Commentary

THE MICRO-CALCULUS OF BENEFITS AND SACRIFICES OF *BIKĀS*: EXPERIENCES FROM A POWER PLANT

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Introduction

In late summer of 1991 I returned from the US as a freshly minted engineer and became part of a private company involved in developing hydropower projects in Nepal.[1] My first assignment was to carry out the final check of a 100 km transmission line constructed by the company to supply construction power for an ongoing hydropower project in western Nepal. Importantly, the transmission line was being promoted as the essential means for eventually electrifying the villages in the five districts through which it traversed.

The way I had initially seen it, development was happening in places where I walked. In the rural hills, foothills, and valleys people would be getting electricity very soon, which of course would mean development. In the Nepali school system of the 1970s and 80s, it was easy to take development to mean anything that was "modern:" it could be high voltage transmission lines, motorable roads, bridges, schools, hospitals, airports and so on. The US experience in many ways had reinforced this belief. The US looked more developed because it had all the basic infrastructure in place. Engineering college explained the importance of electricity: for engineering students it was made clear that a larger per capita consumption of electricity meant more rapid industrial growth of a nation. Examples from the US, China, and the newly emerging economic tigers of East Asia were shown as proof over and over again. It was therefore obvious that if in Nepal we could provide a large amount of electricity to our citizens and they were made able to consume such

1 This article is a revised version of a paper originally presented at an international conference organized by the Sociological and Anthropological Society of Nepal in Kathmandu in March 1997. It has benefitted from comments by Pratyoush Onta, Tatsuro Fujikura, Seira Tamang and participants in a discussion at Martin Chautari.

Studies in Nepali History and Society 8(2): 349-368 December 2003

amounts, we also become a developed nation. Large amounts of electricity could be consumed by the use of modern equipment such as refrigerators, cooking ovens, television sets, VCRs, etc. Who would argue that these amenities were not part of a developed society?

But walking along the trail for over two weeks, meeting with villagers who were the supposed potential beneficiaries of that development scheme, and encountering project staff, a different realization slowly dawned. There were reasons for the people to be discontented with this form of development. It was obvious to them that they were paying an immediate price for benefits that might or might not come their way in their lifetime. The costs they had to live with in terms of damage to trees, harvest, and the constant danger from high voltage transmission lines for the immediate benefit of fortunate citizens in other parts of the country justified their discontent. I, as the fresh engineer, was forced to rethink the entire strategy of national development in this country; in this case through the eyes of the people immediately affected by the development scheme.

With this as background, this paper will look at the issue of mitigation through a detailed consideration of one hydropower project which was initiated by the private sector in 1989, during the late Panchayat days and completed in 1994. Different people have defined mitigation in various ways. In this paper we will consider mitigation to mean compensation to affected people. Mitigation measures are meant to either enhance the existing natural and physical environment, or at least to minimize as far as possible negative impacts in the area. Using this one specific hydropower project example, this paper will make a comparative analysis of mitigation related aspects of development in Panchayat era and the post-Panchayat era, highlighting the dynamics and impact of regime change and concomitant notions of development in the intersection of the post-1990 acquired freedoms of the press, NGOs and the local population. More specifically, national development in the Panchayat era had been the responsibility of the state. But post 1990, this project was promoted and later owned by a private sector company which introduced different dynamics into the project arena. Thus this paper will also attempt to look at how the private sector's involvement in the development scene has emerged, and how its activities have impacted and have or have not accommodated the growing expectations of the rural population. This paper will conclude by bringing up issues that require serious consideration by social scientists as well as technical professionals, when implementing development programs and framing mitigation activities.

Mitigation in the National Agenda

The impact of development on people and ecology had not been a major issue in Nepal during the Panchayat era. 'Doing development' in that period meant improving the infrastructural base of the country. How the construction of that infrastructure affected the local people or the final beneficiaries was not considered to be an important part of evaluating the success of a development scheme. Development meant 'projects.' Projects for drinking water, projects for road construction, projects for hydropower generation, projects for planning, projects for designing, and so on. It was in the State's interest to promote as many big projects as possible. Spending money as compensation for the affected people or entertaining their grievances was counter-productive from the State's point of view. Projects could do no wrong and if anyone had a problem with a project that person could not be tolerated. The belief in the planning circle was that what was being constructed was good for the nation. If some people were unhappy for personal losses then the supposedly larger good of the state took precedence over personal grievances. Overall, anyone or anything that came in the way of the construction of infrastructure was an obstacle in the way of *bikās*. For example, when the Kulekhani I power station was built in the 1970s, it was the largest power plant in Nepal at that time. It is estimated that over 500 households were directly affected by the power plant. A large number of people lost their homes and land and were forced to migrate. When these people protested, the local authorities used security forces to intimidate and repress the disgruntled locals. Likewise when the Marsyangdi hydropower project was started in 1986, the largest power plant at that time, 169 people were displaced. Of those displaced well over half felt that they were worse off after the move than prior to it (IUCN 1994). For the Panchayat State, these concerns were irrelevant in the larger cause of 'development.'

