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**Financing Matters:
Where funding arrangements meet resettlement
in three Mexican dam projects**

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ACRONYMS¹

ADB	Asian Development Bank
BOT	Build-Operate-Transfer
BLT	Build-Lease-Transfer
CFE	Federal Electricity Commission / Comisión Federal de Electricidad
CIESAS	The Centre for Investigation and Higher Education in Social Anthropology / El Centro de Investigaciones y Estudios Superiores en Antropología Social
CNA	National Water Commission / Comisión Nacional del Agua
CNDH	National Commission of Human Rights / Comisión Nacional de Derechos Humanos
ECA	Export Credit Agency
EIA	Environmental Impact Assessment
IADB	Inter-American Development Bank
IBRD	International Bank for Reconstruction and Development
ICA	Empresas ICA Sociedad Controladora
IDA	International Development Association
IFC	International Finance Corporation
INI	National Indian Institute / Instituto Nacional Indigenista
LGEEPA	General Law for Ecological Balance and Environmental Protection / Ley General de Ecología y Protección al Ambiente
MIGA	Multilateral Investment Guarantee Agency
MHP	Mexico Hydroelectric Project
NAFTA	North American Free Trade Agreement
OECD	Organisation for Economic Co-operation and Development
PEMEX	Petroleum Mexico / Petróleos Mexicanos
PRI	Institutional Revolutionary Party / Partido Revolucionario Institucional
UN	United Nations
WBOED	World Bank's Operations Evaluation Department
WCD	World Commission on Dams

¹ Spanish translations are given only in those cases in which the literature commonly switches between the English and Spanish versions, and in those cases in which the acronym used is derived from the Spanish version.

CHAPTER 1 - INTRODUCTION

Development projects often involve the introduction of direct control by a developer over land previously occupied by another group. Natural resource extraction, de- and re-forestation projects, game parks, and physical infrastructure projects, such as highways, bridges, and dams, all require land, often in large quantity. One common consequence of such projects is the upheaval and displacement of communities.

The literature documenting and analysing cases of development-induced displacement is virtually endless. Cernea (1989: 97-8), for example, discusses the displacement of 40,000-50,000 people in Indonesia to make way for the Jabotabek project, which involved the widening and upgrading of roads in Jakarta and nearby cities. Hubbel and Rajesh (1992) discuss the planned eviction of over ten million people from Thailand's National Forest Reserves to enable Thai and foreign companies to lease land for tree plantations to provide raw material for the country's pulp and paper industry. Chatty (1994) considers a case of petroleum exploitation in Oman that led to displacement among members of the Harasiis tribe.

No precise data exists on the numbers of persons affected by development-induced displacement throughout the world. For an indication of magnitude, most scholars rely on the World Bank's² estimate that roughly ten million people are displaced each year due to dam construction, urban development, and transportation and infrastructure programs (WBED, 1996: 1). This number is shockingly high, but it still fails to account for large numbers of the displaced. Displacement tallies almost always refer only to persons physically ousted from legally acquired land in order to make way for the planned project, ignoring those living in the vicinity of, or downstream from, projects, whose livelihoods and socio-cultural milieu might be adversely affected by the project (Scudder, 1996; WCD, 2000: 102-3). A count that considers this wider conception of development-induced displacement would be much higher than the World Bank's estimate.

Of the types of development causing physical displacement, dams stand out as the largest contributor. More so than for any other repeated policy prescription or development project, the history of large-scale dam construction is emblematic of the rapid and far-reaching spread of modernist development thinking over the past half-century. As a technology of control and grandeur, dams harness and combat 'wild' and 'dangerous' rivers

² Hereafter, referred to either as 'the World Bank' or 'the Bank'.

in order to facilitate development by mitigating floods, providing irrigation and water for sanitation services, and generating electricity. Dams also have ideological value as symbols of technological and developmental progress, and provide lucrative contracts (and opportunities for bribes and skim-offs) to bureaucrats and private developers alike. Their enormous value as tools of development and, more perniciously, as venues of corruption, is reflected in the speed with which dams have been built over the last half-century. In 1950, the world had 5,000 large dams³; by the late 1990s, it had over 45,000 (ICOLD, 1998, cited in WCD, 2000: 8; WCD, 2000: 8, note 21).

The World Bank has calculated that roughly 40% of development-induced displacement every year – over four million people in total – is a result of dam projects, while 63% of displacement in Bank-assisted projects occurs in dam projects (WBED, 1996: 1, 90-1). Overall estimates of dam displacement over the last half century range between 30 and 80 million people (McCully, 1996: 66-7; WCD, 2000: 104). As with the figures for overall development-induced displacement, many of these figures do not cover the full extent of displacement outside dam and reservoir sites.

The literature on large dams and their economic, environmental, and social impacts is vast. McCully (1996) and the WCD (2000) provide comprehensive overviews, listing a number of impacts resulting from dam projects including: the inundation of valuable farmland and animal habitat; the capturing of sediment by dams, leading to erosion and soil degradation downstream, and productivity losses for hydroelectric functions; the endangerment of freshwater habitats, leading to the extinction or threatening of riverine and wetland lifeforms; reservoir-induced seismicity; the spread of diseases by insects that thrive in stagnant reservoir water; the submergence of archeologically and culturally significant sites; and environmental destruction and human death as a result of dam failure or collapse. The enormity of the investment required and displacement caused, as well as the fact that dams often fail to produce stated benefits, has made dam projects the target of much investigation and criticism.⁴ Often contributing to this tension is the mismatch between the scope of perceived needs that a project is designed to address (usually rooted in vague macro-economic considerations) and the concentrated experience of its physical, environmental, and social impacts at the local level (WCD, 2000: 20).

³ ICOLD defines a ‘large dam’ as one measuring 15 meters (m) or more from foundation to crest. Dams of 10-15m in height can be considered ‘large dams’ if they meet one of the following criteria: crest length \geq 500m; reservoir capacity \geq 1 million m³; maximum flood discharge \geq 2,000 m³/second; ‘specially difficult foundation problems’; or ‘unusual design’ (ICOLD 1988, cited in McCully 1996: 4, note 4).

Much of the social science literature on dams focuses on the processes of displacement and resettlement. Displacement strategies and resettlement schemes have ranged from positive to horrific. In the cases of the Shuikou and Yantan dam projects in China, displacees' incomes and living standards improved while satisfaction with resettlement was (reportedly) high⁵ (Picciotto *et al.*, 2001: 41-57). On the other hand, in the Chixoy Dam project, 369 Maya Achi Indians were massacred by local civil patrols and the Guatemalan Armed Forces to make way for the construction of dam in the late 1970s (WFP, 1996). In most projects, the conditions of resettlement have fallen somewhere between these two extremes, although it is rare to find examples of positive resettlement experiences. Cernea (1996) argues that displacement often causes impoverishment by creating landlessness, joblessness, homelessness, marginalisation, increased morbidity, food insecurity, loss of access to common property, and social disarticulation. This was true even in well-intentioned resettlement schemes in the past, in which planners merely paid cash compensation for displacees' assets, not to mention displacement strategies that involved ousting 'illegal squatters' without compensation. With this in mind, the World Bank has been key in developing stronger safeguard policies designed to ensure positive resettlement experiences. While the success of these policies has been felt in a number of projects, many dam projects still fail to prioritise resettlement.

While not often discussed in the literature, one of the factors affecting a project's resettlement conditions is its funding arrangement. Financing packages for dam projects can be extremely complex, with funding coming from one or a mixture of domestic and international sources, including the domestic government, multi-lateral and bilateral development agencies, export credit agencies (ECAs), and the private sector. Over the past half-century, the vast majority of dams have been built by host governments⁶, sometimes with help from multi-lateral and bilateral agencies. In the 1980s and 1990s, fiscal crises among governments and changing policy priorities among development agencies have resulted in a reduction in public revenue and official aid devoted to the construction of large-scale dams. The global trend of de-regulation and privatisation of infrastructure sectors has allowed for private sector participation for the first time in many decades in most countries.

⁴ However, Biswas and Tortajada (2001) point out that most 'research' on dam projects is based on anecdotal evidence, rather than in-depth studies of the actual costs and benefits of dams.

⁵ Given the Chinese government's distaste for freedom of speech and history of impunity against dissidents (see HRIC 2003), 'satisfaction with resettlement' should be treated with scepticism.

⁶ A dam's 'host government' is the government of the country within which the dam is built.

The implications for resettlement of these funding shifts are not trivial. A project's financing arrangement can be key in determining which body takes responsibility for planning and managing resettlement, whether channels are made available for local participation, negotiation, and protest before project plans are finalised and construction initiated, the level of transparency in project transactions and decision-making, and the presence and enforcement of environmental and social safeguard policies.

This paper aims to fill a gap in the literature by investigating the implications for resettlement of the financial involvement of two different actors, the World Bank and a coalition of private companies, in three separate Mexican dam projects in the early 1990s. Chapter two provides a chronological, statistical, and theoretical overview of the relationship between dam financing and resettlement globally. It finishes with a discussion of three factors important in determining a project's resettlement conditions: the ability and willingness of the host government to act, regulate, and monitor in the interest of displacees; the resettlement and scheduling demands of financiers; and, when demands conflict, the host government's degree of dependence on project financiers.

Chapter three introduces the historical experience of dam financing and resettlement in Mexico, which has paralleled global trends. Chapter four discusses three Mexican dam projects in detail: the Aguamilpa and Zimapan dam projects, both co-financed by the government and the World Bank, and the Huites Dam project, a joint venture between a coalition of private companies and the government. All three dams caused displacement, yet resettlement conditions were far better in the World Bank-assisted projects than in the public-private joint-venture project. The chapter concludes with a consideration of the reasons for this difference.

The study's conclusions are summarised in Chapter five. This paper argues that financing arrangements can influence a project's resettlement conditions. In the Aguamilpa and Zimapan projects, the World Bank's involvement was important in determining the high level of attention paid to resettlement planning and monitoring, the positive resettlement outcomes, and the willingness of the government to make its institutions more resettlement-friendly. In contrast, in the concurrent Huites project, the lack of resettlement standards among the project's private sector financiers, the unresponsiveness of this group to pressures for reform on resettlement issues, the exigency of meeting strict construction deadlines, and the government's unwillingness to protect displacees resulted in poor resettlement conditions. The Mexican government is not alone in failing to protect the needs and rights of displacees. In an era of privatisation, the implications of this are serious. As governments increasingly

turn to the private sector, rather than multi-lateral or bilateral development agencies, for assistance in infrastructure development, the likelihood also increases that the rights and needs of displacees will be marginalised.

