory public hearings. This paper assesses the application of the new public hearing provisions in three EIA cases in the Kullu Valley, a rapidly developing mountain region in the state of Himachal Pradesh, northern India. This research continues our exploration of public involvement in EIA including issues related to access to information, informal education and social learning (Sinclair and Diduck, 1995; Diduck and Sinclair, 1997a; 1997b; Diduck, 1999).

In terms of research design, the approach taken for this study was qualitative, interactive and adaptive. The primary data collection methods were qualitative interviews, document reviews and participant observation. The interviews were scheduled and non-structured in nature, and included members of the general public in the area of the hydro projects in question as well as those living in others areas of the

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Kullu District, individual citizens who participated in EIA cases, officials representing government EIA agencies, and project proponents.

Data sources of the document review were primarily public records such as statutes, regulations, policies, proceedings from public hearings, court orders, maps and government reports. Participant observation occurred through attending EIA hearings and other public meetings in the study region. Analysis of the data occurred both in the field and after the field season.

In terms of scope, the research focuses on public involvement as part of the EIA process in India. Thus, it accepts the relatively limited role that public involvement plays in comprehensive, rational planning, which is the model for most EIA processes. That being said, it is recognized that alternative models exist in which the public has a more active role at all levels of planning including the normative stage in which decisions about what should be done are made (for instance, Nelson and Serafin, 1996; Chambers, 1997; Cardinall and Day, 1998).



## EIA in India

India is a federal union of states in which the central and state governments have concurrent jurisdiction over resource and environmental management (Rosencranz and Rustomjee, 1995; Bakshi, 1998). EIA legislation at the central level was enacted in 1994 by a regulation (or notification) passed under The Environment (Protection) Act, 1986. The EIA legislation is entitled the Notification on Environmental Impact Assessment of Development Projects (the EIA Notification) (GOI, 1994). Individual states are compelled to adopt the EIA Notification as a minimum, but may adopt their own more stringent legislation. During this study, and at the time of writing, the state of Himachal Pradesh had not enacted its own EIA legislation.

Responsibility for the EIA Notification lies with the Ministry of Environment and Forests, which is based in Delhi but has six regional offices, the Chandigarh office being the closest to the study area. Responsibility for pollution control lies with the State Pollution Control Boards (SPCB), coordinated by the Central Pollution Control Board, also in Delhi. As the ensuing discussion reveals, the SPCBs play an important role in the EIA process, particularly in regard to public involvement.

The literature reveals that the EIA Notification contains many of the key elements found in most processes throughout the world, including screening, scoping, comprehensive study, progress reports, review, decision and follow-up (Valappil *et al*, 1994; Banham and Brew, 1996; Dwivedi, 1997). However, from the lack of reference to project need, purposes and alternatives, a reasonable inference is that the process reflects a narrowly focused, technical approach, rather than the more broad, open and anticipatory approach called for in some quarters and found in some countries (Gibson, 1993; Wood, 1995).

In addition, reviews of the implementation of the Notification are somewhat mixed. Banham and Brew (1996) indicated in their assessment that there is reason to be optimistic about the use of EIA in India. Others, such as Dwivedi (1997) and Thakur (1997), suggested that the process is still in its early stages of development and that India lacks many of the institutions and knowledgeable government officials necessary to make the process work properly.

### *Public involvement in EIA*

Detailed descriptions of the 1994 EIA Notification can be found in the literature (Singh *et al*, 1994; Valappil *et al*, 1994; Banham and Brew 1996; Dwivedi 1997) and therefore, the ensuing discussion does not attempt a comprehensive review of the process. Rather, it focuses on those parts of the process that provide opportunities for public involvement. In addition, it concentrates on the public hearing provisions, which were enacted in 1997 and have not received considerable attention in the literature.

### *EIA Notification*

The process enacted by the EIA Notification is initiated by the submission of an application by the project proponent to the Impact Assessment Division (IAD) of the Ministry of Environment and Forests (MOEF). The application must include, among other things:

a proforma prescribed by regulation;
an EIA report (or an environmental management plan);
a risk analysis report; and
an executive summary containing the project details and the findings of environmental assessment studies that were conducted (GOI, 1994).

Under the 1994 law, the IAD had discretion over whether to hold public hearings to solicit comments about the project application. Typically, public hearings were called for in projects involving a large displacement of residents or severe environmental impacts. The decision to hold hearings had to be made within 30 days of receipt of the proposal. If the IAD decided to hold hearings, it was required to provide notice in at least two newspapers at least 30 days prior to the hearing. This procedure was changed by the two notifications on public hearings enacted in 1997, discussed further below (GOI 1994; 1997a; 1997b).

Upon receipt of the project application, the IAD is required to prepare recommendations regarding approval based on a technical assessment of the documents and data submitted by the project proponent. The IAD may also supplement this information with data that it collects itself. If necessary, it may also gather information through consultations with environmental groups and concerned parties, which are

**The gist of the public hearing notifications in India is that hearings are now mandatory for all projects to which the EIA Notification applies: in support of this new requirement, the process includes provisions for public access to information**

defined as "bonafide residents located at or around the project site or site of displacement or site of alleged adverse environmental impact" (GOI, 1994; Singh *et al*, 1994).

