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Sustainable Dam Development in India

Between global norms and local practices

Nirmalya Choudhury

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Foreword

The Dams Debate: Neither ‘small’ nor ‘large’ is the question, but well-planned and well-managed¹

Dams as large infrastructure have a high potential for development. They can balance hydrological variability, both inter-annual and inter-seasonal, by storing water for all sectors of a national economy, and they serve as one means for controlling devastating floods. They are key means to exploit the huge untapped hydropower potential in particular in China, India, Brazil, Russia and on the African continent which lags far behind the rest of the world. Well-planned and well-managed they can support adaptation to changes in hydrology.

No other infrastructure has attracted that much criticism than dams because of their detrimental negative social and ecological effects. Estimates about dam-induced displacement of people range in the order of 40 to 80 million, of which the lion's share are in India and China. As a Canadian non-governmental organization reasoned, it is not the financial crisis setting back investments to exploit a huge technical and economic potential, but “the notion of acceptability on social and environmental levels.”

The World Commission on Dams (WCD) has set a landmark with its “Dams and Development. New Framework for Decision-Making” released in December 2000. It is without doubt that the recommendations have touched key questions of how development should happen. However, the WCD has defined ideal type norms to guide dam-related decision-making. Being excluded from the WCD process, the governments of the hydro-superpowers were sceptical about the seven strategic priorities and outright rejected the 26 guidelines. But small countries, too, such as Nepal and Ethiopia accused the WCD on hindering their social and economic development.

Our Institute issued the research project “Sustainable Dam Development: Between Global Norms and Local Practices” on behalf of the Ministry for Economic Cooperation and Development (BMZ) targeting the dam policies of the hydro-superpowers. In these economies historically, dams have contributed to the countries' goal of achieving food and energy security, with the latter becoming at least as important if not more given the escalation in the energy/electricity demands. Thus, the importance of dams, in spite of being an extremely contested domain, continues to remain unabated.

Acknowledging that dams are important infrastructural means for social and economic development, and that multilateral development banks and bilateral donors are re-engaging in the dam business due to its renewable characteristics (low carbon energy), our Institute has looked into the dynamics and conditions enhancing the internalization of international norms and standards. Country studies were conducted in India, China, Brazil and Turkey to find out if and how superior social and environmental norms like those of the World Commission Dams and the World Bank have influenced planning and implementation of large water / hydropower infrastructure over the years.

1 This appraisal was made by Director General of UNEP, Mr Klaus Toepfer, on the occasion of the Dams and Development Forum taking place in September 2003 in Geneva.

The country studies, of which that on China (Hensengerth 2010) and now on India are available, analyse the highly complex multilevel dam-related decision-making processes being particularly interested in whether, why and how planning and decision-making has been opening up to diverse societal interests. At the national level the evolution of social and environmentally sustainable dam governance is being studied in detail in two specific fields, i.e. the planning procedures for mitigating negative environmental impacts, and for expropriation and resettlement. Since impacts are clearest at project level, analysis of individual dam cases focused on their specific actor constellations and the impact they had. Looking at individual projects, we have been investigating whether international / domestic actors have fostered sustainable practices, and the repercussions on overall policies.

The India study has shown that civil society has for long been the major actor working towards gradual and progressive changes in dam-related policies. Through its own network which linked local, regional and national NGOs, it has been advocating for superior social and environmental standards. However, in the individual dam projects analysed, the presence of international actors like the International Finance Corporation catalysed this process referring to their standards which are superior to those asked for by Indian regulations. But their presence is in no way a sufficient condition that these norms get implemented.

The author points out that it has not been the WCD who influenced dam-related policies in India. Based on a cross-temporal study of civil society action in India for the last three decades, he argues that the norms being negotiated and circulating in the domestic policy arena only got an international anchor, i.e. WCD.

Nirmalya Choudhury concludes that national policies on environment and resettlement have not progressed on strategic issues: decisions on option assessment or gaining public acceptance have hardly changed over the years, and issues which could potentially open a window through which projects as such, or their design, can be questioned, continue to be exclusively controlled by the government. Operational issues, on the other hand, like the mandatory preparation of resettlement action plans, public participation in preparing these plans and detailing of how the public hearing process is to be conducted and recorded have shown progress over the years. At the project level monitoring compliance of the environmental management plans continues to be a challenge for both the regulatory authority and the project developer. In spite of a three decade long discourse criticising cash-based compensation, this form continues to be dominant.

When the Ministry of Environment and Forests was nominated the lead agency of the federal government for COP15 negotiations, and an efficient minister was put at the head of the Ministry, positive spillover effects to the dam issue started. They particularly refer to improving the status of the environmental clearance process in the country and to the strict monitoring of whether project developers adhere to environmental management plans.

Bonn, August 2010

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Abstract

This paper explores reforms in environmental and resettlement policies in India and the influence of domestic and external actors on the reform process. It also analyses the ways in which environment and resettlement policies have been implemented in a number of hydropower projects. At project level the analysis focuses on how state and non-state actors influence decision-making on the introduction of superior environmental and social standards through changes in policies and laws. At macro level, the study begins by describing the multilevel processes that govern dam decision-making. It then considers the legal and policy level changes in the areas of environmental clearance and resettlement and the role played by state and non-state actors in the changes that have been made in the last three decades.

The dam projects selected are the Allain Duhangan Project, which is being funded by the International Finance Corporation, and the domestically funded Lower Subansiri and Dibang Multipurpose projects, the aim being to understand how superior social and environmental standards are put into practice and the role played by various state and non-state actors in this. The study argues that, at macro level, it is civil society which has been the major driver of change in the area of resettlement over the last three decades. In the environment arena the changes are the outcome of competing demands from civil society and growth-oriented ministries and departments of the Government of India. At project level, superior social and environmental standards are primarily driven by social mobilisation initiated by civil society. The presence of international actors like the International Finance Corporation, with superior social and environmental policies, catalyses the process.

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Abbreviations

AASU	All Assam Student Union
ADB	Asian Development Bank
AIMSU	All Idu Mishmi Student Union
BCM	Billion Cubic Metres
BMBF	Bundesministerium für Bildung und Forschung
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung
CEA	Central Electricity Authority
CBIP	Central Board of Irrigation and Power
COP15	Climate Change Conference 2009 (Copenhagen)
EIA	Environment Impact Assessment
GoI	Government of India
GW	Gigawatt
ICLS	Idu Cultural Literary Society
IFC	International Finance Corporation
IPSWaT	International Postgraduate Studies in Water Technologies
LSP	Lower Subansiri Project
MoEF	Ministry of Environment and Forestry
MW	Megawatt
NCIWRD	National Commission for Integrated Water Resource Development
NGO	Non-governmental organization
NHPC	National Hydroelectric Power Corporation
PMSBV	People Movement in Subansiri Brahmaputra Valley
RVC	Rural Volunteers Centre
TA	Technical Assistance
UN	United Nations
UNEP	United Nations Environment Programme
WCD	World Commission on Dams

1 Introduction

The World Commission on Dams (WCD) has often been cited as a prototypical example of a diverse multi-stakeholder platform engaged in the formulation of international norms and guidelines on the extremely controversial issue of dams. While a multi-stakeholder forum as WCD was expected to achieve a consensus among the various stakeholders, this is precisely what it has failed to do. Initial research on the WCD confirmed the failure to convert the consensus within the Commission into a broader stakeholder consensus (Dubash et al. 2001; Streck 2002). The Indian Ministry of Water Resources and such government parastatals as the National Hydro Power Corporation were among those who rejected the WCD's recommendations. The Government of India reaffirmed that it would continue its dam-building policy with an overall objective of constructing new storage capacity of around 25 billion cubic metres (BCM) in the next 25 years (GoI Ministry of Water Resources s. a.).

While the official response from the Government of India was outright rejection of the WCD recommendations, India has witnessed the ongoing formulation and reformulation of policy pertaining to the resettlement and rehabilitation of displaced people in recent times. In 2004 the Indian Government adopted the first national policy on resettlement, which was reformulated in 2007. In 1994 the first Environment Impact Assessment (EIA) Notification was introduced to ensure a statutory environmental governance system in project planning. This notification was revamped in 2006 through the enactment of a fresh EIA Notification.

This study seeks to establish whether past policy changes relating to various aspects of the social and environmental sustainability of dams in India have been the result of the gradual influence of global norms or whether they have been driven by domestic policy learning processes, or a judicious mix of the two. The aim is to determine whether global norms like those contained in the WCD recommendations have induced changes in resettlement and environment planning processes and to investigate pathways and norm carriers.

The study begins with the observation that the Government of India has rejected the WCD report which recommended for inclusive project planning and decision-making, a *right and risk* approach and the recognition and abatement of adverse environmental impacts. However, in recent years the Planning Commission² has been discussing inclusive development, while the Ministry of Environment and Forestry (MoEF) and the Ministry of Rural Development have drafted and redrafted policies on environmental impact assessment and resettlement, respectively. These recent developments raise the interesting question whether they are manifestations of the gradual diffusion of global norms among the policy elites in the country, outcomes of a domestic policy learning process through the involvement of domestic governmental and non-governmental actors well insulated from the effect of any international actors and activities or a combination of the two.

It is hypothesised that the extent to which global norms like the WCD's are diffused in the domestic policy arena and the extent to which dam decision-making takes account of socially and environmentally sustainable norms depends primarily on social mobilisation, on

2 The Planning Commission is an apex planning body.

a country's embeddedness in international institutions and on its dependence on multilateral and bilateral financial institutions or international technology transfer.