However, the Seventh Five-year plan (1985-1990) speculated the need for Environmental Impact Assessment (EIA) for development schemes in the country. In 1987 the government published a national conservation strategy hinting at the need for EIAs for 'large projects.' The eighth five-year plan (1992-1997) called for a national EIA system. It furthermore required irrigation schemes and road projects to carry out EIA studies prior to their construction.

EIAs were already a basic requirement for proceeding with loans or grants for large projects in other parts of the world since the mid 1980s. Most donor agencies were required by their own regulations to seek

impact assessments as routine procedures. For Nepal it was clear that no foreign assistance would be coming into the country to support development projects if studies of this nature were not carried out. This therefore was additional incentive to the government in Nepal to formulate an environmental policy, first as a national guideline and then for each sector such as roads, hydropower projects, irrigation schemes, industries, etc.

The National Environmental Guidelines (gazetted in July 1993) includes a section on 'Impact Mitigation Measures.' The Guidelines state, "Impact Mitigation Measures must be adopted with the objective of reducing and removing undesirable impacts and maximizing project benefits." The Guidelines suggest that alternatives be sought in all aspects of a development program, which means that alternatives to the size of the project, the technology introduced, the location of the scheme, fuel and raw materials, time schedule, and economic aspects all need to be considered. The document further suggests that mitigatory steps including compensatory, corrective and preventive measures be carried out. This also encompasses compensation required to restore damaged natural resources or to rehabilitate displaced or affected people. The corrective measures include installing pollution controlling devices, construction of pollution treatment plants, or construction of fish ladders in dams and weirs. Preventive steps include implementation of health education programmes and public awareness programs. The mitigatory measures requires that mitigation be budgeted for as a part of the project's construction and operation expenses.

The National Environmental Guidelines was followed by the formation of a Ministry of Environment in 1997. This then led to the formulation of the Environmental Protection Act 1997 (2053) and Environmental Protection Regulations 1997 (2054). These legislations have very similar objectives as the Guidelines themselves, except that the Act is more powerful and has an implementing line ministry. The Act is made for development activities in all sectors and is clear on what it requires of different projects and has clearly identified what needs to be in the Environmental Impact Assessment (or the Initial Environmental Examination) Reports that developers of projects need to prepare.

The Project

In 1988-89 it was foreseen that there would be a power shortage in Nepal in the very near future. In the short run this need could be met by a power plant of 10-12 MW capacity which could provide a daily peak power for

about six hours. The power plant would provide an additional 6% of hydroelectricity to the national grid which would feed electricity to the urban and industrial areas of this country. A Royal directive, during King Birendra's visit to the Mid-west region, expedited the preliminary works for the implementation of the 12 MW Jhimruk Hydropower Project in Pyuthan District.

United Mission to Nepal (UMN), an International NGO working in the field of small hydropower projects in Nepal since the 1960s, requested the Norwegian Agency for International Development (NORAD) to fund the Jhimruk Hydro Electric and Rural Electrification Project. NORAD agreed to fund the 20 million dollar project for which it would provide the necessary funds to HMG-N who would immediately transfer the amount to the UMN. The local component of the cost of the project would be provided by His Majesty's Government of Nepal for land compensation, construction power and internal taxes. The power plant would be handed over to the government after the completion of construction and the warranty period. A Nepali Company owned by the UMN, Butwal Power Company (BPC), was given the responsibility of planning, designing and constructing the power plant. BPC was responsible for all financial, technical, environmental and socioeconomic issues related to the development of the Jimruk power plant.

The power plant's construction was completed within the allotted budget and targeted time in 1994. Following the completion of the project UMN handed over the power plant to the government; the government in turn handed over ownership of the power station to BPC, as its share investment in the Company. This made the government the largest shareholder in the company, owning over 96% shares of the company.

What needs to be considered within the larger narrative of events is the stress caused by the Jhimruk project on people and the natural environment. Typical of damages from run-off-the river hydro projects in Nepal, the main impact is borne by the population adjacent to the project. It is to these specificities that we now turn.

Re-orienting the Project Focus

In hydropower projects the most severely affected people are those who lose their homes and land for structures that have to be built, or for the area that needs to be inundated, or people whose land loses productivity because of the loss of water.