The EIA Notification also states that summaries of the application documents, the IAD recommendations, and any conditions of approval placed on the project must be made available to environmental groups and concerned parties upon request. Further, it states that public access to these documents must be provided (subject to the public interest) at IAD headquarters (GOI, 1994).

For the purposes of monitoring the implementation of IAD recommendations and conditions, proponents are required to submit a semi-annual compliance report to the IAD. These reports are available for public review, subject to the public interest (GOI 1994).

*Public hearings notifications*

As noted earlier, the public hearing provisions of the EIA Notification were changed by two regulations enacted in 1997: Public Hearing Notification, S.O. 318(E); and Public Hearing Notification, S.O. 319(E) (the public hearing notifications) (GOI 1997a; 1997b).

The gist of the public hearing notifications is that hearings are now mandatory for all projects to which the EIA Notification applies. In support of this new requirement, the process includes provisions for public access to information. Project proponents are required to provide the SPCB with an executive summary of the project "containing the salient features of the project both in English and local languages". They must also provide copies of all application forms relating to the project that were submitted pursuant to other environmental approval processes and "any other document necessary for the Board to dispense with the application". Twenty copies of each of these documents must be provided to the SPCB. Public access to executive summaries is available at District Collectors' offices, District Industry Centers, the office of the Zila Parishad or Commissioner of the municipal corporation/local body, and SPCB state and regional offices.

The hearing process also contains provisions for public notice. SPCBs are required to give notice "in at least two newspapers widely circulated in the region around the project … mentioning the date, time and place of public hearings". "Suggestions, views, comments and objections of the public shall be invited within thirty days from the date of publication." Local residents, environmental groups and others located at the project site likely to be affected can participate in the hearings or submit oral or written briefs to the SPCB.

The new hearing process also contains requirements regarding the composition of hearing panels. Panels must include a representative of the SPCB, the District Collector, a state government representative for the relevant sector under investigation, a representative of the central Ministry of the Environment and Forests, not more than three representatives of local bodies such as municipalities or panchayats, and not more than three senior citizens nominated by the District Collector.

## Applications in Kullu District

*Study area*

This study focused on the Kullu District in the Upper Beas River Watershed, Pir Panjal Range of the Western Himalaya, Himachal Pradesh (literally "land of the snowy mountains"), India (Figure 1). The Beas River is the central axis and focus of the Kullu Valley, which extends some 70 kilometers from Bajaura in the south to the Manali area in the north. The area is a typical high mountain environment with valley bottom elevation in the Manali area of about 2,000 meters with valley side slopes rising another 2,500 meters in elevation. Set back from these slopes are the major summits of the region that rise to 6,500 meters.

In the District as a whole, unofficial estimates cited by the Overseas Development Administration (1994) suggest that cultivated land is 10% of the total area, forest land 40%, grazing land 30% and rocky inaccessible slopes 20%. Each village has a rich resource area which usually includes a series of zones: mixed-use land near the village, including orchards and some grazing land; protected forest on the upper slopes of the mountains; and forest meadows and alpine grazing land.

*Development pressures in the Kullu Valley*

Natural resources and the environment are currently under intense pressures in the Kullu District, especially in the upper reaches of the Beas River Valley. The pressures arise from development in three main sectors: tourism, agriculture, and hydroelectricity. In 1998, for example, *The Tribune* newspaper of Chandigarh published a series of full page "Saturday Plus" articles with banners such as "Tourism Tramples Manali Environment" and "Mountain Tops Turning into Garbage Dumps". These articles, and others like them, highlighted environmental damage, and exposed some of its underlying causes, such as "the


**Figure 1. Manali and the study site in the Upper Kullu Valley**

failure of government to ensure planned expansion of the tourism industry" (Lohumi, 1998).

Government officials have also made public comments in the past year. At the opening of the new Kullu campus of the G B Pant Institute of Himalayan Environment and Development, R H Khwaja, Joint Secretary, Ministry of Environment and Forests, commented that the "development activities that have taken place along the road between Kullu (town) and Manali are an ecological disaster ... the damage is shocking".

Focusing on the hydroelectric sector, the Kullu District, along with much of Himachal Pradesh, has vast potential for hydroelectric development. Steep sloped valleys that rise above 4,500 meters result in fast moving glacial-fed rivers and nallahs (streams). In spite of the potential, there has been little hydropower development in the district. However, in recent years the demand for power in India has exceeded supply, especially in the northern region. This has resulted in the "rapid exploitation of the hydro power potential of Himachal Pradesh" (Himachal Pradesh State Electricity Board, 1998a). The Beas River is currently dammed near the border of Kullu and Mandi Districts by the Pandoh dam and several other major power developments are proposed for the district including the:

Beas Satluj Link, which involves a diversion of the Beas River;
three stages of the Parbati project, which has 2,051 MW potential in total;
three stages of the Larji project (1,200 MW in total), which involves a 6 km tunnel to an underground power plant; and
86 MW Malana project.

