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# Sustainable Dam Development in China between Global Norms and Local Practices

*Oliver Hensengerth*





Sustainable dam development in China  
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Oliver Hensengerth

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## Foreword

### **The dams debate: whether large or small, good planning and good management are vital**

Dams can make a major contribution to development in many ways. They can balance hydrological variability, both interannual and interseasonal, by storing water for all sectors of a national economy, and they are keeping potentially devastating floods in check. They are the key to the exploitation of enormous untapped hydropower potential, particularly in China, India, Brazil and 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.

They can play a crucial role in a country's economic and social development, but they can also be harmful unless careful consideration is given in the planning, construction and operation stages to the serious adverse social and ecological impact they can have. Estimates of the number of people displaced as a result of the construction of dams range between 40 and 80 million, with India and China accounting for the lion's share.

According to a Canadian non-governmental organisation, it is not the financial crisis that is discouraging investment in the exploitation of the huge technical and economic potential of water, but "the notion of acceptability on social and environmental levels."

The World Commission on Dams (WCD) undoubtedly set a landmark with the publication of its "Dams and Development. A New Framework for Decision-Making" in 2000. Its recommendations have defined the norms and standards that should govern dam-related decision-making and so touched on key aspects of development and how it should be achieved.

As the governments or energy/water bureaucracies of major dam-building nations have rejected the WCD's recommendations on various grounds, the DIE has undertaken the research project "Sustainable Dam Development between Global Norms and Local Practices" with the focus on the dam policies of the hydro-superpowers. Historically, dams have contributed to these countries' efforts to achieve the goal of food and energy security, with energy becoming at least as important as food, given the escalation of the demand for electricity. Thus dams, though highly controversial, remain as important as ever.

Acknowledging that dams are a significant means of ensuring water and energy security and that multilateral development banks and bilateral donors are again becoming involved in the dam business because of its renewable characteristics (low-carbon energy), the DIE has looked into the dynamics and conditions that enhance the internalization of international norms and standards in dam-related planning and decision-making processes. Country studies have been conducted in Brazil, China, India and Turkey to find out if and how superior social and environmental norms, like those espoused by the WCD, have influenced the planning and implementation of large water/hydropower infrastructure over the years.

The country studies, the one on China now being available, analyse the highly complex multilevel dam-related decision-making processes, focusing particularly on whether, why and how planning and decision-making have taken account of diverse societal interests. We have investigated the dynamics and conditions that enhance the application of international standards and considered whether and to what extent international and/or domestic actors have fostered their internalisation.

At the national level the evolution of social and environmentally sustainable dam governance is being studied in detail, with a particular focus on the pathways of change and the change agents in two specific fields: (i) the planning instruments/procedures aimed at mitigating negative environmental impacts and (ii) the principles and planning procedures guiding expropriation and resettlement. Since impacts are clearest at project level, analysis of individual dams has focused on the specific constellations of actors manifesting pathways of change and on the role change agents play. Finally, by collating site-level and national-level studies, we have been able to infer country-specific arguments, our aim being to establish whether improved policies and regulations reach projects and whether (showcase) projects have had repercussions on overall policies.

The China Country Study has produced some surprising results, which show that China's harsh rejection of the WCD recommendations was a superficial reaction that concealed far-reaching reforms under way in the environmental and resettlement fields.

Bonn, April 2010

Waltina Scheumann

## Abstract

The paper explores reforms of China's environmental and resettlement policies and the influence of domestic and external actors on Chinese dam-related legislation. It also analyses the impact of these reforms on two dam projects: the Nu River Project and the Xiaolangdi Multipurpose Dam Project. The analysis starts with an overview of the strategic role of hydropower in the economic development plans of central and local government. This forms the context for domestic conflicts that ensue between economic planners and people affected by construction projects. The paper then analyses decision-making processes in the Chinese dam bureaucracy and the role allotted to civil society. By singling out two issue areas – Environmental Impact Assessment and resettlement – the paper examines legal changes and the reasons for them. The case studies then consider these processes, taking the Nu River Project as an example of using Environmental Impact Assessment and the Xiaolangdi Multipurpose Dam Project to illustrate resettlement.





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## Abbreviations

|       |  |
|-------|--|
| ADB   | Asian Development Bank                             |
| CPPCC | Chinese People's Political Consultative Conference |
| EIA   | Environmental Impact Assessment                    |
| EU    | European Union                                     |
| GW    | gigawatt   |
| ICOLD | International Commission of Large Dams             |
| IFC   | International Finance Corporation                  |
| IHA   | International Hydropower Association               |
| HSAF  | Hydropower Sustainability Assessment Forum         |
| kWh   | kilowatt hour                                      |
| MW    | megawatt   |
| NDRC  | National Development and Reform Commission         |
| NGO   | Non-Governmental Organisation                      |
| RETA  | Regional Technical Assistance                      |
| SEA   | Strategic Environmental Assessment                 |
| TA    | Technical Assistance                               |
| UN    | United Nations                                     |
| WCD   | World Commission on Dams                           |



## 1 Introduction

In 2001 the report of the World Commission on Dams was rejected by the Chinese government on the grounds that it was not represented on the Commission. However, the central government is not averse to international cooperation. China's domestic legislation on resettlement and Environmental Impact Assessment has been influenced from two sides: domestic policy learning processes and international debates. Moreover, China must comply with international standards when borrowing from multilateral development banks (the World Bank and the Asian Development Bank) for the construction of dams, as in the case of the Xiaolangdi dam on the Yellow River. Some ministries are more open than others to the idea of improving environmental protection. The classic conflict is between the economics related ministries and the Ministry of Environmental Protection.

This raises two issues. First, as has been pointed out for many years, the Chinese government is not a unitary block: its ministries pursue different strategies and goals. The classic studies here are Lampton (1987); Lieberthal / Oksenberg (1988) and Lieberthal / Lampton [eds.] 1992). The key concept in these studies is fragmented authoritarianism, meaning a structure through which individual units in central and local government acquire bargaining power, enabling them to exert more leverage than should otherwise be the case in an authoritarian state.<sup>1</sup>

Second, the rejection of the recommendations of the World Commission on Dams (WCD) was no more than a surface reaction, hiding the far-reaching reforms under way in the environmental and resettlement policy fields.

This paper seeks to explain changes in dam-related regulations and practices in China and the agents of those changes. The World Commission on Dams serves as the reference point, given that it was a world-wide forum that elaborated guidelines for social and environmental sustainability to be followed during the dam-planning process.

To this end, the study sets out the following hypotheses: first, a government's embeddedness in international institutions or regimes and its reference to international norms increases the likelihood that global norms for sustainable dam development will be internalised and implemented. For example, a country may be firmly entrenched in epistemic communities or United Nations (UN) agencies, and its degree of embeddedness in such networks will affect adherence to their norms. Second, social mobilisation within a society influences the internalisation and implementation of international standards. This depends on the distribution of power among domestic actors and the alignments among them and on the nature of the polity. Third, the reliance of domestic dam developers on foreign providers of financial services and expertise encourages decision-makers to apply international standards if that is what those providers demand. Although China does not depend on foreign sources for the financing of its dams, the World Bank and Asian Development Bank have been involved at times. Failure to adhere to their norms may lead to the application of punishment mechanisms, such as the refusal of funds.

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1 For an excellent application of the concept of fragmented authoritarianism to the decision-making processes for the Three Gorges Project see Heggelund (2004).

Based on these hypotheses, the present paper explores reforms of national environmental and resettlement policies and their impact on individual dam projects. It begins with an overview of the strategic role of hydropower in the economic development plans of central and local government. This sets the context for the domestic conflicts that ensue between economic planners and people affected by construction projects. The paper then analyses decision-making processes in the Chinese dam bureaucracy and the role allotted to civil society. By singling out two issue areas – Environmental Impact Assessment and resettlement – the paper examines legal changes and the reasons for them. The case studies then consider these processes, taking the Nu River Project as an example of using Environmental Impact Assessment and the Xiaolangdi Multipurpose Dam Project to illustrate resettlement.

The cases chosen are relevant to the development of China's hydropower potential. The Nu River Project will demonstrate the domestic situation by showcasing alignments of national environmental and economic actors and their power to influence governmental decision-making processes. The Xiaolangdi project is partly funded by the World Bank and an example of international involvement in China's dam-building sectors. In addition, both the Nu River and the Xiaolangdi Project qualify as large dams as defined by International Commission of Large Dams (ICOLD).<sup>2</sup>

The author conducted semi-structured interviews in China between October 2008 and January 2009 with researchers, members of Chinese non-governmental organisations, policy advisors and government officials. Further interviews were conducted with representatives of foreign companies providing environmental consulting services in China. Given the delicate political nature of the issue in China, all interviewees were assured of anonymity. Data from all the interviews cited in the text are therefore encoded.

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

In 2004 China generated 238 billion kilowatt hour (kWh) from hydroelectric stations. This represented 15.8 per cent of total electricity generation (Energy Information Administration 2006). With ample hydropower potential on the Nu, Jinsha, and Lancang (Mekong) Rivers, Yunnan Province is the focus of China's hydropower expansion plans. In the late 1990, Yunnan was said to have a hydropower potential of 90 GW, or 23.3 per cent of China's total hydropower potential (People's Daily 2000).

Plans drawn up by the National Development and Reform Commission (NDRC), the Chinese government's chief planning body, feature hydropower as the main component of the renewables target. The focus is on the development of the water resources of south-western China. It is planned to increase hydropower capacity from around 129,000 megawatt (MW) in 2006 to 300,000 MW by the end of 2020 (Stanway 2007b).<sup>3</sup> Hydropower per-

---

2 Large dams are 'those having a height of 15 meters from the foundation or, if the height is between 5 to 15 meters, having a reservoir capacity of more than 3 million cubic meters'. The definition is used by the World Commission on Dams and the Asian Development Bank (ADB) and the World Bank takes it as the basis for its *Operational Policy 4.37: Safety of Dams* (World Bank 2001b, paragraph 3).

3 For a brief overview of historical calculations see Cui (2006, 24); Wei / Fan (2006, 9).

forms several functions, perhaps the most important being the development of the land-locked western areas, as set out in the Western China Development Strategy launched in 1999. The policy covers the Provinces of Gansu, Guizhou, Qinghai, Shaanxi, Sichuan and Yunnan, the autonomous regions of Guangxi, Inner Mongolia, Ningxia, Tibet and Xinjiang and the municipality of Chongqing (Cui 2006, 246).

The development of hydropower is also part of China's 2006 Renewable Energy Law. China's economic rise has put a strain on domestic energy resources. Since 1989 its Gross Domestic Product (GDP) has risen by an annual average of 9.5 per cent (calculated from the ADB Key Indicators, 2007). Until 1993 China was self-sufficient in oil. Since 2003 China has been the world's largest oil consumer after the United States, and since 2004 the third-largest oil importer after the United States and Japan (Downs 2006). China has also lost its self-sufficiency in natural gas and has to import coal to satisfy peak demand.<sup>4</sup>

The importance of hydropower in China's energy policy does not preclude Chinese interest in related reform processes. However, the economic planners on the National Development and Reform Commission argue that strict adherence to WCD recommendations would obstruct the rapid build-up of hydropower capacity. Dam financiers and professional organisations involved in China are muted. The World Bank, which financed the Xiaolangdi resettlement, said in its statement for the WCD report: "*The World Bank's conclusion on the guidelines is best summarized by the Chair of the WCD, who has explained that our guidelines offer guidance – not a regulatory framework. They are not laws to be obeyed rigidly*" (World Bank 2001a). The International Hydropower Association (IHA), which represents the hydropower industry, says that it 'draws on WCD Core Values and Strategic Priorities, along with other existing principles and policies, in its work to develop a practical assessment tool for hydropower sustainability' (IHA 2009, 2 f.). Consequently, IHA uses the WCD as a reference point, but does not adopt its guidelines.

However, the International Hydropower Association (IHA) has initiated a political process in the form of the Hydropower Sustainability Assessment Forum (HSAF), which is to revise the IHA Hydropower Sustainability Assessment Protocol. The Chinese members are Zhou Shichun of the General Institute of Water Resources and Hydropower Planning and Design at the China Hydropower Engineering Consulting Group Corporation and Yu Xuezhong of the China Institute of Water Resources and Hydropower Research, which is affiliated to the Ministry of Water Resources. The National Research Center for Resettlement at Hohai University in Nanjing is also involved in the IHA-HSAF, though not as a permanent member.<sup>5</sup>

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4 For detailed figures on imports and exports see the country balance sheets of the International Energy Agency at [www.iea.org](http://www.iea.org) (last accessed 1 May 2009).

5 The Center was also asked by the WCD to compile the China country report. It declined, however, because the Chinese government did not welcome the WCD process.



### 3 Decision-making frameworks and their change over time

China's dam-building activities are governed by a highly complex bureaucracy and a party-state that is in the process of redefining its relationship with society. Within this complex setting, the following decision-making processes can be outlined.

#### 3.1 Dam decision-making

Starting with governmental decision-making, central government ministries have counterparts on all lower levels of government, where they are known as bureaus. The Ministry of Water Resources corresponds to local Water Resources Bureaus on the five levels of government: province, prefecture, county, township and village. On the township and village levels, the bureaus are known as stations. Traditionally, the bureaus functioned as implementing agencies for the central ministries. During decentralisation, local government has been given considerable decision-making authority, raising it above the status of mere implementing agencies. Accordingly, the Ministry of Water Resources, for instance, does not have direct administrative relations with the bureaus.<sup>6</sup> The power relationship is between the bureaus and local government because the bureaus depend on local government for funding. Local government exerts leverage over the bureaus through the allocation of taxes (Economy 2004, 92).