The study adopts a two-level approach: it analyses the nature of policy, regulatory changes and what triggers them and considers selected dam projects. It is assumed that development at national level shapes project planning and practices through the formulation of laws and policies, while it is the individual project where laws and policies actually manifest themselves and where actual changes to superior social and environmental standards become evident – and may even have spill-over effects. Norm evolution and implementation will be analysed in two policy fields: (i) the use of environmental impact assessment as a tool in the planning of and decision-making on dams, and (ii) expropriation and resettlement policies.

The study applies a qualitative research methodology in which cross-temporal process analysis and content analysis is undertaken at country level in respect of the environmental and resettlement issues. The case study approach is adopted at project level. The data for analysis were collected in unstructured interviews with key informants, focus group discussions and participatory observation. Secondary information, such as press briefings, documents and various published and unpublished governmental and non-governmental documents, have also been analysed.

2 The strategic role of dams for India's economic and social development

India ranks fourth in the world after China, the United States and Russia in terms of the number of its dams. There are more than 4,000 large dams, which play an important role in the country. In India most dams are constructed and maintained by the water resource departments of the state governments. Certain dams built on interstate rivers and providing water-related services to more than one state are managed by separate institutions. In recent years there has been a trend towards private-sector operation of hydropower dams.

While many large reservoirs in other parts of the world are specifically intended for water supply, many in India were built primarily for irrigation purposes. But as many cities and towns are running out of water, numerous dams originally built for irrigation are now supplying water for domestic consumption (Shah / Kumar 2008). The National Commission for Integrated Water Resources Development set up by the Government of India in 1999 has forecast that the total water requirement for domestic purposes in the country as a whole will rise from 43 BCM in 2010 to 62 BCM in 2025 and to 111 BCM in 2050, most of which will come from surface sources (NCIWRD 1999). According to Sengupta (2000), of the 4,291 dams in the country, 96 per cent will have irrigation as either their sole objective or at least one of their objectives, and only 4.2 per cent will have power generation as one of their objectives. While it is generally agreed that agricultural production has increased over the years, the actual contribution made by dam-reservoir-based projects to that increase has always been a matter of debate, all the more so as groundwater irrigation has grown in the country in the last three decades (Sengupta 2000).

Large dams also assume strategic importance in India's energy scenario. Large-scale hydropower is now a preferred power generation technology because of its low recurring costs, its lower carbon emissions compared to coal-based thermal power and its ability to

supply peak power (TERI 2006). Realising the importance of hydropower for the national energy scenario, the Government of India, in collaboration with the Central Electrical Authority, has initiated the preparation of preliminary feasibility studies for 162 new hydroelectric schemes totalling over 50,000 MW.³

At national level, the total hydropower potential is 148 GW, of which only 31 per cent has already been developed or is under construction. Arunachal Pradesh in the North-East of the country is to have the highest hydropower potential (GoI Central Electricity Authority 2008). Such states as Arunachal Pradesh and Sikkim in the North-East and Himachal Pradesh and Uttarakhand in the North are experiencing rapid development in the hydropower sector. The state governments have identified hydropower as an “avenue for revenue generation”.⁴ Numerous international agencies, such as the Asian Development Bank (ADB), the World Bank and the International Finance Corporation (IFC), have either conducted feasibility studies (the ADB on India as a whole, the World Bank on the North-East, both in 2007) of the possibility of harnessing hydropower in the country or have funded various governmental and private power development firms and parastatals.

3 The regulatory framework for dam-related decision-making

3.1 Dam planning and decision-making

Under India's Constitution water is a state responsibility, its overall governance therefore lying within the jurisdiction of the state governments. The Constitution also empowers the Union Parliament to govern interstate rivers and river valleys and arbitrate in disputes over interstate rivers (Iyer 2003). From an operational point of view the federal government plays a part in dam decision-making through its say in financial approval and statutory environmental and forest regulations. The decision-making process can be broken down into (i) the initial planning process, which is a state responsibility; (ii) statutory clearances, which are a federal responsibility and (iii) the post-clearance construction phase, which is again the state governments' responsibility.

(i) Initial planning process

The initial planning process begins with the preparation of a preliminary feasibility report designed to identify suitable locations for dam projects and largely based on desk research. In most cases, this report is drawn up by the Central Electricity Authority, a federal body. On the basis of this report the state government concerned signs a contract with the executing agency on the preparation of a Detailed Project Report. The Detailed Project Report is then sent to the federal government if it is to finance the project with unplanned allocations. Project planning then becomes a federal responsibility.

3 http://nhpcindia.com/English/Scripts/Hydro_Initiative.aspx, accessed 6 Aug. 2010.

4 Personal interview with a senior official in the power department in Sikkim.

(ii) Statutory clearances

Until the late 1970s, the Detailed Project Report would be sent to the Planning Commission at federal level, which undertook the techno-economic analysis before sanctioning any financial allocations for the project concerned. The Planning Commission then sends the Detailed Project Report to two federal agencies, namely the Central Electricity Authority and the Central Water Commission, for techno-economic analysis. Once the report is cleared and has been returned to the Planning Commission, the latter forwards it for investment clearance. The preliminary analysis is carried out by the Planning Commission's Project Appraisal and Management Division. Subsequently, the project is discussed by the Public Investment Board, an inter-ministerial body chaired by the federal Ministry of Finance. If the Public Investment Board clears the project, it is submitted to the Cabinet Committee of Economic Affairs for approval.

Since the late 1970s, the Planning Commission has required that projects obtain environmental clearance, which is issued by the Department of Environment. Since 1985, the federal MoEF having been formed and the Forest Conservation Act passed in 1980, the ministry has undertaken the statutory forest clearance and administrative environmental clearance. Since 1994, when the first environmental impact assessment notification was passed, environmental clearance has been a statutory requirement. Administratively, forest and environmental clearance is undertaken in parallel with the techno-economic and investment clearances, which can take place without a forest and environmental clearance. But to obtain clearance from the Cabinet Committee of Economic Affairs, the project has to have prior environment and forest clearance.

(iii) Post-clearance construction phase

Once the project has been cleared, and sometimes before all the clearances have been obtained, the state government signs an implementation agreement with the project developer to enable construction to proceed. During the construction phase the project developer is required to submit periodical (six-monthly) reports to the federal Ministry of Environment and Forestry on the status of compliance with environmental impact mitigation requirements.

Prior to the 1994 EIA notification, the entire dam decision-making process was an inter-departmental affair. Since 1994, the environmental clearance process has included public hearings, the only form of public participation in the process. Since the 1990s the public in general have tried to influence decision-making by both participating in the public hearing process and addressing the regulatory authorities.

3.2 Environmental Impact Assessment

The environment became an official part of public policy and project planning in India as a result of India's commitment to the United Nations Conference on Human Environment through its establishment of the National Committee on Environmental Planning and its subsequent acceptance of the committee's recommendations. At international level, the panel of experts set up by the United Nations (UN) Conference on Human Environment argued that the environment should be the boundary condition within which development

planning is undertaken. They were particularly critical in their comments on the environmental issues associated with dam (river valley) projects, whose impact would threaten their very purpose. In India the National Committee on Environmental Planning elaborated number of intervention to be taken up at the policy and organisation level. This committee through their recommendations mainstreamed the environment within Indian policy and planning⁵ (Sachs 1971; EPW Correspondent 1972a; EPW Correspondent 1972b; EPW Editorial 1987).

3.2.1 Environmental Impact Assessment over the years

The Environmental Impact Assessment started in India as early as the late 1970s as an administrative requirement for river valley projects mandated by the Planning Commission. In the early years it was undertaken by the Department of Science and Technology; from 1980 it was entrusted to the Department of Environment. In 1985 the Department of Environment and the Department of Forests were merged to form the Ministry of Environment and Forestry. Since then this Ministry has been entrusted with environmental clearance (Rangacheri et al. 2000).

Until 1994 EIA was carried out as an administrative requirement, but this changed when the first EIA notification was issued in 1994. EIA then had the status of subordinate legislation under the Environmental Protection Act, which had already been passed in 1986. Between 1994 and 2006 twelve amendments were made to the original EIA Notification 1994. These amendments gradually reduced the power of EIA Notification. More and more projects were exempted from EIA (Nandimath 2009). In 2006 a new EIA Notification was passed, and this was again amended in 2009. Table 1 shows the changes that have occurred over the last three decades.

In the early years, EIA was largely an interdepartmental process, with no provision for public participation. This period was often marked by delays in environmental clearance because the information sought by the Ministry of Environment and Forestry for evaluating the project would not match with the information supplied by the project authority. As the other parts of the project were all completed, the project had already reached the point of no return. Thus even if the regulatory authority was not satisfied with the environmental information provided by the project authority, the project would be given conditional clearance (Maudgal 1991; Mohan 1991).

5 The committee's terms of reference included reviewing policy and programmes with significant environmental implications, advising government, departments and industry on mitigation measures, reviewing existing environmental legislation, regulation and administration, proposing cost-effective solutions to environmental problems, ensuring coordination between the environment and economic policies, promoting research on environmental problems and establishing research facilities wherever possible, increasing public awareness and cooperating with the UN and other international agencies in environmental programmes with global concerns (EPW Correspondent 1972b).