In addition to these larger projects, there are a number of micro-scale hydro projects ranging in size from 200 to 1,000 KW that are either under construction or proposed for the Kullu District. It is estimated that there are 319 small-scale hydro sites proposed for development in Himachal Pradesh (Government of Himachal Pradesh, 1998). There is currently no such estimate for the Kullu District, but the Himachal government is reported to be "modifying its power policy in order to speed up the process of development of micro power projects" (*The Tribune*, 1998b).

Despite the level of development activity in the Kullu District, document reviews and interviews

revealed that only three EIAs have been conducted in the region to January 1, 1999. All three involved hydroelectric projects: Parbati Stages II and III and the Malana project. To assess the public involvement in each of these cases, public documents were considered and interviews were conducted with government officials. In the case of Parbati Stage II, hearings were held during the field season allowing for participant observations and interviews with the panel members and public in attendance. It should be noted in relation to the discussion of these cases, however, that the available literature varied considerably in both content and quality, to the extent that in one case a clear project description was barely discernible.

*Parbati Hydroelectric Project Stage II (800 MW)*

The Parbati River is a main tributary of the Beas River. The Parbati Hydroelectric Project proposes to harness the river in three stages: Stage I 750 MW; Stage II 800 MW; and Stage III 501 MW. The Himachal Pradesh State Electricity Board (SEB), a statutory public utility responsible for the development of power potential in the state, is the project proponent (Himachal Pradesh State Electricity Board 1996; 1997). During the research and at the time of writing, only plans for stages II and III had been completed. Plans for Stage I had still not been subject to environmental approval.

Stage II is envisioned as a run-of-the-river project comprising a 91-meter concrete gravity dam on the Parbati. The summary project report indicates that "the project area is sparsely populated and there is little habitation at the diversion site and the power house" (Himachal Pradesh State Electricity Board 1998b, page 4). It is noted further that the area of the storage reservoir is small "and as such there will be no rehabilitation problem, as no family is affected by submergence".

A detailed description of the potential impacts of the project is not publicly available but the summary report indicates that only a small area of forestland (8.1861 hectares) will be submerged. The report further notes that the following steps will be taken to "maintain the environmental and ecological balance of the project area":

adequate fuel arrangements for workers to prevent felling of trees for fuel;
no grazing around reservoir to prevent soil erosion;
enforcement of anti-poaching laws to protect wildlife attracted to reservoir;
development of pisciculture in the reservoir;
proper slope stabilization; and
afforestation activities in the catchment area.

*Parbati Hydroelectric Project Stage III (501 MW)*

The Parbati Stage III hydroelectric project is proposed for the Sainj River, a tributary of the Beas that will receive water from the tailrace of Parbati Stage II. Stage III is envisioned as a run-of-the-river development comprising a concrete gravity dam 75 meters high. The powerhouse will be further downstream and will be combined with a powerhouse from a separate hydro project, namely the Larji development. Reports indicate that the peak labor force for Parbati Stage III will be 14,000 workers.

**As with Stage II, a detailed description of the potential impacts of Parbati Stage III is not available to the public: moreover, the summary report for Stage III is nearly identical to that of Stage II, including the mitigation measures**

As with Stage II, a detailed description of the potential impacts of Parbati Stage III is not available to the public. Moreover, the summary project report for Stage III is nearly identical to that of Stage II, including the mitigation measures listed above (Himachal Pradesh State Electricity Board, 1998a). It is difficult, therefore, to get an accurate and trustworthy description of the potential impacts of Parbati Stage III. One distinction between the two projects that is evident is that in Stage III a small area of cultivated land (5 hectares) will be submerged, rather than forestland.

*Malana Hydroelectric Project (2X43 MW)*

The Malana Hydroelectric Project is a private-sector development, proposed by Rajasthan Spinning and Weaving Mills Limited. The project is proposed for the Malana Nallah, which is a tributary of the Parbati River. The proposed site is approximately 33 kilometers from the town of Kullu. By one account, the proposed project is to provide 86 MW of electricity "to meet the power shortages in Himachal Pradesh/ Northern Region" (Rajasthan Spinning and Weaving Mills Limited, 1996). According to the site manager, however, the power is to be used by the proponent at its factories in Rajasthan. This disparity is interesting, given that the Central and HP governments are promoting hydro projects in the Kullu District based on the power shortages in the north.

The project consists of a diversion barrage, diversion channel, reservoir, underground tunnel and pressure shaft, powerhouse and tailrace channel. This design will redirect the flow of the nallah to two tunnels where the water will drop to a powerhouse and eventually through the tailrace channel to the Parbati River.

According to the Environmental Clearance Plan developed by the proponent, the negative impacts of the project include loss of forest, loss of land soil erosion at the construction site, pollution by construction spoils, health risks, cultural hazards, water-borne

diseases, and vector-borne diseases. The positive impacts include power generation, employment potential, recreation and tourism potential, and additional habitat for aquatic wildlife.

## Public hearings

### *Parbati Stage II*

Public hearings into the Parbati Stage II project were held on December 21 and 22, 1998, and were convened by The Himachal Pradesh State Pollution Control Board (SPCB) in the villages of Barshaini and Sainj. The hearings were officiated by 12 panel members: four from the SEB; two from the SPCB; two from local government revenue departments; and four from local district administrations, for example, the Kullu Block development officer and the Pradhan of the Gram Panchayat Barshaini. (The Gram Panchayat is the lowest of the three-tier Panchayat Raj local government institutions in India.)