Whether or not dams are constructed is decided by the National Development and Reform Commission on the basis of its assessment of China's economic development and energy needs. Any project must also have the consent of the Ministries of Agriculture, Land and Resources, Environmental Protection, and Water Resources. Together with the National Development and Reform Commission, these ministries have to approve the pre-feasibility and feasibility studies, the design plans and the Project Application Report.<sup>7</sup> Mertha (Table 1) reports the following approval benchmarks:

| Government level                  | Reservoir volume               | Wall height         |
|-----------------------------------|--------------------------------|---------------------|
| Provincial water resources bureau | 10 million cubic metres        | more than 50 metres |
| Prefecture water resources bureau | 1–10 million cubic metres      | 30–50 metres        |
| County water resources bureau     | 100,000–1,000,000 cubic metres | 15–30 metres*       |

Source: Adapted from Mertha (2008, 41)

\* There appears to be a typographical error in Mertha's book, as it says that the county bureau approves dams with a height of 50 to 30 metres. This is corrected, as he presumably means 15 to 30 metres.

Projects larger than 300 MW require the approval of the National Development and Reform Commission (Makkonen 2005, 10 citing Magee s. a., publication after 2005). If a dam project is situated on a river that crosses county or prefecture borders, the approval of the administratively higher water resources bureau is needed (Mertha 2008, 41). If the

6 Interview B17112008.

7 Interviews K12122008.

project is on a river that crosses provincial or national borders, central government's approval is required.<sup>8</sup> In the case of international rivers, the provincial level is excluded from decision-making and may only provide input (Magee 2006a, 250; Magee 2006b, 38–40) on environmental and social conditions in the site area. Since the reform of the water sector in 2002, Article 15 of the revised Water Law of 2002 requires project developers to submit their plans for approval to one of the seven basin commissions under the Ministry of Water Resources rather than to the National Development and Reform Commission. This means that the planning of any hydropower station begins at the level of the seven basin commissions. They draw up the comprehensive basin plans, including the theoretical and technically feasible hydropower potential. Next, five state-owned energy companies (China Huaneng, China Datang, China Huadian, Guodian Power and China Power Investment) – or project-specific corporations created by central government for trans-provincial rivers, such as the Xiaolangdi Water Resources Construction and Management Bureau for the Yellow River – have the right to construct hydropower stations in the various basins. The five state-owned companies were the result of a large-scale reorganisation of the energy sector in 2003 that dismantled the State Power Corporation. Their plans for developing hydropower must comply with the comprehensive basin plans, compliance being checked by the commissions. Once a basin commission approves a hydropower development plan, it sends its decision to the National Development and Reform Commission for further approval. Project developers sometimes circumvent the basin commissions and go directly to the National Development and Reform Commission (Magee 2006a, 136 f., 171, 172 note 113, 249 f.). Consequently, the initial steps in the approval process – in particular, the initial project idea – proceed not from the comprehensive plan but rather from the comprehensive hydropower plan drawn up by the hydropower development company in cooperation with one of the survey and design institutes (Magee 2006a, 250).

Once a basin commission (or, if it was bypassed by the energy companies, the National Development and Reform Commission) has decided that a dam should be built, one of the five energy companies having the right to develop the river basin in question 'solicit bids' from the China Hydropower Engineering Consulting Group Corporation and its eight design institutes (Magee 2006a, 250). The design institutes develop detailed plans for individual dams, *"including installed capacity, approximate dam site, type of turbines, and other technical features. Precise dam sites and installed capacities may vary somewhat at this point, but the big picture provided by the comprehensive plan is supposed to be followed"* (Magee 2006a, 250).

At this point, the energy companies commission appropriate agencies to carry out pre-feasibility and feasibility studies and to draw up project designs. The (pre-)feasibility studies must contain data on site selection, technological and economic feasibility (e. g. demand-sales projection), resettlement design and environmental appraisals (including evidence of public consultation). If both studies and the design studies are approved, the operator can compile the Project Application Report, which includes the final EIA Report (NDRC 2007a+b; McElwee 2008, 4). The Environmental Impact Assessment (EIA) is conducted by a certified EIA agency, such as a private consulting company. The resettlement plan is

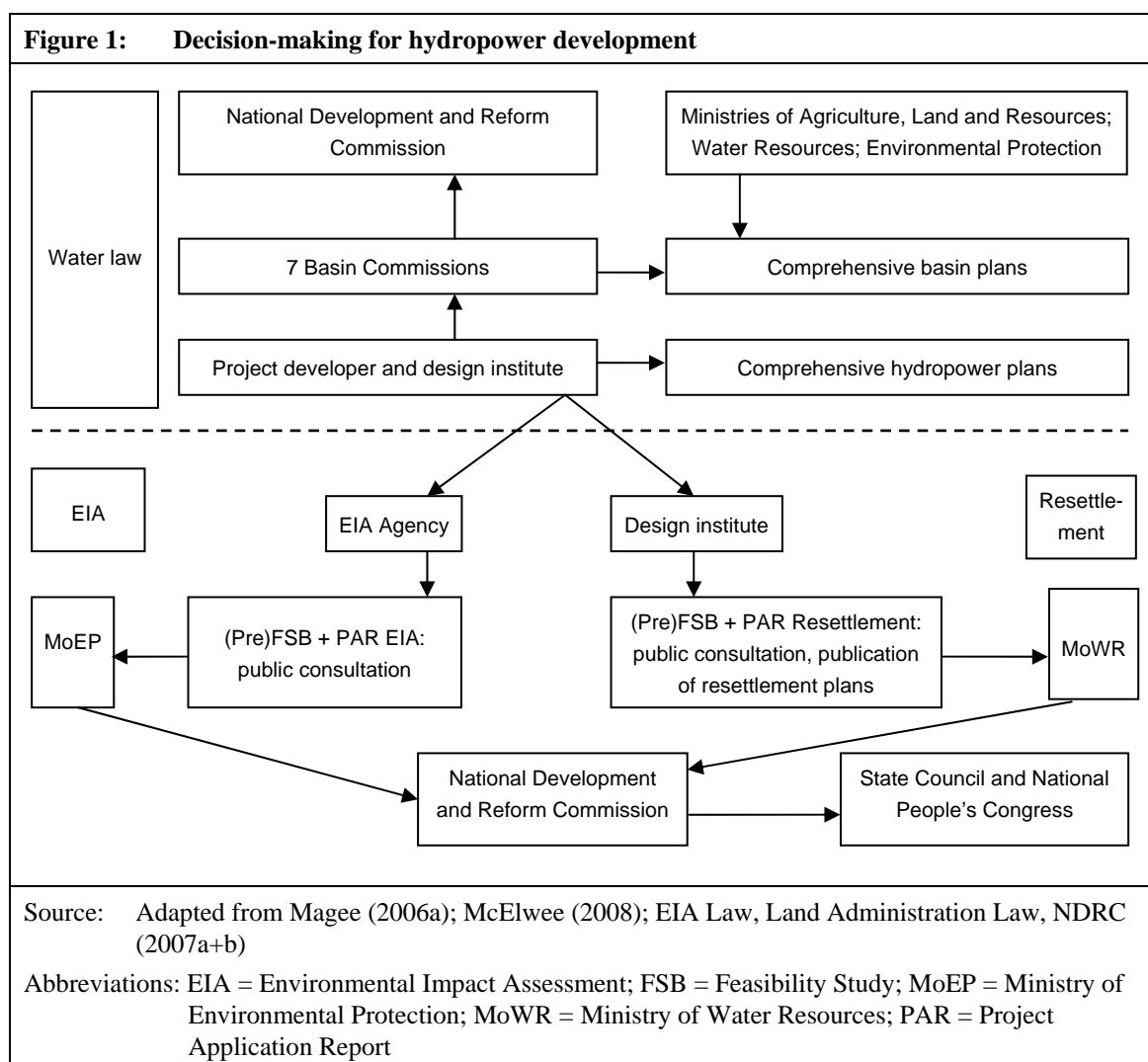
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8 Magee (2006a) and interviews K12122008.

drawn up by the design institute in cooperation with relevant governmental and other experts.

Each component of the pre-feasibility and feasibility studies and the Project Application Report is examined by the relevant governmental expert departments. For projects that have to be approved by central government, the EIA is passed on to the Ministry of Environmental Protection. The Ministry of Water Resources has to approve the resettlement plan. Both Ministries notify the National Development and Reform Commission of their decisions. Only then should the National Development and Reform Commission approve the Project Application Report. For projects on international rivers, the National Development and Reform Commission sends the project documents to the State Council. If the State Council approves, it forwards them to the National People’s Congress. Once rubber-stamped by the National People’s Congress, construction can begin.

Figure 1 summarises these procedures. The upper half depicts procedures governed by the Water Law, the lower half those subject to EIA and resettlement legislation. It is only in the lower half that public participation becomes relevant, that is, after dams have been approved. No provision is made for public participation in overall decision-making on dams and water management plans.



Non-governmental organizations (NGO) and the people affected cannot therefore begin to influence dam decision-making before EIA and resettlement planning. Importantly, Plummer and Taylor (2004, 37) caution against overstating the scope for action by NGOs in China, because the official “*objectives of community participation in development projects in China have all been instrumental in nature [...] to improve the efficiency of investment in rural development and the rate of progress in poverty reduction*”. Ho and Edmonds (2007) argue that Chinese civic organisations exist in a state-society relationship that is best described as “*embedded social activism*”, their environmental activism taking the form of “*embedded environmentalism*”. Being embedded means that in China’s semi-authoritarian political system with its limited scope for action, civic organisations and individuals rely on a diffuse and informal network with other individuals, groups, loose networks and organisations that enables them to bridge the divide between party-state and society and therefore re-negotiate their relationship with the party-state, resulting in incremental change. Yang and Calhoun (2007) emphasise the use of the mass media to influence the environmental debate in China and to redefine the relationship between the party-state and society, through the emergence of a “*green public sphere*”.<sup>9</sup> Like Plummer / Taylor (2004), Economy (2004, 21 and 129–175) argues that Chinese leaders have allowed the growth of NGOs and “*aggressive media attention*” to environmental degradation for an instrumental purpose: to make up for the weakness of the Environmental Protection Bureaus in local government. The strengthening of the societal level is therefore designed to keep a check on local government.

In this context, the government published the Guidelines for Full Implementation of the Rule of Law in 2004. In March 2008 the State Environmental Protection Agency was upgraded to the Ministry of Environmental Protection. In May 2008 the State Council issued the Government Information Disclosure Regulations, followed by the Environmental Impact Disclosure Measures of the Ministry of Environmental Protection. All three documents allow individuals access to information. More specifically, the Environmental Impact Disclosure Measures require enterprises to submit pollution data to environmental agencies, which then have to release this information on a timely and regular basis (Qin 2008; Brewer 2008, 19; Powell et al. 2008, 11, 36–38).<sup>10</sup>

### 3.2 Environmental Impact Assessment

The development of the Environmental Impact Assessment (EIA) in China is both the result of domestic learning processes and international examples studied by Chinese experts. The first mention of EIA was in Article 6 of the 1979 Environmental Protection Law. This development coincided with the reform processes that began in December 1978. The 1979 Law stipulated that a “*report on environmental impact must be submitted when construction, transformation and extension projects are to be undertaken, and the design and construction may not be initiated until approval by the department in charge of environmental impact and other relevant authorities*” (Article 6, quoted in Qin 2008, 2).<sup>11</sup> The first details on EIA procedure and content then came in the 1981 Measures on

---

9 See also Harris (2006, 11).

10 For specific regulations governing NGO registration see Gough (2004, 14).

11 If not otherwise mentioned, the following historical overview follows Qin (2008, 2 f.).

Administering Environmental Protection in Infrastructure Construction Projects. This was modified in the 1986 Measures on Administering Environmental Protection in Construction Projects, when the requirement to conduct an EIA was extended from infrastructure projects to all projects with potential environmental impacts. The 1986 regulations were set out in a ministerial decree issued by the National Environmental Protection Agency and modelled on the United States National Environmental Policy Act.

| <b>Table 2: Changes in Environmental Impact Assessment regulation over time</b> |  |   |
|---|--|---|
| Year  | Legislation  | Content/change from previous legislation  |
| 1979  | Environmental Protection Law   | Report on environmental impacts of construction projects  |
| 1981  | Measures on Administering Environmental Protection in Infrastructure Construction Projects | First details on content and administrative procedures for environmental impact assessments   |
| 1986  | Measures on Administering Environmental Protection in Construction Projects                | EIA requirement expanded from infrastructure to all construction projects   |
| 1989  | Revised Environmental Protection Law   | EIA report must propose procedures for mitigating environmental impact of construction projects   |
| 1996  | Decision on Several Issues in Environmental Protection                                     | First State Council Regulation on EIA: authorities must consider economic, social and environmental impacts 'before making major decisions on regional and resources development, urban development, industrial development, restructuring of sectors and [...] other issues of economic production and social development' |
| 1998  | Regulations on the Administration of Environmental Protection in Construction Projects     | Expansion of scope, content, administrative procedures and legal liabilities for EIA  |
| 2003  | Environmental Impact Assessment Law  | Requirements for SEAs and EIAs  |
| 2006  | Provisional Measures for Public Participation in EIA                                       | First details on scale of public consultation   |
| 2009  | Regulations on Planning Environmental Impact Assessment                                    | Standardisation of SEA administrative procedures  |
| Under consideration   | Measures on Public Participation in Environmental Protection                               | How to strengthen implementation of meaningful public consultation  |
| Source: Qin (2008); Qin (2009); Ministry of Environmental Protection (2009)     |  |   |

Its coming into force meant that the Chinese government was attempting to coordinate environmental policy and economic policy and that it regarded EIA as an effective means of achieving this.<sup>12</sup> Modelling it on the United States National Environmental Policy Act meant that the Chinese leadership was prepared to learn from foreign countries'

<sup>12</sup> Interviews W03122008, S17122008. In addition, Chernobyl was mentioned as a potential catalyst, with a nuclear station in operation in Dayawan: interviews W03122008.

experience.<sup>13</sup> The 1986 EIA applied to single projects only, not to plans and programmes. Thus EIA was not used to appraise regional or zoning plans, only projects within a plan (e. g. a building).<sup>14</sup>

While a number of further regulations were passed after 1986 (see Table 2), the sea change came with the 2003 EIA Law, which requires Strategic Environmental Assessments (SEAs) for all regional and special programmes or plans involving construction, such as industrial development zones or water conservancy projects, and EIAs for all construction projects that either stand alone or form part of a regional or special programme (Articles 3, 7, 8, 16, 18). However, the environmental authorities can do no more than comment on SEAs, proposing changes with a view to mitigating impacts: they cannot reject SEAs (Articles 14+15). The 2009 Regulations on Planning Environmental Impact Assessment attempt to strengthen SEA implementation (Qin 2009; Ministry of Environmental Protection 2009).