Table 1: Changes in EIA regulations				
	1980–1994	1994	2006	2009ff.
Events	EIA becomes part of decision making on water resource projects	First EIA Notification	Second EIA Notification revoking the first	Draft EIA Notification currently being finalised
Main actors	Dept of Science and Technology and later Dept of Environment	Ministry of Environment and Forestry	Ministry of Environment and Forestry	Ministry of Environment and Forestry
Triggers for change	Required by Planning Commission, Govt of India	Environmental Protection Act 1986	Govindrajan Committee Report recommending reforms to attract foreign direct investment	Expert committee report of Dept of Economic Affairs, Ministry of Finance
Influence of international actors	Required by multi-lateral financial institutions		World Bank's Environmental Capacity Building TA Program	
Source: Author's own compilation				

After 1994, with EIA now subordinate legislation, amendments could be made by bypassing the parliament, which resulted in twelve amendments over a period of ten years. The subsequent amendments to the 1994 EIA Notification resulted in more and more projects being exempted from EIA (Nandimath 2009). But by then the environmental clearance process had already been identified by part of the government machinery and industry as an obstacle to the efficient implementation of projects. Civil society also criticised the environmental clearance process as not being conducive to sound environmental decision-making. This led to a couple of events after 2000.

First, the World Bank undertook specific activities with a view to strengthening the ministry's environmental clearance process as part of the ongoing Environmental Capacity Building Technical Assistance project. The aim of this project was to improve the quality of environmental information and strengthen the EIA process (World Bank 2004).

Secondly, a committee chaired by V. Govindrajan (hence the name Govindrajan Committee), the then secretary of industrial policy, was set up to suggest ways of attracting more foreign direct investment to India and to undertake necessary institutional reforms to this end (Nandimath 2009). The committee pointed to the long time taken by environmental clearance, which caused lengthy delays in projects. To ensure speedy environmental clearance as required by the environmental regulations, the Govindarajan Committee recommended that the MoEF should consider setting up a central data centre to serve as a one-stop source of reliable and validated environmental information for the preparation of Environmental Impact Assessments.

On 11 December 2002 the cabinet secretary announced that the Govindrajan Committee's report had been accepted for implementation by the Government of India (Mukherjee 2002). On 16 August 2004 a draft EIA Notification was posted on the MoEF's website and was followed by four rounds of consultations with federal ministries, state govern-

ments and civil society organisations (Nandimath 2009). However, many civil society organisations and people's organisations were not able to take part in this consultation process, and environmentalists also alleged that the final version of the Notification was discussed with the industrial associations at the behest of the Prime Minister's Office (Menon / Kohli 2008).

The draft drew around 500 responses from individuals, research institutes, industry, industrial associations, central government and state government ministries, social activists and non-governmental organisations. It came in for severe criticism from civil society organisations and activists on the ground that the re-engineering process and environmental decision-making had been guided by the desire for industrial growth rather than genuine concern for the environment (Saldanha et al. 2007). A civil society initiative also undertook political mobilisation by involving various parliamentarians across the political spectrum and members of special parliamentary committees. Finally, on 14 September 2006, the MoEF introduced the 2006 EIA Notification (Saldanha et al. 2007; Menon / Kohli 2007; 2008).

The 2006 EIA Notification struck a fine balance between the competing interests of different stakeholders, but in the end it did not satisfy anybody. Industry and part of the government continued to complain about delays, perceiving EIA as a hurdle to be surmounted before marathon project inception processes could be launched; the activists continued to complain about the EIA's lack of ability to ensure that sound environmental decisions were made.

On 10 November 2008 the Department of Economic Affairs of the Ministry of Finance formed an expert group to examine the patterns followed by statutory clearances for industrial and infrastructure projects in India. The expert group included representatives of the Infrastructure Leasing and Finance Corporation, the Infrastructure Development Finance Company, the India Infrastructure Finance Company, such industrial associations as the Associated Chambers of Commerce and Industry of India, the Confederation of Indian Industry and the Federation of Indian Chambers and Commerce and the Industry Advisor of the Planning Commission and the Joint Secretary to the Department of Industrial Policy and Promotion, Government of India. The Confederation of Indian Industry was represented by the Chief Executive Officer of the Indian section of the World Wildlife Fund for Nature.

The expert group focused on the ten federal government clearances, the first and most important of which concerned the environment. The report pointed out that, more often than not, the environmental and forest clearances resulted in inordinate delays, causing cost overruns and affecting project economics. The expert group recommended that the process of public hearing should be streamlined, that the public hearing process be separated from state pollution control boards and that a strict time limit be imposed for the issue of environmental clearance, after which the project would be *deemed to have been cleared* (GoI Ministry of Finance 2008).

3.2.2 The 1994 and 2006 EIA Notifications: comparing their contents

As the preceding section has shown, in the last one and half decades EIA has come under pressure from various actors with diverse and often contradictory interests. Civil society continued to argue for developmental activity with a minimum environmental impact, as espoused by the UN Convention on Human Environment in the early 1970s. The EIA was also a tool which could be used to oppose large water infrastructure projects on environmental grounds. However, the macroeconomic scenario prevailing in the country had changed, and under the policy of liberalisation the focus was very much on improving the economic parameters and encouraging private capital. What mattered under this regime was that steps were taken to ensure the rapid implementation of projects and to create conditions that led to minimum delays for project developers. The years after 2000 thus saw a streamlining of the EIA process, which came to be viewed more as a constraint than a tool for promoting developmental goals with a minimum environmental impact.

In the case of river valley and hydropower projects EIA continued to be obligatory, but provision was made for a certain category of projects to be exempted from the EIA requirement (Nandimath 2009; Menon / Kohli 2009). In terms of efficiency, the 2006 EIA Notification was an improvement on the 1994 EIA Notification in that it decentralised the process of granting environmental clearances by transferring some of the projects to the State Level Environment Impact Agency. But, in reality, most of the states could not form a State Level Environment Impact Agency, and the projects which had been transferred to the states reverted to the MoEF.

Ideally, EIA is an instrument that enables the course of action with the least environmental impact to be chosen from among the various sets of possible interventions. Thus, in one sense, EIA *per se* can be seen as promoting the comprehensive assessment of various options. The 1994 EIA Notification included a provision concerning *site clearance*, meaning that the site chosen for the project had first to be approved by the regulatory authority on the basis of first-level impact assessment and only after the project had obtained *site clearance* could a detailed EIA be undertaken as the basis for *environmental clearance*. Intuitively the *site clearance* process ensured some form of assessing options for project location.

The 2006 EIA Notification broke up the environmental clearance process into screening, scoping, public consultation and appraisal. This was a positive change in the sense that the scoping phase would then define the project developer's terms of reference, ensuring better structuring of the report, comprehensive environmental and social information and also a reduction in the frequency with which fresh information needed to be provided at the request of the assessment agency. In the 1994 EIA Notification the environment clearance was issued in stages. One of the stages was issuing of site clearance. Post site clearance the project would undertake detailed study for assessing environmental impacts. Through this site clearance provision some kind of option assessment was inbuilt in the system, in terms of choosing optimal sites for construction of the project in accordance with the environmental impact of the project. However, the 2006 EIA Notification does not require a comprehensive option assessment to be undertaken at any point of the environmental

Table 2: Comparison of the 1994 and 2006 EIA Notifications		
Issues	1994 EIA Notification	2006 EIA Notification
Coverage and scope	Subsequent amendments of the notification ensured that any new project costing less than US\$ 20 million or modernisation project costing less than US\$ 10 million would be exempted from EIA.	To fasten the clearance process, EIA decision-making was decentralised (certain categories of project were transferred to state level). Project developers were allowed to secure <i>land</i> prior to clearance without defining the land to be secured. ⁶
Comprehensive option assessment	Site clearance hints at option assessment on the basis not of technology but of location.	Site clearance and final clearance now replaced with four stages, namely screening, scoping, public consultation and appraisal. No comprehensive option assessment.
Decision-making	EIA reports to be assessed by impact assessment agency in consultation with an expert committee drawn from different subject domains and areas of interest, including resettlement experts and representatives of civil society.	In reality, expert appraisal committee has been gradually deprived of representatives of civil society and of well-known conservationist and environmental experts; they have been replaced with retired technocrats.
Public participation	Any interested person can participate in public hearings and submit oral / written comments. Later amendments exempted modernization projects from public hearings.	Public hearing process detailed, but participation narrowed down to only people affected, and hearing can take place even if very few people attend.
Compliance and monitoring	Empowered the expert committee to undertake site visits before, during and after clearance for physical verification of compliance report.	Empowers expert appraisal committee to undertake site visits before and during issue of clearance. Silent on post-clearance monitoring.
Sanctions	Project liable to cancellation if insufficient or inadequate data submitted more than once.	Penalties for providing false or incorrect information, but only if it is proved that the mistake is deliberate.
Source: Author's own compilation		

clearance process. Nor do the terms of reference defined during the scoping phase make any reference to the assessment of options or seek specific information on alternative options. Only the summary EIA document would mention about option assessment, but no more than lip service.

The 2006 EIA Notification was superior to the 1994 version in terms of details of the public hearing process, but it also narrows down the range of people able to attend public hearings. The 1994 Notification permitted anyone to participate, but in 2006 this was reduced to local people directly affected. The 2006 Notification is silent on the participation of civil society organisations in public hearings, in contrast to the 1994 Notification. As the participation of civil society organisations might have been a threat to project decision-

⁶ This provision is not clear to the author. Many policy documents in India suffer from such ambiguities, resulting in different interpretations, which can then be contested in court.

making if they were to raise unpleasant questions, their participation was restricted. The modernisation of irrigation projects was exempted from the EIA requirement, and public hearings could take place even without a quorum. All these changes were made on the pretext of *speeding up* the public hearing process.

The 2006 EIA Notification does not make post-clearance on-site monitoring mandatory. There have always been complaints of projects failing to comply with the environmental management plans mandated in environmental clearance certificates (Roy 2008). The 1994 EIA Notification had already provided for heavy sanctions. In the 2006 EIA Notification the sanctions were diluted in the sense that those which had automatically followed the provision of false information were now imposed at the discretion of the regulatory authority and then only if it was proved that the project authority had deliberately provided incorrect information.