The December 21, 1998 hearing was to be held initially in the village of Pulga. However, because of easier accessibility by bus, it was shifted to the village Rashkat. On the day of the hearing, the venue was changed again to the village of Barshaini at the insistence of the Pradhan, Gram Panchayat Barshaini. To get to the hearing it was necessary to travel by bus from Kullu to Malana (46 km) switching buses to Unch Dhar (6 km) followed by a 15 km walk to Barshaini.

At the outset of both the hearings, members of the public were apprised of the proponent's objectives for the hearings, which were to:

respond to questions from the public related to environment and pollution;
learn the reaction of the local people to the project, including any objections;
understand problems related to development of the area; and
consider complaints and suggestions about how to minimize inconvenience and costs and maximize benefits to local people.

The proponent then made a presentation of the main features of the project indicating that it "finally expected to get approval and that the work may start in the very near future". The public was told that there might be some pollution from blasting and the movement of heavy machinery. As well, it was noted that as a result of the "construction of the dam, and subsequent diversion of the water through a surge tunnel, there would be no water left in the river". After the introductory comments, the floor was open to discussions.

Approximately 40 people in Barshaini, and 80 people in Sainj, attended the meetings. The hearing procedure was informal. Collectively, the public at the two meetings raised the following issues:

timely compensation for land damaged by blasting or expropriated for construction of roads and colonies for workers (the public requested land for land compensation);
employment opportunities, especially for youth from the local area, and training for those who might require it;
conflicts between local people and migrant workers;
compensation for damage to link roads caused by construction machinery; and
investment in local infrastructure projects, such as hospitals, schools, telephones, and new link roads to currently inaccessible villages.

The panel attempted to respond to the issues raised by the public but there was an obvious emphasis on establishing the economic development potential of the project. Panel members made assurances to the public of economic prosperity through employment (both direct and indirect), development of basic infrastructure-like roads, schools and hospitals and increased opportunities for trade and commerce. The public at the Sainj meeting presented a memorandum of demands to the panel at the end of the hearing.

### *Parbati Stage III*

Public hearings into Parbati Stage III were held on August 27, 1998. They were convened by the SPCB in the villages of Largi and Sainj in the Kullu District. The hearings were officiated by 11 panel members: three from the SEB; three from the SPCB; and five from local district administrations, for example, the Assistant District Commissioner of Kullu and the Pradhan of the Gram Panchayat Kanon. Approximately 75 people attended.

At the outset, representatives of the SPCB expressed the board's objectives for the hearings. This was followed by a presentation by the proponent (SEB) regarding the main technical features of the project. After this, the floor was open to questions and comments from members of the public.

The proceedings of the Parbati Stage III public hearings reveal that members of the public raised eight broad issues:

preservation of the Lakshmi Narayan Temple in the village Raila;
prompt assessment and disbursement of compensation for land and property expropriated for the project;
the type and number of local opportunities for employment;
road alignments and maintenance;
compensation for downstream watermill operators;
safety of the public during blasting operations;
proper management of construction debris to avoid damage to land and adverse impacts on water quality; and
local access to new civic infrastructure, such as

roads, schools and hospitals constructed by the project authorities (Himachal Pradesh State Pollution Control Board, 1998b).

The SEB panelists attempted to address the concerns raised by the public during the course of the meeting. In most cases, the SEB indicated it would do its best to deal with the concerns raised without actually committing itself to specific action. For example, the public was assured by the SEB that:

"in the course of implementation all efforts would be made to ensure that the temple in village Raila would not be disturbed";
"local people will be afforded every possible employment opportunity constant with their qualification"; and
"all blasting operations including storage and use of blasting materials shall be strictly carried out in conformity with the norms prescribed by the Controller of Explosives".

The hearing proceedings conclude by noting that "the public endorsed early commencement of the works so as to realize their aspirations in particular and the economic betterment of the State in general".

*Malana*

Public hearings in the Malana project were convened by the SPCB in the village of Jari on March 18, 1998. The hearing panel consisted of 15 members: two from local district administrations; three from the SEB; six members of the public; two from the proponent; and two from the SPCB. Approximately 100 people attended.

The proceedings of the Malana hearings indicate that the public raised nine broad issues:

adequate safety provisions during blasting and in storage of explosives;
adequate compensation for land, including provisions to ensure that people are not rendered landless;
adequacy of geological investigations with respect to proposed structures;
compensatory afforestation to mitigate impacts outside the catchment area;
development and propagation of suitable flora species, including herbal species, in the catchment area (it was noted that, besides controlling soil erosion, due consideration must be given to soil quality and landslides);
socio-economic benefits for local residents such as employment, training and access to civic infrastructure including the construction of a local college;
impacts on wildlife and pisciculture and the mitigation of adverse impacts, especially in the downstream diversion barrage where the water flow would be drastically reduced;
the potential threat to the cultural heritage of Malana village, which is known for its unique cultural traditions and social systems; and
adequate provision for the proper disposal of debris to prevent spillage into nallahs and rivers (Himachal Pradesh State Pollution Control Board, 1998a).