When EIAs are carried out, the general public has the right to participate ‘in appropriate ways,’ that is, by holding ‘demonstration meetings or hearings or by any other means.’ The EIA document must indicate whether the public’s views have been considered and give the reasons if they have been rejected (Articles 5, 11, 21). The ‘other means’ are often surveys or questionnaires distributed by the EIA consultant to people potentially affected. When reviewing the EIA Report, the Ministry of Environmental Protection may decide to hold further public consultations, such as public hearings (McElwee 2008, 4).

However, as public disclosure of the entire EIA report is not necessary, only summary EIAs are published. In addition, the Law cannot govern the quality and formal setting of public consultations, and it does not define what public consultations are (meetings for discussion, face-to-face interviews, etc.). Nor does it specify the groups or number of people affected who are to be consulted. For example, it does not state how many questionnaires must be circulated and does not therefore say anything about the number of people affected that have to be consulted. The problem persists in the 2006 *Provisional Measures for Public Participation in EIA* (see below).<sup>15</sup>

There are three levels of EIA according to the scale of the expected environmental impact. A certified EIA consultant advises the project developer which level applies to his project. The lowest level is Environmental Impact Registration of projects with minimal impact. The Ministry of Environmental Protection has developed a form for this, which has to be completed by the project owner. For the second level there is an Environmental Impact Assessment Form for projects with a ‘slight’ impact. This form requires a brief analysis of the environmental impact and must be completed by a certified EIA consultant. The third level requires a full EIA Report for projects having a ‘major’ impact. No standard forms for this level exist. Reports must be completed by certified EIA consultants and also call for ‘a comprehensive assessment of the project’s environmental impact’ (McElwee 2008, 1 f.; EIA Law, Article 16).

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13 Interviews W03122008.

14 Interviews W03122008.

15 Interview S17122008.

The EIA Report must include a description of the project; a review of the construction plans; an engineering analysis to determine its environmental impact during construction and operation; and a review of the production process and pollution control options. The EIA Law does not require the production process to be described in detail, and indeed some processes or their components may be proprietary. However, the EIA Report must include a clean production analysis<sup>16</sup> and a risk assessment (especially if hazardous substances are involved). The projected environmental impacts are compared with national and local environmental standards, such as mass load limits for pollutants. Further factors may include energy efficiency and water use. If the environmental impacts exceed national standards and limits, the EIA Report must include mitigation measures (McElwee 2008, 3 f.; EIA Law, Article 17).

EIA Reports or Forms are submitted to the Ministry of Environmental Protection for review. If another department is responsible for an issue area affected by the project (e. g. housing), EIA Reports or Forms are first submitted to that department for preliminary examination. The Ministry's approval department makes a decision within sixty days of receiving the EIA Report, within thirty days of receiving the EIA Form and within fifteen days of receiving the Environmental Impact Registration (EIA Law, Article 22).

EIAs for the following projects are reviewed and approved by the Ministry of Environmental Protection: special nuclear and top secret construction projects, construction projects situated in more than one province, and all construction projects subject to final approval by the State Council (EIA Law, Article 23). The last category includes, for instance, projects situated on international rivers or border-forming rivers, such as large hydropower stations. Projects requiring an investment of US\$100 million or more also require State Council approval (McElwee 2008, 4). All other project EIAs may be approved by provincial authorities. At the discretion of these entities, lower-level authorities may approve project EIAs (EIA Law, Article 23).

Four cases spurred the debate on EIA in China<sup>17</sup>: first, the Nu River Project in 2003, the first project to be halted and subjected to environmental investigation under the EIA Law. The project is described in detail in the case study below. Second, riots in Hanyuan in Sichuan Province in October 2004 in connection with the Baopu hydropower project and the inadequacy of compensation for expropriated land.<sup>18</sup> Third, the dispute of March 2005 over the Lake Lining project in the old Summer Palace, the Yuanmingyuan. The dispute attracted national attention and was widely debated in the Chinese media.<sup>19</sup> Fourth, the plan in 2005 of the Taiwanese company Tenglong Aromatic PX to build a chemical factory near a residential area in Xiamen's Haicang district.<sup>20</sup>

Triggered by these events, which revealed the growing social unrest and the greater ability of citizens to organise themselves suddenly and spontaneously, the central government drew up a bye-law on public participation in EIA in February 2006, the Provisional

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16 Clean production analysis means a "review of the production process to determine if the same product can be made with fewer resources and the generation of fewer wastes" (McElwee 2008, 3).

17 Interviews B20122008, W03122008.

18 For details see Lee, 2007 cited *The New York Times*, 27 December 2005.

19 For details see Qin / Li (2005); Powell et al. (2008, 25).

20 For details see Powell et al. (2008, 27).

Measures for Public Participation in EIA. These measures are more detailed than the sections of the EIA Law concerning participation and stipulate the following:

- Whom to consult: citizens, corporations and other institutions according to their geographical distribution, profession, expertise and the degree to which they are affected;
- When to involve the public: public notification of the project when the EIA is initiated; public notification detailing project scope and effects during compilation of the EIA Report; release of EIA outline and indication of approval or rejection during examination and approval of the EIA Report;
- How to participate: there are five participation channels: expert comments, discussions, demonstration meetings, hearings and questionnaires. Detailed rules are laid down on the organisation of hearings, starting with preparation, selection of participants, procedures, publication of reports, media reports and how to deal with responses from the public;
- Access to information: developers are required to release information within seven days of contracting an EIA agency. During compilation, developers or EIA agencies are to notify the public of the project, its potential impacts on the environment, a summary EIA and schedules and forms of public consultation. Methods used are hearings, solicitation of comments, public forums, expert forums, etc. Information can be disclosed in three ways: public notices in the local media, dissemination of publicly accessible information and other means;
- After being notified, the public may submit opinions to developers, EIA agencies or environmental departments for examination, approval and re-approval of EIA Reports. These opinions must be archived. If the public feel that developers or EIA agencies have failed to address their concerns, they may call on the environmental authorities to resolve the situation (Qin 2008, 7–13).

The *Provisional Measures* leave it to the developer and EIA agencies to define the ‘major items subject to public consultation,’ ‘range and major issues subject to public consultation’ and the public groups qualified to participate. The Disclosure Regulations and Disclosure Measures may at least mitigate this problem by giving the public the right of access to information, but to enforce all these mechanisms, government commitment is essential (Qin 2008, 13 f.).

In cases where government and EIA agencies are perceived to have bypassed public involvement or to have involved the public inadequately<sup>21</sup>, the public have found ways to remedy the situation, aided by policy entrepreneurs, journalists, environmental NGOs or NGOs that provide legal assistance. Increasingly, NGOs are taking to alliance-building (Gough 2004; 18) with media and/or politicians. Only rarely do NGOs cooperate with each other. Yet the predominant approach is still to “*maintain a low profile [...], a non-confrontational approach, and to establish a good relationship with the government*” (Gough 2004, 16; International Rivers Network 2005; Stanway 2005 and 2007a; Osborne 2006, 58 f.; Hirsch / Jensen 2006, 60). Organised popular protest with or without the organisational means of NGOs is targeted at different levels of government: municipal and provincial, but rarely central (Mertha / Lowry 2006; Powell et al. 2008, case studies 1–20, 24–41).

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21 Interviews W03122008.



Future EIA reforms under discussion include a strengthening of participation, and particularly of the rules laid down in the Provisional Measures for Public Participation in EIA. Enforcement therefore plays a prominent role, with particular emphasis on the reinforcement of the local Environmental Protection Bureaus. An important model for Chinese decision-makers considering the reform of participation is the Aarhus Convention, known formally as the United Nations Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters. Other models originate from the European Union: EIA Directive 85/337/EEC, Public Participation Directive 2003/35/EC and the chemicals directive REACH, which served as the model for China's own chemicals directive.<sup>22</sup>

The content of these regulations is transmitted to Chinese experts and decision-makers through comments and translations by Chinese scholars and through government delegations (kaochatuan, literally: study groups, often mocked as 'tourist groups') to European countries and the United States. In addition, such intergovernmental forums as the China-EU summits and ministerial-level meetings between the Ministry of Environmental Protection and its EU counterparts help with the transposition of these regulations into the Chinese law-making process.<sup>23</sup>

According to a Beijing-based NGO, China's cooperation in international bodies stems from a general interest on the part of the leadership and such companies as PetroChina in being acquainted with international norms not only in the dam construction sector but also as they relate to exports and extractive industries.<sup>24</sup> It should be borne in mind, however, that most of Beijing's policy-makers have no interest in engaging with traditional donor countries in ideological discussions on good governance. On the contrary, they are pragmatic and want to see quick results through the application of new and innovative technologies.

### 3.3 Resettlement planning

The other big issue in dam construction in China is resettlement. Resettlement is governed by a number of laws and regulations, most importantly the 2004 Land Administration Law and the 2006 Rules of Land Compensation and People Resettlement in Medium and Large Hydraulic and Hydroelectric Projects.

Chapter Five of the Land Administration Law contains regulations on land expropriation and compensation. Article 46 states that local government from the county level upwards are responsible for carrying out expropriation after due notification. Expropriations are part of general land use plans drawn up by all levels of government, including the township level, although lower-level plans must comply with the plans of the next higher level of government. They must also comply with the national and social development plans (Articles 17, 18, 21) drawn up by the National Development and Reform Commission. Article 47 of the Land Administration Law specifies four types of compensation:

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22 Interviews W03122008 and S17122008 with environmental law researchers and government advisors.

23 Interviews W03122008.

24 Interview B27112008.

1. land compensation payments,
2. resettlement fees,
3. compensation payments for ground attachments and young crops,
4. if vegetable fields in suburban areas are expropriated, the units using the land after expropriation pay into a new vegetable field development fund.

The most important recent reform has been effected under the 2006 Rules of Land Compensation and People Resettlement in Medium and Large Hydraulic and Hydroelectric Projects. These rules and the Land Administration Law have established the following resettlement practice: displaced people must be provided with a level of livelihood similar to or higher than that before their displacement; resettlement plans must include economic development plans, not just cash payments for lost land and resources; resettlement plans should create jobs; and they must include plans for reclaiming new farmland for displaced rural communities in order to avoid the overcrowding of resettlement areas (Brewer 2008, 19).

However, the 2006 rules are too general: for example, they contain no provisions for indirect effects of flooding (that is, people who are partly affected), as when peasants' fields are flooded, but not their houses. Compensation for such indirect effects must be negotiated with local government on a case-by-case basis.<sup>25</sup>

While people are generally resettled near their area of origin, with the focus on agricultural resettlement, exceptions are made where there is a shortage of farmland and land is prone to erosion (State Council 2006a, Articles 7–15). People are then moved to other provinces or cities. Resettling people outside their area has raised assimilation problems and resulted in conflicts with the resident population, since the new arrivals are equipped with compensation packages (Heggelund 2006, 12 f.).

The development of resettlement regulation began with the reform period in 1978/79. People resettled before the reform of the land use system suffered from poverty and a lack of public infrastructure.<sup>26</sup> The government recognised this problem at an early stage. The first resettlement regulations, under which the Ministry of Finance and the Ministry of Power established a reservoir maintenance fund, were adopted in 1981. The owners of hydropower stations under the Ministry of Power were required to contribute 1 Renminbi per thousand kWh to this fund. The money was then used to compensate relocatees for lost livelihoods and means of production and to pay for the maintenance of reservoirs, drinking water supply, irrigation and transport structures (Ministry of Power and Ministry of Finance 1981; Bizer / Ragsdale 1977; van Wicklin 1999, 239).

To assess the social impact of resettlement before the reform period, the State Council asked the Ministry of Water Resources in 1984 to conduct a survey of people who were resettled before 1980. This showed that one-third were affected by poverty (by that time 10 million people had been resettled since 1949). As a consequence, the State Council

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25 Interviews N15122008 with resettlement researchers and government advisors.

26 Interview N23102008 with a resettlement researcher. The reform of the land use system introduced user rights for each family under the household responsibility system. Yet officially the land belongs to the state, and in villages it belongs to the collective and is therefore administered by the village committee.

published the Circular on Transmitting the Report of Paying Close Attention to Reservoir Resettlement in 1986. This Circular established a reservoir construction fund for those who had been resettled before 1985. The fund was initially endowed with 240 million Renminbi a year. The money was drawn from hydropower revenues, water tariffs and local and central government budgets (State Council 1986; van Wicklin 1999, 239).<sup>27</sup> Again in 1986, resettlement regulations were set out in Chapter Five of a new Land Administration Law. In addition, the Ministry of Water Resources established a resettlement office and a coordinating committee, on which the Ministries of Finance, Agriculture and Power were also represented. The committee was responsible for the construction of roads, schools, water supply and public infrastructure, and it supported relocatees in farming (land development, planting of fruit trees, agricultural techniques and non-farming skills). On the local level, provinces, counties and cities also set up resettlement offices, and the funds from the reservoir construction fund were distributed down the administrative chain.<sup>28</sup>

In 1991, the State Council issued Rules of Land Compensation and People Resettlement in Medium and Large Hydraulic and Hydroelectric Projects, which were updated in 2006 (State Council 2006a). According to the Rules, relocatees would be supported for five to ten years after resettlement was completed. They thus provided not only for compensation, but also for the restoration of incomes. These provisions can be seen as a follow-up to the 1986 Land Administration Law (especially Chapter Five).<sup>29</sup>

In the reform processes that followed, external influence through the Asian Development Bank (ADB) and the World Bank became important. In December 1996, at China's request, the ADB extended its Technical Assistance (TA) 2735-PRC entitled Capacity Building for Natural Resource Legislation (ADB 1996). The result of the ADB's TA was the revision of the 1986 Land Administration Law, which became effective in January 1999. The revision had four goals: first, to increase compensation and resettlement fees and to pay them directly to the victims of expropriation rather than through the rural collective. This means that the provincial resettlement office pays the compensation funds to the local resettlement office in the resettlement area. Then the local resettlement office directly allocates land and pays compensation directly to the resettled villagers; second, to enhance consultation on resettlement plans: local government must now publicise plans and consult with local people; third, to improve transparency and accountability in the use of compensation fees; fourth, to improve contract adjustment and dispute settlement procedures. This includes a provision enabling local government decisions to be challenged in a lawsuit to be filed within thirty days of having received the decision (ADB 1998a, 26 and *ibid.* note 2; Chen et al. 2004, 213).