During the development of the Jhimruk power plant, there were people who lost almost all of their land after the project acquired it for

different purposes. The money they received was insufficient to invest in some other place providing the same amount of yield. Some of the people who lost their land did not necessarily lose their homes. Thus they were compensated for their land alone. If they were to find a different plot of land to invest then at best they could only buy as much land as they lost. Normally this piece of land was not close enough for them to manage from their present place of residence. So if they were to manage this new land they had to sell their homes and totally emigrate. For those that could not make the move, in due time their money lost its buying capacity and they have been rendered landless in most ways; forced to become wage earning farmers working other people's land.

Apart from land issues, what needs to be considered is the multiple impacts that can be caused by the use of water by a hydropower plant. The impact of such diversions will be felt by people in the upstream as well as downstream of the project area. This particular hydropower project diverted water from a fertile valley, affecting about 1500 families along 20 km of its bank downstream of the diversion (GEOCE Consultants 1991). A fertile valley providing a net grain surplus would be deprived of the abundant flow of the river. This had the potential of reducing that area to a net grain deficit area.

Furthermore, there is a possibility that as the volume of water in the river decreases the spring water sources along the river also dries up. Although this is difficult to establish because springs also dry up for many other reasons, some local springs did dry up after the diversion of the river. It was possible that the population that relied on the river for drinking water or for cleaning and providing for cattle had reduced water for such domestic purposes.

In addition, the diversion of the river would almost certainly impact the river ecology. The pools in the river became shallower and people in the area would start fishing more as the fish became easier to catch with the reduced water flow. The impact of this on other river flora and fauna was never studied.

Finally in terms of water issues, constructing a weir in the river will create a reservoir in the river which will cause the water table to rise in the upstream of the weir. For low lands that are adjacent to this reservoir created by the weir there is a possibility that these lands will always be 'wet' as the water from the reservoir seeps upstream.

There are however, other safety and economic issues linked to hydropower projects which are often missed. For example, another not so much talked about part of that power station is the transmission line.

This was mentioned at the beginning of this paper. Transmission lines have a long term impact on the effected population, yet it is one aspect of development where there is not much resistance. High voltage lines are dangerous. There are certain distances (known as "right of way") that need to be maintained between a charged high voltage line and trees, houses, fences, the ground etc. What it mostly means is that trees along the transmission line route must be cut down. It also renders plots of land that have been selected as "*ghaḍerīs*" undevelopable. For the rural villagers this was very troubling. Some of them were truly confused. One young woman complained, "every day the radio reminds us that we should plant trees, and here you come from the city to do *bikās* and cut the existing trees."

The normal way to build transmission lines is to first send out a survey team. This team sets up positions for the tower foundations and ascertains the required height of the tower. Then in a few months' time the 'foundation team' comes along and puts in the foundations for the poles. In due time the 'tower installation' team comes along and erects towers on the foundations that were embedded. Then the 'stringing' team comes along and strings the conductors on the poles along with its fittings. Then a 'final tensioning' team comes to accurately tension the conductors both for technical and aesthetic purposes. Finally a 'checking team' comes along to make sure that all the towers are sturdy, and the standards required are maintained. Depending upon the length of the line this entire process could take anywhere from one to one and a half years before a transmission line is ready for high voltage transmission. Each of these teams could have between five to ten personnel. Every time one of these groups of people come to the site where towers are to be put up they trample over whatever is planted. They inadvertently destroy the crops that may be growing there. So a piece of the farmer's land may remain totally or partially barren for up to a year and a half. And there was no compensation for any of that. It was not difficult to see that the farmers were displeased with this 'development' in their rural villages.

As a fresh engineer I kept a record of my daily activities. After a few days of walking along the trail, I was slowly beginning to understand the impact of my work on the local people. My site diary records the following:

> The farmers are displeased with this 'development' in their rural villages. I am not enjoying this work. The farmers have a right to be unhappy over this construction of transmission line. The farmers are unhappy for the following reasons:

1. These people will not have access to electricity any time soon; i.e. no gain.
2. Their resources are being abused for reasons they do not see fitting. This transmission line will provide electricity to large city dwellers and these people have to pay the price for it.
3. Trees should be saved says one development propaganda. But these so-called real developers are destroying them. Farmers are truly confused.
4. The farmers do not really understand why these trees are being cut to the ground, and the company employees are not providing satisfactory answers either.

This example of building high voltage transmission lines and power plants is a small illustration of the other real costs of such projects which ordinarily remain unvalidated. As will be discussed in the next section, for the Jhimruk project, some mitigation procedures were discussed and put in place. However, these too were not free of their problems.