The issues raised by the public are similar to those identified in the previous cases. Much of the information about the Parbati III and Malana public hearings was obtained from the proceedings of those events. It is perhaps not a coincidence that the issues noted in the panel reports are similar, as are the responses from the panels. For example, both panels assured the public that:

"adequate security arrangements shall be made in magazine and handling areas and the transit of explosives";
"the SEB is committed to giving employment opportunities to locals commensurate with their qualifications";
"locals will have unrestricted access to health, roads, and other civic facilities developed through compensation activities"; and
"the SEB would endeavor to develop natural fish species".

Similar to the Parbati II proceedings, the report ends by indicating that "all people were in favour of early clearance so socio-economic benefits could reach people early and preventing cost over-runs".

*Patterns in the public's concerns*

As the foregoing discussion reveals, members of the public at the Parbati II and III hearings were primarily concerned with social and economic impacts. They were concerned about both potential adverse impacts, such as the loss of land and property, and potential positive impacts, such as employment opportunities and the development of local infrastructure. They also raised public safety issues (reflecting a concern for risks to community health) and the preservation of cultural resources (the Laksmi Narayan Temple).

Other than potential adverse impacts from improper disposal of construction debris, little attention

**Other than potential adverse impacts from improper disposal of construction debris, little attention was given to environmental issues such as loss of forest cover, social erosion, ecosystem health and conservation of biodiversity**

was given to environmental issues. That is, nobody raised questions reflecting concerns for loss of forest cover, social erosion, ecosystem health, conservation of biodiversity and other broad environmental issues.

As in Parbati Stages II and III, the Malana hearings devoted considerable attention to social and economic impacts including loss of land and property, potential employment opportunities, the development of local infrastructure, public safety, and preservation of cultural resources. In the Malana case, however, members of the public expressed greater concern for environmental issues. They discussed the potential for adverse impacts from improper disposal of construction debris, as in the Parbati III case, but they also raised broader environmental concerns, including loss of forest cover, social erosion, and impacts on fish and wildlife. Moreover, they raised systemic concerns reflecting awareness of linkages among issues such as afforestation, soil erosion and landslide risk.

Overall, the comments and discussions at the public hearings appear to have lacked both breadth and depth. In the two Parbati cases, other than the potential negative impacts from improper disposal of construction debris, little attention was given to any other environmental issues. The issues that demanded the most attention related to social and economic benefits for communities affected by the proposed projects. As indicated by a SPCB official, these types of concerns are increasingly being raised at public meetings:

> "Project proponents often agree to build things for the local community like health facilities, schools, cricket pitches, etc. People are starting to realize that they can ask for such things."

As well, in all cases, there was limited written, technical information available to the public in terms of the socio-economic concerns raised at the hearings, such as potential employment, compensation levels and timelines, greatly limiting the depth of the discussions.

## Public involvement implications

### *Information-out prior to hearings*

The review of the legislative framework presented earlier in the paper revealed few opportunities for public involvement in India's EIA process. The case studies confirm that, in practice, public involvement opportunities remain quite limited.

Mitchell (1997) identified three basic components of public involvement programs:

> information-out (information must be shared with those whose views are being sought so that they can consider the nature of the problems or issues being addressed);
> information-in (opportunities must be provided for the participants to express their views on the problems or issues); and
> continuous exchange (mechanisms are required for continuous exchange or interaction).

Relying on this framework, the first public involvement activity in the three cases reviewed in this project was a form of 'information-out'. Two sources of public information were available early in the process: *Handbook of Environmental Procedures and Guidelines* (Singh *et al*, 1994); and *Guidelines For Entrepreneurs* (Himachal Pradesh State Pollution Control Board, undated). The government did not prepare these documents specifically for the Parbati or Malana projects, but as generic sources of information regarding environmental approvals.

The *Handbook of Environmental Procedures and Guidelines* provides basic information on the industrial licensing procedure, obtaining environmental clearance, obtaining consent to operate an industrial unit, and obtaining forest clearance. An Annexure to the document outlines the EIA notification process and includes a listing of projects and activities to which the notification applies. Although this was a useful document, the authors found it difficult to follow in terms of gaining an understanding of the EIA process and the relationships among the various approval procedures. Interviews with four different officials regarding the EIA procedures outlined in the handbook improved our understanding but resulted in a different interpretation of the EIA process from that offered in the academic literature (for instance, Banham and Brew, 1996).

*Guidelines For Entrepreneurs* describes the role of the SPCB and briefly outlines the process for obtaining a "no objection certificate" (NOC). This may involve carrying out an "environmental impact assessment" and presenting an "environmental management plan (EMP)". It is not clear from the document when an EIA is necessary, which proformas must be filled, or the content of the EIA/EMP, although some details for EIA are provided. To be fair, it should be noted that during the research and at the time of writing, the guidelines were under revision to make them easier for 'clients' to understand.

These two documents constitute the publicly available information on the EIA process in Himachal Pradesh. It can be argued that both are directed to the proponent and as such, only help the 'public' to the extent that they outline the EIA process. There is no mention of public involvement in the process nor of the possibility of public hearings. It is not surprising, therefore, that interviews in the Kullu district revealed scant awareness among the public and potential proponents of the EIA provisions:

> "there is not much interest in EA at the local, regional or state level in this area. People in and around Manali are not aware of such systems…";
> "…people would be cooperative regarding EA activity, but I am not aware of any current provisions for EA"; and

> "people in this region are not so aware of the word of law in these matters".