This was followed in March 1998 by ADB Regional TA (ADB RETA) 5781: Review of National Resettlement Policies and Experience with Involuntary Resettlement Projects (ADB 1998b). The lead agency for implementing the Regional Technical Assistance (RETA) was the Environmental Protection and Natural Resources Conservation Committee of the National People's Congress. Then, in September 2000, came ADB

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27 Interview N23102008.

28 Interview N23102008.

29 Interviews N23102008 and N02122008.

RETA 5935: National Resettlement Policy Enhancement and Capacity Building (ADB 2000), the lead agency being the Ministry of Land and Resources.

The aim of both RETAs was to update Chapter Five of the 1999 Land Administration Law. The China country report for both RETAs was compiled by the National Research Center for Resettlement at Hohai University. For the first RETA the report proposed “*standardizing resettlement entitlements and procedures between sectors, provinces, and urban-rural areas.*” This was put into effect by a State Council decree in 1999. For the second RETA the report proposed that the term “*requisition*” in Chapter Five of the Land Administration Law be replaced with the term “*expropriation*” (Shi et al. 2001; ADB 2002, 5 and 10). The aim here was to stop the illegal expropriation of land by local government and to consolidate the ownership of land in the hands of the state and the collective (Ho 2005, 26 and *ibid.*, note 34).

The Ministry of Land and Resources, the State Development and Planning Commission, the State Economic and Trade Commission, the Ministries of Commerce, Water Resources, Railways, Transport, and Agriculture, the Resettlement Bureau of the Three Gorges Construction Committee of the State Council and the National Electric Power Corporation were involved in the second RETA (ADB 2002, 7).

ADB RETA 5935 not only revised the Land Administration Law in August 2004, but also led to a change in China’s constitution in March 2004. The latter was based on a proposal from the Ministry of Land and Resources to the State Council, which led the State Council to submit legislation to the National People’s Congress.<sup>30</sup> The changes consisted in instituting a distinction between expropriation and requisition. Accordingly, the constitution was amended and the term ‘expropriation’ added to the third sentence of Article 10.<sup>31</sup> The sentence was transferred verbatim to the 2004 Land Administration Law (Article 2). Following the recommendations of the RETA 5935 country report, the term ‘requisition’ was almost entirely deleted from the revised 2004 Land Administration Law and replaced with the term ‘expropriation’, the exception being in Article 2.

In 1996, the National Development and Reform Commission and the Ministries of Finance, Power and Water Resources set up a post-relocation support fund for relocatees from the area of large and medium-sized dams that had gone into operation between 1986 and 1995 and dams that had been approved and on which work had started after 1996 (NDRC 1996). In 2006 the 1991 Rules of Land Compensation and People Resettlement in Medium and Large Hydraulic and Hydroelectric Projects were updated (State Council, 2006a). Specifically, monitoring and evaluation were added to the resettlement rules, as were better protection for the cultures of ethnic minorities. These new elements were derived directly from World Bank and ADB procedures, which had hitherto been applied in China only to projects financed by those banks.<sup>32</sup> From a new post-relocation support fund consisting of revenues generated by electricity sales, relocatees receive 600 Renminbi a year for twenty years. As there are currently 22.8 million registered relocatees, the fund

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30 Interview N02122008.

31 “*The state may, in the public interest, appropriate or requisition land for its use in accordance with the law, while making compensations.*” Further constitutional changes were made at the same time. For details see China Daily (2003).

32 Interview N15122008. See also Chen et al. (2004, 204).

amounts to 13.68 billion Renminbi.<sup>33</sup> The aim of the current review of the 2004 Land Administration Law is to establish dynamic compensation criteria with a view to improving implementation and the compensation paid to farmers whose land has been expropriated (Qin 2009) (cf. Table 3).

| Year   | Legislation   | Content/change from previous legislation  |
|--|---|---|
| 1981   | Reservoir maintenance fund  | RMB0.001 per kWh: cash compensation, infrastructure (drinking water, transport)       |
| 1986   | Reservoir construction fund   | RMB0.004 per kWh = RMB240 million per year for people resettled before 1985           |
| 1986   | First Land Administration Law contains resettlement regulations                               | Establishment of resettlement offices   |
| 1991   | Rules of Land Compensation and People Resettlement in Medium and Large Hydroelectric Projects | Post-relocation support and income generation (5-10 years)                            |
| 1996   | Post-relocation support fund  | RMB0.005 per kWh for projects in service and approved 1985-1995                       |
| 1998   | Land Administration Law amended through ADB Technical Assistance                              | More transparency and compensation  |
| 2004   | Land Administration Law amended through ADB Technical Assistance                              | 'Requisition' replaced with 'expropriation'   |
| 2006   | 1991 Rules updated  | Monitoring and evaluation; post-relocation support fund: RMB600 per year for 20 years |
| Under consideration  | Amendment of Land Administration Law  | Dynamic compensation criteria to improve implementation and compensation              |
| Source: Ministry of Power and Ministry of Finance (1981); Bizer / Ragsdale (1977); State Council (2006a); ADB (1998a); Shi et al. (2001); ADB (2002); NDRC (1996); Qin (2009). |   |   |

Planning for resettlement is carried out by the General Institute of Water Resources and Hydropower Planning and Design, the national-level design institute that is affiliated to the China Hydropower Engineering Consulting Group Corporation. The Ministry of Construction and its local bureaus are in charge of urban house removal, i. e. relocation and reconstruction of buildings. The land management sector represented by the Ministry of Land and Resources and its local bureaus are responsible for policy formulation and enforcement of national laws relating to expropriation (Chen et al. 2004, 204). On a basin level, resettlement bureaus exist for four of the seven basin commissions under the Ministry of Water Resources: the Yellow River, Changjiang, Hai and Pearl Rivers (Zhang s. a., publication after 2006). The resettlement bureaus are responsible for approving resettlement plans, monitoring and supervision of resettlement implementation and the review of resettlement completion (Zhang s. a., publication after 2006).

Once a resettlement plan is approved by the resettlement bureaus, implementation is the responsibility of county governments and their resettlement offices. Monitoring and

33 Interview N23102008, and State Council (2006b, Article 2, 5–10).

evaluation are carried out by such external agencies as research institutions, consulting companies and the department of design and planning at the Chinese Academy of Social Sciences (Chen et al. 2004, 204).<sup>34</sup>

During resettlement planning and implementation and post-relocation support, the communities affected must be involved in the process. The rural communities are represented by village committees, which are involved in the implementation phase in relation to land adjustment, location of housing, management of collective property, land compensation, employment and other areas. Urban communities are represented by residents' committees, which 'assist' district and county governments and resettlement agencies with socio-economic surveys and the relocation process (Chen et al. 2004, 203).

As previously mentioned, the project developer must submit a pre-feasibility study and a feasibility study prior to approval, and both must contain plans for resettlement. The study requirements and the resettlement specifications they include are set out in the 2006 Rules of Land Compensation and People Resettlement in Medium and Large Hydraulic and Hydroelectric Projects (State Council 2006a). The technical details are specified by the National Development and Reform Commission in a publication series entitled Standards of the People's Republic of China for the Power Industry. The most basic standards in this series are the Code for Preparation of Hydroelectric Project Feasibility Study Report and the Specification of Resettlement Planning and Designing for Hydroelectric Project (NDRC 2007a+b). Both standards were announced in 2003 and renewed in July 2007.

Local government from the county level upwards in the originating and host areas must be consulted on the resettlement plans (State Council 2006a, Article 6). The resettlement plans for the pre-feasibility and feasibility studies must contain details on the economy, society and environmental capacity of the originating and host areas as well as details on the relocatees themselves, such as their sources of income, location and agricultural production levels so that their current and future living standards may be assessed. The studies must also detail post-relocation support measures. Whenever necessary, the plans must be established on the basis of hearings conducted with the targeted resettlement population.

#### **4 Dam case studies: the Nu River Project and the Xiaolangdi Multipurpose Dam Project**

In the following, the study applies the national-level analysis to case studies in order to assess the effects of national legislation on dam projects. The first case applies EIA to the Nu River Project, the second considers resettlement in the context of the Xiaolangdi Multipurpose Dam Project. The Nu River and Xiaolangdi Multipurpose Dam Projects are part of the Western China Development Strategy and therefore cornerstones of China's plans for energy development. The Nu River Project showcases the roles of domestic reform through domestic learning processes and of NGOs and other domestic non-state ac-

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34 In fact, land acquisition and resettlement work are the responsibility of the project developer. However, since land is owned collectively and no market for land exchange exists, this work is contracted to local government bodies (Chen et al. 2004, 203).

tors (such as media outlets) in influencing governmental decision-making. The Xiaolangdi Multipurpose Project is an example of the role played by international actors (in this case, the World Bank) in China's dam-building programme. Table 4 briefly outlines the main project characteristics.

| <b>Project</b>   | <b>No of dams</b> | <b>Purpose</b> | <b>Dam height</b>                 | <b>Reservoir volume</b> | <b>Installed capacity in MW</b> | <b>Average annual output</b> | <b>No of re-locatees</b> | <b>Start of construction</b>                 |
|------------------|-------------------|----------------|-----------------------------------|-------------------------|---------------------------------|------------------------------|--------------------------|--|
| Nu <sup>35</sup> | 13                | Hydro-power    | 35.5 m (Liuku dam <sup>36</sup> ) | 8.1 MCM (Liuku dam)     | 21,320                          | 131.4 billion kWh            | 50,000                   | June 2008 (Liuku dam)                        |
| Xiaolangdi       | 1                 | Multi-purpose  | 154 m                             | 12.65 BCM               | 18,000                          | 5.1 billion kWh              | 200,000                  | September 1991; fully operational since 2001 |

Source: Brown / Xu (2009, 9); Information Center of Xiaolangdi Multipurpose Project Construction and Administration Bureau at the Yellow River Conservancy Commission (s. a., a).

#### 4.1 Case Study 1: Environmental Impact Assessment of the Nu River Project

As the Nu is an international river, its development is a central government responsibility. The preliminary feasibility studies for this project were conducted as early as the 1970s; a development plan for the Nu River was presented in 1989, and, the National Development and Reform Commission adopted the Nu River Project in 1999 on the basis of its assessment of China's energy needs (Brown / Xu 2009, 7 f.). The General Institute of Water Resources and Hydropower Planning and Design then invited bids and awarded planning to the Beijing Survey and Design Institute and the East China Survey and Design Institute, who both suggested two reservoirs and thirteen dams (Mertha 2008, 117). While the two institutes drew up the general plan, they subcontracted the technical design of the dam at Liuku – the first dam to be built – to the Kunming Hydropower Survey and Design Institute (Magee 2006a, 136 f., 171, 172 note 113).

It must be emphasised here that planning started well ahead of the reorganisation of the power sector in 2003, the revision of the Water Law of 2002 and the passing of the EIA Law in 2003. As mentioned above, five energy companies have had development rights for China's river basins since 2003. Since 2002 the basin commissions have been in charge of dam planning. For the Nu River, the commission in charge would have been the Changjiang Water Resources Commission. However, Magee reports that no comprehensive basin plan exists for the Nu, and the Commission was bypassed in that Huadian, the company in charge of Nu River development, referred the development plan directly to the National Development and Reform Commission (Magee 2006a, 250). In addition, the EIA Law would subject the Nu River Project to Strategic Environment Assessment and project

35 For a detailed description of all thirteen dams see Brown / Xu (2009, Table 2, 29).

36 The Liuku dam is the first of the thirteen dams to be built. It is also the smallest. The largest is the Songta dam with a wall height of 307 m and a reservoir volume of 6312 million cubic metres (Brown / Xu 2009, 28).

EIA studies (Qin 2008, 6). The ‘real action’ began when the central government announced the reform of the energy sector in December 2002, splitting the State Power Corporation into five energy companies, among them the China Huadian Corporation, which acquired the right to develop the Nu River (Dore / Yu 2004, 17). On 14 March 2003, before the official announcement of the project and before the State Council had given its approval, Huadian and the provincial government of Yunnan signed a letter of intent: the power station at Liuku would be the first to be built, construction to begin on 20 September 2003 (Mertha 2008, 117; Brown / Xu 2009, 8 cited Zhou 2003). Engineering design for the dams at Maji, Bijiang, Yabiluo, Lushui, Saige and Yansangshu would also start in 2003 (Brown / Xu 2009, 8 citing Beijing News 25 November 2003). By June 2003, it was reported that Kunming Hydropower Survey and Design Institute ‘has completed the supplementary report of pre-feasibility study for Liuku project, and is conducting feasibility study on its installed capacity’ (Living River Siam 2003).

In July 2003 the two design institutes submitted a report entitled *Nu River Middle and Lower Reaches Hydraulic Planning Report* to the National Development and Reform Commission. Mertha states that the report “was ‘very simple’ and contained no provisions on the impact of the Nu River Project on the environment” (Mertha 2008, 121). From 12 to 14 August 2003, the National Development and Reform Commission convened a meeting of around 140 people from government and research institutes, with opponents in the minority.<sup>37</sup> As usually happens at meetings of the National Development and Reform Commission, the planning report was approved ‘in principle’,<sup>38</sup> a mere two weeks before the EIA Law was to enter into force in September.