Mitigation and its Dynamics

The uncertainty of future ownership of the Jhimruk power station during its construction contributed to no one taking the lead to actively mitigate the affected people. The Company (BPC) at that time had a mandate to build the project on a fixed price basis. There were no guarantees at that time that the company would be entrusted with the responsibility of operating the project and thus making money out of it. Therefore the company had no reason to think of the long-term benefits of mitigating from the beginning as in projects of this nature the only party that benefits from keeping the local communities happy is the party that has to remain long term in the area. Since it was never clear who would be responsible for the operation of the power plant until 1994, no one took the initiative to start mitigating in earnest.

Mistakes and oversights of all magnitudes did take place. Some of those, however, must be considered to be mistakes made in the process of learning, both by the government and the related implementing agencies. The intention of the implementing agency is less doubtful in this case than in cases seen in other projects. However, the sacrifices that have been made by some for the benefit of others provides a good example of the misunderstood and under analyzed micro-calculus of cost and benefit of development projects in this country.

The present regulations have made it mandatory to carry out a detailed impact assessment on people and ecology of all projects of the size of the

Jhimruk power plant prior to proceeding with the construction. But in 1989 the donors and His Majesty's Government, Nepal (HMGN) had proceeded with the Jhimruk Project without an environmental study to assess the effect on people and environment that would occur after the river was diverted for power generation. According to the donors, it was their policy to entrust environmental mitigation issues to the recipient nation to implement as per the nation's rules and regulations. The donors seemed to think that HMGN should be the agency to balance between economy/power production and environmental needs (Norwegian Water Resources and Energy Administration 1992). The donor was apparently apprised of the lack of environmental impact assessments, possibly during one of their appraisal visits to the area in 1991. The donor then insisted that some environmental study on ecology and irrigation along the river be carried out funded by the donor with additional funds.

A local consulting agency was commissioned by BPC to carry out that task. In the report the consultant pointed out the obvious effects on drinking water and river ecology (GEOCE Consultants 1991). It, however, did not adequately dwell into the problems that would be faced by the inhabitants of the valley who would have to face reduced production of food by up to one third of what they were used to prior to the river diversion. The consultant did however recommend the construction of drinking water systems in all the affected communities and the provision of mechanisms which allow fish to travel even in the driest months of the year, when most of the water would be diverted to the turbines. They also suggested a minimum flow in the river to sustain the river ecology. This flow, referred to as the minimum riparian flow, needed to be maintained throughout the year. Debates remain among ecologists and environmentalists as to what this minimum riparian flow should be. For the Jhimruk Project, a best estimate was made which obviously required active monitoring in the coming years.

However, the company at that time complied with the recommendations of the consultant. Drinking water schemes were built in the area and fish ladders were incorporated in the dam structure through which fish have been seen to travel up and down. A minimum flow is maintained throughout the year. The company even engaged an agriculturist for the first few years in an attempt to motivate farmers to change their cropping pattern, namely, to start harvesting crops that would require less water and at the same time maintain the same level of productivity as before the diversion of the river.

Local Organizations and Negotiations

Project initiated efforts aside, in 1993, early in their opposition to the project, the local farmers had got together and formed a committee to attempt to demand benefits from the Company. The organization was called *Jhimruk Jal Bidhyut Āyojanā Pīḍit Kisān Uddār Samuha* literally translated as Jhimruk Hydro Electric Project Afflicted Farmers' Relief Association. They attempted to register as a Non-Governmental Organization (NGO) with the local administration at that time. As the relations between the Group and the company began to improve in 1994 and 1995, the seemingly militant name was changed to a much softer sounding *Jhimruk Kṣetra Bikās Samuha*, translated as Jhimruk Area Development Group. This group finally registered with the Pyuthan Chief District Officer's Office (C.D.O) in 1995. All negotiations the Company was involved in were with this Group, although over the years at least one other group had emerged claiming to be fighting for the cause of the affected people.

The people around the project area began getting restless as the construction of the power plant neared completion. In the summer of 1993 they sent a petition to the Prime Minister's office. The then State Minister of Water Resources, Mr. Laxman P. Ghimire and the Vice Chairman of the National Planning Commission, Mr. Ram Saran Mahat, during their visits to the area, made attempts to convince the farmers that their life styles would not be altered by the construction of this project. But the farmers received nothing more than the already completed drinking water schemes. In 1994 just prior to the power station going into operation, the farmers downstream of the project made a trip to Kathmandu and issued a press release demanding that either their demands be met or the Project face a shut down. The Project received a lot of negative publicity. The Company took notice of this.