*Nature of hearings*

As indicated in the previous section, opportunities for public involvement in India's EIA process are quite limited. The primary opportunity for involvement in each of the three cases studied was found at the public hearing stage of the process. Although hearings often imply an adjudicative or quasi-judicial forum, the hearings in the Indian process are more along the lines of a consultation. Staying with Mitchell's (1997) framework described above, the hearings were a vehicle for the proponent and government to provide 'information-out' and gather 'information-in'. Two senior SPCB officials noted that:

> "The panel is there to listen";
> "The people on the panel do not decide … the Government of India decides"; and
> "No decisions are made at the hearings, only a sharing of information".

*Timing of hearings*

There is no evidence that members of the public were actively involved in the EIA process prior to the hearing stage, such as at the scoping or environmental impact study stages. Using Smith's (1982) three-level model of planning, it is evident that public involvement was limited to the operational level of planning, in which decisions are made to determine what *will* be done. This contrasts with the normative level (in which decisions are made as to what *should* be done) and the strategic level (in which decisions are made to determine what *can* be done). As Mitchell (1997) observed, limiting involvement to operational levels of planning could become problematic if affected publics perceive their involvement as being tokenism, borrowing Arnstein's (1969) language from her classic ladder of citizen participation.

In fact, this may have occurred in the cases studied in this project. It appears that at least some members of the public came to the hearings expecting to deal with broad normative or strategic issues (for instance, questions relating to project need and how the need should be met) but were faced with operational questions (for instance, where construction debris should be stored). This prompted one participant to comment that, "the hearing is the only opportunity for the public to participate in the case, but the hearing itself offers limited potential to participate".

Disjointed expectations could have contributed also to skepticism or cynicism towards the government, proponent and the public hearing process, reflected in comments such as:

> "I have doubts about the implementation of various assurances — it could be another political gimmick";
> "I do not expect early action on our demands";
> "the hearing will bear no fruit — we have been deceived by the government before"; and
> "memorandum of demands will just pile up with other files".

Of course, skepticism such as this is likely to be caused by a myriad of factors, not the least of which is a long, complex history of exploitative relations between government and local villagers. However, disjointed expectations regarding the role of the hearings in the EIA planning process could easily contribute to a skeptical or cynical public sentiment.

Mismatched expectations regarding the role of the hearings in the decision making process could also contribute to negative feelings towards the government, proponent and the public hearings. Most observers would expect that public hearings would be an important element in the process and would occur prior to a final decision being made with respect to environmental clearance. In fact, this is the process contemplated in the EIA legislation. However, some panel members in the Parbati II project expressed a contrary perception: "hearings are a formality — the actual purpose is to get a no objection certificate". In addition, government actions and some media reports thereof implied that ultimate decisions in the Parbati projects were made prior to completion of the public hearings. Prior to the hearings it was reported that:

> "The Union Government has decided to execute the 2051 MW Parbati Power Project in Himachal Pradesh in the central sector." (*The Tribune*, 1998a)

> "The much-delayed 2051 MW Parbati Hydel electric project in Kulu district is all set to take off with the Himachal Pradesh Government and the National Hydro-electric Power Corporation (NHPC) signing an agreement here today to commence work on the ambitious project. The Prime Minister, Mr Atal Behari Vajpayee, is expected to lay the foundation stone of one of North India's largest power generation projects sometime in the first week of December …" (*The Tribune*, 1998c).

*Process deficiencies of hearings*

Although the hearings represented the primary opportunity for public involvement, the cases revealed serious deficiencies in the hearings process. As noted earlier, information available on the EIA process that could assist people in understanding the purpose and objectives of EIA is scant and not user friendly.

In regard to the hearings themselves, there was no indication prior to the hearings of what procedure was going to be followed or how the hearing panel was chosen. There was no assistance for members of the public on how to participate, for instance, how to prepare a brief or make a presentation. There was no

**Although the hearings were the primary oppportunity for public involvement, there were serious deficiencies in the process: information available on the purpose and objectives of EIA that could assist public understanding is scant and not user friendly**

background information provided on what an environmental impact study should contain or how to critique such a document. Obtaining expert assistance was not promoted in any way and funding was not available to public participants. Members of the public had to cover their own 'traveling and incidental costs', which would have been a significant burden for most villagers. Finally, there was no indication of how public input provided at the hearings was going to be used in the decision making process.

*Operational deficiencies of hearings*

The case studies revealed a number of deficiencies in implementing the requirements mandated by the legislation. In the three cases considered, the notice of public hearing indicated that, "Interested persons/groups/organizations may inspect the project application and EIS proposed to be submitted by the project proponents in the office of the Assistant Environmental Engineer, SPCB, Kullu between 3 and 5 P.M.". This opportunity was to be available for a period of 30 days prior to the hearings. In fact, what was made available to the public was an executive summary of the EIS, as required by the legislation. The summary could be reviewed in the Assistant Engineer's office but could not be removed, and photocopying facilitates were not available at the Kullu offices of the SPCB.