Yunnan’s Environmental Protection Bureau also supported the project, and Huadian tried to rush the State Council into approving the project before the EIA Law could come into effect. By then, however, Wang Yongchen and her NGO, Green Earth Volunteers, had got wind of the project and begun organising opposition. Encouraged by Wang, Mu Guangfeng of the State Environmental Protection Agency voiced opposition and moved to form a coalition of scientists and NGO activists, who managed to delay the project significantly (Mertha 2008, 120, 121 f., 126). In September 2003, the State Environmental Protection Agency convened a panel of experts. In the same month, it announced ‘serious reservations’ about, among other things, alterations to the World Heritage Site, the protection of the unexplored biodiversity, the loss of the wild rice gene pool, geological instability and the potential for poverty alleviation that might also be achieved through ecotourism (Dore / Yu 2004, 17). In late September, provincial and prefecture governments also convened panels of experts, who presented contrary opinions (Dore / Yu 2004, 17).

On 1 October 2003, Yu Xiaogang and his NGO, Green Watershed, conducted a survey of the Nu valley (Mertha 2008, 120). On 25 October 2003, Wang Yongchen’s Green Earth Volunteers organised a petition, which was signed by 62 people from the media, arts, science and environmentalist communities at the second meeting of the China Environment and Promotion Society, and this was publicised by the media (Mertha 2008, 119). In November 2003, Green Earth Volunteers and other environmental organisations attended the third meeting of the China-United States Environment Forum and succeeded in having

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37 Interview in B14112008.

38 Interview in K12122008.



the Nu River Project debated. The meeting led to a “*diffusion of opposition to the NRP [Nu River Project] throughout China’s NGO network*” (Mertha 2008, 120).

To boost the project, Xie Yi (Chairman of Nujiang Prefecture’s Communist Party Committee) and Ou Zhiming (Governor of Nujiang Prefecture) met officials of the National Development and Reform Commission, the Ministry of Water Resources, the State Environmental Protection Agency, the Water Resources Planning Academy, the Ministry of Transport and the State Ethical Affairs Commission in Beijing on 22 September 2003. At this meeting, Xiaoshaba at the Liuku dam was identified as the first village whose inhabitants would be resettled (Brown / Xu 2009, 9 cited Beijing News, 25 November 2003).

In early 2004, Shen Xiaohui, a senior researcher at the State Forestry Bureau, submitted a letter to the National People’s Congress and the Chinese People’s Political Consultative Conference (CPPCC) with the help of Liang Congjie, a CPPCC member and head of the NGO Friends of Nature (Mertha 2008, 121, citing Deng 2005). This established a link between researchers, NGO activists and politicians. Shen Xiaohui prepared two proposals for the forthcoming CPPCC meeting, where they were presented by Liang Congjie (Mertha 2008, 126). Having attracted political attention in Beijing, the project came to a standstill. Huadian was forced to conduct an EIA and submit it to the State Environmental Protection Agency (Mertha 2008, 122, citing Cheung 2004).

On 18 February 2004 Prime Minister Wen Jiabao put the project on hold on the grounds that EIA procedures had not been properly followed. In February 2004 twenty journalists, environmental activists, scholars and other experts led by Wang Yongchen visited the thirteen proposed dam sites in the guise of tourists and subsequently exhibited photographs in Beijing in March. One week before the exhibition, they launched a bilingual website on the Nu River Project, [www.nujiang.ngo.cn](http://www.nujiang.ngo.cn) (Mertha 2008, 125 f.).

In May 2004, Green Watershed’s Yu Xiaogang filmed the resettlement areas of the Manwan and Xiaowan power stations on the Mekong River, together with community leaders from Xiaoshaba village. VCDs and DVDs showing the squalor of the resettlement communities were made and subsequently distributed by peasant activists throughout Yunnan and also circulated among NGOs in Beijing (Mertha 2008, 127–130).<sup>39</sup>

From 27 to 29 October 2004 the United Nations Symposium on Hydropower and Sustainable Development was held in Beijing. To the dismay of Chinese officials attending the conference, Yu Xiaogang was accompanied by two peasant activists, one of whom gave a speech to the audience. The speech was also included in the conference proceedings and therefore made official (Mertha 2008, 130–133). In December 2004 the National Development and Reform Commission joined the opposition to the project, and its Vice-Director, Zhang Guobao, called for plans with less environmental impact (Mertha 2008, 133).

The State Environmental Protection Agency’s Vice-Director, Pan Yue, then announced public hearings under the 2003 EIA Law, while in March 2005 Wang Shucheng, Minister

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39 It may be mentioned here that Beijing-based NGOs are lobbyists rather than activists, whereas NGOs in the field are more activist (Interview K12122008).

of Water Resources, announced at the session of the National People's Congress that work on four dams would go ahead. In June 2005 a meeting of pro-dam experts in Yunnan submitted a report to Prime Minister Wen Jianbao. The State Council responded by saying that the report had to be revised, but without detailing what should be changed (Mertha 2008, 133 f.).

On 25 August 2005 61 organisations and 99 individuals signed an open letter entitled *Petition for Disclosing the EIA Report on the Nujiang River Hydropower Project in accordance with Legal Requirements*.<sup>40</sup> The number of signatories increased exponentially, reaching a total of 84 organisations and 331 individuals by 27 September 2005 (Qin 2008, 6; Haggert 2005a+b).

On 13 November 2005 the National Development and Reform Commission convened a panel of experts in Beijing, 'but key members of the opposition did not receive their invitations until two days before the panel was to begin.' The panel members were shown EIAs carried out by the East China Survey and Design Institute [which is part of the China Hydropower Engineering Consulting Group Corporation] and Guodian Corporation's Beijing Survey and Design Institute, but only briefly, giving them no opportunity for a detailed study (Mertha 2008, 139 f. cited Deng 2005 and Bezlova 2005).

On 11 January 2006 the National Development and Reform Commission published a decision that four of the eleven dams would be built. At the time, the EIA Report had been completed and approved by the State Environmental Protection Agency. Conclusions from the EIA Report leaked out, confirming that, in order to limit environmental damage, the number of dams was to be decreased from thirteen to four (Maji, Liuku, Yabiluo and Saige). This would also reduce the number of people to be resettled (Yardley 2006). Not many details are known since the EIA Law expressly allows EIA Reports to be withheld if they are relevant to security. As the Nu is an international river, the Ministry of Water Resources and the State Secrets Bureau argued that this was the case (Yardley 2006).

Significantly, the *Wen Wei Po* newspaper, which is based in Hong Kong but has links to the Chinese Communist Party, reported that four dams would be developed first, because they were less controversial, while the others could be built after improved planning and investigations concerning soil preservation, geological impacts and protection of cultural relics had been completed (Wen Wei Po 2006).

On 18 March 2008 the National Development and Reform Commission released its Plan on the Development of Renewable Energy during the Eleventh Five-Year Plan Period following State Council approval. The document announced that construction of the dams at Liuku and Saige would begin before 2010. However, construction of the Liuku dam started as early as June 2008, and with a few exceptions the inhabitants of Xiaoshaba village were resettled in 2007 (Brown / Xu 2009, 1 f., 9, citing Shi 2008).

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40 *Tiqing yifa gongshi Nujiang shuidian huanping baogao* [Call for public disclosure of Nujiang hydropower development's EIA report in accordance with the law]. The report can be found at <http://www.green-web.org/infocenter/show.php?id=17595> (last accessed 1 May 2009). For an English translation see here: <http://old.probeinternational.org/catalog/contentfullstory.php?contentId=2726&catid=24> (last accessed 1 May 2009).

Overall, then, the Nu River case presents a mixed picture. While the secretive and in camera decision-making processes of the Chinese political-administrative system are still prevalent, the system has also become porous. In an attempt to maintain its legitimacy, the party-state establishes decision-making mechanisms for non-governmental organisations and individuals. While this is not designed to change the authoritarian relationship between state and society by introducing democratic procedures, civil society organisations and individuals have shown that the openings in the political system can be exploited to organise effective protests without the risk of a repressive state response.

#### 4.2 Case Study 2: Resettlement at the Xiaolangdi Multipurpose Dam Project

The Xiaolangdi hydropower station is situated on the Yellow River (Huanghe) at Jiyuan in the Province of Henan. It is a World Bank-financed multipurpose project for flood control, prevention of ice jams in the lower reaches of the Yellow River, siltation control, the provision of water for irrigation and consumption in cities and by industries and power generation to replace thermal power in the Central China Power Grid (World Bank 1997). In 2000, when the WCD published its report, Xiaolangdi became operational and resettlement was in full swing. While Xiaolangdi was reviewed critically by some Chinese researchers, the criticism was not linked to the recommendations in the WCD report.

The World Bank approved three components: the Xiaolangdi Multipurpose Project, Xiaolangdi Multipurpose Project Stage II and the Xiaolangdi Resettlement Project for Reservoir Phases I and II. Resettlement was thus treated as a separate component, with a budget of its own.<sup>41</sup> Resettlement at Xiaolangdi was divided into four phases, to be completed between 1992 and 2011, and targeted 200,000 mostly rural residents: Damsite phase resettlement (dam construction and service areas) and Reservoir Phase resettlement I, II and III. The 130-km long reservoir flooded “7.25 million square meters of housing, 381,870 mu<sup>42</sup> of land including 181,709 irrigated land, 12 mini hydrostations, 658 km of canals, 688 km of roads, 548 km of communication lines and 109 cultural relics sites.”<sup>43</sup> In addition, the resettlement programme required the relocation of 789 manufacturing and mining companies. The flooding affected eight counties with 29 towns and 174 villages. Resettlement affected a population of 545,000 people in the host area, including 397 villages and 59 townships in the counties of Yima, Mengzhou, Wenxian, Yuanyang, Zhongmou and Kaifeng.<sup>44</sup> After the Three Gorges Project, it is the second largest project in China in terms of population relocation (Shi / Su / Yuan 2006, 41). The resettlement project meant to include the construction of all infrastructure for the resettled population, “including housing for 276 villages and ten towns”; it was to develop “11,100 hectares of land with 7,000 to be irrigated partly by the reservoir”; “252 industries and mines will be

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41 For detailed information on Xiaolangdi financing see the World Bank pages on Xiaolangdi at <http://web.worldbank.org/external/projects/main?menuPK=224076&pagePK=218616&piPK=217470&heSitePK=40941&query=Xiaolangdi> (last accessed 2 May 2009).

42 1 mu is equal to 666  $\frac{2}{3}$  square metres.

43 Information Center of Xiaolangdi Multipurpose Project Construction and Administration Bureau at the Yellow River Conservancy Commission (s. a., b).

44 Chen et al. (2004, 207); Information Center of Xiaolangdi Multipurpose Project Construction and Administration Bureau at the Yellow River Conservancy Commission (s. a., b) (last accessed 1 May 2009).

*relocated, 84 industries will be established for the employment of 20,500 resettlers”* (van Wicklin 1999, 238).

When borrowing from the World Bank, China must comply with its standards. The first World Bank policy on resettlement was published in 1980 as Operational Manual Statement (OMS) 2.33, entitled Social Issues Associated with Involuntary Resettlement in Bank-Financed Projects. The policy was updated in 1990 as Operational Directive (OD) 4.30 and reissued in December 2001 as Operational Policy (OP) and Bank Procedures (BP) 4.12.<sup>45</sup> One of the World Bank’s major goals is to ensure that benefits are shared between the operator and the communities affected, including relocatees and host communities. To promote benefit-sharing, rehabilitation packages should be linked to the benefits generated by the project (van Wicklin 1999, 234 f.). In its 1990 revision of resettlement regulations, the World Bank included the principle of benefit-sharing in its Operational Directive 4.30 (van Wicklin 1999, 236).

The agency responsible for building and operating the Xiaolangdi dam is the Xiaolangdi Water Resources Construction and Management Bureau, which reports to the Ministry of Water Resources. Established in September 1991, it is the project owner for Xiaolangdi. It coordinated the resettlement and land acquisition activities of the provincial Project Management Offices of Henan and Shanxi Provinces. It has five subsidiaries: Xiaolangdi Engineering Consulting Corporation to supervise construction, Xiaolangdi Water Resources and Hydropower Engineering Corporation for construction, Xiaolangdi Resettlement Bureau to manage resettlement, Xiaolangdi Tourism Corporation and Xiaolangdi Hydropower Plant. The general manager reports to the Ministry of Water Resources. Consequently, the latter has overall responsibility. A Central Project Leading Group under the State Council was formed to oversee project management, resolve policy issues and solve interdepartmental/interagency problems. The leading group consists of a vice-minister of the Ministry of Water Resources and directors from the Ministry of Finance, the National Development and Reform Commission and vice-governors of Henan and Shanxi Provinces.<sup>46</sup>

Resettlement necessitated by the project is managed by the Xiaolangdi Resettlement Bureau. It is supervised by the Resettlement Bureau of the Ministry of Water Resources. The Xiaolangdi Resettlement Bureau is responsible for general management, the organisation of the overall resettlement plan and the individual projects forming part of it, supervision, monitoring, approval, the disbursement of funds, auditing and the training of relocatees. The Provinces of Henan and Shanxi and the resettlement bureaus of the cities and counties directly affected by the flooding form a Leading Small Group, which is responsible for the resettlement work in the area under its jurisdiction.<sup>47</sup>

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45 For the World Bank’s involuntary resettlement website see <http://go.worldbank.org/MRNITY6XN0> (last accessed 1 May 2009). For an overview of all World Bank Safeguard Policies see <http://go.worldbank.org/WTA1ODE7T0> (last accessed 1 May 2009).

46 Information Center of Xiaolangdi Multipurpose Project Construction and Administration Bureau at the Yellow River Conservancy Commission (s. a., c); World Bank (1997).

47 Chen et al. (2004, 213); Information Center of Xiaolangdi Multipurpose Project Construction and Administration Bureau at the Yellow River Conservancy Commission (s. a., c); Information Center of Xiaolangdi Multipurpose Project Construction and Administration Bureau at the Yellow River Conservancy Commission (s. a., b).