Once the power plant was commissioned during the monsoon of 1994, HMGN made a decision to let BPC own the power plant, in return for HMGN shares in the Company. In this way HMGN became the majority shareholder of the company owning almost 96% of the company. Now that the project was entrusted to BPC for operation, the company started taking initiative to mend relations with the affected communities. The Company also had to bear the burden of maintaining its identity as a private organization. It was clear that a lot had to be done by the Company to win back the faith of the people. In November 1994, before the first dry season of plant operation, the company and the

representatives of the farming community got together and hammered out a solution.

The power plant would release water on an as-and-when required basis for two crops, wheat and monsoon paddy. This meant that the power plant would be totally shut down for over six weeks to provide the farmers with the required water for planting the monsoon paddy. The farmers on the other hand would forego the pre-monsoon paddy. They would instead harvest other crops, for which the Company would provide the necessary technical assistance. The Company also agreed to electrify certain villages in the area as part of mitigation. The farmers also requested more employment in the project for local people. The Company agreed provided that such opportunities were available.

No one was immensely happy with the agreement, particularly the water sharing part of it. But each party had given the most it could afford. How and why the farmers decided to give up their production of pre-monsoon paddy is not clear. Perhaps they were resigned to the fact that since the power plant was already in operation, there was not much that they could do, so they salvaged what they could. The Company on the other hand knew that some sort of give and take had to take place for the power plant to be able to generate electricity, so it complied.

Similar agreements followed in the following years. In May of 1998 a meeting between the farmers and the project took place at the CDO's office, with a huge group of people participating. As with previous meetings this one too entertained many of the demands of the local people. However, one thing that continued to be clear was the people's reluctance to trust the company in whatever it decided to do.

Because, the Butwal Power Company has a fairly successful rural electrification program, which has been put into practice in other districts of the country, it did not want to jeopardize its activities in other parts of the country because of disgruntled individuals in Pyuthan opposed to its rural electrification program. But the people in Pyuthan, who were supposedly being compensated by having access to electricity, continued to argue that they were getting a raw deal from the company as far as electrification was concerned. At this meeting they opposed all the basic norms of electrification which the company took pride in. The people did not want to contribute labor for the installation of the transmission line, and they wanted tariffs identical to the one that the Nepal Electricity Authority was charging to people around the country. It is not clear if any homework had been done by the local people to see if these demands would benefit them. However, in making the demands they did make,

they felt at least whatever they would be getting would be similar to what others in the rest of the country were getting. The Company initially resisted these demands but gave in after it could not successfully explain to the people the benefits of what it was providing. In addition to these issues the old issues of securing embankments, hiring of local people, sharing water, etc., were brought up and settled with all agreeing that it should be done.

In the many years of negotiations, starting from 1994, one issue not yet resolved was the issue of compensation for land. Some people had not collected money for the land that had been occupied by the project. Even though the Jhimruk Project was a donor-funded project certain costs of Jhimruk power station were to be financed by HMGN, of which the purchase of land was one. As per government regulations, all the money the farmers did not collect when the project was completed was returned to the national treasury. Now that the issue was brought up again, the money for land compensation had to be reallocated by the government. At this meeting the parties resolved to request the government to sanction those amounts once again.

The next meeting was held in the winter of 2001. This meeting had high-level representation from both the company and the local people as the CDO of Pyuthan District himself presided over the proceedings. This was a memorable meeting in that it was the first time that the district authorities as high up as the CDO was involved in direct negotiations between the Jhimruk Project and the villagers. The seriousness of the matter was obvious to all. With the security situation in the country deteriorating, especially in that part of the country, the district authorities and the project owners wanted to resolve the issues at the ground level itself. No one wanted to take the risk of civil agitation at the grass root level when the security situation was so poor. As the Company at that time was still owned to a large extent by the government, the Ministry of Water Resources sent its representative to the meeting as well. The local MP also participated. All these were indications of the seriousness of the issue and the willingness of the local people, the government and the project owner to discuss the problems at hand.

The issues brought up at this meeting were not much different from the issues brought up earlier. The resolutions passed asked the company to electrify the local areas, prepare a master plan to electrify the entire district, protect the embankments of the Jhimruk river so that the damage to the adjacent lands could be minimized, etc. Committees with government participation were formed to study the issue of water logging.

The entire meeting was concluded in a very amicable environment. The country's security situation was obviously in the mind of people and even the group making the demands, which had been very vocal and aggressive in the past, showed restraint, perhaps to distinguish itself from the Maoist insurgents that were waging a 'people's war' in that area.