No primary fieldwork was carried out for this study. All research was library- and Internet-based. An interpreter was used for the translation of several short Spanish documents. The lack of time and resources to pursue fieldwork in Mexico, coupled with my inability to read academic Spanish publications, presented challenges and limitations, particularly in my search for information on the Huites Dam, which is virtually absent in the academic literature on dams in Mexico.

CHAPTER 2 - FINANCING AND RESETTLEMENT: A REVIEW

This chapter considers the history of dam project financing and resettlement globally. Given their relevance for this study, particular attention is paid to the experiences of the World Bank and the private sector. The neat division drawn between the various funding groups is partly artificial because dam projects are often funded by a combination of sources. The division is maintained, however, because it is helpful in understanding the significance for resettlement of the participation in financing of certain agents.

Host governments

Over the last half-century, during which the vast majority of dams were built, most large-scale water and energy infrastructure projects were fully financed by host governments (WCD, 2000: 169). No aggregate statistics are available on state involvement in the construction of large dams, either in terms of the number of dams built or the amount of money invested; however, country- and region-specific literature reviews suggest that governments have historically been the dominant financing force.⁷

The dam-building and resettlement history of most governments is too long and unclear to make for easy generalisations, largely due to the wide variance in priorities of governments of different countries and within individual countries over time. However, until the 1980s, resettlement received, at best, only minor attention in dam projects funded by the state, with or without assistance from international development agencies. Throughout the peak dam-building decades, most states had weak social and environmental safeguard policies and weak enforcement of those policies, particularly when it came to the construction of dams (Ljung *et al.*, 2001: 61-2).

Resettlement in the Garrison Dam project in the United States (US) in the 1950s was emblematic of this trend. Built by the Army Corps of Engineers, the dam displaced 300 indigenous families in an area that had been protected by treaty since the 1800s. For displacees, resettlement led to unfamiliar housing and land arrangements which contributed to social disorganisation, a nutritional shift away from fresh goods to government commodities, a dependence on the cash economy as a result of the loss of good agricultural land, timber for domestic uses, wild plants, game, and fresh water, a decline in standards of

⁷ For example, Rangachari *et al.* (2000) discuss the Indian government's heavy involvement in dam construction since Independence in 1947.

living soon after resettlement ended, and the loss of many sacred shrines (Berman, 1988). The terms of resettlement were clearly neither determined by, nor in the interest of, displacees.

Multi-lateral and bilateral agencies

Multi-lateral and bilateral development agencies have been an important source of funding for dam projects in developing countries. By the 1990s, the World Bank had provided more than \$60 billion (in 1993 dollars)⁸ for 538 large dam projects in 92 countries. Its funding for dam projects peaked in the late 1970s and early 1980s at over \$2 billion annually (IRN, 2000). As with state-funded projects, development projects assisted by multi-lateral and bilateral development agencies sometimes led to large-scale displacement. The World Bank alone has assisted dam projects that have displaced over 10 million people (IRN, 2000), although the Bank has highlighted that projects it assists account for only 3% of dam displacement globally (WBED, 1996: 1).

The resettlement record of multi-lateral and bilateral agencies has historically been poor. Prior to 1980, when the World Bank developed its first policy on involuntary resettlement, no explicit guidelines or policies on resettlement governed the activities of these agencies. Resettlement decisions were at best treated as auxiliary concerns, and at worst ignored. Both the World Bank and the Inter-American Development Bank (IADB) helped fund the controversial Chixoy Dam project in Guatemala in the 1970s and early 1980s. In economic terms alone, the dam was a disaster – cost overruns reached 130% of project costs. In social terms it was worse. The resettlement of 2,500 Maya Achi Indians began in 1979 and continued for over a decade, including the massacring of 369 displacees who local civil patrols and the Guatemalan Armed Forces deemed to be ‘guerrillas’. Of those who survived the resettlement process, the compensation paid failed to restore pre-project living standards, let alone help to increase them (Gutman, 1999: 9; WFP, 1996).

By the late 1970s, pressure built on the World Bank to give higher priority to resettlement needs, fuelled by several high-profile resettlement disasters. In Brazil’s Sobradinho Dam project, for example, poor planning led to the displacement of 120,000 people, 50,000 of whom were downstream, as well as the intensification of poverty and land

⁸ In line with the (English language) literature on dams and the Mexican economy, monetary amounts are denoted in US dollars in this paper, except in several cases where Mexican pesos are used. Where the literature used pesos, I have done the same.

concentration among displacees (Gutman, 1999: 10). Furthermore, the strengthening of human rights norms in the international community and at the World Bank, as well as the increasing recognition that these rights should be socio-economic as well as political (Shihata, 1993: 46), led to a growth in support for stronger safeguards against the ill treatment of displacees. In 1980, the World Bank adopted an internal policy document regarding involuntary resettlement, known as Operational Manual Statement (OMS) 2.33, becoming the first international development agency to do so.

An internal study to assess all new Bank-assisted projects in agriculture and hydropower between 1979-85 found that the Bank's treatment of resettlement had improved since the adoption of the new policy, but that the new guidelines were followed on an inconsistent and eroding basis (Cernea, 1993: 22-3). The study made a number of suggestions for policy reform, including the creation of a sound socio-economic basis for displacees, the affirmation that displacees share in the benefits of the project that caused their displacement, and the demand for greater attention to be paid to the host population at the resettlement site. The Bank's senior management adopted the policy suggestions in its Operations Policy Note (OPN) 10.08 in 1986.

In 1988, the Bank integrated OMS 2.33 and OPN 10.08, both internal documents, into a single Bank paper for guidance on resettlement issues, which was made public and disseminated in multiple languages. In 1990, following the restructuring of the Bank, when all previous internal policy documents and operational guidelines were updated and reissued as Operation Directives, the Operational Directive on Involuntary Resettlement (OD 4.30) was created. OD 4.30 required that the Bank could not approve financing for a development project that will result in displacement without first receiving from the borrowing country a resettlement plan that details how the borrower will meet the policy requirements, how much it will cost, and by when the scheme will be completed. Cernea (1993: 24-5) summarises the key components of OD 4.30:

- Involuntary displacement should be avoided or minimised whenever feasible;
- Involuntary resettlement should be carried out as a development program, providing resettlers with opportunities to improve their pre-project incomes and living standards;
- Allocation of adequate public sector resources as part of the compensation scheme;
- Movement of displacees as groups, whenever preferred by displacees;

- Minimising the distance between departure and resettlement sites, so long as spatial/cultural distance and economic opportunities are balanced;
- Displacement, transfer, and reestablishment processes should rely on existing social and cultural institutions of resettlers and hosts. Community participation in project implementation is important;
- New communities for resettlers should be equipped with infrastructure and services, with consideration to their integration in the regional economy;
- Host communities should be assisted to overcome adversities from increased population density;
- The absence of formal legal land title should not be grounds for denying compensation.

By the 1990s, the World Bank began to feel the effects of its strengthened resettlement policy. After years of local, national, and international activism against the Bank-assisted Sardar Sarovar dam project in India, the Bank launched the Morse Commission to investigate the claims of activists. The decision to commission a review, albeit not an external one, signalled a watershed in the growing recognition that the rights of displacees, at least in Bank-assisted projects, could not be abused and their entitlements needed to be met. The Commission's findings showed systematic violations of Bank policies and loan agreements, particularly those concerning the environment and resettlement (Morse and Berger, 1992), and eventually led the Bank to withdraw from the project.

The consequences of the Morse Commission extended well beyond the Sardar Sarovar project. The Commission's existence and findings, along with pressure from the US Congress for increased public accountability and improvement on social and environmental issues, and the release of an internal Bank study showing unsatisfactory project performance, were key factors in the Bank's creation of an Inspection Panel (Udall, 1999: 1). Formed in 1994, the Inspection Panel is tasked with investigating claims from citizens in cases where the Bank has failed to enforce its own policies, procedures, and loan agreements. As with the adoption of the original 1980 guidelines on involuntary resettlement, this development was precedent-setting – for the first time in international law, private citizens had the right to intervene in the activities of an international organisation (Udall, 1999: 1).

The composition of claims to the Inspection Panel reflect the controversial nature of the Bank's resettlement activities: more than 50% of claims in the Panel's first five years (9 out of 17) alleged that the Bank violated its policy on involuntary resettlement. Six of the

total claims involved large-scale dam projects (Udall, 1999: 2-3). The first claim was filed in 1994 and concerned the Arun III Hydroelectric Dam Project in Nepal. It alleged that the Bank had violated its policies on environmental assessment, involuntary resettlement, indigenous peoples, energy, and information disclosure, however the crux of the claim was that the project was not economically viable and was therefore in violation of the Bank's policy on Economic Evaluation of Investment Options (ACG, 1994, cited in Udall, 1999: 6). The Inspection Panel did not investigate the economic issue, but the controversy surrounding the project still led the Bank to withdraw funding (Udall, 1999: 6).

World Bank loan conditions have been used to impose high resettlement standards not only in current projects, but also retroactively. In 2002, the Bank threatened to cancel the final \$52 million of its \$350 million loan to Pakistan for its Ghazi Barotha Dam project owing to the government's poor treatment of resettlement and environmental issues and its failure to resolve outstanding resettlement problems from the Tarbela Dam project in the 1980s (APW, 07/05/2003; The Nation, 19/12/2002). By mid-2003, the Bank's cancellation threat was withdrawn because, among other things, the government had improved resettlement efforts in the Ghazi Barotha project and distributed compensation cheques to Tarbela displacees (PN, 06/05/2003).