The summary documents were written in technical language without providing a glossary of key terms. There was no consideration of the potential environmental implications of the project with the exception that "safeguards for maintaining the environmental balance" were noted, for instance, anti-poaching laws will be enforced, kerosene will be provided to workers and no grazing will be permitted. The summary documents were only available in English, despite the legal requirement for translation into local dialects. There was also no attempt to present the case information in forms other than written prior to the public hearings, despite the low rate of literacy in the District.

The public did not have access to the detailed EIS Project Report prior to the public hearings. In fact, the project proponents in the Malana case indicated to the study team that the documentation was "secret". In the case of Parbati II, the proponent had not completed the detailed EIS as late as 14 days prior to the hearings. Although the public does not have access to detailed EIA documents prior to the hearings, it does have access to EIA project reports and environmental management plans for cases that have already received their no-objection certificates. However, these documents cannot be removed from the SPCB office and photocopying is not allowed. The study team found that, in the cases of Parbati II and particularly Malana, the EIA reports were very poorly written and difficult to follow. In the case of Malana it was not even possible to discern a clear project description.

With respect to EIA documents generally, one government official indicated that:

> "there are about 60 hydro projects coming up along the Beas. There will be lots of problems with muck in the rivers. No teams of interdisciplinary experts have been set up for the EIA and there will be no monitoring. In the mountain areas there should be more focus on the community — they should decide what projects go ahead. The public hearings are not working right. The project is put in front of people and they only see the project as development — tea stalls, shops, roads, etc. They are not told that their water is going to dry up or become polluted, etc. People need more information to be made aware of all aspects of the project. Professionals have to help to make people aware."

With respect to any of the information that is available to the public, physical access could be a problem for many villagers in the study area. In the case of Parbati II, people local to the project area would have had to travel 15 kms by foot, followed by over 50 kms on two buses to get access to the executive summaries. If they wanted access to the detailed EIS reports after a no-objection certificate had been awarded, they would have to travel to the state capital Shimla, at least a day trip away.

Finally, some of the logistics of the hearings themselves may have been a deterrent to widespread public involvement in the process. Changing the location of one of the sessions of the Parbati II hearing twice, once on the day of the hearing, is likely to have discouraged participation and led some to question the value of the process.

## Contextual constraints

In addition to the problems associated with timing of the hearings and the process and operational deficiencies reviewed in the foregoing discussion, larger contextual constraints also probably impinged on public involvement in the EIA process. Some of these constraints are reviewed in the ensuing discussion.

*Economic development* Other than Manali, economic development has been slow to reach most areas of the

Kullu District. Poverty is still high, many areas lack basic education, health and other services, and local people have a very strong desire to attract jobs through local development activities. Many from outside of Manali believe they are missing out on the opportunities economic development has brought Manali and strive for the same. The president of a local non-governmental organization indicated with regard to a large hotel complex currently under construction that:

> "there was nothing — no meetings by the State Government or builder. The environment should be considered in these decisions but it is difficult because the area needs jobs. People are not so rich in this area and have to make business in two or three months so new development is positive."

Another commented that, "the environment should be considered in [decision making] but it is difficult because the area needs jobs".

*Institutional capacity* Institutional capacity in the District and the State of Himachal Pradesh as a whole is also an issue. Most of the large ENGOs (environmental non-governmental organizations) and NGOs in India are not active in the northern region of the country. Despite the size of the Parbati project, no ENGOs or NGOs made presentations at the public hearings. As one local individual indicated, "Government plans and programs like EA are bound to fail because there are no institutions to implement them in the mountains". Another noted that "the government does not have the infrastructure to do the work. That is why they have formed NGOs. These groups have failed, however, in regard to development in this area". To be fair though, the leader of one ENGO indicated that his group deliberately refrained from participating in the Parbati hearings so as not to detract from the participation of local residents.

The Kullu District, and broader region, also has difficulty getting and keeping permanent government officials. Many local people complain that the officials making decisions about development, schools, forests, and other issues are from outside of the region. They have no connection to the area and "leave their posts too often". One government official noted that, "if a man indicates that there are problems with a project some higher-up will say you are slowing the project and he will get transferred". These conditions make it difficult for effective implementation of public policy, including public involvement in EIA.

*Local culture* Local cultural variables could also have had an impact on the level of public involvement in the cases reviewed. The following quotations from interview participants are diverse in their substance but reflect a common reticence to become actively involved in matters of development:

> "The culture here is very laid back. People don't want to get involved in others' business."

> "It is a small community. I used to try to put my foot down [regarding development] with the District Commissioner but I made so many enemies it was not worth it."

> "If he can build a hotel, why not me. We have a democratic system so they just talk to friends in government and get permission. We are proud of breaking the rules."

> "There should be some environmental clearance for hotels and hydro projects coming up but these people have the money, power. There is little local people can do."

*Education* The low level of literacy in mountain regions has already been mentioned. It is likely that literacy is an important factor affecting public involvement in the EIA process: "I saw some sort of advertisement in the paper regarding hydro projects — was thinking of writing. Most people of the area will not come forward. Most are illiterate or are from out of the Valley…".