Agreements to accommodate one another in these 10 years of plant operation have been perceived quite differently by the two respective parties. The farmers' view is that they are victims of development and their inherent right to the water that they had been utilizing has been snatched away from them. They also asserted that the Company needs to be more active in enhancing socially beneficial programs in the community as a form of compensation. The Company on the other hand believes that it has done everything that was asked of it and has even done more in some instances. After all it is a private company with limited resources and its own priorities, and it cannot continue to provide everything the local communities ask for. Furthermore the Company believed that as the power plant was developed with the government's permission, if there are actions that need to be taken, the government must spell it out clearly.

Non-governmental Organizations and Local Politics

An important aspect to these discussions between the Company and the local people is the role of non-governmental organizations (NGOs) and local politics. In the summer of 1996 officials from INHURED International, an NGO headquartered in Kathmandu, and active in advocating for human rights and opposing large hydropower projects, paid a visit to the project area. During the visit the NGO members 'educated' the people that their rights had been violated by the Company and they should demand more. The NGO also sponsored a trip for some local leaders to other large projects in the country. The overall result was that the farmers became much more agitated and strategic than before. This resulted in using the press in Kathmandu to draw the attention of the government and the Company consequently invited the representatives to discuss the issues. Some of the demands made included: land that was evaluated and paid for seven years ago be reevaluated and the difference be paid, a motorable road of about 20 km be constructed by the Company, a vocational school be set up by the Company, more locals be given employment opportunities at the project, local people be involved in the decision making process of the power station, and so on. BPC, it appears,

internally concluded that as a Private Company it could not meet all these demands.

It was clear that the level of demands had increased drastically and the local people had become bolder and more assertive. In the first stage of their demand they were only requesting for electricity in their houses, but in late 1996 they were demanding electricity and the terms in which they should get it. Large NGOs have played a key role in raising the voices and demands of local people by providing local people with information about other projects and the kinds of struggles other people were engaged in.

The local political parties also wanted to be involved in this process. Many saw this as an opportunity of garnering political support by speaking on behalf of the people's rights. One such example was seen clearly when the issue of land compensation was brought up at the meeting of May 1998. When bringing up this issue, the politicians knew quite well that it would be almost impossible to get this money. But they did not want to waste this opportunity to look good in front of the electorate before the elections due later that year. Likewise the issue of building long roads in the area or electrifying far-flung villages of the district were out of question for the Company but these politicians continued to demand for it. Clearly, the mitigation of the local communities only became an issue when the local politicians felt that they could cash in on it. In another instance, one of the demands by the affected communities in February 1997 was that a high voltage line be constructed in an area where it would be technically infeasible to carry out electrification soon. The company's opinion on that had been if electrification in that area could not take place at that time, it is in fact a wastage of resources to construct a high voltage line that would remain idle. But the local politicians saw it differently. For them it did not matter if there was electrification there or not, they wanted the line immediately. In their calculations, if they could make a strong enough argument to get the high voltage lines now (this term in office) then perhaps they could claim it as a victory which would help them in the next elections. As soon as some politicians took this approach, other rival politicians, in an attempt to be more popular with the local people, demanded that the domestic electrification be carried out at the same time as the high voltage line was constructed. Clearly, the political culture prevailing at the local level in which local rival politicians bargained with the company for political value, impacted the dynamics of the project and mitigation process.

Being Private, Privatization and Other Factors

However, a few other on-going external factors during the entire period also must be mentioned to get a broader view of the movement and the company's response. First of all, there was of course the 'people's war' that started in that part of the country, a traumatic event for the project staff who received many threats and warnings. This was not an easy period for the managers of the project and knowing that the project lacked support from the local communities made the life of the managers and owners more difficult. This resulted in the company relying more and more on the government for security and for solving their problems. The administration made their resources available for the supression of the Maoist movement, including the use of project vehicles to transport security personnel and the use of communication systems belonging to the project. In a sense, being a government owned entity, these decisions were natural.

