



Grassroots Action for Resettlement Planning: Brazil and Beyond

ANTHONY HALL*

London School of Economics and Political Science, U.K.

Summary. — Evidence from Brazilian hydropower schemes, in the São Francisco valley of the Northeast and from the Uruguai River Basin in the south of the country, is used to question the relevance for resettlement planning of linear, reductionist models of social change which maintain that outcomes can be fully predetermined by planners. It is argued, rather, that highly variable, situation-specific phenomena are critical in determining project consequences. Factors such as the rise of new social movements, combined with the intervention of key external agents such as the World Bank, the radical church and rural trades unions, suggest that an actor-oriented or action model responsive to local circumstances is far more appropriate. This is true both in terms of analyzing the process of change initiated by large-scale infrastructural developments such as hydropower schemes, as well as for dealing more effectively with the resettlement needs of affected groups.

1. INTRODUCTION: HYDROPOWER PLANNING IN BRAZIL

(a) *Challenging conventional assumptions*

During the 1960s and 1970s, the often huge social and environmental costs associated with capital-intensive schemes such as dams and highways were generally accepted by aid donors, planning bodies and executing agencies alike as the inevitable “price of progress,” a necessary sacrifice which had to be made in the process of modernization. The vast majority of infrastructural projects in the developing world, especially during this earlier period, usually provided only minimal compensation for displaced people which rarely, if ever, allowed for livelihoods to be restructured on a firm basis. The dominant pattern has been for the needs of the majority to be either marginalized or totally ignored, as part of a financial cost-reducing exercise. At best, welfare-type solutions have been offered, treating displacees as “development refugees” worthy only of short-term, charitable assistance (Cernea, 1988; Oliver-Smith, 1991). Official policy makers and practitioners have usually acted on the assumption that social costs could be easily dismissed as “externalities” and imposed upon weak groups, who have generally had little choice but to acquiesce in the face of overwhelming odds. In this kind of deterministic conceptual model, local groups are allowed little room for maneuver to set their own agenda for action. Public opposition to such

infrastructural developments has tended to be seen as “archaic, futile and somehow both unpatriotic and mean-spirited” (Oliver-Smith, 1991, p. 133). Government planners did not anticipate significant popular protests which would have disrupted the project cycle; the state was expected to retain control of the situation. There is also a common — and very convenient — implicit assumption that the resulting poverty and disruption to people’s lives resulting from massive population displacements would be temporary and somehow self-rectifying as the benefits of infrastructural development “trickle down” to everyone.

Seen from the other end of the ideological spectrum results are, surprisingly, little different. According to neo-Marxists, the logic of capitalist development suggests proletarianization in the countryside and an essentially passive peasantry in what de Janvry (1981), for example, calls “functional dualism.” In a similar vein, the Weberian-inspired model of institutional incorporation views the state as the major agent of development (Long, 1988). Centralized state control over guided socioeconomic change in the countryside concentrates power in the hands of government bureaucracy, while at the same time

*Thanks are due to the Nuffield Foundation for financial support which enabled this research to be updated. The author would also like to thank the anonymous referee for constructive comments received during the revision process. Final revision accepted: July 3, 1994.

removing the power of independent decision making from farmers. In Brazil, while the state may have sufficient autonomy to pursue anti-poverty strategies quite vigorously at particular junctures (Grindle, 1986), the interests of government and business quite often coincide in their backing of large-scale projects and programs, to the detriment of small farmer interests. This has been very pronounced in the case of eastern Amazonia, for example (Hall, 1989).

Based upon a comparison of several Brazilian hydropower projects in different regions, this paper argues that deterministic, overarching development models such as these are of limited usefulness for guiding resettlement planning. Reductionist theories which attempt to predict the nature and direction of social transformations on the basis of preconceived, rigid and unilinear paradigms are of little use either for analyzing the process of change or for examining the policy and strategy implications for dealing with change and the social groups directly affected. Thus, modernization, neo-Marxist and institutional incorporation theories are all unduly pessimistic about the potential for constructive change arising from internal social interaction within project situations. These theories see change patterns as predetermined essentially by external centers of power such as the national state, foreign governments or international development agencies. Yet such conceptualizations do not adequately explain differential consequences arising from interventions made under similar structural conditions and fail to take account of locale-specific circumstances.

Of greater policy and practical relevance, this paper suggests, is an actor-oriented perspective which takes more account of local forms of social organization resulting from "the interactions, negotiations and social struggles that take place" both locally as well as at more distant but critical points in the negotiating process, and that "actors are capable (even within severely restricted social space) of formulating decisions, acting upon them, and innovating or experimenting" (Long and Long, 1992, pp. 21–25). Case studies from both the São Francisco Valley in the Northeast, as well as from the Uruguai River Basin in southern Brazil, demonstrate how locally based protest movements can help avoid the worst excesses of conventional hydropower development planning, and contribute significantly toward the design and implementation of more appropriate compensation and resettlement strategies.

(b) Hydropower expansion and national security

A steady growth in Brazil's domestic and industrial demand for electricity after WWII necessitated the

systematic expansion of supplies, with hydropower identified as a major, least-cost solution. This received a major impetus following the advent of military rule in 1964, and the prioritization of capital-intensive infrastructural projects as the foundation for a program of rapid industrialization (the Brazilian economic "miracle") based on attracting heavy foreign investment and the centralization of resources in state enterprises. The oil shocks of the 1970s provided a further incentive to expand the country's generating capacity in all regions, especially in the Northeast, the South and in Amazonia. This process was facilitated by the crushing of political opposition under an alliance of military hard-liners and technocrats, labeled Latin America's first "bureaucratic authoritarian" regime (Skidmore, 1985). Continuing a process which Vargas had started under the *Estado Novo*, successive civil-military administrations used measures such as legislation by presidential decree/law, the banning of effective political opposition, police controls and rigid media censorship to strengthen their executive powers and centralize decision-making over economic matters.¹

At this time, large-scale development programs and projects were undertaken without due consideration given to social and economic (not to mention environmental) impacts upon local populations. This occurred especially where the projects involved rural-based peasant or Amerindian groups, who tended to be poorly organized and less politically visible than they became in the 1980s and 1990s. Criticism of public projects was actively discouraged and basic flaws glossed over for short-term political and financial advantage. Undertakings such as highway construction and the heavily subsidized ranching program in Amazonia, dam and reservoir building in the São Francisco and other valleys, as well as public irrigation projects in the semi-arid interior of the Northeast, were almost invariably planned and executed without consulting the displaced or otherwise affected populations. In this highly repressive climate, protests were essentially localized affairs and easily quashed. Strategically important infrastructure projects were often mystified under the protective veil of "national security," compensation was generally minimal or nonexistent, and any resistance was usually met with violent repression by the state and allied private interests (Hall, 1978, 1989; Branford and Glock, 1985). It was within this context that the state energy agency ELETROBRAS (*Centrais Elétricas Brasileiras*, S.A.) planned the expansion of electricity supplies; in the Northeast through CHESF (*Companhia Hidrelétrica do Vale do São Francisco*) and in the South through ELETROSUL (*Centrais Elétricas do Sul do Brasil*, S.A.).

2. HYDROPOWER CASE STUDIES

(a) *Sobradinho: displacement and destitution?*

It is worth citing the case of Sobradinho in some detail, for it epitomizes the kind of linear model upon which hydropower development planning in Brazil was predicated during the "miracle" years. The Sobradinho dam and reservoir project (also known as Paulo Afonso IV) was conceived in the late 1960s by ELETROBRAS to meet the Northeast's rapidly growing urban and industrial power requirements, while helping to reduce the country's rising petroleum import bill. Construction started in the early 1970s with domestic funding but, by 1974, aid donors had agreed to lend US\$238 million.³ Lake Sobradinho flooded an area of 4,150 square kilometres, forming the largest inland body of water in Latin America after Lake Titicaca. Appraisal by the World Bank had revealed a number of potentially adverse social and environmental consequences, the most dramatic of which was the displacement of some 70,000 people in the immediate vicinity (Goodland, 1973). In addition, a further 50,000 rice farmers and dependents were displaced downstream in the lower section of the valley by the permanent drowning of 9,000 hectares of productive rice-producing riverine lands (*várzeas*), brought about by regulation of the river São Francisco's regime and a sharp increase in the low-flow level. Also contributing to the large-scale evictions which took place in the lower São Francisco from 1975–80 was, ironically, the expropriation of 25,000 hectares to make way for a series of "emergency" polder irrigation schemes, designed to offset the adverse impacts of Sobradinho upon the lower portion of the valley.