3.3 Regulations for resettlement and rehabilitation, and practices

With independence in 1947, India entered what is often known as the *Nehruvian Era*, when the main focus was on technology-driven industrialisation, which was expected to trickle down to ensure social equity (Guha 2007). During this era the normative importance of dams was high within Indian polity (Klingensmith 2006). Dam projects were mostly seen as engineering projects and were implemented by engineers who enjoyed high esteem. These projects were often seen as tools for developing the otherwise backward sections of the population, with particular emphasis on tribal people (D'Monte 1984). The resettlement of displaced people and environmental impacts were not considered in the planning and decision-making process, which was dominated by the engineers (Iyer 2007; Mohanty 2005). Land for projects was requisitioned under the Land Acquisition Act 1894, which empowered the government to appropriate private land on the principle of *eminent domain* for *public purpose*. The Act and particularly the concepts of 'eminent domain' and 'public purpose' have been criticised over the years, but the overall structure of the Act has remained unchanged.

It is generally agreed that dams have displaced many people, especially in tribal areas, but the estimate of the total number displaced varies between 32 and 56 million (Rangacheri et al. 2000; Fernandes 2004; Roy 1999). The World Bank also sees India as one of the problem cases as far as development-induced displacement is concerned. According to some estimates, India accounted for more than 50 per cent of development-induced displacement in all World Bank projects between 1986 and 1993 (Fox / Brown 1998).

3.3.1 Towards a national resettlement policy

In the early decades after independence, when dams were equated with development and displacement was seen as an unavoidable cost that the country must pay for it, there was some institutional thinking and learning within the apparatus of the Government of India

Table 3: Early displacement and resettlement regulations				
Year	1967	1967	1985	1986
Actor	17-member committee set up by Ministry of Food, Agriculture, Community Development and Cooperation	T. N. Singh	Committee of Department of Welfare in Home Ministry	Standing Committee on Public Enterprises
Issue	Study on basic issues of Land Acquisition Act 1894	Compensation of families displaced by public projects (T. N. Singh Formula)	Rehabilitation of tribal population	Review of T. N. Singh Formula
Implication	Requisition of good agricultural land to be avoided and rehabilitation as moral compulsion of the state	One member of the family would be employed in the project	Rehabilitation policy binding on project developer	T. N. Singh Formula abandoned
Source: Based on Fernandes / Paranjpye 1997				

(Table 4). The earliest public policy governing displacement was the T. N. Singh Formula, which called for the employment in the project of one member of every family it displaced. Thus some form of employment-based compensation was already being considered as early as the 1960s. But, with time, the number of displaced families increased and projects became more technology-intensive. With the decline in industry's absorption capacity, the T. N. Singh Formula was abandoned in 1986 (Fernandes / Paranjpye 1997).

Iyer (2007, 3103), a senior government official in the 1980s, observed that:

"Sometime during the 1980s thinking began in the Government of India on the formulation of a policy to govern all future cases of displacement. (...) The subject was discussed many times in the interministerial meetings at the level of secretaries, and at meetings of groups of ministers."

The late 1980s and the 1990s were also a time of considerable controversy in India over the Narmada projects, and particularly the Sardar Sarovar Project, which subsequently became international. In the late 1970s the Narmada Water Disputes Tribunal, a quasi-judicial body formed under the Inter-State Water Disputes Act 1960, had decided that anyone who could prove ownership of agricultural land in the submerged area should receive land in compensation. This decision by the Narmada Water Disputes Tribunal was an important landmark for *land-for-land* compensation in India. But it concerned only land-owners. The people who were dependent on land without possessing the legal recognised titles, or were dependent on common property resources or on providing service to the rural population for their livelihoods were not covered by the *land-for-land* compensation principle.

These drawbacks and the faulty implementation of the resettlement policies in various states in which the Narmada project was located led to the formation of a national and subsequently transnational civil society movement, which eventually forced the withdrawal of the World Bank, which was funding the Sardar Sarovar. The Government of India and the state government of Gujarat went ahead with the financing and construction

of the dam. The transnational and national campaign failed to stop the dam, and the reforms affecting this project also had little spill-over effects on other projects. However, there were two achievements worthy of note. First, the Narmada controversy resulted in the development of a civil society network, which became increasingly broad, powerful and critical of dam construction in India in the 1980s and 1990s. Second, it sparked a critical debate on how future dams should be built in the country and on how past dam development had impacted on different sections of the population.⁷

By the late 1980s civil society in India had organised itself and voiced its demand for a proper resettlement policy. It formed a National Working Group consisting of researchers, academics, social activists, individuals and people affected by the project and drafted a prototype policy known as the *National Policy on Developmental Resettlement of Project-Affected People*. This became the basic policy for the civil society network's subsequent engagement with the government in the early and mid 1990s, when different ministries of the Government of India drafted a series of resettlement policies, which never actually materialised into a practical policy. Civil society engaged with the ministries in discussion on most of these draft policies and put forward their own, which was based on the principles espoused in the *National Policy on Developmental Resettlement of Project-Affected People* (Fernandes 2008, 5–6).

In 1998, the Ministry of Rural Areas and Employment in the Government of India submitted another draft policy entitled National Policy Packages and Guidelines for Resettlement and Rehabilitation and, in the same year, a draft amendment to the Land Acquisition Act 1894 known as the Land Acquisition Bill was also prepared. In a bid to reform both the policy and the Act governing land appropriation the civil society alliance engaged with the government again.

Table 4: Evolution of a national resettlement and rehabilitation policy					
Year	1994–95	1995	1998	2004	2007
Title	Draft National Policy on Resettlement and Rehabilitation	Draft National Policy on People Affected by Reservoir Project	Draft National Policy on Resettlement and Rehabilitation	National Policy on Resettlement and Rehabilitation	National Resettlement and Rehabilitation Policy
Leading actor	Ministry of Rural Development	Ministry of Water Resources	Ministry of Rural Areas and Employment	Ministry of Rural Development	Ministry of Rural Development
Other influential actors	Civil society alliance at national level		Civil society alliance at national level		National Development Council, civil society alliance
International actors	Multilateral financial institutions		Multilateral financial institutions		
Source: Author's own compilation based on Fernandes / Paranjpye 1997 and Fernandes 2008					

7 For more information on Narmada, see Wood 2007; Dwivedi 2006 and Khagram 2004.

According to Fernandes (2008, 6):

“A meeting convened by the Minister for Rural Development in January 1999 ended with an unwritten understanding that a policy would be prepared first in consultation with civil society groups and that a law would then be drafted based on the principles it enunciated. However, the Union Cabinet reportedly rejected the policy in October 1999 and approved Land Acquisition Bill 1998 that attempted to reduce the already limited rights of the DP/PAPs (Displaced People /Project Affected People, added by author) under the Land Acquisition Act. The Government fell shortly after it.”

By this time the global process of the formation and then operation of the World Commission on Dams had begun. One of the commissioners on the WCD was a leading civil society activist and the leader of the Narmada movement. Civil society at both domestic and international level was well organised and articulate and was able to contribute its learning and decisions to the WCD.⁸ The WCD report published in 2000 was rejected outright by the Ministry of Water Resources in the Government of India. The rejection was so strongly worded that, to some extent, it temporarily derailed the mutual learning process, the progressive interaction and the gradual progress achieved in the various drafts of the National Rehabilitation and Resettlement Policies in the 1990s. To quote Iyer (2007, 3104):

“Two decades of slow emergence of enlightened thinking were washed out in the flood of rhetoric against what was perceived as an international conspiracy to prevent India from developing.”

In 2003, however, the Ministry of Rural Development put forward the first National Policy on Resettlement and Rehabilitation for Project-Affected Families, which was notified in 2004. This policy relaunched civil society activism, and there was considerable interaction between civil society and parts of the government machinery. Another round of intense debate thus followed, and many seminars and conferences were held (Cernea 2006; Iyer 2007). This period of debates, discussions, conferences, workshops and seminars resulted in the National Rehabilitation and Resettlement Policy of 2007.

3.3.2 National Rehabilitation and Resettlement Policy 2007: analysis of its contents

One of the main aims of the National Rehabilitation and Resettlement Policy 2007 was to minimise displacement by specifying various causes to be avoided when the location of a project was being chosen. It also considers comprehensive option assessment, calling on state governments to undertake comprehensive site and technology assessment before deciding on a project. This contrasts sharply with the old draft policies, in which minimising displacement was either not mentioned or was ill-defined. The policy also referred to the need for social impact assessment, which was missing from the earlier draft policies and which civil society had always argued for. The national policy is based on such principles as participation, sustained income generation and improvement of the living standards of the displaced population. It provides for the preparation of resettlement action plans in consultation with village institutions. To ensure sustained income generation, the policy re-

8 For international mobilisation, see McCully 2001 and Khagram 2004; for domestic social mobilisation, see Fernandes 2008 and Iyer 2007.

quires the affected population to be offered shares in the project in partial compensation to ensure ownership of the project for which they have had to sacrifice their assets (Table 5).

Although the National Rehabilitation and Resettlement Policy 2007 contained numerous positive provisions, it did not make them binding on the project developer or the government. Most of the above provisions were subject to the discretion of the government or project developer concerned, the wording used including such terms as “may”, “to the extent possible” or “if government land is available in the resettlement area”. Singh (2006, 5308) argues that: “Perhaps such an approach allows greater flexibility, however past experience conclusively establishes that such flexibility is invariably used against the interests of the displaced people” Similarly, although it mentions social impact assessment, it fails to explain how it will be carried out, by whom, at what stage of the project cycle and what impact it will have in project decision-making.