Despite the marked strengthening of safeguard policies since the 1980s, overall World Bank performance in resettlement has shown only slight improvement. A comparison between two in-house studies of World Bank resettlement performance makes this evident. A 1993 study by the World Bank's Operations Evaluation Department (WBOED) examined four Bank-assisted projects that had been approved before the adoption of the 1980 guidelines. It found widespread failure to apply fair eligibility and entitlement criteria, failure to maintain pre-project family incomes, and dissatisfaction among resettlers with both compensation and resettlement sites (WBOED, 1993). A 1998 study (WBOED, 1998) examined eight Bank-assisted projects that had all been approved after the 1980 guidelines were in place. It intentionally selected several case studies to match those chosen for the 1993 study in order to lend comparability to the second study – the WBOED's hypothesis was that changes in the Bank's guidelines and lessons learned from previous projects would be positively reflected in the findings of the 1998 study. This was not the case. As in its 1993 study, the WBOED found a number of problems with regard to outcomes for displacees, Bank performance, and borrower performance, with wide variations found between projects. The 1998 study did find some improvements, though it found they only occurred in implementation, not planning, stages. A Bankwide Resettlement Review (WBED, 1996) of

all projects involving resettlement in the Bank's portfolio between 1986-93 found equally poor results. While the report noted some improvement in resettlement conditions, it also found that in the majority of cases projects failed to restore or improve displacee living standards (WBED, 1996: 9-10).

While resettlement practices in projects assisted by multi-lateral and bilateral agencies improved slightly in the 1990s, another trend undermined these advances. Throughout the 1990s, overall aid flows declined in real terms and most donors shifted funding away from infrastructure projects to other sectors, promoting instead the reform and de-regulation of the power sector, the reduction of poorly-targeted subsidies, macro-economic stability, poverty alleviation, and environmentally sustainable development, including a new focus on renewable and small-scale energy sources. By the late 1990s, the donor community gave \$2.5 billion a year on average for dam related projects, down from peak levels of assistance that reached over \$4 billion annually (in 1998 prices) in the late 1970s and early 1980s. The Asian Development Bank has not funded an irrigation reservoir project since 1989 and its lending for the construction of hydropower plants dropped from 28% to less than 8% of its power sector lending between the 1970s and 1990s (Lung *et al.*, 2001: v-vi). The World Bank has reduced funding for hydro projects in the 1990s by about 26% as a share of total Bank lending, from 3.4% to 2.5% of the approximately \$20 billion lent annually (Briscoe, 1999b: 463).

Private sector agents

The decline in multi-lateral and bilateral funding for dams was paralleled by a drop in state financing for dams in real terms over the 1980s and 1990s. As with development agencies, policy priorities shifted away from infrastructure construction towards macro-economic stability, the reduction of budget deficits, and improvements in the social sector, especially in health, nutrition, and education. The declining financial performance of many power utilities in developing countries, coupled with the fiscal problems experienced by many states as a result of the 1980s debt crisis, meant that governments were less capable of funding large-scale infrastructure projects, especially those that required heavy public subsidy, such as canal irrigation projects and water supply and sewerage schemes, both of which often involve dams (Ljung *et al.*, 2001: vi-vii). Furthermore, the collapse of centrally planned economies in Eastern and Central Europe in the 1980s served as evidence that state dominance of the economy was unsustainable (World Bank, 1995: 46).

Faced with fewer domestic resources and a reduction in multi-lateral and bilateral funding for dams, governments in the 1990s turned to the private sector for assistance in meeting infrastructure needs. On a consulting and contracting basis, private companies were heavily involved in dam projects in the past.⁹ However, the global trend of de-regulation and privatisation in the 1990s allowed for private sector ownership and operation of infrastructure projects for the first time in many decades in most countries.¹⁰ Increasingly, the private sector became involved on build-operate-transfer (BOT) and build-lease-transfer (BLT) bases.¹¹

Globally, private sector investment in infrastructure increased eight-fold from 1990-97, reaching \$120 billion by 1997 (Ljung *et al.*, 2001: v). Private investment in developing countries increased from about 50% of official aid to about five times the volume of official aid over the course of the 1990s (Briscoe, 1999a: 302). By the end of the decade, almost 15% of infrastructure investment in developing countries came from the private sector (Briscoe, 1999a: 306). Of all infrastructure sectors, the power sector has attracted by far the largest amounts of private investment – approximately \$130 billion over the 1990s – followed distantly by the urban water and sanitation sector, with approximately \$30 billion (Ljung *et al.*, 2001: 62-3).

Despite the high level of private investment in the power sector, over half has been devoted to purchasing pre-existing facilities, and almost all of the resources devoted to constructing new facilities have gone to the development of thermal power, not hydropower (Gray, 2001: 14; Ljung *et al.*, 2001: 62). Both developers and lenders in the private sector have shied away from large-scale dam projects. The long gestation period of large dam projects, risks associated with fluctuating water flows and geological challenges, difficulties in estimating energy prices decades in the future, the high front-end costs of dam projects, and their high susceptibility to cost and time overruns, often due to resettlement and contentious environmental issues, have led private power developers to prefer thermal over hydropower projects (Head, 2000: 16; Ljung *et al.*, 2001: 62). Among hydropower projects

⁹ In state-funded projects, government agencies were rarely involved in physical construction – this was often contracted out to private firms. In countries that built a large number of dams, government agencies sometimes maintained their own construction workforces – for example, the Bureau of Reclamation and the Army Corps of Engineers, both in the United States, and the Water Resources Ministry in China (WCD 2000: 169, note 1).

¹⁰ Head (2000: 23-30) discusses changes in the regulatory environment for the power sector in the Philippines, Lao PDR, Nepal, Turkey, and Brazil, which match the global trends highlighted here. Other countries, such as South Korea, Indonesia, Malaysia, Singapore, and Taiwan, introduced only limited liberalisation, allowing private ownership of dams with capacities of 10 MW or less, while reserving medium- and large-scale projects for public ownership (Hayes 2002).

¹¹ In BOT and BLT projects, the private developer arranges its own financing, usually from commercial banks, builds the project, operates or leases it for a concessionary period (usually between 15 and 30 years), during

developed by the private sector, most projects have been run-of-river¹² dams with generating capacity between 40 and 400 megawatts (MW)¹³ and little or no storage (Ljung *et al.*, 2001: 62). Between 1990-95, the private sector financed only 7% of the \$15 billion invested annually in hydropower in developing countries (Briscoe, 1999b: 464). By the end of the decade, only about 5% of the generating capacity under construction by private developers was in hydropower (Ljung *et al.*, 2001: 62).

Following liberalisation in the energy sector, pessimism pervaded the dam building industry¹⁴ – it appeared that the private sector could not, or was not willing to, fill the funding gap for large-scale dams left behind by the state and multi-lateral and bilateral agencies. Private developers struggled to pull together ‘dream deals’ that met an impossible set of criteria: the design had to be thorough enough to avoid costly errors in construction, but with low feasibility costs as a percentage of overall costs, overall risk had to be spread out over a group of risk-averse agents that agree to divide the risk between short-term and long-term commitments, and return on equity had to reach 30%, a figure considered very high in the hydropower sector (Majot, 1996: 2).

However, despite this pessimism, dams continued to be built, albeit at a slower pace than in the past. The continued growth in demand for energy and water services¹⁵, as well as the enormous potential for new hydropower projects in developing countries¹⁶, has contributed to the desire among some private developers to risk investment in dam projects. Moreover, domestic governments and international development agencies have shown a willingness to shoulder a portion of project risk on behalf of the private sector. Agencies such as the International Finance Corporation (IFC), the Multilateral Investment Guarantee Agency (MIGA)¹⁷, and various export credit agencies (ECAs) have stepped forward to

which it recoups its investment through user fees, then transfers the facility to the government for free or at a much reduced price (Pahlman 1996: 2).

¹² In contrast with most dams designed for hydropower, irrigation, and flood control, ‘run-of-river’ dams create only a small reservoir, cannot effectively regulate downstream flows, and depend on the river’s natural, rather than reservoir releases, to generate electricity. The distinction between ‘run-of-river’ and ‘storage’ dams is sometimes unclear – dam impacts have at times been downplayed by using the label ‘run-of-river’ while actually operating it as a ‘storage’ dam by keeping its gates closed most of the time (McCully 1996: 11-2).

¹³ 1 MW = 1 million watts

¹⁴ At a 1996 conference on the financing of hydropower projects attended by industry representatives, few disagreed that ‘the days of big dams are over’ (Majot 1996: 1).

¹⁵ The demand for electricity in developing countries is expected to triple in the next thirty years (Briscoe 1999b: 463), while population growth and rapid urbanisation are leading to higher demand for new water infrastructure (WCD 2000: 4).

¹⁶ Developing countries have significantly more hydropower potential than do industrialised countries, yet only 20% of that potential has been developed in developing countries, compared to 70% in industrialised countries (Briscoe 1999b: 462).

¹⁷ The IFC and MIGA are arms of the World Bank Group that work with the private sector, rather than governments.

provide loans and guarantees (e.g., for extended pay-back periods, against political turmoil) to private dam developers (Moore, 1996: 1). Domestic governments have participated in joint public-private dam projects in order to catalyse private investment in the sector and, in 'purely private' projects, have often negotiated long-term procurement contracts, which provide a guaranteed revenue stream for the developer.

Theorists disagree over whether private sector involvement in such projects brings social benefits or costs. Proponents of private sector infrastructure development present it as a form of 'free development' that requires little investment and risk-burden for the state (Pahlman, 1996: 2). This has been a particularly attractive notion for poor states with few public resources. Other supporters argue that private sector projects provide better services for less cost and with less wastage than do public sector projects. Similarly, some suggest that privatisation ensures greater financial accountability because, unlike public entities, private developers are punished by the market for poor handling of project components that lead to cost overruns and time delays (World Bank, 1995: 33-6). Churchill (1997: 109) points to the possibility of structuring private sector dam projects to avoid some of the problems of public sector projects, like cost and time overruns, by tying a significant portion of the project developer's returns to the delivery of the project on time and within budget. For developing countries, the prospect of increased technology transfer as a result of foreign investment in newly de-regulated sectors is also highlighted as a benefit (Pahlman, 1996: 3). Still others point out that the de-regulation of infrastructure sectors leads to a de-politicisation of service provision and less environmental and social damage given that public agencies, no longer self-regulating, are in a position to regulate and monitor in the public interest (Moore, 1996: 2; World Bank, 1995: 38-41).