As far as the population directly displaced by Lake Sobradinho was concerned, provisions for compensation and resettlement varied considerably. Just over one-quarter of the population to be resettled lived in the four small towns of Sento Sé, Pilão Arcado, Casa Nova and Remanso, and CHESF made detailed plans to relocate them in new urban centers with the same names on the lakeside (CHESF, 1980). While the new towns are generally considered to have been reasonably successful, however, the rural population fared much worse. Based on a very selective and flawed sample survey, CHESF calculated that 50% of the 50,000 from the countryside would move to Serra do Ramalho, a new resettlement project upstream at Bom Jesus da Lapa in Bahia state, run by INCRA, the government colonization agency. A further 30%, it was expected, would transfer to 13 planned lakeside *agrovilas*, 10% would find employment in the local construction boom and the remaining 10% would move away altogether. As events turned out, however, 19% accepted cash compensation and left the area,

almost 70% remained in the vicinity of the lake and only 8% opted for INCRA's colonization scheme. At no time in the displacement and resettlement process was the large majority of the affected population systematically consulted about the choice of options for displacees, their design or manner of implementation. With the exception of a handful of wealthier urban and rural individuals, inhabitants were presented with a *fait accompli* and had no choice but to accept what was offered or leave empty-handed. This lack of beneficiary participation in the decision-making process over resettlement at Sobradinho is clearly reflected in the subsequently poor record of project performance.

The Serra do Ramalho colonization project, for example, has become an unmitigated disaster. Located 1000 kilometers from Sobradinho in an area of infertile soils, it has no irrigation facilities, no agricultural support and precious little social infrastructure for the colonists. Fewer than 1,000 of the projected 4,500 families actually made the trip upstream, forcing INCRA to open up the project to landless farmers from other regions. A vociferous protest campaign by the Catholic Church's Land Commission (CPT) in the mid-1970s brought no improvements. Declining rainfall due to deforestation west of the São Francisco and reduced government funding has resulted in lower crop yields, a precarious economic position for colonists and a high rate of farmer turnover. Recent government spending cutbacks have further reduced levels of support for the scheme, exacerbating its already dilapidated and depressing appearance.

At Lake Sobradinho itself, some 22,000 farming people decided to remain in the vicinity rather than the 14,000 projected by CHESF, necessitating a doubling in the planned number of *agrovilas*, from 13 to 25. The population on the lakeside was also swollen by disillusioned ex-colonists from Serra do Ramalho, as well as by rural emigrants from the surrounding area, where road construction, the spread of private irrigated farming and increased property values had given rise to land speculation and concentration. The problems experienced by farmers with adaptation to a different physical environment, together with poor site selection procedures and inadequate official support for the communities, has resulted in widespread hunger and malnutrition, unemployment and severe psychological stress, exacerbated during the expropriation process by CHESF's use of heavy-handed tactics against recalcitrant locals. The farmers' fertile alluvial lands and seasonally balanced system of riverine or *várzea* cultivation, wiped out by the new lake, was replaced by undersized plots of poor, sandy soils. Many farmers were further disadvantaged by being undercapitalized, due to the fact that they received no compensation for lands they had previously owned *de facto* rather than *de jure* (a legal title being necessary as proof of ownership and eligibility for indemnification). Many abandoned their plots, selling out where

possible to incoming commercial farmers. The *agrovila* communities today have an abandoned look about them, and the remaining population has to struggle hard to make ends meet.

Downstream populations affected by reservoir construction have, in general been neglected in resettlement policy provision (Horowitz, 1991), and in the Lower São Francisco valley, an "emergency" program was belatedly introduced to offset the impact of Sobradinho and the raising of the low-flow level. Dykes were built to protect the land from flooding and five "polder" projects set up by CODEVASF, the São Francisco valley irrigation authority, funded partly by World Bank loans totalling US\$75 million. Although over 10,000 families (50,000 people) were evicted in the lower valley to make way for these developments, by 1988 only 2,500 families had been absorbed by the new irrigation schemes. This implies a net displacement of about 7,500 families, or roughly 37,000 people. Although some would have found employment as farm laborers and others were recruited to work programs, the livelihoods of the majority were severely affected.

The vast social problem created in the area was, once again, compounded by the fact that most of the displaced received little or no compensation. Some 100 larger landowners enjoyed the lion's share, while those of the 2,800 smallholders with legal titles received some recompense; however, cultivators without such documentation were compensated only for improvements to the land (*benfeitorias*). The remaining 7,300 sharecroppers and tenant farmers received no indemnification whatsoever, merely a priority listing to join the irrigation projects, when eventually they came on stream after long delays of several years (de Barros, 1985). Already strong local resentment against CODEVASF was fuelled by inconsistencies in the payment of compensation and recruitment procedures to irrigation schemes (which were highly selective and partisan), and by the strong-arm tactics used to clear people off the land. In the middle and lower São Francisco valley, Sobradinho was thus directly responsible for the displacement of about 120,000 people altogether, providing variable compensation and/or settlement solutions for perhaps half of this number. The rest were, in effect, left to fend for themselves and many were eventually forced to migrate to earn a living, either to frontier regions or, more likely, the burgeoning cities of the Northeast and South of the country.

There was, clearly, the potential for a major upheaval and widespread protest by upward of 60,000 victims who had completely lost out in this radical transformation to their lives. Yet conflicts remained sporadic, isolated and fragmented. Individuals and even whole communities facing eviction often put up a fight but were forced to concede defeat. Radical bishops, priests, nuns and lay workers in the major

dioceses of Juazeiro and Propriá, in the middle and lower valley respectively, undertook vociferous lobbying campaigns against the government "oppressors," CHESF and CODEVASF. The more liberal of the Brazilian national newspapers even gave the subject some coverage during the mid-1970s, when press censorship started to ease off. In the final analysis, however, the protests produced little in the way of concrete results. CHESF was obliged to make some modifications to its provisions around Lake Sobradinho, while CODEVASF introduced emergency employment schemes and widened recruitment to the irrigation projects in the lower valley. In addition, a group of 60 sharecroppers from the expropriated Fazenda Betume won a case for compensation in the federal courts in 1987, after more than 10 years of legal wrangling. These were, however, relatively minor and somewhat symbolic achievements. Despite the scale of social and economic disruption upon the local populations, no collective opposition movement developed, either around Sobradinho itself or in the lower valley.

(b) *Itaparica: the people fight back*⁴

The case of Itaparica dam and reservoir, located a mere 200 kilometers downstream from Sobradinho, provides an altogether different story. The dam itself was planned in the mid-1970s but construction started only in 1980 and the sluice-gates closed in 1988. While the human impact was comparable, involving the displacement of some 40,000 people (three-quarters rural), what sets Itaparica apart from Sobradinho and, indeed, any similar large-scale hydropower project in Brazil is that, for the first time, a comprehensive resettlement program for the entire affected population was devised and implemented. An examination of the history of Itaparica's development, its outcomes and the roles played by various actors during its execution, yields valuable insights and lessons for planners. First, the Itaparica experience questions the reductionist assumptions made by planners at the time about the ability of the state to ride roughshod over attempts by local groups to achieve a fair provision for those directly affected. Second, it illustrates the conditions under which such collective interests may be effectively represented by a new social movement, how such a movement can arise and, in alliance with external agents (especially the World Bank in this case), critically influence resettlement outcomes. Finally, it provides a salutary lesson to planners and policy makers on the pitfalls of failing to consult affected populations in such situations.

At Sobradinho, an ill-conceived plan for resettling the displaced population was drawn up in the early stages of project design and remained virtually unaltered throughout the whole cycle, with the conse-

quences described above. At Itaparica, however, the decade separating the first land expropriations in 1977 and the commencement of resettlement in 1987 saw fundamental changes in the way in which relocation problems were dealt with by all parties concerned: the São Francisco electricity company (CHESF), the actual communities affected and the World Bank. When dam construction started in 1980, CHESF had made no resettlement plans for the majority of potential displacees. The new lake would flood 18,000 hectares of prime irrigable lands and a further 40,000 hectares used for rainfed agriculture and grazing. The urban population of some 10,000 was to be rehoused in new towns on the lakeside, but the 30,000 rural dwellers were to be offered only financial compensation in the hope that they would peacefully move elsewhere.