Table 5: National Rehabilitation and Resettlement Policy 2007	
Issue	National Rehabilitation and Resettlement Policy 2007
Minimising displacement	Makes pragmatic suggestions, e.g. acquisition of certain categories of land should be avoided, but left to the discretion of the project authority.
Comprehensive option assessment	Calls for option assessment based on alternative sites and choice of technology, but subject to discretion of the government concerned. No implementation structure proposed.
Pattern of compensation	Better standard of living and sustained income for affected people through shares in companies and land compensation at replacement cost.
Public participation	Resettlement action plan in consultation with people and village governance institutions, but no mention of the nature of consultation. Whether the affected people are to be informed or options and acceptance sought from them is not clear.
Social impact assessment	Social impact assessment to be carried out, and mitigation plans mentioned, but silence on how the assessment would take place and on its role in project decision-making.
Source: Author's own compilation	

Although the Government of India rejected the WCD report, a critical examination of its contents reveals that many of its provisions have found their way into national policy. At the same time, that policy has struck a fine balance between competing interests. Thus the implementation of the positive provisions has either been left with some loose ends or has been left to the discretion of the relevant governmental institutions or the project developer.

4 Dam decision-making in practice: the Allain Duhangan, Lower Subansiri and Dibang Multipurpose Dam Projects

This section investigates individual projects in order to arrive at an understanding of the process by which superior social and environmental standards become part of project

planning and practice. The case studies were chosen purposely to see whether superior norms, such as one recommended by the World Commission on Dams, have actually had any impact on various actors at project level. It was therefore decided to focus on those projects where the largest part of the planning, clearance and construction of a hydropower project has taken place since 2000. Three hydropower projects, namely the Allain Duhan-gan Hydropower Project in Himachal Pradesh, the Lower Subansiri Project on the Assam-Arunachal Pradesh border and the Dibang Multipurpose Project in Arunachal Pradesh were selected for the case studies. The projects differ with regard to (i) the presence or absence of international funding (ii) private or public project development agency and (iii) the current status of the project (planning stage / clearance stage / construction stage).

Figure 1: Map of India with dam project sites



Source: <http://www.mapsofindia.com/free-download/free-download-india-political-maps.html>, accessed 28 July 2010

Table 6: The dam projects investigated at a glance			
Name of the project	Allain Duhangan	Lower Subansiri	Dibang Multipurpose
Project developer	Private	Public	Public
Current status	Advanced stage of construction	Construction stage	Clearance stage
Major project purpose	Hydropower	Hydropower	Hydropower and flood control
Capacity (MW)	192	2,000	3,000
International actors	International Finance Corporation	./.	./.
Nature of the project	Run-of-river hydro-plant	Run-of-river hydro-plant	Reservoir
Dam height (m)	14.5	130	288
Reservoir area (km²)	0.02	33.5	40.09
Environmental Impact Assessment	EIA study repeated in 2003	EIA study carried out in 2001	EIA study carried out in 2007
Major issue of contention	Downstream impact	Downstream impact	Dam-induced displacement and downstream impact
Source: Author's own compilation			

4.1 The Allain Duhangan Dam Project

The Allain Duhangan project is being developed by Allain Duhangan Hydro Power Limited. Stratkraft Norfund Power Limited of Norway and the International Finance Corporation have equity and debt participation in the project. By 2003 the project had obtained techno-economic clearance from the Central Electricity Authority and forest and environmental clearances from the Ministry of Environment and Forestry. The project authority also possessed letters from the village governance institutions (*panchayat*), giving their consent to the project. The project was then submitted to the IFC for funding in 2003. This was the first time since the Narmada debacle that the World Bank Group (the IFC being its private wing) had been called upon to finance a dam-reservoir project.

When the EIA report on the project appeared on the IFC's website as part of its project disclosure policy, various civil society organisations complained to the IFC that the EIA was not available in their local language. This was a violation of the IFC's own mandate. The IFC translated the report and uploaded it on to its website. On the basis of these documents the non-governmental organisations discussed with the people the facts given in the EIA report and also told them about the implications of the project. This was followed by a series of letters sent to the World Bank and the IFC both by the local populace and by the civil society organisations claiming that the EIA report was faulty and that there had been no involvement of local people in its preparation. This delayed the IFC Board meeting held to take a decision on the Allain Duhangan project. A meeting between the project developer, IFC staff and representatives of the local community subsequently took place. It involved negotiation and persuasion. But both tactics failed, and the local people again wrote to IFC headquarters to describe the course taken by the meeting. The

civil society organisations who were leading the local movement then forwarded a detailed critique of the EIA report and demanded that a fresh EIA be undertaken. The IFC agreed to this suggestion and subsequently prepared an addendum to the existing EIA report (South Asia Network of Dams Rivers and People, personal communication June 2009; Compliance Advisor Ombudsman 2004).

By now the civil society organisations were demanding that the public hearing be arranged by an independent panel mutually appointed by the campaigning parties. They also demanded that the decision taken at the public hearing be binding on the project developer. The IFC agreed only to the former demand and set up an independent panel to conduct a fresh public hearing. A team from the Kalpvriksh Environmental Action Group analysed the EIA report and undertook a pre-hearing exercise before the actual public hearing was held. This ensured that local people understood the report and were also able to articulate informed comments to the project developer. In the process the Kalpvriksh team also shared their analysis with the local people and independently sent their response to the World Bank. According to Kalpvriksh, this approach was commendable, since the people attending most public hearings in the country knew little about the project and were also largely unaware of their rights and responsibilities at public hearings (Kalpvriksh, personal communication June 2009).

Subsequently, the project developer agreed to compensate local people for the loss of riparian rights where the quality and quantity of surface and ground water were affected by the implementation of the project by making necessary alternative arrangements to meet local water demand. The project developer and the villagers of Prini signed a memorandum of understanding specifying that the cash compensation for the land requisitioned for the project would be paid at higher than the market rate; that one member of the landowner's family would be offered employment; that the hospital constructed during the project would also act as the primary health centre for the village of Prini and that the company would provide pastureland for the people of the villages of Hamta and Chalet when constructing the approach road to the Allain Barrage. At the same meeting the company also agreed with the Prini village governance institution that, during the construction and subsequent operation of the project, the traditional source of irrigation water in the villages would not be tampered with and that a grievance cell would be set up at project level (ADHPL 2004). But besides Prini, there was another village downstream that was affected by the project, namely Jagatsukh.

The Allain Duhangan Project has affected Jagatsukh and Prini in different ways. As the powerhouse and office complex for the project had to be built in Prini, a large area of land was requisitioned there. Land in Jagatsukh was taken to build the approach road to the Duhangan Weir. But the greatest loss for Jagatsukh was access to the River Duhangan, which was diverted into the River Allain by the weir, upstream from the village. According to the villagers in Jagatsukh, much of their livelihood was dependent on the Duhangan and its tributaries. Agriculture in Jagatsukh consisted predominantly of apple orchards (in the uplands) and rice (flat lowlands), the water for which had been obtained from the River Duhangan along traditional irrigation channels. In addition, the source of drinking water in Jagatsukh was a spring, which the people feared would dry up with the construction and tunnelling upstream. They therefore opposed the project, and the Jagatsukh village assembly unanimously passed a resolution rejecting the no-objection certificate and opposing the project (Correspondent 2004).

On 15 September 2004 local villagers wrote to the IFC's Office of the Compliance Advisor Ombudsman, criticising the proposed IFC funding of the project. They complained that the EIA documents were flawed, that the public hearing had been based on faulty EIA reports and that people could not, in such circumstances, decide whether the project should go ahead (International Rivers 2004a, b). Despite the protest at project level and although one of the independent public hearing regulators wrote to the IFC objecting to the approval of the project (International Rivers 2004c), the project was submitted to the IFC Board and approved on 12 October 2004. Thus, the resistance to the project ended prior to its approval.

The project was launched, but attempts to influence the decision-making continued. By this time the movement was led by the village of Jagatsukh, which had meanwhile formed a community-based organisation known as Dhomiya Ganga Sangharsh Samiti. The villagers filed a lawsuit with the High Court of Himachal Pradesh, complaining that the project affected their basic right to survival, since it would threaten the availability of water, the absence of which would threaten their lives and livelihoods. The court appointed a high-powered committee to see if the minimum downstream water release from the project was enough for the village of Jagatsukh. The committee appointed by the court calculated the water required by Jagatsukh for drinking and domestic purposes and for consumption by livestock. At its request, the court appointed experts to calculate the water needed for irrigation purposes. The project had meanwhile promised to release 150 lit/sec. downstream water flows, whereas Jagatsukh required 350 lit/sec.

The agitation by the villagers of Jagatsukh continued and even went so far as to prevent the project developer's employees from working. This time the project developer filed a lawsuit against the agitators and asked the court to provide sufficient security for the project to continue. The court agreed, and works on the project resumed.

Meanwhile, the IFC's Office of the Compliance Advisor Ombudsman made periodic visits to the site in an attempt to resolve the differences between the two parties through dialogue. According to the 2006 report of the Office of the Compliance Advisor Ombudsman, the onset of work and the award of contracts to local villagers in the area restored something like peace between the two groups. In 2004 and 2005 a series of meetings were held in Prini and Jagatsukh in the presence of the local administration to enable the villagers and the project developer to negotiate. This resulted in a further increase in the cash compensation for the requisitioned land. However, some people in Jagatsukh were still demanding that the project be stopped. During their various visits to the area the representatives of the Office of the Compliance Advisor Ombudsman ensured that the grievance redressal mechanism had begun to function and also recommended a formal channel of communication between the opposing groups with a view to developing mutual trust.