Another issue that needs to be considered is the fact that from the mid 1990s, talks about the government divesting its shares from BPC had been initiated but not resolved. For quite a long period of time it was anticipated that private owners would take over the majority stake in the Company. This exercise to divest HMGN shares and to get in private promoters took almost six years. This long privatization process also took its toll on the relationship between the project and the local people. Electrification is a very expensive undertaking and it requires long-term financial commitments from the promoter.[2] The fact that the government was not able to provide a clear indication to the Company on its scope of responsibilities added to the problem of indecision and reluctance to invest in long term mitigation in the area as it remained unclear who would own the power station once it was completed

However, regardless of the cause of the delay in starting to mitigate the adverse impacts on the affected population, this became a major cause for the ongoing credibility crisis of the Company in the community. From the local farmers' view there was little basis to trust the company that was already making money out of its resources, but asking the local people to be patient to get their share of benefits. Thus, while the company was instrumental in establishing a vocational school in the area

2 My understanding is that the Company's intention was to distribute electricity in the affected area. The Company was able to secure a grant of over US $ 760,000 from the USAID in 1996-1997 to expand its electrification activities in the area as well.

that provides technical training to the local youths – a major investment made by the company for the benefit of the local people – local people have continued to feel that more needs to be done, despite appreciating the vocational school.

As mentioned earlier this was the first power station in the country (at that time) to be developed and owned by a private company. Although it was a private sector company the government owned about 96% of the company until 2002. Whether the resistance and increased demand by the local farmers was because they saw a private company making money off their resource (i.e. water) or because they saw the opportunity to put pressure on a government entity is unclear. The company agriculturist's report showed that only a few households have actually lost production because of the diversion. The minimum flow mandated by the ecological study along with agreements reached between the Company management and the local farmers was sufficient for maintaining the level of production to the level of pre-diversion days.

One can only speculate what might have been the case had the power plant been operated by a wholly government agency. One can make some assumptions based on experiences of other power stations not owned by the private sector. The Marsyangdi Project, for example, diverts water from a river through a tunnel to the power station almost six kilometers downstream from the dam. In the leanest months most of the riverbed along that six kilometer stretch is dry. The Marsyangdi power plant was built and commissioned in the mid 1980s by the government and is still being run by the Nepal Electricity Authority (NEA). It is my guess that there are not any protests about water release and other environmental problems in this project partly because it is owned and operated by the NEA, a wholly government owned entity.

Environmental and Social Mitigation in 2003

The national agenda regarding social and environmental has come a long way since the time the Jhimruk Project was built. The Electricity Act (1992) specifically mentions that the use of land or damages caused need to be compensated for. However, it is still the government machinery that sets the value of land. Often times the going market rates are much higher than rates set by the government. Given that valuation of land is carried out by the local authorities it could still be a big bureaucratic hassle to evaluate and get market price for the concerned land. But the Act at least provides the required legal framework needed to fight for fair compensation.

The Environmental Protection Act, 1997 requires that a special EIA be prepared and an environmental mitigation management plan be put in place along with the necessary budget prior to the project being licensed for development. The awareness that has been created at the local level has empowered the local people to believe that the resource in their area is something they can bargain for if the private sector or even the government intends to exploit it. For example the Kali Gandaki Project has handed out unprecedented amounts of money as land compensation for people whose lands had to be acquired. One official at NEA said that it paid up to Rs. 70,000 for land which is worth Rs. 10,000. This is an outcome of unprecedented debate over projects that are to be financed by external donors; especially bilateral donors who faced huge criticisms within their country for the way affected people were being compensated in projects they funded in developing countries.

EIA and mitigation are key words in the development circles today. There are NGOs and donor agencies inquiring about the affect on people and environment long before large projects can be implemented. The battle over Arun III remains as the single most important example of a project in which opposition from local and international non-governmental organizations played a crucial role in deciding the fate of the project. Donors and funding agencies have taken notice, as have the NGOs who have realized that their voices can reach far and wide with quite some effect. This in contrast to earlier days when there were no NGOs to take the 'big parties' to task for compensation. In the pre 1990 days activism against large development schemes in the interest of the 'small' people, did not exist.

Clearly, local people too have found that they can make themselves heard. They have learnt to derive benefits from national NGOs and the media. It was only after newspapers began carrying the story of the local peoples' complaints in September 1996 that the Company started negotiation on issues with the local farmers. Likewise in February 1997, the papers carried a story of the power station being shut down by an angry mob of farmers who had made some demands of the Company. Once this story came out the local authorities along with the Company officials went on a marathon negotiation session to bring the matter under control. The national media has given the people of the affected area a power that was not available to them in the Panchayat era.

Local politicians have also used the issue to strengthen their political position in the area. They have done this mostly by being pro-public

without paying attention to the constraints or the responsibilities of a private company.

In totality the coming together of local politics, NGOs, and the media has changed how development works are initiated and implemented in Nepal. Likewise the government policies have moved ahead to address these issues which have resulted in amendments in the national policies regarding the environmental social mitigation activities.

Conclusion

In the Panchayat era, often times individuals were forgotten in development process thanks to the ingrained belief in the planning circles that what was good for the country had to be good for individuals as well. If any individuals felt they were losing out in the process it was not the state's problem. This notion is being challenged in the post 1990 era.