Alerted by the still recent and disastrous experiences of displaced groups at nearby Sobradinho and in the lower valley, the local population immediately started a campaign of noncooperation with CHESF as the company tried to survey the area and acquire land. Initial localized confrontations between farmers and CHESF employees were soon followed by the setting up of a formal, organized resistance movement comprising local communities and 13 local rural trades unions, known as the *Polo Sindical do Submédio São Francisco (Polosindical)*, with the help of the local Catholic Church and outside nongovernment organization (NGO) financial support (from Oxfam). Yet, given the geographically dispersed and socially fragmented nature of rural life in the area, the *Polosindical* had an uphill struggle to fashion out of this situation a cohesive and effective protest movement.

This early phase gave way to more systematic and widespread campaigns, initially for access to CHESF's plans and maps of the project area, so that the full impact of Itaparica could be gauged. Demands later widened to include provisions for the relocation of all displacees on lands adjacent to the lake as well for postsettlement agricultural production support services and social infrastructure. A number of mass public rallies were held at Petrolândia, the major town, calling for resettlement plans to be drawn up and made public. Formal representations were also made to CHESF, while a regular newsletter was sent nationwide and even overseas, spelling out inhabitants' problems and demands.⁵ By 1985, however, CHESF's apparent indifference to the people's plight had led to a hardening of relations. Although the company had formed a special working group to address resettlement issues at Itaparica, the *Polosindical* was not invited to participate in discussions and a new CHESF management took a hard line against the protesters. CHESF finally devised a resettlement plan (CHESF, 1985) but the local population had not been consulted at all. Furthermore, independent feasibility studies contracted by the *Polosindical* had revealed that most

of the sites identified by CHESF for resettlement of the population were unsuitable for irrigated farming due to saline soils and other technical problems.

By 1986, one year into the civilian administration of President José Sarney, the pace of events had begun to accelerate. Further local demonstrations were complemented by a strong international NGO campaign, spearheaded by the Washington DC-based Environmental Defence Fund (EDF) and representations were made to key World Bank personnel.⁶ Both national and international opinion was becoming focused on the confrontational situation at Itaparica. In 1985, a World Bank mission had visited Itaparica to appraise the Environmental Sector Master Plan in connection with a US\$500 million power sector loan to Brazil which concluded, in the wake of the Sobradinho débâcle, that there were major problems with CHESF's resettlement plans for the project. Faced with mounting international criticism over this and other environmentally related issues such as the concurrent POLONOROESTE controversy, and equipped with a strengthened (if not entirely new) policy commitment to dealing comprehensively with resettlement problems (see Cernea, 1988), the Bank made approval of the second and third tranches of the power sector loan conditional upon satisfactory resettlement provisions being made for Itaparica. Accordingly, in mid-1986, Bank staff started to prepare a comprehensive program, the "Itaparica Resettlement and Irrigation Project," which was funded in 1987 by the Bank to the tune of US\$132 million, and followed by a supplemental loan of US\$100 million, signed in 1991. Further procrastination by CHESF, however, and the company's failure to dialogue with the *Polosindical* was met in December 1986 with a massive occupation of the dam site for six days by thousands of men, women and children which paralyzed operations and attracted widespread national publicity via a now relatively censorship-free media.

The subsequent agreement between the *Polosindical* and CHESF, signed on December 6, 1986, set out several important preconditions which had been demanded by the local population. These included the fixing of firm dates for land acquisition, the indexation of compensation payments against rampant inflation, provision of housing and irrigation facilities, the granting of larger irrigated plots than was originally envisaged, the lifting of restrictions on eligibility to join new projects and, most critically in view of the long delay between population relocation and projects coming on stream, the provision of regular maintenance support (of about US\$75 per month) for all settler families awaiting relocation pending the first harvest. Soon afterward, in 1987, having formed a new department for resettlement coordination and brought in new staff, CHESF undertook the first proper survey of families to be resettled, initiated

preparatory measures concerning the transfer process and started the physical removal of communities.

It is difficult to overstate the importance of the *Polosindical*'s influence in guiding developments at Itaparica. There were clearly several other important related factors which must be taken into account, the most important of which was the direct participation of the World Bank in negotiations with CHESF and the local population. Although there is a high degree of mutually reinforcing complementarity between the actions of the *Polosindical* and World Bank in this context (Hall, 1992), the determined campaign by the local movement was arguably the single most important factor in fundamentally changing project design and execution by CHESF, the regional power authority. *Polosindical* pressure, as well as World Bank involvement in the later stages of the planning process, significantly widened the range of options of displacees.⁷

Shortly after Itaparica's floodgates closed, in February 1988, the transfer of people to their new homes was completed. Despite some problems, the process is generally acknowledged to have been smooth and without major hitches, in direct contrast to the traumatic experiences at Sobradinho and in the lower valley a decade earlier. Some 5,000 families were moved to 109 new rural *agrovilas*, each receiving a masonry house and the right to an irrigated plot regardless of previous land tenure status — a major innovation in such a scheme. Basic sanitation, health and educational infrastructure had been installed and access roads built. About 300 rural families preferred to move to the new towns, while another 500 waived their right to resettlement and farmland in exchange for cash compensation. Over 2,000 families were transferred to the relocated towns, where they were given the choice of a new house, a combination of cash compensation and a serviced plot, or construction materials for nonhouse owners.

Despite these significant achievements, however, there have been difficulties. The much-vaunted *agrovilas* have, for example, suffered from serious problems of prematurely decaying buildings, inadequate water supplies, physical isolation due to lack of public transport and lack of teachers or health workers to staff the schools and clinics. Yet the most damaging consequences of the resettlement process spring from the fact that in mid-1994, six years after physical transfer of the population, none of the major irrigation schemes had come on stream and a mere 10% of the 6,000 farming families transferred had been trained as part of the preproduction phase. At the same time, technical problems were becoming apparent relating to poor soils, soil erosion and growing doubts about the economic feasibility of small plots.⁸ Budgetary problems, alleged mismanagement and delays in contract tendering have caused project execution to fall well behind schedule. Severe psychological trauma

and social problems due to the transfer were thus strongly exacerbated by enforced idleness and compounded by alcohol abuse, which has led to problems of intracommunal and intrafamilial violence as well as breakdown and low morale. Much of this resentment has been vented on CHESF personnel working in the vicinity who, for their own personal safety were obliged for some time to visit projects in unmarked cars. The *Polosindical* has also issued a steady stream of protest notes, accompanied by threats to paralyze the dam and power station, should this situation continue indefinitely.

Unlike the situation at Sobradinho and in the lower São Francisco valley, therefore, the threat of massive disruption and loss of livelihood at Itaparica was met by large-scale, organized resistance by the rural population. Above all else, the emergence of a strong social movement, as represented by the *Polosindical*, made sure that these previous disasters would not be repeated. Not only did the movement ensure that, unlike in similar previous circumstances, land acquisition, compensation and transfer went ahead with a minimum of problems. It also made certain that all those affected would be offered a comprehensive range of resettlement options from which to choose, and that the people had the chance to participate in decision-making processes governing irrigation project location and design aspects. The winning of rights to maintenance payments for settlers pending project operation, upon which most families depend for their survival, was also a major accomplishment of the local movement.

Yet these dramatic achievements made during the 1980s, culminating in the 1986 agreement, have to be seen in the context of current and future problems which may undermine the longer term sustainability of the farmers' social movement. Aside from the consequences of delays in project implementation, further obstacles will also have to be faced during the production phase of the new irrigation schemes. CODEVASF, the São Francisco valley irrigation authority charged with overseeing their operation once production infrastructure is finally in place, still has to design an appropriate organization and management system for the farmers, who have no history of institutional cooperation in agriculture. A recently introduced CODEVASF policy of project "emancipation" (that is, financial and managerial self-sufficiency), whose effectiveness remains to be demonstrated, will make such a task doubly difficult. The likelihood that irrigation farmers will enjoy highly unequal incomes, due to problems of soil salinization, differential technical abilities and access to inputs or services, may also lead to growing farmer indebtedness and producer turnover, possibly encouraging land concentration (Hall, 1978; Graziano da Silva, 1989). The longer the delays in project implementation, the more likely is this scenario, as poorer farmers

are obliged to abandon their plots altogether in order to earn a living. Cuts in levels of maintenance support, at a time of stringent financial macroeconomic policies in Brazil, coupled with eroding values due to inflation, are placing a further strain on settlers. Party political factionalism among *Polosindical* leaders and members also threatens to undermine the hitherto high degree of solidarity in its negotiations with CHESF. In contrast to Sobradinho, therefore, the story of Itaparica is one of outstanding initial success, which has been tempered by the course of events since those first promising victories were won, and by an uncertain future.