In February 2007 a committee was formed by the state government to consider whether the forest clearance had been violated by the project authority. The committee reported that there has been '*continuous and unabated violations of* various environmental and forest Acts (emphasis quoted from the Civil Writ Petition 2007 noted by Himachal Pradesh High Court). It was alleged in the report that all this had happened despite repeated notices / directions from the Forest Department and State Pollution Control Board. As a result of the violations of forest rules the project authority was fined 59.5 million rupees by the Forest Department for felling or damaging trees, dumping waste, diverting

forest land to other uses without the necessary approval of the MoEF and causing damage to forests.

On the basis of this report and the show-cause notice issued by the state government, Dhomya Ganga Sangharsh Samiti filed another lawsuit in the Himachal Pradesh High Court and obtained a temporary injunction on the project. The project developer immediately appealed to the High Court against the injunction. On 26 September 2007 the High Court stated in its interim order that, if it was proved that the project developer was no longer violating the rules and was complying with the directions issued by the state government, the injunction could be lifted in view of the importance of the project. The project developer had told the court that the project was scheduled for completion in June 2008 and that a stay order would result in a delay. The court therefore set up another committee of experts, comprising representatives of the district administration and senior officials of the Forest Department, Public Works Department, State Electricity Board, Department of Environment and Pollution Control Board to decide on the injunction. This committee was asked to undertake a site visit within three days and to draw up a report within a week. It was empowered by the court to lift the injunction if it saw fit. In its report of 19 November 2007 the committee of experts gave the project developer clearance to continue the work on the Allain side of the project and on the Duhangan side until a certain point, beyond which that work was to be restricted to environmental and forest stabilisation, such as the stabilisation of slopes and the development of dumping sites and pastureland. This decision proved that violations of the forest clearance provisions had continued in some areas.

Currently, the project is still under construction, the cost has escalated, and the company has had to ask for an increase in the IFC loan, which has been granted. Part of the project was scheduled to be operational in 2009, but it has been delayed. Meanwhile, the agitators have appealed against the court order and called for judicial arbitration.

4.2 The Lower Subansiri Dam Project

The Lower Subansiri Project is located on the River Subansiri, one of the major tributaries of the River Brahmaputra. As early as April 1983, the Brahmaputra Board, a river basin agency responsible to the Ministry of Water Resources, undertook a detailed survey and investigation work for a 4,800 MW Subansiri Dam. However, the project could not be implemented because of the project of such a magnitude was supposed to submerge a large area in the state of Arunachal Pradesh. The Brahmaputra Board then carried out a fresh survey and narrowed the choice down to three sites for three projects on the River Subansiri. One of the dam sites was located right on the border between Arunachal Pradesh and Assam. The dam, powerhouse and the storage reservoir were to remain in Arunachal Pradesh, while the office and colony would be sited in Assam, the lower riparian state. In 1998–1999 the Brahmaputra Board began drawing up the detailed project report on the Subansiri Lower Dam, with completion scheduled for 2000. It was not completed on time, and in 2000 the Ministry of Water Resources transferred the project to the National Hydroelectric Power Corporation (NHPC), an undertaking run by the Government of India (NHPC 2002). This was one of the first large dam projects anywhere in the north-eastern region of the country, whose power potential had no previously been harnessed, but which had nevertheless always being regarded as the *powerhouse* of India.

By mid-2001 the EIA report on the Lower Subansiri Project was ready, and the public hearing was due to take place in September. In line with the 1994 provision the summary EIA report was made available to the general public. On the basis of the summary report the Kalpvriksh Environmental Action Group, a national civil society organisation, criticised the EIA report and demanded tough action against the project developer. The criticism was that, though the project was yet to receive necessary forest and environmental clearance, the project developer had proceeded with the construction of the project housing and so violated the Forest Conservation Act 1980 and the Environmental Protection Act 1986. A further cause of the criticism was that the project area was a high conservation area recognised by the Wildlife Institute of India and Birdlife International. The EIA summary report was also criticised for undermining the environmental importance of the project area and for data discrepancies.

In September 2001 the public hearing on the project took place. This was one of the first large hydropower projects in the North East, and the people in the area were also unfamiliar with the public hearing process. The hearing was later criticised by Aranyak, a local-level environmental non-governmental organization represented at the hearing, for procedural violations, unsatisfactory answers and unanswered questions (Vaghlikar / Ahmed 2003). The proposal was, however, submitted to the expert appraisal committee, which gave environmental clearance in November 2002. Meanwhile, representatives of Aranyak approached the Supreme Court alleging that, as part of the Tale Valley Wildlife Sanctuary was being flooded, the project required the prior approval of the Supreme Court, which appointed the Indian Board for Wildlife. Studies were subsequently carried out and presented to the Indian Board for Wildlife in May 2003. The project was cleared subject to stringent conditions, one of which was that no further projects upstream from the Lower Subansiri Project would be allowed in the future and that the entire catchment area of the Subansiri Dam would be declared a national park. The project developer was also ordered to pay the entire cost of resettling and rehabilitating the people displaced from the national park (Chatradhar 2009).

On 15 June 2003 the first local-level mobilisation took place in the form of a mass meeting organised by the All Mishing Student Union in the Gogamukh project area. The meeting discussed the project and its EIA report in the context of the report of the World Commission on Dams. An appeal was made for a second public hearing, given that people had not been aware of the one held in 2001, since it had been announced in an English-language newspaper that was not circulated in the area. Nor had people been properly informed in the EIA report of the downstream impact of the project or of the failure of the project to comply with the requirements laid down by the World Commission on Dams. Those attending the meeting demanded the abandonment of the Lower Subansiri Project in its current form, given the geological fragility of the Eastern Himalayas, calling instead for the construction of a smaller, eco-friendly dam (Menon / Kohli 2005, 201). Copies of the minutes of this meeting were sent to the regulatory authority and to the project developer. Despite this Lower Subansiri Project received environmental clearance from the MoEF on 16 July 2003 subject to certain conditions.

The conditional environmental clearance is difficult to interpret. While it gives the project environmental clearance and permits work to go ahead, it also calls on the project developer to undertake studies of the impact of the project on aquatic fauna, biodiversity and habitat conservation falling within the project submerged area (Chatradhar 2009). Ideally,

these studies should have formed part of the EIA report, on the basis of which the project was to have been appraised. But by giving clearance and at the same time asking for more studies, the MoEF seemed to be indicating that, whatever happened, the project should and would proceed, the studies being undertaken more to legitimise environmental clearance. Thus such studies are not just collections of scientific facts but political tools used for instrumental purposes.

By September 2004 a local community-based institution in the area downstream from the Lower Subansiri Project, the People's Movement for Subansiri Brahmaputra Valley (PMSBV) was already vehemently opposing the project. Along with other local civil society organizations, it arranged a meeting in Arunachal Pradesh, at which both the Assam and Arunachal Pradesh State Pollution Control Boards and the project developer were criticised for their unwillingness to address the concerns of the downstream population (Chatradhar 2009).

While the project developer was going ahead with the construction, the agitation at local level was gaining ground. The PMSBV was also becoming more popular among the local masses and broadening its base by forging relations with other local-level issue-based or mass-based organisations. At national level such civil society organisations as Kalpvriksh and the South Asia Network of Dams, Rivers and People were always present, and there were numerous exchanges of information between these two levels. The PMSBV also linked up with the International Rivers Network (PMSBV, personal communication, April and May 2009).

On International Rivers Day in March 2005 a mass protest against the Lower Subansiri Project was organised by the various local groups on the banks of the River Subansiri, and a mass petition was submitted to the Life Insurance Corporation of India, which had meanwhile signed a Memorandum of Understanding agreeing to finance the project. In October 2005 a mass rally of 5,000 people was held under the PMSBV banner to protest against the LSP. Memorandums were sent to the Prime Minister of India, the MoEF, the Chief Minister of Assam and the Chief Secretary to the Government of Arunachal Pradesh, and it was demanded that the construction of the Lower Subansiri Project (LSP) should be suspended until a scientific study report had been published on the possible downstream impacts of the project and a public consensus in favour of the project had been obtained in the project areas (Chatradhar 2009). This was the first time that it had been demanded at local level that a project should be halted until a detailed downstream impact study had been conducted. In the following years this issue of a downstream study was to shape the movement protesting against the LSP (Chatradhar 2009).

In late 2006/early 2007, the protest organisation changed its strategy and involved the All Assam Student Union (AASU). The AASU is the most powerful student organisation not only in Assam but in the entire north-eastern region. As information critical of the LSP started flowing from the AASU's platform, more people suddenly began to take an interest. Various government stakeholders and the project developer, perhaps for the first time, started to take the views expressed against the project seriously (Partho Das, personal communication, 20 April 2009). While the AASU was not willing directly to oppose the project, it also did not want to ignore the mass appeal against the project. This resulted in a middle course being taken. On 8 December 2006 a tripartite meeting of the government of Assam, the project developer and AASU was held. This meeting proved to be a watershed

in the events surrounding the Lower Subansiri Project. It was decided that a specialist committee, comprising scientists from three prominent research institutions in the area, would be set up to study the entire downstream impact of the LSP (AASU 2008, 102–103). However, there was a difference of opinion among those attending the meeting over the outcome of the study and its bearing on the project decision-making. In its communications with various authorities the AASU maintained that it had been decided at the meeting that the main work on the dam would not begin until the study was completed and gave the project developer a clean sheet (AASU 2008, 102–103). The project developer, on the other hand, claimed that no such decision, to stop work on the project work until the impact assessment study had been completed, was taken at the meeting (AASU 2008, 108).