Those opposing private sector dam development highlight the risk of sacrificing the public interest to private interests. Whereas, at least theoretically, domestic governments and development agencies exist to, and derive legitimacy from, engaging in projects in the public interest, private companies operate on a profit-making rationale and are therefore susceptible to placing their own profits above the public interest. The drive to meet contract deadlines and prevent cost and time overruns could translate into a much lower tolerance of dissent among displacees and fewer provisions for local participation in the planning and negotiation of resettlement terms. Equally, profit-maximising tendencies could lead to the underestimation of project-affected persons, the use of poor (but easy) compensatory techniques, and lack-lustre transparency and information provision. Concerns also exist that privatisation will exacerbate, rather than mitigate, the effects of corruption and nepotism in the award and

negotiation of contracts and concessions, particularly given the tainted reputation of infrastructure sectors¹⁸ (Ljung *et al.*, 2001: 10). Others worry about foreign control over resources on which peoples' lives depend, the potential for less-stringent environmental review processes than in projects funded by agencies with strong safeguard policies, and the possibility that whole communities or regions will be ignored by private firms due to burdensome financial risks (Moore, 1996: 2-3).

In a review of the literature on private sector involvement in infrastructure development, Gray (2001) highlights that privatisation has overwhelmingly led to efficiency gains, reductions in project costs, and improvements in and expansion of services. However, examples in the literature suggest that privately developed dam projects can also have serious social costs. In Uganda, the U.S.-based AES corporation, the world's largest independent power producer, has received a partial-risk guarantee from the International Development Association (IDA) and an IFC loan to construct a dam near Bujagali Falls on the Nile River despite domestic opposition to the project. Protestors say the dam is economically unfeasible, the funding parties have failed to make information about the project public, the environmental impact assessment failed to consider the cumulative impact of the larger system of dams in the same region, the planners failed to consider the spiritual and economic significance of Bujagali Falls for locals, and there was no competitive bidding for the project, leading many to speculate about corruption (Oweyegha-Afunaduula *et al.*, 1999; Pottinger, 2000: 1-4).

Anecdotal evidence also suggests that resettlement concerns can be marginalised by private developers. In Brazil's Cana Brava Dam, the private developer has been accused of failing to negotiate resettlement and compensation terms in an open and transparent manner with those to be displaced, using intimidation tactics against locals organising in favour of better resettlement terms, and grossly under-estimating the number of families to be compensated (258 versus the more than 1,000 estimated by project opponents) (Meca *et al.*, 2001: 1-2).

Ljung *et al.* (2001: 68) suggest that in order for private sector dam projects to have acceptable social and environmental components, the domestic government must be responsible for the project's feasibility studies, environmental assessments, mitigation and resettlement plans, land acquisition, and the actual process of resettling households. Theoretically, this offers a solution; however, experience shows that such public-private joint

¹⁸ A global survey conducted by Transparency International indicates that, of all business sectors, corruption is most endemic in public works and construction, within which fall dam projects (Galtung 2003: 268).

ventures are also susceptible to failure. In the privately funded San Roque Dam Project in the Philippines, government-managed resettlement has been poor. The project has been fiercely opposed by domestic groups – particularly the Ibaloi peoples living upstream, who see the dam as a threat to their livelihoods – as well as international non-governmental organisations. A letter signed by 37 non-governmental organisations mobilising against the project states that the project has violated the domestic Indigenous Peoples' Rights Act by failing to obtain prior informed consent of affected indigenous groups, failing to provide adequate compensation of sustainable forms of livelihoods for those displaced and affected, and failing to publicly disclose information on the sedimentation build-up at the dam site, which could lead to flooding and further displacement (Wong, 2002). The government's management of resettlement clearly did not lead to an optimal outcome for displacees.

In recent years, attempts have been made to develop international standards for ethical behaviour among multi-national corporations. The Organisation for Economic Co-operation and Development (OECD) has guidelines regarding human rights, sustainable development, and the environment for corporations operating in or from one of its member countries. However, its guidelines are 'non-binding recommendations' by governments to corporations, not standards to which corporations are bound (WPOGME, 2001). The United Nations (UN) Global Compact initiative was created in 2000 to bring companies together with UN agencies, labour organisations, and civil society to support human rights, labour standards, and the environment. However, the Global Compact is a voluntary initiative that does not monitor, enforce, or measure the behaviour of individual companies (UNGC, 2003). In 1999, the UN Working Group on the Working Methods and Activities of Transnational Corporations formulated a code of conduct for corporations based on human rights standards. Negotiations have since led to the development of a set of guidelines, which seek to engage corporations, governments and non-governmental organisations in clarifying the human rights obligations of corporations. However, they remain incomplete and contested within the UN and among the wider community (LCHR, 2003). Overall, the voluntary and non-binding nature of these different benchmarks has limited their capacity to influence corporate behaviour on social and environmental issues in dam projects.

Attempts have also been made to encourage the establishment and enforcement of stronger safeguard measures among public institutions that lend and provide guarantees to private sector dam developers. Historically, attention by such institutions to resettlement, public accountability, transparency, and other 'public interest' issues, has been low (Goldzimer, 2003: 3). While the gains made by the movement to reform these institutions

have been few, some are notable. In 1995, a Chilean group filed a claim to the World Bank's Inspection Panel alleging that its policies were violated in the country's Pangu Dam project, which was indirectly supported by the IFC. While the Inspection Panel investigates claims concerning the activities of the International Bank for Reconstruction and Development (IBRD) and the IDA, the two arms of the World Bank Group that lend to poor and middle-income country governments, its jurisdiction does not cover the activities of the IFC or MIGA. Despite this, the group still filed the claim, arguing that the Inspection Panel should have jurisdiction over the IFC. The claim was not investigated by the Inspection Panel, but it did lead to an independent review, unprecedented in IFC-assisted projects. The review found extensive violations of Bank policy and ultimately led to the creation of an ombudsman office to oversee IFC and MIGA activities (Udall, 1999: 7).

Activism in Turkey's 1,200 MW Ilisu Dam project, which opponents describe as a tool for ethnic cleansing against the region's ethnic Kurds, offers another example. Project opponents have targeted financial stakeholders: the Turkish government, multi-national corporations, ECAs, and the host governments of these ECAs and corporations. Sustained opposition to the project has led several corporations to pull out, including the project's largest financier, the Swiss bank UBS, and its largest contractors, the British construction firm Balfour Beatty, Italy's Impregilo, and Sweden's Skanska (IDC, 26/09/2000; IDC, 03/03/2002). However, the continuing refusal by several ECAs to withdraw funding for the project is a testament to the comparative imperviousness of these institutions, and by extension the corporations they support, to outside pressure for reform.

International 'best practice' was recently informed by the findings and recommendations of the WCD, charged with reviewing the development effectiveness of large dams and formulating international standards and guidelines for large dam projects, including those to do with resettlement (WCD, 2000: 26-8). The WCD's findings, which criticised the level of displacement and inequitable distribution of benefits in past dam projects, and its recommendations, which called for a socially and environmentally more comprehensive and transparent decision-making procedure, increased pressure on institutions dealing with dam projects to reform (or create) resettlement policies protecting displacees. However, little has been done by institutions dealing with resettlement to push these recommendations into binding policies.

Relationships between financing and resettlement

Generalisations are difficult and dangerous when experience is as diverse as it has been in dam projects throughout the world over the last 50 years. However, some tentative conclusions can be drawn on the relationship between financing arrangements and resettlement conditions. Three factors relevant to a project's financing arrangement stand out as important in determining the treatment of resettlement. First, resettlement conditions are in part determined by the extent to which the host government is able and willing to act against, regulate, and monitor the project's financiers and managers to ensure that the needs and rights of displacees are satisfactorily respected. A strong domestic legal and regulatory framework, and a commitment to enforcement, is key to ensuring that this takes place (Moore, 1996: 3). Unfortunately, over the past half-century, this has rarely been present in dam building countries and even today is present in only a handful of countries, most of which are wealthy, industrialised, and rarely the site of large-scale dam building.

Second, resettlement conditions are influenced by the resettlement demands, or lack thereof, and scheduling exigencies of financiers. While the World Bank, at least over the last two decades, has demanded that borrowers meet its high resettlement standards, private sector participants have had no such demands. Rather, the urgency of profit generation in private sector projects creates scheduling demands that can, in turn, create hostile resettlement environments by disallowing time-intensive elements, such as participatory planning and negotiation over compensation terms. The demands of financiers are, in part, products of internal and external pressures. In the case of the World Bank, internal and external pressure led to the formulation of a policy on involuntary resettlement and the creation of its Inspection Panel, both of which were precedent-setting in the movement to protect the rights and wellbeing of displacees, and the presence of both of which later led to the creation of an ombudsman overseeing the activities of the IFC and MIGA. Private developers have been less susceptible to such pressure, although recently the movement to influence corporate policy and practice on resettlement has made gains by targeting companies' connections to public institutions – the Pangué and Ilisu cases illustrate this point.

Third, in situations where the demands of the two sides conflict, resettlement conditions are influenced by the host government's degree of dependence on the financier. When a financier refuses to meet the high resettlement standards demanded by the host government, attention to resettlement is determined, at least partly, by the government's dependence on the financier's investment. Inversely, when a government is unwilling to meet

the high resettlement standards demanded by a project financier, its dependence on the financier's loan or investment will be tested by the extent to which it is willing to change its behaviour before dismissing the loan or investment.

The next two chapters consider the relationship between financing and resettlement conditions in the context of Mexico. Chapter three gives an overview of the history of dam building, dam financing, and resettlement in Mexico, while Chapter four discusses three dam projects in detail.

CHAPTER 3 - THE MEXICAN CONTEXT

Mexico's experience with dams has closely paralleled the global trends discussed in Chapter two. This chapter considers the history of dam building, dam financing, and resettlement in the Mexican context up to the late 1980s, setting the stage for Chapter four's discussion of three specific dam projects in the early 1990s.

For much of the twentieth century, the Institutional Revolutionary Party (PRI) governed Mexico through a system of clientelism and co-optation built on the support of peasant, labour, and middle-class groups. Sustained economic growth facilitated political stability by increasing the resources available for government dispersal as rewards for conformist behaviour among the leaders of these groups, who were encouraged to be more responsive to the needs of the regime than to those of their memberships (Grindle, 1996: 49). For many decades, this system enabled the federal government to assiduously pattern the country with large-scale infrastructure projects, such as dams and irrigation projects. Table I provides an overview of selected state-financed dam projects constructed in Mexico up to the late 1980s.