(c) *The Uruguai River Basin: resistance and resettlement?*⁹

The cases of Sobradinho and Itaparica have been highlighted as hydropower projects which produced contrasting outcomes in broadly similar structural circumstances within the São Francisco Valley of Northeast Brazil. Yet Itaparica is not the only Brazilian example of a hydroelectric scheme in which a strong, locally based social movement has been the key factor behind the introduction of a more participatory planning process. In southern Brazil, during the 1970s, ELETROSUL proposed a series of 22 dams in the River Uruguai Basin which threatened to displace up to 200,000 people. The first two projects, Machadinho and Itá, were to be located in a densely populated, productive area of smallholder and landless farmers, forcing tens of thousands from their lands and homes; 22,000 farmers in the municipality of Machadinho alone would be evicted. When it became evident that ELETROSUL had made no plans to resettle the population, nor was the company prepared to discuss the project with them, a mobilization process was started which drastically altered the course of events as projected by the energy authority. This culminated in the eventual suspension of the Machadinho scheme and in the redesigning of the Itá project to allow for fairer compensation and resettlement.

Rather like at Itaparica and over a similar period, development of the local protest movement in the Uruguai River Basin went through several distinct phases. The population was first informed of the impending upheaval in 1978 by local university professors and the Catholic Church. Following widespread discussions with communities, a commission was set up the following year, known as CRAB (*Comissão Regional de Atingidos por Barragens* — the Regional Commission of Dam Victims), which started to publish a regular bulletin in 1981 to disseminate information locally and further afield.¹⁰ During this early period, ELETROSUL systematically ignored CRAB's demands for access to official infor-

mation about the likely impact of the dams, as well as about compensation and resettlement provisions. The company simultaneously engaged in various diversionary and evasive tactics to avoid coming face to face with the protesters while trying to secure local political support for the projects. The state legislative assembly of Rio Grande do Sul finally became so frustrated at ELETROSUL's procrastination that it organized a public forum in September 1983 which mobilized opinion against the electricity authority and led to a more hard-line approach being adopted by CRAB, which now called for the outright cancellation of the two projects. A petition with over one million signatures was delivered to the then Minister of Land Tenure Affairs in Brasília, over the heads of ELETROSUL directors. Despite its increasingly high profile and radical position, however, CRAB had few active grassroots members during 1979–84. The hard core of movement organizers concentrated on educating potential displacees about the impending dangers through videos which showed what had happened in other areas of the country such as Itaipu and Itaparica. A delegation from the South visited the São Francisco valley to study at first hand the experiences of projects such as Paulo Afonso, Moxotó and Sobradinho, where no social movements had arisen to resist arbitrary eviction of the population. At the same time, several large public demonstrations against the dams were organized in the region by CRAB and the Catholic Church, with up to 20,000 participants, illustrating the strength of local opposition.

From 1984, the protest movement became better organized with committees set up at local and municipal levels, while an Executive Committee and a Secretariat were also created to coordinate action on a regular basis. CRAB's activities were divided into five regions and a General Assembly was instituted in 1985. Emphasis was placed on localized, democratic decision making and efforts were made to avoid over dependence on a small group of leaders. Like the *Polosindical* at Itaparica, CRAB also entered the international arena at this point. It obtained the support of powerful NGOs such as the Environmental Defense Fund in its campaign to persuade agencies such as the World Bank and Inter-American Development Bank that energy sector and project loans should take better account of social and environmental costs associated with dam construction.

By 1987, as work on the Itá dam started, CRAB members had become increasingly angered at ELETROSUL's consistent refusals to publish details of resettlement provisions. CRAB set a July 15 deadline for the company to provide such a plan. Giving vent to their frustrations, a group of some 50 farmers captured one of the chief engineers and forced him to halt demarcation work, while other ELETROSUL employees were temporarily held as a sign of protest. As the deadline passed, some 7,000 farmers took part

in a demonstration at ELETROSUL's regional headquarters, leading to a series of meetings between CRAB and the company. This culminated in a formal agreement being signed on October 29, 1987 in which provision was made for separate discussions to be held relating to the two dams.¹¹ The electricity company, however, did not honor its commitment on Machadinho and, following a series of postponed meetings, CRAB decided in July 1988 at its general assembly to call for the outright cancellation of the project with the slogan *Machadinho Nunca Mais* ("Machadinho Never Again"). Since then, ELETROSUL has not resumed work on Machadinho, on the grounds of financial constraints and local opposition. Construction work on the Itá dam has been allowed to go ahead by CRAB on condition that displacees be allowed the choice of being resettled or receiving cash compensation. While urban relocation has been quite fast (with 65% completed by December 1989), rural resettlement has been slow and halting, provoking further protest demonstrations by local farmers.

Increased cooperation among local movements against hydropower schemes led to the setting up in 1991 of MAB (*Movimento Nacional de Atingidos por Barragens* — the National Movement of People Affected by Dams) during the First National Congress of Dam Victims. CRAB (now known as the MAB/Southern Region) is currently monitoring the situation at other proposed sites in the Uruguai River Basin and is not allowing any work to go ahead until problems at Machadinho have been resolved. The organization has therefore been successful in preventing the summary population displacements typical of schemes in the Northeast during the 1960s and 1970s. Yet it has had limited success in terms of obliging ELETROSUL to make provisions for comprehensive rural relocation at Itá. CRAB has proved to be a very effective countervailing force against energy planners' narrow horizons and excesses but, unlike the *Polosindical* at Itaparica, has been relatively unable to incorporate itself into the on-going planning process in terms of designing and implementing resettlement provisions. Furthermore, serious questions have been raised about the extent to which the MAB/Southern Region leadership accurately represents the interests of its mass membership. Factors such as its growing institutionalization, its domination by a small group of intellectuals and activists and the organization's close identification with the Workers' Party (PT) in an era of electoral democracy, have led to suggestions that MAB/Southern Region has become fragmented and partisan, and does not constitute a genuine social movement (Navarro, 1993; Moraes, n.d.).

3. SOCIAL MOVEMENTS AND PARTICIPATORY PLANNING

As already emphasized, deterministic, reductionist theoretical paradigms which explain social change in terms of center-periphery relationships (dependency), the penetration of capitalist modes of production (neo-Marxist) or as part of an equilibrium-generating, integrational process which accompanies economic growth (modernization-functionalist), are of limited usefulness in predicting local development outcomes. Structural conditions, whether externally or internally induced, are important elements in the analysis, but they by no means constitute the whole picture. It is also necessary to take account of factors which relate to the particular situation in question and the sociopolitical relationships which emerge within that specific set of circumstances. The major, if not the only, force for progressive, socially sensitive planning in the cases cited has been the emergence of an active, grass-roots-based social movement which has managed to resist arbitrary, top-down pressures from energy authorities. The reasons behind the birth of such movements has to be sought in a combination of two sets of factors: basic preconditions, that is, structural and other factors which provided fertile ground for the emergence of popular protest, and contextual catalysts, or variable, locale-specific characteristics which, together with the basic preconditions, favor the emergence of a coalition of sociopolitical forces conducive toward action for a positive development intervention in the interests of the affected population. This essential combination of basic and catalytic factors, while not permitting total foresight in any deterministic or reductionist fashion, nevertheless allows a degree of predictability and extrapolation to comparable sets of circumstances. In the case of the São Francisco Valley discussed in this paper, for example, the recent experience of Itaparica has set a precedent which renders virtually inconceivable a repetition of the Sobradinho débâcle in hydropower projects planned for the 1990s in the same area, simply because the *Polosindical* has declared that it will not allow such social chaos to happen again. In the Uruguai River Basin, MAB/Southern Region (formerly CRAB) has taken a similar stance.

(a) Basic preconditions

These relate to both objective and subjective factors, some structurally related and others involving organizational and wider political considerations, which form a basis for the formation of a social protest movement in the first instance. These are as follows:

(i) Socioeconomic structure

Although the social and economic structure will not

necessarily be the determining factor governing the genesis of a social movement, it is clearly important in providing an environment conducive to collective action. A high population density, for example, will facilitate numerical strength in the event of successful mass mobilization. The sheer weight of numbers is important at key stages in the struggle especially, for example, during public demonstrations and site occupations. More importantly perhaps, the local socioeconomic structure will determine the degree of poverty and inequality in a project-affected situation and, hence, have an impact on who will win and who will lose out as a consequence of planned development; for example, in terms of the scale and distribution of compensation payments. At the same time, it may well influence the predisposition of the affected population to protest their plight. A high proportion of poor small farmers, landless or quasi-landless rural dwellers, for example, might reasonably be expected to react strongly to threats to their livelihoods. Yet such potential may be undermined by divisory patron-client type relationships among landowners, merchants and dependent producers, as well as by sheer geographical distances and the spatial separation of small and dispersed rural communities. Thus, while structural factors (demographic, socioeconomic and spatial) may suggest likely outcomes, they by no means determine the course of events.