While AASU involvement immediately brought a change in December 2006, things again drifted, one and a half years elapsing before the study began. In the meantime the construction of the dam continued. Many of the organisations agitating against the project grew increasingly impatient because they could sense a deliberate strategy behind the delay in the study and the continuation of construction until the project reached the point of no return and became a *fait accompli*. Thus pressure was also mounting on the AASU, which then wrote letters to the Prime Minister, the Parliamentary Standing Committee and the project developer calling for a halt to the work until the study was completed and threatening agitation in the alternative (AASU 2008, 102–103). The study finally began in mid-2008. Now as the study is being carried out and work on the project continues, the protestors are preparing for another showdown when the results are published.

4.3 The Dibang Multipurpose Project

The Dibang Multipurpose Project is a 3,000 MW project which includes the construction of a concrete gravity dam 288 metres high and a reservoir with an area of 40.09 km². Once completed, the dam will be the highest in India. The project is located in the lower Dibang Valley district in Arunachal Pradesh. The submergence area is around 938 hectares, which encompass five villages and around 72 households. Some 14 families have been classified as partially affected: they will lose about 557 hectares of land (National Productivity Council s. a.).

According to the All Idu Mishmi Student Union (AIMSU), the project developer has been engaged in various survey-related activities since 2002. In April 2007 the Arunachal Pradesh Pollution Control Board announced in the local newspapers that public hearings would be held in Roing and Arzoo. The AIMSU and the Idu Cultural and Literary Society (ICLS), two local organisations in the project areas, requested the State Pollution Control Board to defer the public hearing dates. The public hearings were then postponed until June/July 2007. These two organisations began looking for help outside the state and in other areas where people were more aware of dam-related activities and could give these organisations some guidance. Subsequently, the AIMSU and ICLS came into contact with Kalpvriksh, the Rural Volunteers Centre, Akajan, and the National Forum of Forest People and Forest Workers, New Delhi. These organisations were already active in the North East in general and more especially in the Lower Subansiri Project area. Their aim was to make people aware of various complexities associated with dam projects. As public awareness increased, they informed the Pollution Control Board that more time was

needed to study and understand the EIA report. The public hearings were therefore delayed until the last week of November 2007.

In the meantime the AIMSU and ICLS launched a public awareness campaign in collaboration with Kalpvriksh and the Legal Initiative for Forest and Environment, New Delhi. By the end of this campaign it was generally held that large dams and large hydro projects were not in the interests of the community and their construction would be opposed. However, the local political leaders in the project area wanted to see the project begun quickly and so initiated a countermovement with a view to creating a constituency in favour of the dams in the area. This led to the establishment of another institution, the Dibang Basin Welfare Committee, which organised public meetings to facilitate the forthcoming public hearings, informing the population of the advantages of such mega-projects.

The AIMSU and its partner organisations opposed the project for a number of reasons. First, it was feared that the Idu Mishmi tribe, its members already few in number in the country, would be badly affected by the projects. The agitating organisations argued that the public interest clause should not override the interests of the local people, the Idu Mishmi tribe. The number of people displaced in absolute terms is much smaller than in some of the other mega-projects, such as the Tehri Hydro Electricity Project in Uttaranchal and the Sardar Sarovar Project in Gujarat. But the Idu Mishmi population is already very small, and the project would displace around 8 per cent of the total number of Idu Mishmi people. The second argument against the project concerns the territoriality of the state's tribal population. If the displaced Idu Mishmi community was resettled in the territory of other tribes, there would be competition for common property resources. This would result in intense intertribal conflicts. Third, the AIMSU has also been arguing against the popular notion that the Dibang Multipurpose Project will usher in development in the hitherto remote and underdeveloped area by providing jobs, awarding contracts and increasing business among the local people. According to the AIMSU, only the "*creamy layer*" within the community will be awarded, at best, with some insignificant contracts, while the rest of the people will be seen as a source of unskilled labour for the construction site and of domestic help in the houses of the employees of the project developers (AIMSU, personal communication 2009).

The potential downstream impact attributable to the geological features of the project area has also led the movement to assume a spatial pattern in which the AIMSU, which is focusing more on impacts in the submergence area, has collaborated with downstream community-based organisations like Sodiya Mahakuma Suraksha Samiti and Saikhowa Suraksha Samiti. Both these organisations are based in the downstream state of Assam and concentrate more on the downstream impact. The people of Assam were aware that a mega-project was about to be implemented in the Lower Dibang Valley district of Arunachal Pradesh, but they did not have any more information. AIMSU started sharing information on the project with downstream organisations, and gradually the people of the downstream town of Sodiya became aware of the project (Sodiya Mahakuma Suraksha Samiti, personal communication 2009). This process was also aided by the PMSBV, which was then leading the movement concerned about the downstream impact of the Lower Subansiri Project (PMSBV, personal communication 2009).

To understand the role played by the downstream non-governmental organisations, it will be important to consider the broader context of the history of the town of Sodiya. Sodiya

was once a prosperous town, but was devastated in 1950 by an earthquake and the ensuing floods. The people therefore remember how destructive floods can be. These concerns were rekindled in 2004 and 2008 by news from other parts of Assam, where flooding was attributed to dams upstream in Bhutan and Arunachal Pradesh. Thus, having accessed concrete information from the AIMSU about the proposed Dibang Multipurpose Project, the downstream organisations initiated active opposition to the project. In this way the Dibang has assumed a unique pattern, with civil society organisations in the upstream state of Arunachal Pradesh and the downstream state of Assam jointly engaged in agitation.

The first public hearing finally took place on 29 January 2008. It continued for 12 hours. Afterwards the people were sure that the project would be scrapped, since most of those attending the hearing opposed it. The second public hearing was meant to be held on 31 January 2008. But the people then discovered that the Prime Minister of India was coming to Arunachal Pradesh to lay the foundation stone for the project on that very day. This attracted considerable criticism from the project area and outside (Veracity, 10 February 2008, Ghosh 2008) and hardened the position adopted by the agitating organisations. They felt that the public hearing had been no more than a procedural requirement, not a genuine process of public consultation. It was thus decided that there was no need to hold token public hearings, and a second public hearing was opposed. Repeated efforts were subsequently made by the state pollution control board and the project developer to hold the public hearing, but the agitating organisations, with the support of the local population, would not allow it to take place.

The sustained mass movement of local civil society organisations opposing the project and preventing the public hearing from taking place in Arunachal Pradesh and Assam has not only delayed the process of environmental clearance, but with time elicited some favourable responses from the MoEF's Expert Appraisal Committee. The Expert Appraisal Committee instructed the project authority to reapply for the Terms of Reference of the EIA study because the project could not be cleared by 13 September 2008⁹ and also declared that fresh public hearings needed to be held in both the affected districts. The public hearing held in Roing in January 2008, which was widely criticised by the agitating civil society organisation, became ineffective. Apart from this, the new terms of reference for the EIA study issued by the EAC in July 2009 met many of the demands voiced by the agitating organisations.

5 Findings and conclusion

Decision-making on dams in India involves multiple actors at various stages, each with his specific functions and responsibilities. Thus it is more akin to a polycentric decision-

9 The Dibang Multipurpose Project had a site clearance based on the EIA Notification 1994. When the Government of India produced the 2006 EIA Notification, it set a period of two years (until September 2008) within which the project would be appraised under the 1994 EIA Notification if submitted to the MoEF. As the sustained local community agitation prevented the second obligatory public hearing in the Dibang Valley from being held by September 2008, it was decided at the EAC's 27th meeting in June 2009 that the Dibang Project would have to reapply for the EIA study under the 2006 EIA Notification and also to hold fresh public hearings in the two districts. Thus the public hearing in the Lower Dibang Valley district was considered null and void under the new directions.

making setting where the authorities at the respective levels are endowed with certain powers. The role of public participation is formally limited in the overall decision-making but, because the process is long and involves many actors at various levels, the general public and civil society organisations are allowed to approach and try to influence them. In recent years civil society organisations have influenced decision-making by directly accessing the governmental or government-empowered committees. If violations or complaints are not noted and addressed by the administrative or regulatory system, the people have approached the judiciary and filed lawsuits.

Historically, the role of public participation in the decision-making process has been limited, that process consisting solely of interaction between government departments. This has changed little over the years. What change there has been has occurred in the environmental sphere, where the only organised form of public participation, the public hearing, is to be found. This paper has shown that the public hearing is the only sounding board for public opinion on dam projects. It thus becomes one of the most contested and controversial arenas. As has been evident over the years from the EIA notifications, the public hearing has been one of the more important areas for reforms.

To perform as a scientific tool which correctly anticipates future environmental impacts and suggests mitigation measures, EIA is based on a number of assumptions. The first is that EIA accurately defines a socio-environmental baseline situation, the second that it correctly identifies impacts and does not underestimate them, the third that it suggests suitable mitigation measures and the last that the mitigation measures are fully implemented. If all these assumptions are to be fulfilled, those involved in the EIA process must focus on *nut-and-bolt* issues. Analysis of the EIA Notification and the point of contention in the various cases studied show that there are structural constraints both in the notification and in its actual implementation.

Inadequate baseline information and associated impacts at one level has been the main point of contention in the various projects. There have also been persistent allegations of failure to comply with the environmental management plans. In the notification the monitoring of compliance and the sanctioning of violations are the most weakly addressed. While the 1994 EIA Notification was strong in its insistence on sanctions, there were persistent allegations that the quality of environmental reports was poor (Menon / Kohli 2009). This showed that a strongly worded text is not necessarily translated into practical results. Instead of addressing this issue, the 2006 EIA Notification relaxed the sanctions. Most of the structural constraints in the EIA Notification are not addressed because EIA is often perceived as an administrative hurdle rather than a scientific tool.