Table I: Selected state-funded dam projects with resettlement in Mexico up to the late 1980s. Sources: Nahmad (1999); Robinson (2000); Barabas and Bartolomé (1973); Scott (1990a)

Dam project	Completion date	People displaced
Miguel Aleman	1957	20,000 – 25,000
Cuiliacan	1967	25,200
Angostura	1972	15,483
Bajo Candelaria	1982	5,800
Colorado	1982	13,260
Pujal Coy, Phase I	1982	23,400
Pujal Coy, Phase II	1982	10,800
Caracol	1986	5,000 – 7,000
Cerro de Oro	1988	18,000 – 25,000

The early years

Mexico's modern history of dam building began under the Cardenas presidency (1934-40). Cardenas oversaw the creation of a Water Resources Department, partially expropriated the foreign electric utilities while creating the Federal Electricity Commission (CFE) to operate and expand the country's small power grid, and built the country's first irrigation control dam in 1937 in the northern state of Durango (Robinson, 2000: 1).

Following this debut, the 1940s marked the acceleration of state investment of material and human resources in a system of irrigation and hydropower dams. This began with the construction of a series of small hydropower dams west of Mexico City and the completion of planning and feasibility studies for a set of multipurpose dams in the western Sierra Madre mountain range, the construction of which was initiated in the 1950s (Robinson, 2000: 1-2). Driven by two decades of economic growth (6-7% per year), the government continued its acceleration of infrastructure investment. In the early 1940s, the storage capacity of the country's reservoirs was 12 km³ and its hydroelectric capacity was 400 MW; by the late 1960s, these were 125 km³ and 5,000 MW respectively, and hydropower had reached 60% of total electricity production (Castelán, 2002: 2-4).

Throughout this era of state-led development, resettlement was carried out with impunity, while the low levels of compensation ensured impoverishment. Neither land restitution (cultivated land for cultivable land) nor the participation of displacees in resettlement planning were priorities. Displaced populations often joined the ranks of the urban poor, turned to illegal crop production, or migrated to the United States in search of employment (Robinson, 2000: 1). The authority of the PRI and its patronage network, which made possible the government's diligent industrialising drive, left few channels for protest or negotiation of resettlement terms in dam projects, a situation that sometimes resulted in armed opposition and consequent police or military intervention (Guggenheim, 1993: 207; Robinson, 2000: 1). Without consultation or negotiation, project planners – usually technical professionals (e.g., engineers, architects, urban planners) rather than anthropologists or economists – determined the pace and equitability of compensation procedures, as well as the location, design, and construction of new resettlement villages (Guggenheim, 1993: 206; Robinson, 1991: 2). All of this was done in an uncoordinated way, as no single department or authority was responsible for seeing resettlement through from planning to completion (Guggenheim, 1993: 206-7).

Resettlement in the Miguel Aleman (Temescal) Dam¹⁹ project is emblematic of the government's experience in this period. Commissioned in 1957 on the Papaloapan River in an effort to protect rich agricultural lands downstream from flooding, the project displaced 20,000-25,000 Mazatec Indians (Barabas and Bartolomé, 1973; Nahmad, 1999: 3; Robinson, 2000: 2). Those who resisted were punished – the authorities opened the floodgates on protestors and set fire to the huts of several families. Resettlement was disastrous for the Mazatec. The best lands at the project's resettlement sites were distributed to state employees and influential farmers, rather than displacees. Moreover, land plots were distributed on a first-come-first-served basis, which disrupted traditional household organisation. Over a decade after the dam was completed, many displacees still had not received deeds to their new lands, making them ineligible for agricultural credit. Most displacees never received the irrigation and electricity that they had been promised and the roads that had been built for the new communities were poor from the outset and worsened quickly. Health conditions in the resettled communities deteriorated – the level of alcoholism increased sharply in the years following displacement, while approximately 200 oustees died of depression (*tristeza*). Twenty-five years after the project's completion, a study in one resettled communities found more intense socio-economic and health inequalities than in nearby long-term communities (Partridge *et al.*, 1983: 256-7). The combination of these strategies and impacts led several scholars to label this a case of 'ethnocide' (Barabas and Bartolomé, 1973: 6-10).

Political and fiscal crises

By the early 1980s, the strategy of deficit-financed, state-led development, which had allowed the Mexican government to expand its power grid and irrigation coverage, led the state to debt crisis and bankruptcy. The economic policy of import-substitution pursued from the 1940s through the 1980s, the increasing financial burden of public enterprises, and the 'orgy of waste, fraud, and corruption' that characterised the public sector at this time, was funded not by tax revenue but by heavy foreign borrowing (Cypher, 1990: 11, 72). By 1982, public firms accounted for nearly 50% of the public sector deficit (Teichman, 1995: 38). The CFE alone accounted for 63.8% of parastatal debt (Cypher, 1990: 127). According to Teichman, much of this debt was due to the laxity of financial control over public enterprises, their clientelist manner of operation, and the heavy subsidisation of public enterprise goods,

¹⁹ Two names are provided for some dams, one inside parentheses and one outside. Mexican dams are commonly named after famous persons, often ex-presidents, yet are also known by the name of the location of

such as electricity (1995: 38-9). From 1970-82, the Mexican economy experienced turbulence and downturn, which was temporarily mitigated by a boom in oil prices (1979-81), allowing the country to regain a level of prosperity through rapid oil production and export. However, this was short-lived: in 1982, when oil prices dropped, the Mexican government fell into bankruptcy, defaulting on its loans (Cypher, 1990: 87).

President de la Madrid (1982-88) led the neo-liberal response to Mexico's history of profligate borrowing and spending. From 1982 onwards, the state reduced its overall level of spending, including its investment in infrastructure projects, and began the process of selling off public enterprises (Grindle, 1996: 128-9). The de la Madrid era was also characterised by a diversification of politics, which saw traditional class-based organisations give way to community- and issue-based groups. Both well-established and newly mobilised groups showed concern not only for the traditional bread and butter issues, but also for more political issues, such as participation in decision-making and land and housing rights. They furthermore demanded that the requests and needs of citizens be responded to as a right of citizenship and through negotiation with the government, rather than through the confines of the state's clientelist system (Grindle, 1996: 156-8). The erosion of the PRI's patronage networks by its inability to accommodate the diverse and multiplying demands of the polity had important implications for dams and resettlement in the 1980s. Throughout the decade, displacees' responses to state infrastructure projects grew increasingly politicised, reducing the capacity of the state to ignore resettlement concerns and appease discontent with coercion and money (Robinson, 2000: 2)

The Cerro de Oro (de la Madrid) Dam project overlapped with this period and was frustrated by the mobilisation of local dissenters. Initiated in 1972, the project took 16 years to complete, displacing 18,000-25,000 Chinantec Indians by its completion date in 1988. The financial crisis of 1982 halted construction and interrupted resettlement for the Chinantec. The long delays provided protestors with opportunities to mobilise sympathy, roadblocks, noisy demonstrations, continuous press releases, and media events. While a portion of displacees were moved to a resettlement site 200 km south in 1975, others were moved between 1986-88 to over 30 new villages with second-rate lands spread over a wide area of south-central Veracruz (Robinson, 2000: 2-3). By the late 1980s, the majority of those moved in 1975 derived little or no income from project activities and were barely surviving in their remote and agriculturally-unproductive resettlement site (Gates, 1988). Displacees suffered a

their power stations. The name provided outside parentheses is the most commonly used name in the literature.

severe degradation in land quality, unequal or no access to poor water and electricity services, changed diets due to unavailability of traditional foods, a decline in the use of traditional medicines due to unavailability of specific plants, inappropriate housing arrangements, and the division of families due to geographically dispersed resettlement sites (Samuels, 1991: 18-21).

Built in the early 1980s and completed in 1986, the Caracol Dam project was also frustrated by growing activism among displacee groups. The project displaced 5,500-7,000 people in eleven communities (Nahmad, 1999: 3; Scott, 1990a). Press reports later revealed that the post-resettlement standard of living increased only for those oustees who were living in small huts prior to displacement, those with personal connections in the CFE, and those with high levels of education; all others suffered a decline in living conditions (Scott 1990a). Long-delayed compensation proved insufficient to replace flooded agricultural land, leaving many displacees without the means to maintain their new homes. Resettlement plots were sold to wealthy outsiders; many displacees moved to decaying neighbourhoods on the periphery of the town; some left in search of work in larger cities or the US (Guggenheim, 1993: 206). In reaction to the government's poor attempt at resettlement, a community of dissidents refused to follow the project's official resettlement plan for the first time in Mexican history, and a lawyer filed a suit against the CFE on behalf of disgruntled displacees, also a first in Mexico. In 1991, the CFE was obliged to renegotiate the resettlement terms for protestors who refused the original compensation package (Robinson, 2000: 2).

Other projects were halted outright. The CFE dam project in Chiapas was cancelled in 1983 after significant investment due to mobilisation against the project. The San Juan Tetelcingo Dam project in Guerrero was cancelled in 1992 after years of turbulence and problems securing funding. According to the CFE, 18,000-20,000 people were to be displaced from the dam site; others put the estimate much higher at 30,000-32,000 with a further 15,000 people indirectly affected by the dam. Ironically, the San Juan Tetelcingo Dam was intended to provide a lifeline to the Caracol Dam upstream, which without the second dam was estimated to have only twenty years of operation remaining due to silt build-up (Robinson, 2000: 2; Scott, 1990b).

Two funding paths

By the late 1980s, the PRI was far less coherent than it had been in previous decades. Its hold over the polity was challenged by the rise of independent unionism and peasant movements – both organised labour and peasant farmers had been the most loyal and ‘captured’ of PRI constituencies in the past. Over half a decade of change had resulted in a considerable opening up of political space for contestation in Mexico (Grindle, 1996: 59). By the last two years of the de la Madrid term, divestiture had quickened – in 1988, the state announced that it would retain only a handful of state enterprises, one of which was the CFE (Teichman, 1995: 129-33).

The reduction in state investment in hydropower, coupled with the cancellation of several large-scale dam projects, led to an energy deficit in Mexico. Demand for electricity grew steadily over the 1980s and early 1990s at 6-8% per year, yet supply could not keep up – state investment in the energy sector was 20% lower in 1990 than in 1982. The supply problem was exacerbated by the high demands of the energy sector itself – by 1993, PEMEX, Mexico’s state-owned petroleum and gas firm, and CFE together consumed 28.4% of Mexico’s total energy bill (Quintinilla and Bauer, 1996: 116-22).