(ii) *An external threat*

A major precondition in such situations is a perceived common threat to people's homes, lands and livelihoods, whether this arises from the intrusion of a large-scale dam, irrigation, highway building, housing or other kind of "development" scheme. More often than not, these involve substantial population displacements and massive disruption of lives, causing economic and social hardship along with psychological trauma for the dispossessed. The presence of a significant external threat will tend to provide diverse occupational groups in a politically fragmented or heterogeneous social structure with a common interest for the first time. This is especially so when such a population has benefited from knowledge gained as the result of similar experiences elsewhere and has witnessed the consequences of failure to take collective, defensive action. While not necessarily class based, such a threat may provide the incentive for groups in roughly similar socioeconomic circumstances, such as landless rural laborers and smallholders, for example, to band together for the first (and perhaps the only) time in recognition of their common interests in the context of the discreet situation in question. In short, the perception of a common outside threat enhances social and political solidarity during periods of crisis, as in times of war.

(iii) *Strategic location*

A key factor determining the potential for grassroots leverage is the strategic location of the project. It is relatively easy, for example, to halt dam or highway building through the mass occupation of construction sites and, with appropriate media coverage in a "democratic" context, dramatically highlight the plight of protestors. Such adverse publicity can often bring matters to a head, result in third-party intervention and hasten the advent of a mutually acceptable solution. In situations where direct grassroots action is less feasible from a strategic standpoint, relatively more pressure will have to be applied through wider, indirect channels such as international NGO lobbies.

(b) *Contextual catalysts*

The above prerequisites are a necessary but not a sufficient condition for the formation and development of a protest social movement. Additional, key variables specific to given situations will operate as catalysts or accelerators of social action, and play a major role in determining the outcome and longer term sustainability of a protest movement. These will vary according to individual circumstances but, from the point of view of the present case studies, they concern the ability of the movement to exercise leverage over key planners and policy makers, whether at the national or international levels. The ability to exercise such power will depend on the nature of the organizations participating in the project, especially whether third parties are involved, and on the strategic location of the scheme in question.

(i) *Grassroots organization*

In order for the perception of a common external threat to be translated into concerted action, political organization becomes necessary. Normally lacking any formal political linkages except on a fragmented basis or through patron-clientage, the power of such protest movements to instigate change derives, therefore, from mass mobilization of heterogeneous groups, which may actually involve tens of thousands of people. This will normally signify a combination of high-profile forms of protest and solidarity alongside quieter, longer term campaigns. Such action represents not a revolutionary source of social change but, rather, a "challenge to social closure" stemming from the lack (or rejection) of formal channels through which legitimate grievances may be aired (Scott, 1990, p. 150). If the movement does acquire a strong bargaining position, it may result in some fairly radical changes to official project planning and implementation procedures, with significant concessions won by affected groups.

(ii) *Third party involvement: NGOs and multilateral agencies*

In the final analysis, once public protests have made their point, the movement must enjoy leverage over decision makers which will encourage or even oblige them to implement corrective measures. This will originate either in the pressure of public opinion and formal (party) political channels or, more commonly in the Third World context, via the intervention of a critical third party, such as a foreign funding agency. Where third-party involvement in the development project does not exist or is marginal, the likelihood of social movements bringing about ameliorative intervention on behalf of impacted groups is significantly reduced. In this context, the role of NGOs becomes critical, both as channels for the wider expression of people's discontent and, through the media, for exerting pressure on key decision makers. In Brazil, this process has become more pronounced as NGOs have evolved from a welfare and physical development orientation in the 1960s and 1970s, to adopting a more proactive advocacy and lobbying role in the 1980s and 1990s (Drabek, 1987; Hall, 1993). NGO support is critical in helping incipient social movements to gain the knowledge, self-confidence and organizational ability to transform what is often a series of isolated community protests into some semblance of structured, unified action in pursuit of common interests. While the local church and NGOs are important for providing assistance at grassroots level, the role of international NGOs is often vital in terms of not only providing financial support but, just as importantly, for publicizing the plight of affected populations and undertaking lobbying campaigns on behalf of these groups to pressure decision makers at national and international levels. Multilateral aid agencies may also be a source of pressure on national planners to modify resettlement procedures, given that development banks and their social experts frequently play a major role in introducing policy advances in areas such as involuntary resettlement. To the extent that such institutions are directly accountable to their governments for funds disbursed and for subsequent social and environmental impacts, the potential leverage from below is that much greater. Furthermore, the precise role played by the third party and the stage at which it enters the project cycle is critical. A decision whether to intervene will depend on its current policy priorities, the degree of sensitivity to outside criticism and its ability to influence the course of events.

(iii) *Political pluralism*

In order for the perception of a common outside threat to be translated into a purposeful, sociopolitical movement, freedom of expression and organization becomes an important prerequisite. Regardless of whether the national regime is nominally a liberal

democracy or a form of dictatorship, the aggrieved need political space to demonstrate publicly, to make formal approaches to elected political representatives and to air their problems in the media, both nationally and internationally. Lacking formal political structures themselves, such movements often lead an initially precarious existence, enjoying little recognition or wider support. At their embryonic stage they are, therefore, particularly vulnerable and easily crushed by hostile central or even regional government as a "threat to national security." To develop into fully fledged movements as opposed to isolated, community-based protests, a degree of democratic freedom is therefore necessary in most circumstances.

4. HYDROPOWER DEVELOPMENT AND SOCIAL MOVEMENTS: FAILURES AND 'SUCCESSSES' COMPARED

Comparison of the hydropower schemes considered here allows examination (a) of the particular combination of factors — both common and location-specific — which are conducive toward the emergence or otherwise of a protest social movement in situations where large populations are threatened with upheaval as the result of official projects, and (b) of constraints upon the sustainability of such social movements beyond the immediate crisis points, and of their effectiveness in promoting longer term development. Although certain structural preconditions are probably necessary to provide fertile ground for the generation of a protest movement, it is argued on the basis of these Brazilian examples that such an outcome depends primarily on location-specific circumstances. The single most important reason behind the outcome of Sobradinho compared with Itaparica and Machadinho/Itá lies, this paper argues, in the nature of social protest generated by these projects and whether this was articulated as sociopolitical action. Adopting the actor-oriented perspective outlined above, it is useful to compare these experiences in terms of their respective circumstances in an attempt to explain why no protest movement emerged at Sobradinho and, correspondingly, why such a vigorous movement developed at both Itaparica and the Uruguai River Basin. The policy implications of these case studies for popular participation in development and the alleviation of adverse social and environmental impacts will then be discussed.

In terms of "basic preconditions," all four project areas have a number of important structural features in common. Demographically, they are home to large populations inhabiting relatively privileged and fertile valley locations which have prospered historically as major centers of agricultural production and communications. In socioeconomic terms, wealth and income are highly concentrated, based on an increas-

ingly polarized landownership structure and tenure system. Any distribution of benefits accruing from compensation due to expropriations was bound, given current laws in Brazil, to have been highly unequal and have the potential for generating much popular discontent. These factors could have formed the basis for a broad popular movement of opposition to a hydropower scheme. In addition, all the groups in question were faced by a similar external threat to rural livelihoods implicit in the loss of agricultural land and homes without proper compensation or resettlement provisions.

By the same token, however, these very same "structural" socioeconomic and demographic factors could, in theory, work against collective action. In the middle and lower São Francisco valley, relatively large but predominantly rural-based populations are in fact quite widely dispersed geographically. Compounding the fragmentation of social action imposed by the physical isolation of small communities and individual households is the system of vertical relationships between landowners and their dependent workers, underpinned by centuries of patron-clientage and debt bondage. Communications difficulties due to poor roads and lack of transport, as well as sheer poverty and resignation to this fate, are also complicating factors. In the cases of both Sobradinho and Itaparica, as well as in the Uruguai River Basin to a large extent, socioeconomic and demographic or structural preconditions alone do not allow us to predict whether a protest movement is likely to emerge; they merely provide fertile ground for such developments, provided that other preconditions are also met.