The implementation of resettlement is then the responsibility of the counties affected in the Provinces of Henan and Shanxi. The funds are disbursed on a lumpsum basis under the direction of the Ministry of Water Resources and the supervision of the project owner: the Ministry transfers the funds to the provincial resettlement office, which passes them on to the local resettlement offices. They then allocate the payments directly to the villages. The resettlement planning and implementation process can be described as follows:<sup>48</sup>

The project owner entrusted (1) the Planning and Design Institute of the Yellow River Conservancy Commission with the task of drawing up the resettlement plan; (2) the Resettlement Bureau of the Yellow River Conservancy Commission supervised resettlement; (3) the Office for Resettlement Supervision of the Beijing Water Resources and Hydropower Institute was made responsible for monitoring and evaluation; (4) at the same time, the World Bank set up a panel of environment and resettlement experts as an advisory body. The loan agreement between the Chinese government and the World Bank stipulated that the project owner would put the Office for Resettlement Monitoring and Evaluation of the Beijing Water Resources and Hydropower Institute in charge of monitoring the resettlement process and the progress of post-relocation rehabilitation. The Office also evaluated test runs undertaken to prepare enterprises for relocation. It liaised regularly with the World Bank and the relevant departments and bureaus on the various levels of government.

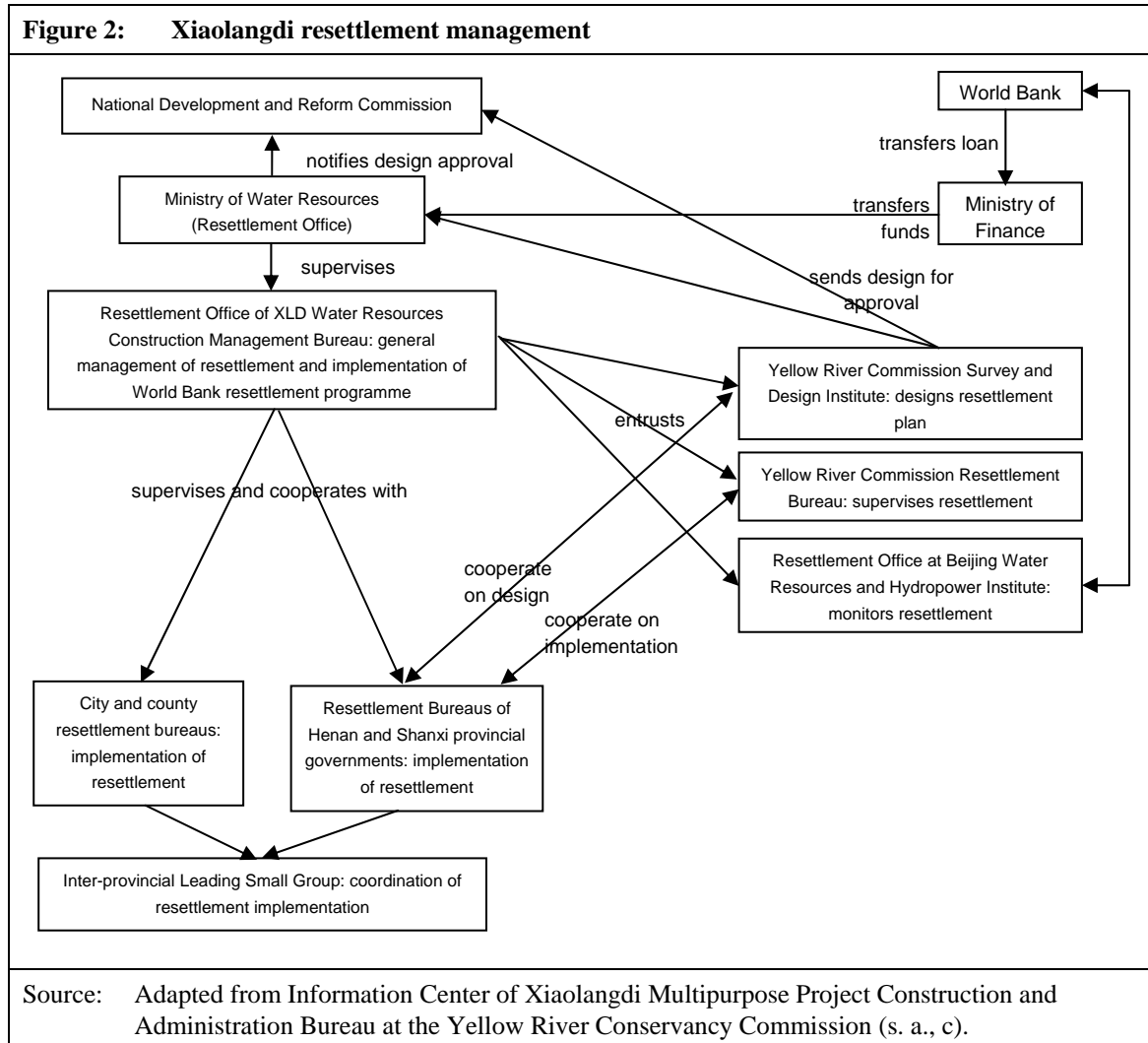
Work on the initial design for Xiaolangdi resettlement began in 1986 and included an initial socio-economic survey. In 1994, the Design Institute of the Yellow River Conservancy Commission together with the provincial resettlement office, the land acquisition section of the local resettlement office and village representatives conducted an in-depth socio-economic survey in each county and for each household in order to study the future loss of collective land and property during Reservoir Phases I, II, and III. The results provided the basis for the planning and design of the resettlement areas and the levels of compensation. The survey covered the amount of land resources, income levels and local customs.

The results of the survey led the authorities to conclude that most of the future relocates engaged in farming would not be prepared to subsist in a market economy, had poor technical skills and lacked the ability to take up non-agricultural lines of work. The Design Institute therefore emphasised the primacy of agricultural resettlement (Shi / Su / Yuan 2006, 43). In the survey, observers referred to the case of Yunlin village in Gucheng town, Yuanqu County, where the investigators joined with the Village Committee in appraising each house and its associated land and each enterprise and infrastructure, including roads and communication links. When the Village Committee published the survey in 1997, villagers detected mistakes and omissions. For example, brick-wood houses had been registered as earth-wood houses. Five households were not registered at all. However, observers attributed the errors to changes that had occurred in the village between the survey and its publication. The villagers notified the Village Committee, and the Village Committee notified the town and county resettlement offices. In 2000 the Design Institute of the Yellow River Conservancy Commission and those responsible in the county and

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48 The following account follows the project developer's description of resettlement: Information Center of Xiaolangdi Multipurpose Project Construction and Administration Bureau at the Yellow River Conservancy Commission (s. a., c); Chen et al. (2004, 208–210); Shi / Su / Yuan (2006).

town administrations corrected the errors, and compensation was first paid to the county resettlement office, which then distributed the money to the relocatees (Chen et al. 2004, 208). The apparent thoroughness of the investigation teams accorded with the World Bank's seventeen resettlement criteria for Xiaolangdi, which state inter alia that resettled communities should accept the resettlement plans and that there should be compensation for flooded infrastructure so that the 'previous level of service is maintained or improved' (World Bank 2007, 43 f.).



The Design Institute of the Yellow River Conservancy Commission, representatives of Village Committees from originating and host areas and representatives of the local resettlement offices were responsible for the selection and planning of the resettlement locations. Villagers were able to object to the sites chosen, but where they disagreed among themselves, the local branch of the Communist Party and the Village Committee could decide for them (Chen et al. 2004, 209). After the resettlement sites were selected, a residential site plan was drawn up by the same institutions plus the host villages and local government departments. Land was then allocated for general use, production and residential use, with villagers ideally being assembled by county and village governments so that they might have a say in the land they were allocated. Where compensation was concerned, county-level resettlement teams issued guidelines stipulating the procedures to be followed. Chen et al. (2004, 210) report that in Yuanqu County, for example, the guide-

lines provided for compensation of up to 50,000 Renminbi to be decided at meetings of village representatives. Compensation payments above that threshold were to be decided first by village representatives, who were required to present a project proposal to the Village Committee. The proposal then had to be approved by the township government and the county resettlement office (cf. Figure 2, which summarises the decision-making processes).

The host area for the relocatees was known as Wenmengtan.<sup>49</sup> It lies 20 km downstream from the dam site and is adjacent to Xin'an County. Xin'an County was initially chosen as the main host area and was to absorb 47,000 people despite its already limited environmental capacity and lack of adequate drinking water for 60,000 to 70,000 of the original inhabitants. Given the limitations of Xin'an, it was decided to develop Wenmengtan into a further host area in order to provide each Xiaolangdi resettler with an average of 667 square meters of arable land. The allocation size was calculated according to land productivity, per capita grain consumption and other factors established during the socio-economic survey (Shi / Su / Yuan 2006, 45 f.).

In 1990, to advance the plan, the Resettlement Bureau and Leading Small Group for the Coordination of Xiaolangdi Engineering of the Province of Henan and the Planning and Design Institute of the Yellow River Conservancy Commission put forward a plan for river works and soil improvement in the Wenmengtan area. To this end, the Yellow River Conservancy Commission's Design Institute, the Design Institute of the Henan Yellow River Affairs Bureau and the Resettlement Bureau of the Province of Henan began work on the initial design of the Wenmengtan resettlement plan. In 1993 the State Planning Commission approved this initial design. Construction began in 1994. In December 2003 the river engineering works and soil improvement measures in the Wenmengtan area passed the completion check of the Ministry of Water Resources.

Despite the World Bank's involvement, the people directly affected were not involved in the identification of needs and problems (Plummer / Taylor 2004, 43, 51 f.), but they were able to express their opinions during the planning stage on the suitability of new farmland areas proposed by the Design Institute. However, in case of disagreement or lengthy debate among the villagers, the Village Committee was allowed to make the decision. Errors in registration by the Design Institute resulted in (initial) losses of compensation (Chen et al. 2004, 209 f.), and relocatees were 'largely unaware of the benefits of participation, and remained passive' (Chen et al. 2004, 213). At that time, during the design stage, villagers were merely notified of the results of the design and how this would affect them, with no chance of further interaction; resettlement then proceeded without further consultation (Plummer / Taylor 2004, 43, 51 f.). This often resulted in villagers being dissatisfied with the quality of the land allocated to them and the distance it lay from the new settlement (Chen et al. 2004, 213). During post-relocation, however, some Village Committees provided further support: for instance, the villagers relocated from Hedi village in Yuanqu county cultivated the new farmland collectively for one year, after which the Village Committee set up an allocation team to evaluate the farmland and divide it into plots on

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49 The name is an amalgam of the names of Wen County in the municipal limits of Mengzhou City, plus the Chinese name for the sandy beaches of the Yellow River (*tan*) at that place.

the basis of productivity, soil type, soil quality, water source and distance from the settlement. The plots were then allocated to the villagers (Chen et al. 2004, 210).

## 5 Findings and conclusions

This study examined dam decision-making in China and channels of international influence on the basis of three hypotheses: first, China's embeddedness in international institutions and regimes; second, the influence of international norms as a result of social mobilisation; and third, the influence of such international dam financiers as the World Bank and the Asian Development Bank. The WCD served as the point of reference for the dissemination of international norms, having recommended a set of sustainable norms for dam development that would aid in dam decision-making. The two-level analysis also allowed discrepancies and congruencies between the national-level legal situation and the reality on the ground in individual dam-construction projects to be examined.

In China's strategic hydropower development setting, the WCD's relevance is difficult to discern since it exercises its influence at best indirectly through the World Bank, ADB, and IHA. Although past and current resettlement and EIA/SEA reforms have increased the opportunities for NGOs and individuals to make themselves heard, Chinese strategic decision-makers, particularly those in the Ministries of Industry and Water Resources and the powerful National Development and Reform Commission, eschew strategic guidelines that would interfere with top-down decision-making, such as the WCD principle of Gaining Public Acceptance. The adoption of participatory standards is designed to improve transparency of state decision-making at the lower levels of government and help to enforce national legislation where local government refuses to do so. This increases regime legitimacy. The aim of enhancing legislation on participation is not the introduction of democracy on any level of government.

The introduction and reform of resettlement and EIA are therefore most importantly the result of domestic policy learning and the invigoration of the societal level. The former is clear from the fact that reforms in the resettlement and environment spheres began with the onset of the reform period in 1978/79 (environmental reforms certainly being a very protracted process). Looking back at the 1950s, Bizer and Ragsdale (1997) argue that China had resettlement policies in place, but the radicalisation of the political realm since the mid-1950s made their implementation impossible. Rather, resettlement in the context of hydropower construction was seen as a personal sacrifice that relocatees had to make for the sake of the country's development.<sup>50</sup> This changed after 1979. As for the invigoration of the societal level after 1979, this development should be viewed with caution. Rather than allowing the populace greater freedom of expression, the growing opportunities for action by individuals and NGOs are the result of a conscious effort by central government to control local government. The rationale is therefore instrumental.

However, these societal processes increasingly take on self-enforcing dynamics that are difficult for the central government to control. This is partly because some NGOs manage to form alliances with media representatives and members of such political bodies as the

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50 Interview N15122008.



National People's Congress and the Chinese People's Political Consultative Conference. Furthermore, such new technologies as the Internet make it easier for individuals to become informed and to protest spontaneously. The government reacts to these dynamics, because it has realised that growing popular dissatisfaction with corruption and environmental pollution has the potential to disturb political stability.

It is important to note that, in all this, Chinese NGOs and individuals tend to focus on pressuring central and local government to enforce national legislation. Should the Chinese government be disinclined, for instance, to adopt certain international modes of participation, Chinese NGOs usually abstain from such recommendations given the NGOs' precarious existence. As a rule, protests by NGOs or individual citizens have a bearing on the enforcement of existing legislation rather than the initiation of new laws. Yet foreign-funded NGOs often set up pilot projects which, if successful, are later adopted by local government. The Nu River is perhaps the clearest example of NGOs succeeding not only in drawing national attention to environmental protection, but also in forcing government agencies and project developers to engage in an environmental appraisal process. The second hypothesis is thus confirmed.

In addition to the strong domestic reform process, there are international influences. Of direct relevance to dam-building, they are discernible in ADB technical assistance programmes, World Bank financing and China's continued involvement in the IHA-HSAF process until it ended in February 2009 with the publication of the IHA Draft Sustainability Assessment Protocol. This confirms the third hypothesis. Indeed, Qin (2009, 2) argues that the 2006 amendments to the Rules of Land Compensation and People Resettlement in Medium and Large Hydroelectric Projects "*have incorporated the core requirements of the World Bank Guidelines on Non-voluntary Resettlement.*" The ADB and World Bank offer practical examples of international influence on Chinese law, and the IHA-HSAF process is an example of direct Chinese participation in norm-building.