The funding crisis in Mexico’s dam sector led to two responses, one temporary and one long-term. In the short term, the Mexican government sought assistance in meeting its energy infrastructure needs from the World Bank. In 1990, the Bank loaned the Mexican government \$460 million for the Mexico Hydroelectric Project (MHP), which involved the construction of two large dams, the Aguamilpa and Zimapan dams. These projects are discussed in detail in Chapter four.

The government’s second strategy was to de-regulate the electricity sector to allow private sector participation. In 1991, the Mexican government passed a law allowing industrial firms to build, own, and operate facilities for as much co-generation of electricity as needed to fully serve an industrial site. Any surplus production was allowed to be sold to the CFE, though not to the public directly (IPR, 05/07/1991). In December 1992, the Congress took a step further by passing a law permitting five categories of permissible private sector activity in the electricity sector: 1) generation for self-supply, co-generation or small production; 2) generation by independent producers for sale to CFE; 3) generation for export; 4) importation for self-use; and 5) emergency power generation. (IPR, 12/02/1993). Reform in the water sector further allowed private sector involvement in infrastructure development. A new National Water Law enacted in the early 1990s introduced market

mechanisms in the sector, announcing that water was ‘both a commodity and a public good’ (Buras, 1996: 235). Mexico’s signing of the North American Free Trade Agreement (NAFTA) in 1994 further committed the country to liberalising these sectors.

By the end of the Salinas de Gortari term (1988-94), half the investment in Mexico’s electricity sector came from the private sector (Salinas de Gortari, 2002: 511), yet this did not spell relief for the dam sector. As with privatised power production globally, private investment in Mexico’s energy sector following de-regulation favoured thermal power²⁰, not hydropower, leaving dams under-funded compared to investment levels in the past. However, aware that 70% of Mexico’s hydroelectric potential remained untapped in the 1990s (Tortajada, 2000: 74), the Mexican government knew that it could not bypass dams as a source of energy to meet the country’s growing power needs.²¹ One dam project stands out as an exception to the thermal bias. The Huites (Luis Donaldo Colosio) Dam was built as a joint venture between a coalition of private companies and the Mexican government. This project is discussed in detail in Chapter four.

By the late 1980s, the legal landscape relating to development projects and displacement in Mexico was also changing. In 1988, the Mexican Congress enacted the General Law for Ecological Balance and Environmental Protection (LGEEPA), which made the preparation of an Environmental Impact Assessment (EIA) mandatory for all major development projects, required the incorporation of public participation in each EIA, and made mandatory post-project evaluations. LGEEPA was strengthened in 1996, and again in 2000, making contaminators of the environment liable for the cost of repair and expanding the number of activities for which an EIA was required (Tortajada, 2001: 13). However, enforcement of LGEEPA has been poor and although resettlement issues are supposed to be considered within EIAs, they rarely receive more than a cursory treatment (Tortajada, 2001: 48, 50). Beyond LGEEPA, in 1989, Mexico ratified the International Labour Organisation’s (ILO) Convention 169 concerning Indigenous and Tribal Peoples in Independent Countries, which came into force in September 1991. The Convention stipulates that government signatories must respect the right of indigenous peoples to participate in development planning that affects them, and that governments must take measures to preserve the institutions, goods, culture, and environment of indigenous populations (Castelán, 2002: 9).

²⁰ For example, in 1992, a US firm acquired 49% of a 1,400 MW coal-fired plant in Coahuila (IPR 24/04/1992). In 1993, two private 700 MW gas- and oil-fired plants were announced, one in Chihuahua (IPR 01/01/1993) and one in Veracruz (IPR 29/01/1993).

²¹ In 1993, the government estimated that Mexico would need 17,000-18,000 MW of new power resources by 2005, most of which it hoped would come from private sector development (IPR 18/06/1993).

Overall, resettlement in state-funded dam projects has been a distressing experience for oustees in Mexico, with few channels for participation, negotiation, and dissent in the planning and construction phases, often leading to impoverishment for displacees. Fiscal crisis left the Mexican government without the resources necessary to continue building dams at the pace it set in the past. Strapped for funds but with a desire to see further dam construction in the country, the government turned to the World Bank, and later to the private sector, for financial assistance. The next chapter discusses in detail three Mexican dam projects in the early 1990s in an effort to assess the implications for resettlement of these two different funding paths.

CHAPTER 4 - THE CASE STUDIES: AGUAMILPA, ZIMAPAN, AND HUITES

This chapter examines three concurrent Mexican dam projects, two of which were assisted by the World Bank – the Aguamilpa and Zimapan dam projects – and one of which was privately co-financed – the Huites Dam project (see Map I for dam project locations). The chapter ends with a critical comparison of resettlement conditions in the three projects.

Map I: Map of Mexico showing the location of the Aguamilpa, Zimapan, and Huites dams



Mexico Hydroelectric Project

In 1989, the Mexican government secured a \$460 million loan from the World Bank to assist in its development of the Mexico Hydroelectric Project (MHP), the costs for which totalled \$1.44 billion. This was the World Bank's first loan to Mexico's energy sector in 17 years. The MHP involved the construction of the 960 MW Aguamilpa Dam on the Santiago River in the state of Nayarit, completed in 1993, and the 280 MW Zimapan Dam on the Tula

and Moctezuma rivers in the states of Querétaro and Hidalgo, completed in 1994 (Guggenheim, 1993: 203). The two projects were planned and managed by the Federal Electricity Commission (CFE).

From the World Bank's perspective, the loan for the MHP offered an opportunity to at once assist a country in dire need of new sources of electricity and push for social and environmental reforms in Mexico (Guggenheim, 1996: 68). According to a World Bank official, the CFE's original resettlement plans reflected the department's strong engineering bias, showed few signs of having been formulated in co-operation with the communities to be resettled, and were 'little more than skeletal copies of a standard (and unsuccessful) resettlement package that had been tried elsewhere in the country.' Upon reviewing these plans, the World Bank introduced conditions on its loan requiring the CFE to revise its resettlement plans for the two projects to meet Bank standards and reform its organisational structure to ensure more participatory and fair planning in the future (Guggenheim, 1996: 68). At first, the CFE refused to bow to World Bank pressure, instead opting to decline the World Bank loan and search for alternative funding. However, seven months of unsuccessful searching, the placement of a new, reform-oriented CFE president and growing domestic demands for environmental and social impact assessments as well as participatory development planning, led the Mexican government back to negotiations with the World Bank (Guggenheim, 1996: 69).

As a consequence of Bank demands, the CFE revised its original resettlement plans and budgets in order to improve or restore displacees' incomes and living standards rather than merely compensating them for lost assets. The CFE set planning targets, which had to be verified by World Bank officials before loan funds could be released, and reformed its organisational structure by developing policies that applied to all CFE projects, improving planning methodologies, incorporating social and environmental training programs for its employees, and carrying out internal audits of resettlement problems. Importantly, it also created a new Social Development Division that reports directly to the president and top management of the utility. This was replicated at the project level where an on-site high-level official reported to the chief project engineer about resettlement issues (Guggenheim, 1993: 210-2).

Both dams involved displacement and the flooding of valuable agricultural land, though on levels much lower than in some other high-profile dam cases in Mexican history. The Zimapan Dam displaced approximately 2,500 people, some of whom were Otomis Indians, while the Aguamilpa Dam displaced approximately 1,000 people, most of whom

were Huichol Indians, one of Mexico's poorest ethnic communities (Guggenheim, 1993: 203; Nahmad, 1999: 2; Samuels, 1991: 26). The Zimapan Dam inundated 2,291 ha, resulting in the loss of 306 ha of highly productive horticultural and agricultural land, as well as the flooding of five previously inhabited communities. Construction of the Aguamilpa Dam resulted in property losses of 224 houses, four schools, 2 km of roads, three temples, and 12,927 ha of land, over 3,200 ha of which was used for agriculture or grazing purposes (Nahmad, 1999: 2).

While far from perfect, resettlement planning in both dam projects of the MHP was the most participatory and fair in Mexican dam-building history. At Aguamilpa, the first attempts to organise group meetings among the Huichol Indians about resettlement issues were a failure because the community had no history of meeting with outsiders for meetings. Instead, house-to-house visits were organised and teams of resettlement officers were required to live in the communities for three out of every four weeks in order to listen to concerns and demands regarding the project. In Zimapan, where the affected communities had a long history of collective action, displacedes created a 'negotiating committee' through which dissatisfaction and demands were voiced. The committee and the CFE agreed on several key points for negotiations: full disclosure of all information, joint financial audits, no individual deal-making, and the only binding agreements would be those signed jointly in monthly meetings in the communities' assembly halls (Guggenheim, 1996: 70).

Both projects benefited from field monitoring by the National Indian Institute (INI), and independent monitoring by Salomon Nahmad, an internationally famous Mexican anthropologist, appointed by the CFE to advise the utility's president on resettlement issues in the two projects. The head of the INI monitoring team, the independent advisor, the head of the Social Development Unit, and CFE's director of operations formed a high-level committee that met on a bimonthly basis to discuss resettlement issues (Guggenheim, 1993: 215; Guggenheim, 1996: 69). Surprise visits to the dam and resettlement sites were made by the World Bank's Mexico Department Director, its energy division chief, and its Task Manager, which led to flurries of activity – some persistent problems were 'magically solved on the spot' (Guggenheim, 1996: 72).

Building resettlement knowledge and capacity was a key reform incorporated in the Zimapan and Aguamilpa projects. Five resettlement workshops were organised by the CFE, INI, and CIESAS to bring together project staff and select government and community members (Nahmad, 1999: 2). A further two resettlement seminars were organised, where leading resettlement researchers were invited to discuss their research and alternative

approaches with senior management, project staff, and the social development unit. The CFE sponsored trips to other dam sites and displaced communities, both domestically and internationally, in order to facilitate learning about participation and past failures (Guggenheim, 1993: 215-6). In the Zimapan case, the level of academic research on the project's resettlement program was also unprecedented, owing largely to the dam's proximity to Mexico City (roughly a three-hour drive by car) (Darling, 1993). The knowledge base built by this research provided a valuable learning tool for CFE project officials and the World Bank.