As key hydropower projects located at strategic points, all four projects under consideration are extremely vulnerable to disruption by demonstrations and occupations. In the case of Sobradinho, however, the lack of political mobilization meant that it was not possible to take advantage of this fact. At Itaparica and Machadinho/Itá, by contrast, mass mobilization aided by Church, university and NGO support in the face of a perceived common threat and aided by a freer political climate, enabled protesters to use this strategic advantage to the full. A series of mass demonstrations, culminating in the occupation and paralysis of engineering operations at the dam sites during the mid-1980s, finally drew CHESF and ELETROSUL to the negotiating table. If the *Polosindical* and CRAB had limited their actions to general protests and there had not been this dramatic and desperate tactical move, it is doubtful whether the authorities would have acquiesced to the extent which they eventually did. The potential power in the hands of the people in this kind of situation had finally and unequivocally been demonstrated.

Another major precondition concerns the need for a commonly perceived threat by the population at risk to their livelihoods and homes. Such awareness was

characteristic of both the Northeast and South, although in the case of Sobradinho, people were not fully alert to the danger until relatively late in the day. This was due to a lack of experience and appreciation of precisely what would be involved, since there were few precedents at the time. Such general ignorance was compounded by CHESF's deliberate policy of keeping people in the dark and releasing only minimal information. Furthermore, during this period of the early and mid-1970s, intense political repression and severe media censorship in Brazil severely discouraged the open expression of discontent. At Itaparica and Machadinho/Itá, by contrast, local inhabitants immediately became aware of planners' intentions as soon as works started and they were able to deduce for themselves, based on their knowledge of events elsewhere (such as Sobradinho, Itaipu and Tucuruí) and assisted by educational campaigns, what the future held in store for them if they did not act promptly. Furthermore, as discussed below, greater freedom of expression and political space allowed these perceptions to be extended rapidly from the hard core of initial activists, to the affected population as a whole. Liaison between resistance movements at Itaparica and in the South also facilitated the learning process.

The basic preconditions outlined above (socioeconomic and demographic structures, a common external threat and strategic location) were necessary ingredients in the creation of a satisfactory solution for those threatened with summary dispossession, but were not in themselves sufficient. Other catalytic factors altered the whole negotiating process and strengthened the hand of the affected population. In the final analysis, this involved sources of leverage which were applied by protest groups in a calculated and organized fashion, to bring pressure to bear upon decision makers. Without the ability to apply such leverage, even the best organized movements run the risk of failing to capitalize upon their early achievements in harnessing popular discontent. In this sense, at Itaparica, both the *Polosindical* movement and complementary World Bank intervention were critical factors in achieving a favorable solution for Itaparica displacees.

Grassroots action organized through the *Polosindical* was the first major "contextual catalyst" for constructive change at Itaparica. Political organization enables popular aspirations to be transformed into concerted action for change. There was no such political mobilization in the case of Sobradinho. Protests were limited to community level, involving localized conflicts with landowners or with CHESF. The areas around Sobradinho and the lower valley had poor histories of rural trades union organization and no experience with collective struggle. In this situation, the radical Catholic Church took on the responsibility of representing the people's interests, led by radical bishops and their aides.¹² Despite their undoubted nerve

and commitment, however, such individually centered campaigns could not make a substantial impact without mass support from the people themselves and collective action at critical junctures. In the Uruguai River Basin also, the highly active Catholic Church working together with local university professors were instrumental in educating public opinion during the early stages of mobilization and in helping to organize protest demonstrations.

Popular mobilization at both Itaparica and Machadinho/Itá took place from a very early stage in project implementation. Not only was there a greater appreciation by the population at large of the schemes' probable impacts upon their lives; in addition, several other factors facilitated this process. First, there was a tradition of more active rural trades unionism, particularly in the Itaparica region around Petrolândia. Second, political liberalization in Brazil during the early 1980s (*abertura*) provided a more conducive environment without fear of immediate repression and imprisonment of leaders. Third, this foundation was built upon by committed community religious workers cooperating with union leaders and other activists in the critical initial stages. This acted as a bridge between the incipient movement and vital outside funding sources in the case of Itaparica, whose support was vital during the initial stages of the campaign for generating publicity and facilitating educational or awareness-raising campaigns in the dispersed communities to be flooded by the new reservoir.

Combined with these factors, the involvement of third parties also had a decisive impact upon events at Itaparica. Both the work of NGOs at the grassroots level, the role of NGOs as sources of small-scale but critical funding, and the timely intervention of the World Bank were decisive influences at Itaparica. At Sobradinho, NGO assistance was also provided to the above-mentioned Church-centered protest groups, but could have little multiplier impact given the lack of a more broadly based social movement. In the cases of both Itaparica and Machadinho/Itá, NGO support at the international level as well as locally proved to be a critical factor in the final shape of the project. From about 1985–86, a strong international campaign of protest about the adverse social and ecological impacts of a number of large-scale projects funded by multilateral development banks, including Itaparica and Machadinho/Itá, caused funding agencies to rethink policies and make corrective interventions. In the mid-1970s, when Sobradinho was being implemented, no such international NGO lobby existed to exert pressure upon policy makers. While the funding organizations themselves tend to underplay or even deny outright the impact of such external lobbying upon their policy- and decision-making processes, the key role of NGOs and allied social movements in lobbying aid bodies and national governments to act decisively in response to popular demands, especially

since the mid-1980s, should not be underestimated. As social actors, they are able to exercise a decisive influence upon high-profile development situations such as hydropower schemes.

On their own, social movements may lack the power to bring about positive change. This point is perhaps illustrated by the failure of CRAB (later MAB/Southern Region) to progress much beyond resisting the implementation of the Machadinho scheme. In the case of externally funded projects, such as Itaparica, while local sociopolitical pressure may produce certain results, its impact can be greatly increased if a major third party such as a funding agency, for example, the World Bank takes up the cause of impacted populations in order to influence national and sectoral policy makers and planners. Yet the responsiveness of aid agencies to the adverse social and environmental consequences of projects which they partly fund will depend upon several considerations. First, is the agency's knowledge of what is happening on the ground and the technical expertise employed in appraising social and other impacts. Second, a formal policy commitment to minimize potentially negative impacts is critical. Third, is the political will to implement policy effectively and apply whatever pressure may be necessary to bring this about. A fourth and equally critical factor concerns the stage at which a funding agency participates in the project cycle, whether during project identification, appraisal or execution. This will, in the final analysis, determine how much power it enjoys to influence the design and operation of the project and, hence, any socioeconomic and environmental consequences.

At Sobradinho, adequate technical expertise had certainly been applied by the World Bank to appraising the likely social and environmental impacts of the dam and reservoir. Reservations had been expressed by individual staff members about its likely consequences and even the then Bank President, Robert MacNamara, showed his personal concern with this project. The Bank however, had at that time no policy commitment to the comprehensive resettlement of populations displaced by infrastructural projects. Accordingly, loan supervision missions did not monitor closely enough the adverse social impacts of Sobradinho, which was seen primarily from an engineering standpoint as a physical hydropower project. This was true even of the lower São Francisco polder irrigation schemes, where physical production and organizational issues took precedence over population displacement, whose social impacts were largely unacknowledged in Bank appraisal, supervision and completion reports. The Bank's late participation in Sobradinho, when most of the parameters had been set, may partially explain its failure to press home consultants' criticisms over project design. In the lower valley, however, the Bank was involved from the out-

set and failed to deal adequately with the social issues described above, even though it had already formulated an initial policy commitment to tackling resettlement problems (World Bank, 1980).

By the mid-1980s, however, during the implementation of Itaparica, such a seemingly omisive stance toward population displacement and resettlement on the Bank's part was far less likely. First, it was technically much better equipped with social analysts who soon picked up the seriousness of these issues as a result of both early appraisal of the major power sector loan as well as direct representations made by NGOs. Second, a major reformulation of policy guidelines for dealing with Bank-funded involuntary resettlement was underway and nearing completion. This committed the institution to a comprehensive, long-term, development-oriented approach to replace the existing emphasis on short-run, welfare-type relief measures (Cernea, 1988; World Bank, 1990). Third, the combined political impact of locally based protests and the associated international NGO campaign, highlighted the Bank's involvement in the funding of Brazil's energy sector. In the wake of other recent controversies such as the temporary suspension in 1985 of POLONOROESTE loan disbursements, the Bank was clearly anxious to avoid further unfavorable publicity. Although, as the Bank hastened to point out, it was not directly funding Itaparica, it did hold some indirect responsibility for events through the project's inclusion in the power sector operation and found itself with little choice but to make continuation of payments conditional upon CHESF's coming to grips with the relocation and longer term development problem. External political pressures thus gave an additional incentive for the Bank to intervene promptly with funding for an innovatory resettlement program, complementing the strong internal technical and humanitarian arguments.