The lacunas in the environmental clearance process have often triggered controversies and arguments against dam projects in recent years. The vehement opposition to the projects in the form of criticism of the EIA reports or the EIA process frequently results in *ad hoc* decision-making at project level. This may strengthen the environmental standards that are then followed in the project concerned, but the structural constraints to proper identification of impacts, mitigation and proper monitoring of the mitigation remain unresolved.

World Commission on Dams and local norms

This study also argues that, rather than the WCD norms being gradually diffused in domestic civil society, it was the norms that were circulating in the domestic policy domain which became an international anchor when the World Commission on Dams was established.

As early as 1989 the National Working Group based its argument for developing a resettlement policy to the benefit of displaced people on the principles of equity, participation and sustainability. More than a decade later, in 2000, the WCD recommendations defined equity, sustainability and participation as the values which would “*run through the entire report*” (WCD 2000, 199). The National Working Group’s 1989 draft makes a strong case for comprehensive option assessment. It argues that, as projects form part of a realm of “socioeconomic realities” and are “neither formulated nor executed in a social and political vacuum”, so “choices should be made from among various alternatives” and decisions on a project should not be a *fait accompli*. The option assessment argument, as opposed to a *fait accompli*, has again been placed within a strong framework capable of sustaining human rights. The National Working Group’s draft also argued that *participation* should not depend on the project developer. Rather, it should be the right of the affected population to take part in the decision-making on such projects from “inception to completion, and even thereafter.” The draft thus recommended something similar to “gaining public acceptance,” as the WCD report was to do later. To make the participation process really effective rather than symbolic, the National Working Group also called for a right of access to information. In the line it follows, in the principles it formulates and in the approach it adopts to human and constitutional rights, the National Working Group’s 1989 draft policy is thus similar to the report published by the WCD in 2000. Subsequently, in 1994 and 1998, similar arguments were advanced as an alternative to the drafts proposed by the Government of India.

In these circumstances it is not therefore surprising that, although the Government of India and the Ministry of Water Resources rejected the report outright; sections of civil society would continue and still continue to espouse it. Indian civil society was also proactive in standing by its views throughout the WCD process, while the government’s attitude was not enthusiastic (Iyer 2003). The process of discursive dominance by the Indian civil society was also accelerated by the presence of India’s civil society leaders as a WCD Commissioner and the fact that she was one of the important people in the old civil society movement.

The era of dam construction until the early 1980s can be described as a period of *innocent ignorance*¹⁰ and the time when social and environmental movements and civil-society-driven consciousness-building began to emerge. These developments have been attributed to transnational norm diffusion and transnational collective action by civil society (Khaugram 2004), as the great controversy over the Narmada Sardar Sarovar Project has demonstrated. On the basis of cross-sectional and cross-temporal studies it is argued here that change in India cannot entirely be attributed to transnational collective action and transnational norm diffusion. Rather, it is argued that the incorporation of superior standards in

10 This term was coined by R. Ramaswamy Iyer during the Sixth Dialogue on Water held in Bonn in September 2009.

national policy documents and steps to ensure that superior practices are followed at project level are outcomes of a long process of negotiation between state actors and such domestic non-state actors as academics, social activists and NGOs. At the same time the multilateral and bilateral development agencies and financial institutions have had a strong *adaptive* influence on the government. Most of the draft resettlement policies prepared in the 1990s referred explicitly to requirements requested by multilateral financial institutions as one of the factors underlying the drafting of a rehabilitation and resettlement policy.

Analysis of the content of the government policies drafted by various ministries and government agencies over the years reveals a gradual progression in that the resettlement package or resettlement planning *per se* becomes more inclusive, whereas attitudes remain highly exclusive when it comes to discussing a strategic issue, such as *gaining public acceptance* or *comprehensive option assessment*, relating to the selection of a dam from among various options.

International actors as norm carriers

The presence of the International Finance Corporation promoted improved standards in the Allain Duhangan Hydropower Project during the clearance process. Public participation in this project prior to investment clearance was better informed than in other, domestically funded projects. It should be realised that, when this project was submitted to the IFC, it had already received all the clearances required by the Government of India. It was only because the IFC became involved and had its own information disclosure system that a great deal of information was put in the public domain. This then formed the basis for the lobbying by civil society organisations, which resulted in the appointment of independent regulators for public hearings and of independent organisations to demystify the EIA reports for villagers before public hearings. These procedures are not common in India and can be attributed to the IFC's presence. The reforms, along with a series of negotiations between families affected by the project and the project developer on cash compensation, were driven by NGOs and local level community mobilisation. But it would not have been possible, or would have been many times more difficult, if the IFC had not been mandated to upgrade standards which were found to be lacking at project level by the NGOs. In this regard a comparison can be made with the Lower Subansiri Project, where there were no such international actors. As this was one of the first large dam projects in the region, general awareness was initially low in the community and local civil society organisations. It has always been alleged that the people were not adequately informed about the Lower Subansiri Project or about their role, rights and responsibilities during and before the public hearing. It was alleged by the civil society organisations represented at the Lower Subansiri public hearing that, when one of the regulators present raised some points in opposition to the project, he was told that, as a regulator, he was required to support it.

In terms of the processes leading to the clearance, the IFC's presence ensured that Allain Duhangan fared much better than Lower Subansiri. But with regard to such issues as whether the local populace had a voice in the project decision-making, whether attempts were made to gain public acceptance and whether the adoption of socially and environmentally sustainable norms was a precondition for project approval, the two projects were similar. While fewer people may have been dissatisfied with Allain Duhangan than with Lower Subansiri, both projects went ahead against a background in which a majority of

the people were dissatisfied with the ongoing clearance process and wanted it to be halted, postponed or rejected. The IFC's presence ensured that there was a strong environmental management plan, which the project developer was meant to follow. But in the post-clearance phase the project developer was often pulled up by the state government and fined for contravening the clearance. Thus it was also found that the approved environmental management plan was not strictly monitored even where the IFC was present. In the case of Allain Duhangan many of the reforms following the IFC's clearance of the project were undertaken as a result of lawsuits. Here again, it resembled other projects where the judiciary had been one of the agents in the introduction of progressive reforms. Evidence from Allain Duhangan indicates that, although the presence of international actors may be a *necessary* condition for the application of superior standards, it is not *sufficient* to ensure compliance with them.

Social mobilisation as an agent of norm diffusion

Social mobilisation by civil society organisations has been the main catalytic agent in bringing changes to project decision-making. The pattern of civil society action is quite different in the three projects. If social mobilisation and civil society action are unpacked, it is found that, while NGOs at national and regional level spearhead the mobilisation of civil society, there are also local non-governmental, mass-based and political organisations at project level acting as pressure groups. Some or all of these actors may try to form a coalition to coordinate their activities and so become a pressure group in opposition to the project developer. In the process they will try to influence project decision-making and bring about incremental changes and reforms in the projects.

Until the Allain Duhangan Project obtained clearance, the movement was led largely by regional and national organisations supporting the villagers. But at the post-clearance stage the movement was spearheaded solely by the village-based organisation. At that stage the local organisation perhaps continued to maintain some loose coalition with the national-level organisation through exchanges of information, but there was no coalition in the area of strategic decision-making or action. In the case of the Lower Subansiri Project, on the other hand, the movement was largely led by national and regional NGOs until the end of 2004. The local-level mobilisation was still diffuse. At this stage it was the national or regional NGOs which tried to affect decision-making by engaging directly with the regulatory authorities or by filing lawsuits in the Supreme Court. One of the objectives was obviously to stall or at least modify the project, but a by-product of this was that decision-making at regulatory level was far more informed and the clearances issued were subject to strict environmental conservation conditions. The Lower Subansiri Project differed from the Allain Duhangan Project, however, in that the coalition between local NGOs and national or regional NGOs continued in the post-clearance stage and grew in strength. And as social mobilisation at local level became stronger, it was able to attract sufficient attention from various powerful local actors, such as the politicians in the state and mass-based organisations. When all these actors eventually formed a coalition, they were able to pressure the project developer into rethinking its strategy. This manifested itself in the project developer's commissioning of a comprehensive downstream impact study of the Lower Subansiri Project.

In the case of the Dibang Multipurpose Project two things happened simultaneously. First, by the time this project had become contentious, the people were fairly well aware of the

consequences of dam-building. The community in the project area is compact, and the movement was led by strong local organisations from the outset. Thus while Allain Duhangan, seen in hindsight, was unable to prompt a strong mass movement in its area, Lower Subansiri generated strong social mobilisation at local level, but rather late, when the project was already at an advanced stage of construction. In contrast to the other two, the Dibang Multipurpose Project was confronted from a very early stage with a strong mass movement at local level, which was able to spread from that level into the areas downstream from the project and generate a unique form of upstream-downstream interstate social mobilisation. At the same time, the various movements were able to forge successful coalitions with NGOs outside the region, including some mass organisations already taking action in the adjoining Lower Subansiri area. Some of what the civil society organisation had learnt from Subansiri was thus transferred to the civil society organisations in the Dibang valley.

What proved to be the most effective strategy pursued in the case of the Dibang Multipurpose Project by the local NGOs was to stall the public hearing process. At the same time, the success of this strategy also reveals the weaknesses that exist in the environmental clearance process. There is no doubt that India, under a very active Environment Minister, is currently planning a complete overhaul of the environmental clearance system.

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