The reforms triggered by the Aguamilpa and Zimapan projects did not always result in satisfactory resettlement outcomes and substantial institutional changes, particularly in the case of the Zimapan project. Castelán (2002: 7) points out that the CFE's Environmental Protection Group was staffed with inexperienced officials who focused only on data collection (e.g., identifying the site's flora and fauna and monitoring water quality in the rivers to be dammed), without thought for what the data would be used for and by whom it would be used. Furthermore, despite large expenditures on EIAs, no follow-up measures were taken to assess or mitigate project impacts (Castelán, 2002: 7). Guggenheim (1996: 70) points to the high level of social stratification among displacees in the Zimapan case as a stumbling block in resettlement negotiations – while some in the community had close ties to their land, others had no such ties, relying instead upon labour migration for income. Participatory planning sought a community-wide agreement on compensation terms, yet this was near impossible in the Zimapan case. The communities also encountered problems with control over decision-making – once high-profile issues were resolved, a small elite took control of the negotiating committee, excluding the poor, sometimes by force (Guggenheim, 1996: 71). Examples also exist of the CFE failing to incorporate local participation in some areas of its resettlement planning. For example, in the Zimapan case, displacees were not consulted in the selection of farms at the resettlement site, despite the vast experience among some displacees of working as labourers on these farms (Guggenheim, 1993: 223). In the time between CFE's purchasing of the farms and their occupation by displacees, the communities decided that the cost of maintaining the new farms was too high. They asked the CFE for alternative land restitution options. However, with less than a year left until the reservoir was scheduled to be flooded, the CFE leadership refused to acquire new lands, offering instead to compensate households with cash (Robinson, 2000: 3). According to some, the failure to provide displacees with land for land in the Zimapan case was a violation

of the World Bank's policy on involuntary resettlement, and furthermore led some resettlers into financial trouble by removing their safety net of agricultural production (Darling, 1993).

Overall, however, the resettlement processes in the Zimapan and Aguamilpa dams were far more participatory and fair than those in other dam projects in Mexico's past. When the resettlement teams from both dam projects reported that delays were occurring in land expropriation and compensation, the chief project engineer met with the state governor and arranged to transfer funds and vehicles to initiate land regularisation immediately. Land regularisation was completed two years ahead of schedule and compensation packages were paid out before construction began. Compared to previous state-funded projects, in which land regularisation sometimes remained incomplete ten years after project completion, this marked a watershed (Guggenheim, 1993: 215). Disagreement between displacee communities and the CFE on compensation rates was solved through negotiations, which, though sometimes tense and drawn-out, never reached armed conflict as they had in past projects (Guggenheim, 1993: 219-20).

In the Zimapan project, the CFE helped farmers approach training institutes and agricultural extension services so that, once resettled, they could adapt to the different, more sophisticated production and marketing requirements of their new farms (Guggenheim, 1993: 220). In the Aguamilpa project, the architect and anthropologist who lived with the communities developed four different designs for new accommodations, all of which followed traditional Huichol design principles and were largely based on indigenous materials. These were rejected by displacees as too traditional – the communities wished to use resettlement as a tool to change their living arrangements. After further negotiation, changes were made to the housing designs, and the CFE helped organise the desired initiation rituals for the resettlement sites by flying in priests and religious leaders, constructing ceremonial centres, and providing refreshments for the ceremonies. The conditions in the new communities turned out to be good enough to attract some resettlers' relatives from other regions (Guggenheim, 1993: 222; Guggenheim, 1996: 71). From an economical perspective, the new strategies for resettlement also led to successes. Both dam projects were finished on schedule, a rarity in Mexican dam-building history. Resettlement in the two projects was expensive – twice the estimate made by the government when it first sought international financing for the project and double the cost of the next most expensive resettlement program in Mexican history – but the financial savings made from finishing the projects on time more than made up for the increased resettlement costs (Guggenheim, 1993: 218; Guggenheim, 1996: 71).

In the end, resettlement conditions in the two projects were better than in any other dam project in Mexico's history – the regular meetings between villagers and CFE officials, the amount of information given to residents, and the level of participation allowed were all unprecedented in CFE resettlement schemes (Scott, 1990c). The two projects have even been highlighted in the World Bank's *Participation Sourcebook* (1996) as examples of projects with exceptional participatory components.

Huites Dam

Located in the state of Sinaloa, near the state borders of Sonora and Chihuahua, the Huites Multi-Purpose Dam project was intended to provide 400 MW of electricity generating capacity, irrigate 70,000 ha of agricultural land, and control the flow of the Fuerte River, thereby preventing or mitigating future floods.²² A private sector coalition (Consortio Mexicano Constructor de Huites) financed 75% of the project, while the Mexican government covered the remainder. This made the project the first privately co-financed large dam in Mexico since the Revolution in 1910 (Robinson, 2000: 4). The consortium consisted of four firms, three of which were Mexican – Empresas ICA Sociedad Controladora S.A. de C.V. (ICA), Grupo Mexicano de Desarrollo, and La Nacional – and one of which was Brazilian – Companhia Brasileira de Proyectos y Obras. The consortium is recovering its investment through the sale of electricity to CFE and the imposition of tariffs on irrigation water users.²³ After a concessionary period, the ownership of the dam will be transferred to the Mexican government.

Little information is available on this dam project; however, the information that is available suggests that business dealings and resettlement operations were marred by corruption and force. The four-company consortium involved in the project was formed by government decree – the state requested that two two-company groups join after one group underbid the other in the project's 'competitive' bidding procedure. The government stressed that it joined the two groups because the winning group did not have the construction experience in Mexico necessary for the project, which it felt the losing group could provide. However, the historically close relationship between ICA, which happened to be in the losing

²² A 1991 flood in the Fuerte basin, which inundated 200,000 ha and caused \$50 million in damage, gave urgency to the project (ENR 13/03/1995).

²³ CFE will pay 228 pesos/kwh (199,500 million pesos/year), the users of the new irrigated area will pay 27,866 pesos/ha/year (199,500 million pesos/year), and other users will pay 8,000 pesos/ha/year (1,720 million pesos/year) (CE 1992, cited in Tortajada 2001: 105).

group, and the PRI was likely an important factor in the decision to join the two groups. The growth of ICA into Latin America's largest construction company benefited immensely from PRI patronage in the past. The company's involvement-by-decree in the Huites Dam project proves that this relationship continued into the 1990s (ENR, 13/03/1995; Millman, 1993). Robinson points to another shadowy set of circumstances: close connections existed between Carlos Hank Gonzalez, a PRI politician in the government's Agricultural Department, the CFE (and therefore the government's energy policies), and export agribusiness interests in Sinaloa that stood to benefit enormously from the extension of irrigation services in the region (1996: 1; personal communication, 15/04/2003).

Under the supervision of the National Water Commission (CNA), the Huites Dam was built at breakneck speed between 1992-95. The project utilised a 'batch plant to pour' system to place most of the dam's 2.84 million cubic metres of concrete in only 14 months, a rate previously outdone by only one dam project.²⁴ The project's workforce, which peaked at 4,900 employees, laboured around the clock, seven days a week in order to meet the project's tight construction schedule (Soast, 1995). While the speed of construction dazzled the dam-building industry, post-construction results have been less impressive. The Huites Dam suffers from a structural fault, disallowing it to operate with a full reservoir, limiting the opening of new lands for irrigation, and therefore undermining many of the stated benefits of the project (Robinson, 2000: 4). Droughts in recent years have also rendered the dam inoperable for months at a time, suggesting that water supply schedules used to justify the project were flawed. In 1999, the CFE was forced to import 550 MW of electricity from the US due to a shortage in the country's north-west – the Huites Dam was closed for half of that year owing to a drought (MBM, 01/07/1999). In 2000, the Huites Dam, along with a number of other dams in Sinaloa, was forced to operate at a minimal level, again due to drought (BNAE, 26/04/2000). One report suggested that the government is considering building a high-voltage power line to the state of Sinaloa from the Aguamilpa Dam (MBM, 01/07/1999).

The Huites Dam displaced 65 Mayo families from the community of Huites (Robinson, 2000: 4) and inundated 9,384 ha of land, 5,693 ha of which was used for agricultural purposes (Perez, 1996a). As the body in charge of the project's resettlement component, the CNA offered to replace affected households' agricultural parcels and home

²⁴ The monthly pouring record in the Huites Dam project was exceeded only in the Brazil-Paraguay Itaipú Dam project. The Huites record is considered more impressive because its delivery system was smaller (Soast 1995).

sites on a land-for-land basis, while also providing the resettlement sites with social infrastructure. In a brochure published about the dam, the CNA noted that displacees were relocated to the communities of Nuevo Techobampo, Tahonitas, and Colonia Huites. The new communities were given a pier with a 20 ton capacity, two 16-foot rowboats ‘in order to facilitate communication between the waterside communities’, and eight smaller rowboats in order to develop aquaculture, tourism, and fishing activities (Perez, 1996a).

However, soon after resettlement began, it became apparent that the CNA’s resettlement ‘standards’ were far below those employed by the CFE (and World Bank) in the Aguamilpa and Zimapan projects. Many displacees ended up in modest homes near the town of Choix, Sinaloa, adjacent to the dam’s construction camp (Robinson, 2000: 4), rather than in Nuevo Techobampo, Tahonitas, or Colonia Huites. Few opportunities were made available for displacees to restore or improve their living standards. Families that had practised agricultural, pastoral, and hunting activities before displacement were forced to collect and recycle empty aluminium cans and beer bottles for survival (Castelán, 2002: 8; Perez, 1996b). The state’s desire to capitalise on tourism opportunities has undermined the community’s ability to continue its traditional fishing practices – the government of Sinaloa designated the Huites reservoir for sports fishing only. Along with a game warden, the local tourism director patrols the reservoir in search of fishing nets using a boat provided by an American commercial fish lodge owner who originally populated the reservoir with Florida bass soon after it had been flooded (Daily Oklahoman, 12/10/1997).

Dam construction also broke the community’s cycle of migration. Prior to displacement, young members of the community migrated to the US for work every year in the agricultural off-season. Once agricultural activities disappeared, so did the impetus to return, leading to an 80% decline in the community’s economically active population (Castelán 2002: 8). According to one community leader, ‘only the old people have stayed; those that are between 30 and 50 years old, those with experience, those that communicate knowledge, are all gone. Other people have had to sell their land because of poverty’ (quoted in Perez, 1996b). The community’s traditional religious practices have also shown signs of disappearing as a result of the CNA’s original inattention to replacing the community’s ceremonial centre, and, later, poor attention to how the community wanted the new centre to be constructed (Castelán, 2002: 8; Perez, 1996b).