In this case, the late timing of Bank involvement in Itaparica constrained its ability to alter the project's format. Although Bank technicians were able to exert some influence on the design of irrigation schemes and *agrovilas*, the basic production models had already been decided by engineering companies hired by CHESF, with some consultation of the *Polosindical* over certain aspects. Nevertheless, the Bank's leverage through the power sector loan did oblige CHESF to finally take the matter of resettlement seriously and put and end to any further procrastination. In addition, negotiations between Bank technical staff and CHESF, with the participation of the *Polosindical*, as well as the funding provided, did enable the reformulated plans to be implemented in a timely fashion, at least in the initial phase. While the Bank's late participation imposed constraints on the degree of influence it was able to exercise over the final program design, its involvement was critical in ensuring that action was taken to benefit the entire dis-

placed population. In the case of Itá, combined pressure from CRAB nationally and linked international NGOs obliged ELETROSUL to systematically consider the resettlement question, widening displacees' options to include cash compensation as well as relocation to individual plots or collective projects.

5. CONCLUSIONS

This paper started by questioning the conceptual and policy relevance of the linear model characteristics of energy sector planning in Brazil and the Third World generally. This assumed that a simple, top-down process of policy formulation and implementation by the state would lead to predictable outcomes, in this case the minimization of resettlement costs. In comparing the experiences of Brazilian hydropower projects, the limitations of such *a priori* assumptions have been shown. State policy is determined not only by structural or institutional factors, as suggested by modernization, neo-Marxist and Weberian models, but also by involved groups developing their own specific sociopolitical strategies and organizational forms which may exert a strong influence upon the course of events. What at first appears as predetermined policy may thus be transformed during the process of implementation, provided that the combination of structural, locale-specific and external factors are conducive to such an outcome. The cases of Itaparica in the Northeast and Machadinho/Itá in the South have demonstrated the importance of this combination of factors in bringing about such a transformation. In the Sobradinho hydropower scheme, the structural preconditions existed for a massive protest movement, given the scale of population displacement and loss of livelihoods brought about by the dam and reservoir. Sobradinho, however, lacked certain additional situation-specific catalysts which transformed the policy-making and implementation process at Itaparica and, perhaps to a less significant extent, at Machadinho/Itá.

Arising from this analysis, there are important policy implications which need to be considered by decision makers in national and international development agencies and planning bodies. Over the past decade or so, collective, project-generated protest by impacted populations has become increasingly common. Affected groups are far less prepared nowadays to play the role of passive victims when their homes and livelihoods are arbitrarily threatened by megaprojects. In the absence of formal political channels, new indigenous social movements have formed to voice protest and lobby for remedial action and policy reform. Such bottom-up pressures have undoubtedly been instrumental in the preparation by Brazil's energy authority, ELETROBRAS, of an Environmental Master Plan. This includes relocation guidelines and requires that a full investigation be carried

out in all proposed hydropower schemes of potential environmental and social impacts (Serra, 1993). Greater attention is also being paid to the problem of how to assess socioenvironmental costs, and of establishing consultation mechanisms between energy authorities and civil society.¹³

Planners and policy makers ignore the growing power of such groups at their peril. The potential damage as far as they are concerned is twofold. First, it exposes development organizations and aid agencies to moral and political criticisms, inviting sanctions from those governments and lobby pressure groups to whom they are accountable while at the same time eroding their credibility as bodies concerned for people's well-being. Second, the resulting delays in project implementation and belated redesigning of major project or program components will also substantially increase implementation costs and disrupt the planning cycle. This has happened with all four hydropower projects discussed above. A similar experience involves India's now infamous Sardar Sarovar dam on the Narmada River which has aroused fierce local opposition due to the planned displacement of some 100,000 people, mainly tribals and minorities. The scheme has gone ahead, according to its critics, without adequate social and environmental appraisal by either the Indian government or the World Bank. This has resulted in poor resettlement provisions being made and the exclusion of people's representative organizations from the decision-making process (Rich, 1989; Morse, 1992).

National governments and international aid donors have tended to regard these new, project-related social movements as some kind of deviant or abnormal sociopolitical manifestation and have tended to oppose them, either by ignoring their demands or by actively attacking them. Yet this is a short-sighted and ultimately counter-productive stance. Such movements will not automatically disappear as the development process unwinds. They are becoming a permanent fact of life; collective social actors with legitimate grievances representing increasingly large constituencies of disgruntled poor. To disrespect their needs is to fly in the face of social and political realities. A more productive official strategy would be to encourage dialogue with active social movements; to work with them rather than against them, so that they may be used to stimulate community involvement throughout the project cycle, from appraisal and design to implementation, monitoring and evaluation. Significantly, it was concluded by the official review in the case of India's Sardar Sarovar hydropower scheme that many of the current pitfalls could have been avoided if the authorities had recognized "the central importance of consultation with the people" (Morse, 1992, p. xxv). There needs to be a more formal recognition of the political legitimacy of such movements as representatives of beneficiary interests,

particularly in situations where other institutional channels are nonexistent. Considering the frequently hierarchical structure of power relationships in rural areas and the absence of horizontal, class organizations, project-based opposition movements represent an increasingly important vehicle for heterogeneous social groups to express their needs and campaign for their rights to be honored.

Numerous examples of dam projects from Africa, Asia and Latin America demonstrate that, even though resettlement policies may exist, this does not necessarily mean that they will be put into effect (Horowitz, 1991; Morse, 1992). Such grassroots organizations could play a stronger role in the design and execution of resettlement policy, given the sheer scale of displacement induced by dam projects in the developing world, estimated at between 1.2 and 2.1 million people every year (Cerne, 1990). The challenge of designing operational strategies for actively involving beneficiaries in the design, implementation and monitoring of government-sponsored development schemes has been acknowledged. Several well-documented case studies exist of this more flexible process approach to planning; for example, in the National Irrigation Administration in the Philippines (Bagadion and Korten, 1991). The difficulties involved however, in harnessing active social movements for guiding constructive change is bound to present an even greater challenge to policy makers and planners. This is notwithstanding the fact that grassroots action has been shown to be effective in molding the development process; more recently, for example, in harnessing indigenous knowledge for promoting resource conservation and sustainable development (Ghai and Vivian, 1992; Hall, 1994).

In view of the fact that much of what is classified as "participation" in development projects is little more than cost-sharing or closely guided operational involvement of beneficiaries, such movements represent one of the few channels through which the recipients of development aid can genuinely achieve a degree of "empowerment." Although this term is much abused, it can be defined as the ability of beneficiaries to exercise an autonomous influence upon the taking of fundamental decisions regarding project design and distribution of benefits. The existence of such collective action during the Sobradinho experience would probably have helped avoid many of the subsequent social and economic costs incurred. A word of caution, however, is also in order. In the case of Itaparica, the failure of the power authority, CHESF, to rapidly bring irrigation projects on stream for resettled farmers has left a sour taste after the initial *Polosindical* victories. In the case of the Itá dam, the local movement has had only partial success in influencing resettlement policy. Despite a major international campaign against India's Sardar Sarovar scheme by hundreds of international development

NGOs as well as active protests by local social movements, together with a highly critical independent report commissioned by the World Bank (Morse, 1992), the project is due to go ahead with many of the displacees' demands for compensation unmet.

Grassroots action can, under the right circumstances, act as a countervailing force against the excesses and reductionist assumptions of development planners. Even this is no guarantee, however, that the basic needs of displaced populations will be fully met.

NOTES

1. President Costa e Silva (1967–69), for example, reduced the level of federal funds going to state governments and to SUDENE, the Northeast regional development agency. His successor, Médici, instituted the Plan for National Integration (PIN) and unilaterally approved the ill-fated Transamazon highway and colonization program, without prior consultation of experts, which was paid for by funds previously earmarked for Northeastern development. Such budgetary manipulation was possible only due to increased presidential powers acquired through the Fifth Institutional Act (1968), Congress having been suspended in the meantime. While politico-military repression allowed tighter federal government control over economic policy-making, including tough prices and wages measures, such centralization of powers in Brasília was also evident via the plethora of regional programs and the expanded role of government enterprises in promoting economic development (Trobat, 1983; Grindle, 1986; Hall, 1989). Special regional development programs, directed from Brasília, sought to expand state political control over national territory while mobilizing the country's vast natural resources to promote settlement of frontier zones and economic growth; examples include the PIN (1971) mentioned above, POLAMAZONIA (1974), POLONORDESTE (1974), POLONOROESTE (1979) and the Greater Carajás Program (1980).

2. The account of Sobradinho is based on information from IDB (1984) Campbell (1984), de Barros (1985), Redwood (1993), Serra (1993) and author's interviews with local informants (1989).