Where WCD recommendations have been incorporated into Chinese law, they have been transmitted through World Bank and ADB procedures. Given that the World Bank itself has adopted a cautious attitude towards the WCD, the effect of those recommendations would be difficult to measure. It is more a matter of reforms of the World Bank and ADB resettlement rules finding their way into Chinese legislation. Determining how these reforms are triggered and whether WCD norms have been integrated into World Bank and ADB resettlement guidelines would require not only a study of WCD influence on the World Bank and ADB, but a thoroughgoing examination of the reform processes of the two banks, the persons involved, their networks and their professional background. This goes beyond the scope of this study, but will be fertile ground for future research.

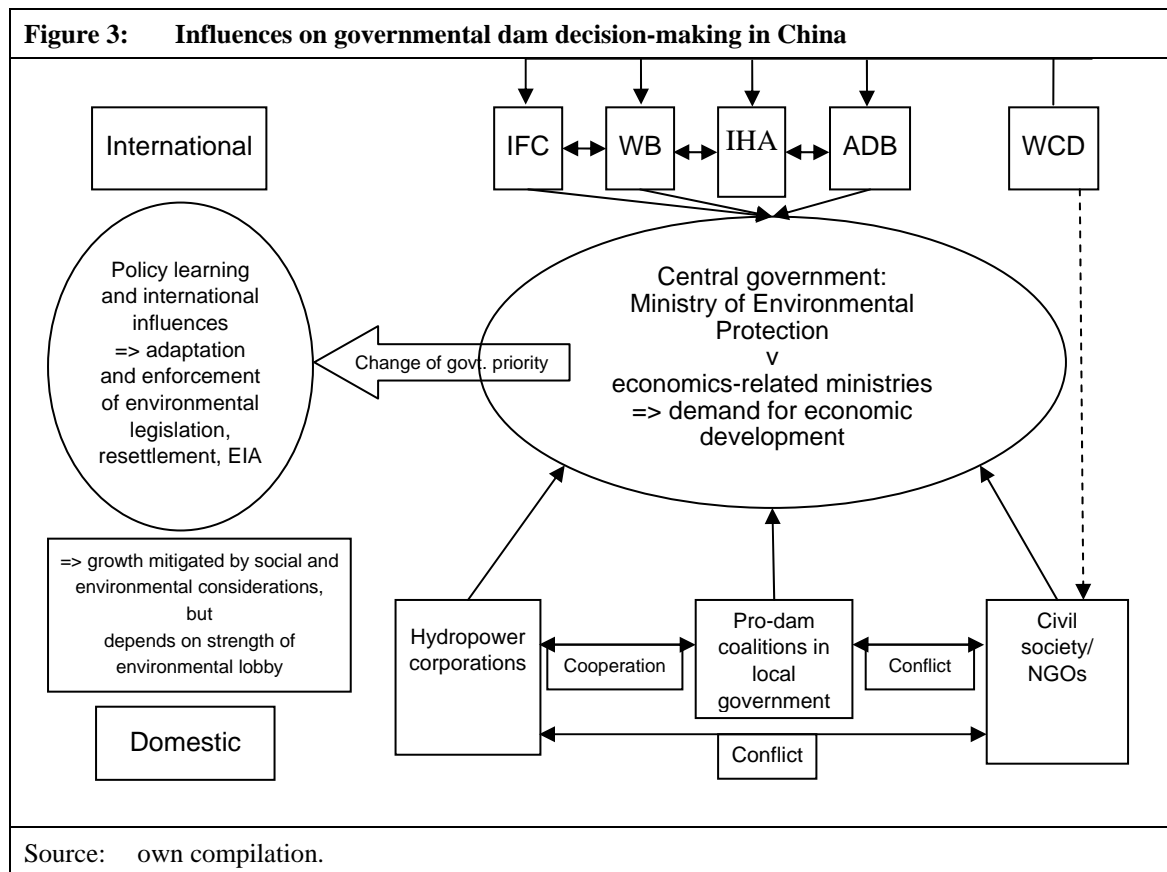
IHA is another international institution that may be influential, first, because it refers to WCD recommendations, and second, because the Chinese government is involved in the HSAF process. In addition, the IHA-HSAF provides an important instrument for building confidence between international norm setters and the Chinese government. Other international influence is exercised through the Aarhus Convention and model legislation in the EU and the United States. These are transmitted through China's embeddedness in international cooperation mechanisms, such as the EU-China Basin Development Programme, Chinese study groups and a range of bi- and multilateral meetings.

It can be assumed that WCD norms are transmitted through these institutions when they actually refer to the WCD, but hard evidence does not always exist. The IHA Draft Hydropower Sustainability Assessment Protocol of February 2009 is perhaps the most transparent way of identifying WCD influence: attached to the draft protocol is a detailed analysis showing which sections of the draft protocol correspond to the WCD's seven Strategic Priorities. As the consultation and trial stage of the draft protocol was finalised in December 2009, future analysis will have to ascertain how influential the protocol has been in China once the draft is replaced by the final protocol.

Apart from institutions of direct relevance to Chinese dam legislation, other international norm setters are of importance, but their actual influence requires further examination. In January 2008, for example, the Ministry of Environmental Protection announced cooperation with the International Finance Corporation (IFC) in implementing the Equator Principles in China with a view to spreading a concept known as Green Credit. The Equator Principles were developed by a group of ten banks. They are based on World Bank and IFC policies and require compliance with IFC Performance Standards. While the Equator Principles are certainly important for dam project finance, only non-Chinese banks have so far adopted them in respect of dams, an example being the British bank HSBC in its 2005 Freshwater Lending Guideline. In November 2008, the China Industrial Bank was the first Chinese financial institution to announce that it would adopt the Equator Principles. In addition, such Chinese companies as the China Development Bank and Hanenergy have signed up to the UN Global Compact, a UN initiative to which companies can subscribe that monitors companies' (voluntary) adherence to ten principles in the four areas of human rights, labour, environment and anti-corruption. Other Chinese companies are certified under ISO 14001, among them Sinohydro Engineering Bureau No 1 (Corporate Social Responsibility and Sustainability News for China 2008; Brewer 2008, 21). A question that remains is whether this is a mere façade or a generic interest in corporate social responsibility. These channels of influence are not covered by the three hypotheses underpinning the analysis of the present study. In fact, it can be argued that Chinese companies subscribe to these principles and initiatives because they are investing abroad and wish to be perceived as responsible international players.

Central government is facing a dilemma: it has to cope with increasing energy demand to keep the economy going and so maintain domestic stability by creating jobs for school and university graduates (Information Office of the State Council of the People's Republic of China 2004, Part VI). At the same time, there is growing popular demand for environmental protection. President Hu Jintao's and Prime Minister Wen Jiabao's priority of economic development is therefore increasingly geared to awareness of the social and environmental fallout. Figure 3 depicts the forces and actors that influence governmental dam decision-making.

Figure 3 shows central government influenced by domestic and international processes. Internationally, the WCD arguably has some influence on World Bank safeguards, ADB regulations and IFC Performance Standards. When China borrows from these three institutions, it has to adhere to their regulations, which will ideally embody WCD norms.



There is also an exchange of information and expertise between IHA, World Bank and Equator Bank/IFC representatives.<sup>51</sup> Domestically, there are two influences: a progressive influence from a civil society seeking the opening of the political system (even if such an agenda is not officially put forward); and a conservative influence from local government and hydropower corporations, which often cooperate in an attempt to circumvent national environmental and participation legislation. As a consequence, progressive and conservative actors are in conflict with each other. It can be assumed that the WCD has an influence on civil society but not ascertained, as this was not investigated as part of the study.

As response to these influences, the government adopts progressive legislation depending on the credibility of international monitoring mechanisms and the power alignment of domestic actors. Among the domestic actors, NGOs and individual citizens, encouraged by a sense in the leadership of the urgency of the need to clean up the environment, have increased the scope of their action against the inertia of conservative actors, as the case of the Nu River shows. Yet the Nu River case also highlights the central problem in these relationships: different actors have different agendas. Conflicts are often perceived as zero-sum games. Whether or not this blocks domestic decision-making processes depends, first, on the power asymmetries and, second, on the conflict management of the stakeholders involved.

Consequently, rather than the adoption of international norms by Chinese policy-makers being attributed to outside pressure, it should be emphasised that a growing number of

<sup>51</sup> Interview L151209.

Beijing's politicians have taken note of the threat to their hold on power from popular anger about the degradation of the environment. China's participation in international institutions and its adoption of participatory procedures depend on their usefulness in legitimising the regime. Chinese policy-makers are not interested in ideological debates with the international community. They are pragmatic. Their interest is in achieving rapid results able to spur on certain domestic reforms, to drive the economy and to secure energy supplies. This should be borne in mind by those who attempt to engage China in international developmental processes.



## Bibliography

- ADB (Asian Development Bank)* (1996): Capacity building for natural resource legislation: technical assistance 2735-PRC, Manila
- (1998a): Report and recommendation of the President to the Board of Directors on a Proposed Loan and Technical Assistance Grant to the People's Republic of China for the Yunnan Dachaoshan Power Transmission Project, Manila
  - (1998b): Review of national resettlement policies and experience with involuntary resettlement projects: regional technical assistance 5781, Manila
  - (2000): National Resettlement policy enhancement and capacity building: regional technical assistance 5935, Manila
  - (2002): People's Republic of China: national resettlement policy enhancement and capacity building: country report for the regional workshop at ADB headquarters in Manila, 18–20 February 2002, prepared by the National Research Center for Resettlement at Hohai University, Nanjing, for the Ministry of Land and Resources.
- Beijing News* (2003): Nujiang 13 ji shuiba reng yao shangma [13 Nujiang dams will go ahead], 25 November; online: <http://news.thebeijingnews.com/0547/2003/-1125/002@1436.htm> (accessed 18 Feb. 2010)
- Bezlova, A.* (2005): Let public see secret mega-dam plans, Inter Press Service / Global Information Network, 26 Oct. 2005
- Bizer, J. / T. Ragsdale* (1997): The development of resettlement policy in China: two case studies in Sichuan and Hebei provinces, s. 1., Multinational Environmental and Social Assessment Services
- Brewer, N.* (2008): The new great walls: a guide to China's overseas dam industry, Berkeley: International Rivers Network; online: <http://www.internationalrivers.org/files/New%20Great%20Walls%20low%20res.pdf> (accessed 18 Feb. 2010)
- Brown, P. / Y. Xu* (2009): Nu river hydropower development and Liuku Dam resettlement policy: paper presented at the International Conference on Economic Integration in the Greater China Region, Chinese Economists Society, University of Macau, 29–30 March 2009; online: [http://www.umac.mo/economics/-ces/Brown\\_Xu.pdf](http://www.umac.mo/economics/-ces/Brown_Xu.pdf) (accessed 18 Feb. 2010)
- Chen, S. et al.* (2004): Participatory resettlement: key issues and processes in resettlement in Xiaolangdi and Hexi., in: J. Plummer / J. G. Taylor (eds.), Community participation in China: issues and processes for capacity building, London: Earthscan, 200–229
- Cheung, R.* (2004): Assessment of dam project urged, in: *South China Morning Post* 12 March 2004
- China Daily* (2003): Constitutional amendments endorsed, 14 March 2003; online: [http://www.china-daily.com.cn/english/doc/2004-03/14/content\\_314719.htm](http://www.china-daily.com.cn/english/doc/2004-03/14/content_314719.htm) (accessed 18 Feb. 2010)
- Corporate Social Responsibility and Sustainability News for China* (2008): China's Industrial Bank to adopt Equator principles, 6 Nov. 2008; online: <http://www.chinacsr.com/en/2008/11/06/3544-chinas-industrial-bank-to-adopt-equator-principles/> (accessed 18 Feb. 2010)
- Cui, M.* (2006): (General Editor), Zhongguo nengyuan fazhan baogao: Nengyuan lanpi shu [The Energy Development Report of China: Blue Book of Energy], Beijing: Shehui kexue wenxian chubanshe
- Deng, J.* (2005): Environmental protection's new power is growing, in: *Nanfang Zhoumo* [Southern Weekend], 27 Dec. 2005
- Dore, J. / X. Yu* (2004): Yunnan hydropower expansion: update on China's energy industry reforms & the Nu, Lancang & Jinsha Hydropower Dams, Kunming, PR of China: Chiang Mai University's Unit for Social & Environmental Research & Green Watershed (Working Paper) March 2004
- Downs, E.* (2006): Brookings institution energy security series: China, Washington, DC: Brookings Institution
- Economy, E.* (2004): The River runs black: the environmental challenge to China's future, Ithaca, NY; London: Cornell University Press
- Energy Information Administration* (2006): Country analysis briefs: China; online: , <http://www.eia.doe.gov/emeu/cabs/China/Full.html> (accessed 18 February 2010).