Clearly the people have found a voice that they did not have prior to the present political system, with the help of the national media and NGOs which have played a crucial role in generating awareness about environmental and other issues in development schemes. This needs to be situated in the context of media and common depictions of NGOs as only being entities driven by foreign money and with no real grasp of real Nepali issues. Furthermore, much has been made of the fact that NGOs have been plagued with inter-organization disputes. It is important to remember the fact that INHURED Internation was actively engaged with the people of the Jhimruk area at the same time as a feud raged within its organization in the mid- 1990s. One sided depictions of NGOs miss out the multiple and varied ways in which they function – both positively and negatively.

In terms of the private sector and issues of mitigation, the Jhimruk case offers some other points. For the private sector to be effective in its commitment to mitigate, the government must issue clear rules and regulations for identifying affected people and communities. It then must specify the mitigatory measures with a strong emphasis on monitoring and evaluation. In the case of Jhimruk all of this was lacking. Thus the private company had little base to devise its mitigation programs. Furthermore it had no legal obligations to make the additional expenses either. The local media and the local politicians have been effective in highlighting the problems of the affected people and bringing them to the forefront of development discussions. However, the media's role so far has been limited to bringing out the environmental issues in the form of shallow debates. In these debates environment and mitigation have not

been discussed on the basis of national resources versus individuals' rights. Although environmental conservation has been a popular topic in the media very little debate in the country has taken place over the rights of an individual affected by a development scheme versus the right of the state to exploit a national resource for the benefit of the country. For example a lot is being talked about the Karnali-Chisapani multi purpose project or the Upper Karnali Project. But few in the media have asked about the fate of 60,000 people (estimates made almost twenty years ago) who will be displaced by the Karnali Chisapani project. Also the universal belief in the planning circle that monetary compensation for all forms of loss is sufficient does not help the cause of just mitigation. The affected people's stories compel one to question the integrity of such narrowly conceived mitigatory measures and to hope that serious debates on the plight of the real people affected (problem) and the mitigatory measures (solutions) emerge.

Furthermore, it is clear that the private sector must be aware of the distrust that can be created when prompt and proper actions are not initiated to mitigate the affected people. Government policies on mitigation obligation for the private sector are not yet clear and the private sector will be reluctant to invest as long as these obligations remain murky.

The concept of 'mitigation' has now taken root in Nepal. Discussions need to start on whether equitable solutions can be available or even possible in providing something - monetarily or in the form of facilities- in exchange for changes in the lifestyles of individuals and communities. Often times this equation becomes a lot more complicated when monetary value cannot be ascertained, such as for having to change cropping pattern, or change one's lifestyle. Is it possible to mitigate affected people? How does one mitigate for change in lifestyle or compulsion to migrate to new lands? The answers to these questions cannot be sought in the engineering discipline but needs to come from social scientists and public policy experts. The challenge of course is to find a method of equitably identifying and mitigating the locally affected when using national resources for the larger good of the country. It is imperative that such discussions and debates begin in earnest today.

Epilogue

The privatization of BPC was initiated again for the third time in 2001. During the privatization process the Maoist insurgents totally destroyed the Jhimruk power plant in April 2002. The exact reason for this action is

not clear although unofficially it is said that the Maoists carried out this attack because the Company would not pay the amount demanded by the Maoists. As a result, the power plant lay out of operation for almost 18 months. This posed a great threat to the completion of the privatization process of BPC. A separate agreement had to be reached between the Government of Nepal and the Government of Norway to secure funding for the rehabilitation of the Jhimruk Project so as to successfully complete the privatization.

The much talked about privatization of BPC took place in January 2003. The government handed over 75% of its shares in the company to a consortium of Norwegian and Nepali investors. Private management took over BPC from that time onwards. The rehabilitation of the power plant has now been completed and the plant is once again operating normally. What the strategy of the new owners is towards long-term mitigation as well as fostering good relations with the local people is yet to be clear.

Bibliography

GEOCE Consultants. 1991. Environmental Impact Study to Assess Effects on Irrigation and Ecology Along Jhimruk Khola. September. Kathmandu: GEOCE Consultants (P) Ltd.

IUCN. 1994. EIA Study of Upper Bhote Koshi Hydro Electric Project. Kathmandu: IUCN.

Norwegian Water Resources and Energy Administration (NVE). 1992. Jhimruk Hydro Power Project, Status Report. November. Norway: NVE.

Ministry of Population and Environment. 1993. National Environmental Guidelines. Kathmandu: MOPE.