For its speed, the pouring company was recognised in an industry publication as a Top-25 Newsmaker for 1995 (ENR 01/01/1996).

After it became apparent to displacees that resettlement was of little concern to the CNA and other project developers, the Mayo complained to the INI, who, despite protocol, had not been previously notified by the CNA of the dam's impact on an indigenous community (Robinson, 2000: 4). Already deeply involved in monitoring the resettlement schemes of the Aguamilpa and Zimapan projects, the INI dispatched Ramón Martínez, a field anthropologist, to the Huites Dam site. By the time Martínez arrived, the relocation had already been completed, most of the land had been flooded, and 80% of the dam's curtain had been constructed (Perez, 1996a). The CNA used the armed Policía Hidráulica in an effort to block the INI investigator from accessing the area (Robinson, 2000: 4; Robinson personal communication, 15/04/2003) and denied the INI access to key government documents concerning the project (Perez, 1996a). Despite these barriers, Martínez was still able to prepare a report on the CNA's activities, which led the INI to file a formal complaint against the CNA's resettlement activities to the Mexican President (Robinson, 2000: 4).

Mexico's National Commission of Human Rights (CNDH) also became aware of the negative outcomes of the project's resettlement scheme, but did not step in until 1996, when its presence was insisted upon by the Comisión Integral Para la Atención de los Huites, comprised of INI personnel. Rosa Isabel Estrada, the co-ordinator of the CNDH's Indigenous Issues Program, visited the flooded community (uncovered at the time due to the low level of the Rio Fuerte) and spoke with members of the displaced community. Upon witnessing the seriousness of resettlement problems in the project, she communicated her solidarity to the Huites people and committed herself to documenting the issue as much as possible (Perez, 1996b).

Over a period of several years, activism by the INI and CNDH on behalf of the Huites displacees pushed federal authorities to meet some of the CFE's failed obligations. However, by 1999 the community's struggle for compensation was still not over. In 1994, the CNA promised to give the displaced community 8,488,013 pesos in order to replace its agricultural lands and social infrastructure. The money was to come in several instalments, each of which needed to be used up by a certain date before any more money was released. However, due to errors committed by those in charge of these resources, the first instalment (2,000,000 pesos) was not used up in time, leading the CNA to cancel the remainder of its financial obligation to the community (6,488,013 pesos). Several years later, after long negotiations with state and federal authorities, the CNA agreed to pay the remaining amount to displacees (García, c2000).

Not only did the CNA fail to implement a resettlement plan on a par with those implemented in Aguamilpa and Zimapan, the Mexican government also failed to fulfil its obligations towards displacees, including those towards indigenous peoples under ILO Convention 169. Robinson points to this as yet another case of state-sponsored ‘ethnocide’ (1996: 2).

Determinants of difference

The resettlement conditions in the two World Bank-assisted projects and the privately co-financed project discussed above contrast sharply. While not perfect, the resettlement programs of the two Bank-assisted projects were more participatory and fair than in any other dam project in Mexican history. In contrast, the conditions of the resettlement program in the Huites Dam project were on a par with those in previous state-funded dam projects, in which resettlement was carried out with little care for the wellbeing of displacees. Can the varying level of attention paid to resettlement be attributed to financing differences?

In both the Aguamilpa and Zimapan projects, the Mexican government was forced to meet the high resettlement standards of the World Bank. Moreover, in full comprehension of Mexico’s dependence on its loan in order to expand its national power grid, the Bank took the opportunity to further require institutional reforms to the CFE that would ensure a more participatory and fair approach to resettlement planning in the future. World Bank pressure was not the only factor that triggered these reforms. The proximity to Mexico City of the Zimapan project allowed for regular visits by investigators and academic researchers, which facilitated learning about strengths and weaknesses in the project’s resettlement component. Furthermore, the placement of a reform-oriented CFE president and growing domestic demands concerning social and environmental issues in development projects lubricated the system for reform. However, the Bank’s involvement as a financing agent was the single most important factor influencing the level of attention paid to resettlement issues, the projects’ positive resettlement outcomes, and the willingness of the government to reform its institutions. Indeed, the regular visits by investigators and researchers to the Zimapan site would likely have been disallowed without World Bank involvement – this is clear from the experience of INI investigators in the Huites project.

In the Huites project, resettlement was not governed by a set of standards equivalent to those used in the Aguamilpa and Zimapan projects. Neither the private developers nor the CNA brought resettlement demands to the negotiating table. Rather, the boundaries of

acceptable resettlement conditions were determined by vague Mexican laws regarding social and environmental issues, the country's obligations under ILO Convention 169, non-binding suggestions for private companies set out by multi-lateral institutions like the OECD and UN, and the goodwill of individual participants. Unfortunately for displacees, these vague, and sometimes non-binding, obligations amounted to very little, leaving the CNA to conduct resettlement as state agencies had in the past – with impunity.

That the CNA took sole responsibility for the project's resettlement component, leaving 'non-social' construction components to the project's private sector participants, allowed the participating private developers to wash their hands of the conditions of resettlement and their impacts on the displaced population. However, private sector investment was an important determinant in the conditions of the project's resettlement program, even if the program was planned and managed independently by the CNA. As the Mexican government was suffering from financial trouble at the time, private sector capital made the project possible, just as World Bank capital made the Aguamilpa and Zimapan projects possible. On an indirect level, this implicates the project's private sector participants in the outcomes of the resettlement program. Furthermore, the exigency in privately financed projects of meeting strict construction deadlines – witness the record-breaking performance in the Huites project – meant that resettlement delays and compensation negotiations could not be tolerated. Therefore, while the CNA planned and managed resettlement activities, the project's private sector participants were at least partly responsible for the timesaving strategies of dis-information and coercion employed by the CNA.

Both the Aguamilpa and Zimapan projects were also completed on time, which suggests that tight construction schedules need not result in resettlement failures. However, while good resettlement conditions in the Aguamilpa and Zimapan projects facilitated on-time completion, they were also expensive. The Huites case shows that resettlement can be 'completed' quickly and cheaply when conducted with impunity by the state.

Mexico is without well-defined legislation safeguarding the needs and rights of displacees. Moreover, its government appears unwilling to act and monitor in the interests of those displaced. In the Aguamilpa and Zimapan projects, this was of little consequence because World Bank conditions required the Mexican government to meet the Bank's resettlement standards and initiate reforms to ensure more participatory and fair resettlement planning in future projects. The government's dependence on the Bank's loan meant that it had little choice but to accept these demands. Moreover, the high profile of the Bank and its resettlement standards ensured that both internal and external observers microscopically

monitored the projects' resettlement components, making the likelihood of resettlement failure even smaller. In contrast, no such upward pressure on the prioritisation of resettlement existed in the Huites project. Rather, resettlement conditions were determined by what the CNA felt it could get away, and by the project's tight construction schedule, which encouraged the CNA to employ harmful tactics. The CNA failed to incorporate participatory techniques in resettlement planning and took steps to actively prevent investigators from accessing displacees, the dam site, and project information. Pressure from the INI, CNDH, and other activists and scholars in Mexico resulted in some improvements, but only years later after drawn-out high-level negotiations with federal authorities.

In short, given the Mexican government's unwillingness to act, regulate, and monitor in the interest of displacees when not pressured to do so, the World Bank's involvement in the Aguamilpa and Zimapan projects ensured good resettlement conditions, while private sector involvement in the Huites project brought about the opposite. Chapter five summarises the conclusions of this study and suggests areas for future research.

CHAPTER 5 - CONCLUSION

Given the great number and diversity of dam projects throughout the world over the last half-century, it is difficult to generalise about the relationship between financing arrangements and resettlement conditions. However, broad trends are visible. The vast majority of dams have been built by host governments, whose record with resettlement is poor. States have commonly used force to coerce residents off dam and reservoir sites and into impoverishing circumstances. Multi-lateral and bilateral development agencies have a varied track record with resettlement. This has improved over the last two decades, although only slightly, as new institutional safeguard mechanisms have been developed. While the World Bank's resettlement standards do not meet the WCD's 'best practice' recommendations, they remain the highest standards of any large institution engaged in financing development projects that cause displacement. The private sector has a much shorter history of financing dam projects, although anecdotal evidence already suggests a trend: without strong external legislation and monitoring, the needs and rights of oustees are marginalised by private developers' drive to meet construction deadlines and maximise profits.

The comparison between resettlement conditions in the Aguamilpa, Zimapan, and Huites projects shows that financing arrangements can influence a project's resettlement conditions. In the Aguamilpa and Zimapan projects, the World Bank's involvement as a financing agent was the single most important factor in determining the high level of attention paid to resettlement, the projects' positive resettlement outcomes, and the willingness of the Mexican government to reform its institutions to be more resettlement-friendly. In the Huites project, the lack of resettlement concerns or standards among the project's private developers, the exigency of meeting strict construction deadlines, and the CNA's unwillingness to protect displacees combined to produce poor resettlement conditions.

While it would be wrong to suggest that the involvement of any of these financing agents necessarily brings about a certain outcome – for example, that World Bank involvement always results in positive resettlement experiences – it would be naïve to ignore the overwhelming evidence pointing to trends in behaviour. The context within which a project is financed is clearly important. In particular, three factors stand out: the ability and willingness of the host government to act, regulate, and monitor in the interests of displacees; the resettlement and scheduling demands of financiers; and, when demands conflict, the host

government's degree of dependence on project financiers. In the current Mexican context, and also globally, the protection of displacees by governments is rarely a high priority. As governments increasingly seek help from private investors, who lack resettlement standards, rather than multi-lateral or bilateral development agencies, whose resettlement standards are among the highest in the world, the likelihood increases that displacees' needs and rights will be marginalised.

While this paper offers some conclusions on the relationship between financing arrangements and resettlement conditions, a number of questions remain unanswered. For example, which factors determine the presence and strength of legislation and mechanisms at the national level safeguarding the needs and rights of displacees? Are there different implications for resettlement conditions of the financial involvement in a project of foreign versus domestic corporations? How does the backing of different ECAs affect private sector behaviour in dam projects? To what extent have ECAs responded to pressure for reform on resettlement issues? There is also a great need for more primary research on the interaction between financing agents, not only in each of the three projects covered in this study, but also in other projects in order to expand the variety of arrangements considered and provide material for comparative research. Any similar study in the future should make this a priority.

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