- Gough, K. (2004): Emerging civil society in China: an overall assessment of conditions and possibilities: available to civil society and its organisations to Aat in China, Stockholm: SIDA; online: [http://www.sida.se/shared/jsp/download.jsp?f=SIDA3799en\\_China\\_web.pdf&a=3163](http://www.sida.se/shared/jsp/download.jsp?f=SIDA3799en_China_web.pdf&a=3163) (accessed 18 Feb. 2010)
- Haggert, K. (2005a): Open letter puts pressure on Beijing over secretive dam plans, in: *Three Gorges Probe* 7 Sep. 2005; online: [http://old.probeinternational.org/catalog/content\\_fullstory.php?contentId=2876&cat\\_id=7](http://old.probeinternational.org/catalog/content_fullstory.php?contentId=2876&cat_id=7) (accessed 18 Feb. 2010)
- (2005b): Nu river campaign gathers steam, in: *Three Gorges Probe* 27 Sep. 2005; online: <http://www.probeinternational.org/three-gorges-probe/news-and-opinion/nu-river-campaign-gathers-steam> (accessed 18 Feb. 2010)
- Harris, P. G. (2006): Environmental perspectives and behavior in China: synopsis and bibliography, in: *Environment and Behavior* 38 (5), 5–21
- Heggelund, G. (2004): Environment and resettlement politics in China: the three gorges project, Aldershot: Ashgate
- (2006): Resettlement programmes and environmental capacity in the three gorges dam project, in: *Development and Change* 37 (1), 179–199 (page numbers quoted in the text above follow the post-print version; online: <http://www.fni.no/doc&pdf/gmh-dc-2006.PDF> (accessed 18 Feb. 2010)
- Hirsch, P. / K. M. Jensen (with B. Boer, N. Carrard, S. FitzGerald and R. Lyster) (2006): National interests and transboundary water governance in the Mekong, Sydney: Australian Mekong Resource Centre, University of Sydney, Danish International Development Assistance
- Ho, P. (2005): Institutions in transition: land ownership, property rights, and social conflict in China, Oxford: Oxford University Press
- Ho, P. / R. L. Edmonds (2007): Perspectives of time and change: rethinking embedded environmental activism in China, in: *China Information* 21 (2), 331–344
- IHA (International Hydropower Association) (2009): Hydropower Sustainability Assessment Forum: progress update and invitation to provide feedback, January 2009; online: [http://www.hydropower.org/sustainable\\_hydropower/HSAF-Phase\\_1\\_Consultation/HSAF-5\\_page\\_consultation\\_document.pdf](http://www.hydropower.org/sustainable_hydropower/HSAF-Phase_1_Consultation/HSAF-5_page_consultation_document.pdf) (accessed 18 Feb. 2010)
- Information Center of Xiaolangdi Multipurpose Project Construction and Administration Bureau at the Yellow River Conservancy Commission (s. a. a): Project introduction; online: <http://www.xiaolangdi.com.cn/english/xld/xld.htm> (accessed 18 Feb. 2010)
- (s. a. b): Resettlement; online: <http://www.xiaolangdi.com.cn/english/xld/ym.htm> (accessed 18 Feb. 2010)
- (s. a. c): Yimin anzhi [Resettlement]; online: <http://www.xiaolangdi.com.cn/2009/0918/18.html> (accessed 18 Feb. 2010)
- Information Office of the State Council of the People's Republic of China (2004): China's employment situation and policies, Beijing; online: <http://www.china.org.cn/e-white/20040426/index.htm> (accessed 18 Feb. 2010)
- International Rivers Network (2005): Nu river dams: approval expected in coming months, 6. Sept 2005, IRN Press Release; online: <http://www.internationalrivers.org/en/china/nu-salween-river/nu-river-dams-approval-expected-coming-months> (accessed 18 Feb. 2010)
- Lampton, D. M. (1987): Chinese politics: the bargaining treadmill, in: *Issues and Studies* 23 (3), 11–41
- Lee, N. (2007): The development of environmental NGOs in China: a road to civil society?, in: *China Brief* 6 (23)
- Lieberthal, K. G. / D. M. Lampton (eds.) (1992): Bureaucracy, politics, and decision making in post-Mao China, Berkeley, Calif., Oxford: University of California Press
- Lieberthal, K. G. / M. Oksenberg (1988): Policy making in China: leaders, structures, and processes, Princeton, NJ.: Princeton University Press
- Living River Siam (2003): China Huadian corp to lead Nu river (upper Salween) hydropower plan, press release, June 2003; online: <http://www.livingriversiam.org/sw/SWDnE13.htm> (accessed 18 Feb. 2010)
- Makkonen, K. (2005): Mekong cooperation: the linkages between poverty, environment and transboundary water management in Southwest China's Yunnan province, paper presented at the conference of the Nordic Association for Chinese Studies, Helsinki, 7–9 June 2005; online: <http://www.nacsorg.com/-finland2005/papers/makkonen.pdf> (accessed 18 Feb. 2010)

- Magee, D. (2006a): New energy geographies: powershed politics and hydropower decision making in Yunnan, China, Washington, DC: University of Washington, mimeo (PhD thesis)
- (2006b): Powershed politics: Yunnan hydropower development under great western development, in: *China Quarterly* 185, 23–41
- McDonald, B. / M. Webber (2002): Involuntary resettlement in China: a model of good practice?, in: *Forced Migration Review* 14 (July), 38 f.
- McElwee, C. R. II (2008): The environmental impact assessment in China: the first step toward compliant operations, in: *International Environmental Law Committee Newsletter* 10 (4), 21–24
- Mertha, A. C. / W. R. Lowry (2006): Unbuilt dams: seminal events and policy change, in: *Comparative Politics* 39 (1), 1–20
- Mertha, A. C. (2008): *China's water warriors: citizen action and policy change*, Ithaca, London: Cornell University Press
- Ministry of Environmental Protection (2009): MEP requires to practically enhance planning EIA workm News Release, 10 Sep. 2009; online: [http://english.mep.gov.cn/News\\_service/news\\_release/200909/t20090929\\_161948.htm](http://english.mep.gov.cn/News_service/news_release/200909/t20090929_161948.htm) (accessed 18 Feb. 2010)
- Ministry of Power and Ministry of Finance (1981): Caizheng bu, dianli gongye bu guanyu cong shuidianzhan fadian chengben zhong tiqu kuqu weihu jijin de tongzhi [Announcement of the Ministry of Finance and the Ministry of Power on the Establishment of a Reservoir Maintenance Fund from the Electricity Costs Generated by Hydroelectric Stations], Beijing
- Mollinga, P. / E. Dörendahl (2009): Comparing WCD norm diffusion: some observations, unpublished report for the German Development Institute on the findings of the research project “All the Way Down to Implementation: The Norms of the World Commission on Dams for Dam-Related Decision-making, Bonn, 30 Oct. 2009
- NDRC (National Development and Reform Commission) (1996): Guanyu jianli shuidianzhan he shuiku kuqu houqi fuchi jijin tongzhi [Announcement on the Establishment of a Hydroelectric and Reservoir Post-Relocation Support Fund], Beijing
- (2007a): Shuidian gongcheng kexingxing yanjiu baogao bianzhi guicheng: Zhonghua Renming Gongheguo dianli hangye biao zhun, DL/T 5020-2007 [Code For Preparation of Hydroelectric Project Feasibility Study Report: Standards of the People's Republic of China for the Power Industry]. Beijing
- (2007b): Shuidian gongcheng jianshe zhengdi yimin anzhi guihua sheji guifan: Zhonghua Renming Gongheguo dianli hangye biao zhun, DL/T 5064-2007 [Specification of Resettlement Planning and Designing For Hydroelectric Project: Standards of the People's Republic of China for the Power Industry], Beijing
- Osborne, M. (2006): The paramount power: China and the countries of Southeast Asia, Sydney: Lowy Institute for International Peace (Lowy Institute Paper 11); online: <http://www.lowyinstitute.org/PublicationGet.asp?i=370> (accessed 18 Feb. 2010)
- People's Daily (2000): Large hydropower plant to be build in Yunnan, 6 Dec. 2000; online: [http://english.peopledaily.com.cn/english/200012/06/eng20001206\\_57047.html](http://english.peopledaily.com.cn/english/200012/06/eng20001206_57047.html) (last accessed 18 February 2010).
- Plummer, J. / J. G. Taylor (2004): The characteristics of community participation in China, in: J. Plummer / J. G. Taylor (eds.), *Community participation in China: issues and processes for capacity building*, London: Earthscan, 36–54
- Powell, S. et al. (2008): *China greening: the emerging role of the public: CLSA Asia-Pacific Markets, WWF Hong Kong, Institute of Public and Environmental Affairs*
- Qin, C. / J. Li (2005): First public hearing over environment, in: *China Daily*, 14 Apr. 2005; online: [http://www.chinadaily.com.cn/english/doc/2005-04/14/content\\_434089.htm](http://www.chinadaily.com.cn/english/doc/2005-04/14/content_434089.htm) (accessed 18 Feb. 2010)
- Qin, T. (2008): Public participation in environmental governance in China: important development in recent years, s. l., mimeo
- (2009): Comments on ‘Decision-Making Framework for Large Dams in China’, written comment on Oliver Hensengerth's presentation at the Sixth Dialogue on Water, German Development Institute, Bonn, 15–16 Oct. 2009



- Shi, G. / Q. Su / S. Yuan (2006): Risk and avoidance of risk among migrants of the Xiaolangdi dam project, in: *Chinese Sociology and Anthropology* 38 (3) (Spring), 40–70
- Shi, G. et al. (2001): *Zhongguo yimin zhengci yu shijian* [China resettlement policy and practice] (Yinchuan: Ningxia renmin chubanshe), Yinchuan
- Shi, J. (2008): Nujiang Liuku, Saige dianzhan lieru ‘Shi Yi Wu’ zhongdian xiangmu [Nu River Liuku and Saige hydroelectric stations listed as major projects in the ‘Tenth Five-Year Plan’], in: *Zhujiang Sanjiao hezuo xinxi wang* [Pan Pearl River cooperation information network], 25 March 2008; online: [http://yunnan.pprd.org.cn/fzgh/wngh/200803/t20080325\\_41112.htm](http://yunnan.pprd.org.cn/fzgh/wngh/200803/t20080325_41112.htm) (accessed 18 Feb. 2010)
- Stanway, D. (2005): China’s hydropower development is an issue for all of Southeastern Asia, in: *Interfax China* 5 July 2005; online: <http://www.interfax.cn/showfeature.asp?aid=3287&slug=CHINA-HYDRO-POWER-MEKONG-SALWEEN> (accessed 18 Feb. 2010)
- (2007a): China abandons plans for Huge dam on Yangtze, in: *The Guardian* 29 Dec. 2007; online: <http://www.guardian.co.uk/world/2007/dec/29/china.waveandtidalpower> (accessed 18 Feb. 2010)
  - (2007b): China’s renewable energy targets will include large-scale hydro-state planner, in: *AFX News Limited*, 4 Sep. 2007; online: <http://www.forbes.com/markets/feeds/afx/2007/09/04/afx4077882.html> (accessed 18 Feb. 2010)
- State Council (1986): *Guowuyuan bangongting zhuanfa shuili dianli bu guanyu zhuajin chuli shuiku yimin wenti baogao de tongzhi* [Circular of the General Office of the State Council on the Announcement of the Ministry of Power on the Treatment of Problems in Reservoir Resettlement], Beijing
- (2006a): *Dazhong xing shuili shuidian gongcheng jianshe zhengdi buchang he yimin anzhi tiaoli, Guowuyuan ling (di 471 hao)* [Rules of Land Compensation and People Resettlement in Medium and Large Hydraulic and Hydroelectric Projects] (Order of the State Council 471), Beijing
  - (2006b): *Guowuyuan guanyu wanshang dazhong xing shuiku zimin houqi fuchi zhengce de yijian*, Guofa (2006): [Opinions of the State Council on Improving the Policies for Follow-Up Support to Residents for Construction of Large and Medium-Sized Reservoirs], Issue No. 26, Serial No. 1205 (20 September 2006), Beijing
- Taylor, J. G. (2004): The context of community participation in China, in: J. Plummer / J. G. Taylor (eds.), *Community participation in China: issues and processes for capacity building*, London: Earthscan, 23–35
- Tiqing yifa gongshi Nujiang shuidian huanping baogao* [Call for public disclosure of Nujiang hydropower development’s EIA report in accordance with the law]; online: <http://www.greenweb.org/infocenter/show.php?id=17595> (accessed 18 Feb. 2010); for an English translation see here: [http://old.probeinternational.org/catalog/content\\_fullstory.php?contentId=2726&cat\\_id=24](http://old.probeinternational.org/catalog/content_fullstory.php?contentId=2726&cat_id=24) (accessed 18 Feb. 2010)
- Wicklin, W. A. III van (1999): Sharing project benefits to improve resettlers’ livelihoods, in: M. Cernea (ed.), *The economics of involuntary resettlement: question and challenges*, Washington, DC: World Bank, 231–255
- Wei, Y. / Y. Fan (2006): *Zhongguo nengyuan baogao (2006): Zhanlüe yu zhengce yanjiu* [China energy report (2006). Strategy and policy research], Beijing: Kexue chubanshe
- Wen Wei Po (2006): *Shuilibu zhang tan nujiang zhong shengtai, zai guihua* [Minister of Water Resources talks about the importance of the Nun River’s ecology and revises the plan]; online: <http://paper.wenweipo.com/2006/03/06/CH0603060025.htm> (accessed 18 Feb. 2010)
- World Bank (1997): *China-Xiaolangdi Multipurpose Project Stage II*, Washington, DC; online: <http://www.worldbank.org.cn/Chinese/content/867r1186883.shtml> (accessed 18 Feb. 2010)
- (2001a): *The World Bank position on the report of the World Commission on Dams*, Washington, DC
  - (2001b): *Operational policy 4.37: safety of dams*, Washington, DC
  - (2007): *Project performance assessment report: Xiaolangdi resettlement project*, Washington, DC; online: [http://www-wds.worldbank.org/servlet/WDServlet?pcont=details&eid=000334955\\_20080508041421](http://www-wds.worldbank.org/servlet/WDServlet?pcont=details&eid=000334955_20080508041421) (accessed 18 Feb. 2010)
- Yang, G. / C. Calhoun (2007): Media, civil society, and the rise of a green public sphere in China, in *China Information* 21(2), 211–236

- Yardley, J.* (2006): China proposes fewer dams in power project to aid environment, in: *The New York Times* 12 Jan. 2006; online: <http://www.nytimes.com/2006/01/12/international/asia/12river.html> (accessed 18 Feb. 2010)
- Zhang, C.* (s. a., publication after 2006): China reservoir resettlement: policy and practice, paper presented at the Confederation of Indian Industry; online: [http://cii.in/documents/China\\_policy.pdf](http://cii.in/documents/China_policy.pdf) (accessed 18 Feb. 2010)
- Zhou, P.* (2003): Liuku Shuidian zhan jiepai [Inauguration of Liuku hydroelectric station], in: *Yunnan Daily* 19 July 2003; online: [http://www.yn.xinhuanet.com/newscenter/200307/19/content\\_724446.htm](http://www.yn.xinhuanet.com/newscenter/200307/19/content_724446.htm) (accessed 18 Feb. 2010)



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