In addition, lack of awareness of local environmental conditions is probably a powerful constraint to active public involvement. The evidence regarding awareness of the environment on the part of local residents in the study area is actually mixed. It would be easy to conclude that, in at least the Parbati cases, residents were unaware of the environment and potentially related impacts of development, rendering the environment a non-issue at the hearings. Indeed, some local officials have come to that very conclusion. One commented that, "People in this area are not aware of the environmental problems caused by development". Another said, "One thing that is missing in the Valley, people are not educated. They do not understand all of the implications of development".

However, contrary to the conclusions of the local officials, considerable evidence suggests that villagers in the Kullu Valley may be well aware of local environmental issues, the problems caused by development and potential solutions. First, through interviews with local villagers in an earlier study, Duffield *et al*, (1998) were able to discern locally derived sustainability indicators applicable to the Manali area. Second, in this study, members of the public at the Malana hearings not only raised concerns about specific environmental problems, they expressed concerns about linkages among various ecosystem components. Finally, further evidence from this study indicates that residents of both Kullu (town) and Manali are aware of the potential environmental implications of development:

> "development is out of control and we need enforcement of laws like SPCB and EA to bring people under control and protect the environment."

> "buildings are coming up like mushrooms in the valley but nobody is checking for their environmental impact."
>
> "There is too much construction going on in Manali and the Valley which is contributing to deforestation. This has resulted in impacts on the ecology which is responsible for flooding, cloud bursts, etc."
>
> "… over-cutting is occurring in the forests and needs to be reduced. This is causing some of the problems with cloud bursts."
>
> "Exploitation of nature unscientifically is occurring in the Valley. We want roads but we want the fragility of the Valley considered in their construction … now they just wash away and take trees and soils away."
>
> "just 15 years back the hills were green and river banks protected. With population increases, people from outside they move here for work/hotels. This is increasing the burden on the forest, especially in the winter for heat which in turn is causing other problems."

The same local officials who concluded that residents were unaware of the environment and the impacts of development also called for more and better education in the region:

> "government should introduce a subject in schools about the environment."
>
> "we need a good college in the area."
>
> "college should be built up so that young people can get a better education."

## Conclusions

Results show that, despite the rapid pace of development in general, and for hydro development specifically (there are some 318 small hydro projects underway or proposed in the state of HP alone), a critical element of the environmental approvals process, namely environmental impact assessment, is in its nascent stages in this area of the Indian Himalaya. As one local individual suggested "there is a failed record of EIA in the mountains. Development of roads, dams etc. has followed a technocratic model that has failed the environment and the people".

Further, detailed consideration of the three EIA cases that have been undertaken in the Kullu District revealed few opportunities for public involvement within EIA in India as it is applied in the mountains. The involvement activities that occurred outside of hearings were found to be in the form of 'information out' only. The information available was also found to be of most use to the proponent, difficult to access and not user friendly.

In the present circumstances, the only vehicle for public involvement is the public hearing. Yet it was found that the 'hearings' were not hearings at all. They would be better described as consultations, since no adjudication or decision is made at their conclusion. The panel is just there to listen. Also, the hearings occur at the operational level of planning which limits the types of issue raised and considered by the public that warrant the panel's attention. Moreover, if a local person were to pick up a newspaper it would probably seem evident to them that the decision to proceed with development had occurred prior to public hearings taking place. At the least, these factors lead to public skepticism of the process.

As one person noted, "One can make their concerns felt/known at public hearings but it is a black box after that. It helps the government perhaps regarding the politics of public relations for their plans". The fact that reports of proceedings from both the Manali and Parbati III hearings ended with a general statement like "all people were in favour of early clearance so socio-economic benefits could reach people early and prevent cost over-runs", strongly supports this claim.

Many process and operational constraints, such as inaccessibility of information, lack of familiarity with EA, lack of financial assistance to participate, changing hearing locations and the use of technical language all hinder serious public consideration of these projects. These are not new issues in developed and developing world EA processes. The World Bank Environment Department (1993) recognized that effective consultation in developing countries must include wide dissemination of information, two-way communication with a wide sampling of affected people, and the provision of feedback on results of consultation to avoid many of these constraints.

Contextual issues were also revealed as being constraints to effective public involvement. The lack of basic services, such as schools, hospitals, and phones, all underscore the people's desire for further economic development in the area. In addition, there was a general perception that the local people lacked the capacity to engage fully in EIA because of their lack of education and environmental awareness.

This last point was shown clearly not to be the case and perhaps offers the best opportunity to improve public involvement in EIA. Local people are environmentally aware and are concerned about what is happening to 'their environment'. The challenge is to engage them in the decision making process more effectively. A fruitful area of further research in this regard would be to explore the application of informal adult education as a strategic component of EIA.

The issues explored in this paper confirm the need for policy makers to consider fully a diverse array of constraints to the effective implementation of legislative initiatives. In developing countries, an effective public participation strategy should not assume that people have the time, willingness, organization and

resources to participate (World Bank Environment Department, 1993). This may be possible in some parts of India where the institutional capacity exists, but is not the case in the high mountain rural areas of the country. In these situations, extra steps must be taken to facilitate public participation and make the EIA process effective, efficient and fair.

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