3. US\$72 million in bilateral loans, US\$85 million from the Inter-American Development Bank (IDB), and US\$81 million from the World Bank.

4. Based on information from Araújo (1990), Redwood (1993), author's interviews with local informants (1989) and with CHESF staff (1989 and 1994).

5. *Terra por Terra na Margem do Lago* ("Land in Exchange for Land on the Lakeside").

6. This included operations staff for Brazil, policy staff and Executive Directors.

7. CHESF's first plan (CHESF, 1985), designed without consultation of the beneficiaries, offered only four alternatives to the rural population: (a) cash compensation to busi-

ness people, (b) places in new towns for the elderly, (c) farm plots in lakeside irrigation schemes for smallholders with land titles and (d) collective projects for the landless majority of sharecroppers, tenant farmers and labourers. Subsequent negotiations significantly expanded this range of choices, so that the rural populace of some 30,000 displacees opted for the following solutions: (i) some 12% of wealthier farmers received cash compensation and free transportation to destinations of their own choice within a 500 km radius of Itaparica, (ii) 3% of farmers moved to a series of small group projects set up on the initiative of communities in consultation with CHESF, (iii) 0.3% of displacees whose allocated lands had been too poor to sustain agriculture opted to join newly established fish farms by the lake, (iv) 8% moved to the new townships on the lakeside, (v) 23% moved to two large irrigation schemes totalling 8,000 hectares on the lakeside, and (vi) the remaining 54% were resettled on four "special" irrigation projects, occupying a total of 10,000 hectares, situated at varying distances from the lake on pockets of relatively fertile soil.

8. Interviews with personnel in the Environment Department, CHESF, Recife, April 1994.

9. The following account is based on McDonald (1991), Serra (1993), Moraes (1992) and Grzybowski (1987).

10. *A Enchente do Uruguai* ("The Flooding of the Uruguai").

11. "Guidelines and Criteria for the Plan and Project for Rural Resettlement of Populations Affected by the Itá and Machadinho Hydroelectric Plants" (see Serra, 1993, p. 76).

12. Dom José Rodrigues in Juazeiro, battling vociferously against CHESF, and Dom José Brandão in the lower valley, protesting to CODEVASF.

13. For example, a "Coordinating Committee for Environmental Activities in the Energy Sector" (COMASE) has been set up within ELETROBRAS to encourage dialogue among regional electricity bodies on the problems of assessing and accounting for social and ecological costs of dam construction. There is, predictably, still much internal, institutional resistance to this more comprehensive approach from the traditionally minded engineers who control the organization. (Interviews with CHESF personnel, April, 1994.)

REFERENCES

- Araújo, M. L. C. de, *Na Margem do Lago: Um Estudo Sobre Sindicalismo* (Recife, Brazil: Fundação Joaquim Nabuco, 1990).
- Bagadion, B. and F. Korten, "Developing irrigators' organizations: A learning process approach", in M. Cernea (Ed.), *Putting People First: Sociological Variables in Rural Development* (New York and Oxford: Oxford University Press, 1991), pp. 73–112.
- Branford, S. and O. Glock, *The Last Frontier: Fighting Over Land in the Amazon* (London: Zed Press, 1985).
- Campbell, T., "Social and economic consequences of resettlement: the case of Sobradinho Hydropower Dam, Bahia, Brazil," *Mimeo* (Washington DC: Inter-American Development Bank, 1984).
- Cerneia, M., "Internal refugee flows and development-induced population displacement," *Journal of Refugee Studies*, Vol. 3, No. 4 (1990), pp. 320–339.
- Cerneia, M., *Involuntary Resettlement in Development Projects: Policy Guidelines in World Bank-Financed Projects*. World Bank Technical Paper No. 80 (Washington, DC: The World Bank, 1988).
- CHESF, *Reservatório de Itaipara: Plano de Desocupação* (Recife, Brazil, 1985).
- CHESF, *Aspectos Sócio-Econômicos da Implantação do Reservatório de Sobradinho* (Recife, Brazil, 1980).
- de Barros, H.O.M., "Modernização agrícola autoritária e desestruturação do ecossistema: O caso do Baixo São Francisco," *Cadernos de Estudos Sociais*, Vol. 1 (Recife, Brazil: Fundação Joaquim Nabuco, January-June, 1985), pp. 97–113.
- de Janvry, A., *Agrarian Change and Reformism in Latin America* (Baltimore: Johns Hopkins University Press, 1981).
- Drabek, A. G. (Ed.), "Development Alternatives: The Challenge for NGOs," *World Development*, Vol. 15 (Supplement, Autumn, 1987).
- Graziano da Silva, J. (Ed.), *A irrigação e a problemática fundiária no nordeste*, Instituto de Economia (São Paulo: UNICAMP/PRONI, 1989).
- Ghai, D. and J. Vivian (Eds.), *Grassroots Environmental Action: People's Participation in Sustainable Development* (London: Routledge, 1992).
- Goodland, R.J.A., *Sobradinho Hydroelectric Project Environmental Impact Reconnaissance* (New York: CHESF/ Cary Arboretum of the New York Botanical Garden, 1973).
- Grindle, M., *State and Countryside: Development Policy and Agrarian Politics in Latin America* (Baltimore: Johns Hopkins University Press, 1986).
- Grzybowski, C., *Caminhos e Descaminhos dos Movimentos Sociais no Campo* (Rio de Janeiro: Vozes, 1987).
- Hall, A., "Social movements for productive conservation in Brazilian Amazonia," Paper presented at the 48th International Congress of Americanists (Stockholm, Sweden: July 1994).
- Hall, A., "Non-governmental organisations and development in Brazil under dictatorship and democracy," in C. Abel and C. Lewis (Eds.), *Welfare, Equity and Development in Latin America* (London: Macmillan, 1993), pp. 421–437.
- Hall, A., "From victims to victors: NGOs and the politics of empowerment at Itaipara," in D. Hulme & M. Edwards (Eds.), *Making a Difference: NGOs and Development in a Changing World* (London: Earthscan, 1992), pp. 148–158.
- Hall, A., *Developing Amazonia: Deforestation and Social Conflict in Brazil's Carajás Programme* (Manchester: Manchester University Press, 1989).
- Hall, A., *Drought and Irrigation in North-East Brazil* (Cambridge: Cambridge University Press, 1978).
- Horowitz, M., "Victims upstream and down," *Journal of Refugee Studies*, Vol. 4, No. 2 (1991), pp. 164–181.
- IDB, "Project performance review: Sobradinho Hydroelectric Project — the population resettlement component," *Mimeo* (Washington, DC: Inter-American Development Bank, 1984).
- Long, N., "Sociological perspectives on agrarian development and state intervention," in A. Hall and J. Midgley (Eds.), *Development Policies: Sociological Perspectives* (Manchester: Manchester University Press, 1988), pp. 108–133.
- Long, N. & Long, A. (Eds.), *Battlefields of Knowledge* (New York and London: Routledge, 1992).
- MacDonald, N., *Brazil: A Mask Called Progress* (Oxford: Oxfam, 1991).
- Moraes, M. S., "Energy and development: Victims of hydroelectric dams say 'No!'", in H. Acselrad (Ed.), *Environment and Democracy*, (Rio de Janeiro: IBASE, 1992), pp. 77–88.
- Moraes, M. S., "Organização, liderança e representatividade dos atingidos por barragens," *Mimeo*. (n.d.).
- Morse, B., *Sardar Sarovar: Report of the Independent Review* (Ottawa: Resources Forum International, Inc., 1992).
- Navarro, Z., "O MAB/Região Sul: Alguns dilemas recentes para o seu desenvolvimento," *Mimeo*. (Porto Alegre, Brazil: Dept. of Social Science, Federal University of Rio Grande do Sul, August 1993).
- Oliver-Smith, A., "Involuntary resettlement, resistance and political empowerment," *Journal of Refugee Studies*, Vol. 4, No. 2, (1991), pp. 132–149.
- Redwood, J., *World Bank Approaches to the Environment: A Review of Selected Projects* (Washington, DC: Operations Evaluation Dept., World Bank, 1993).
- Rich, B., "The 'greening' of the development banks: Rhetoric and reality," *The Ecologist*, Vol. 19 (March/April, 1989), pp. 44–52.
- Scott, A., *Ideology and the New Social Movements* (London: Unwyn Hyman, 1990).
- Serra, M. T. F., "Resettlement planning in the Brazilian power sector: Recent changes in approach," in M. Cernea and S. Guggenheim (Eds.), *Anthropological Approaches to Resettlement: Policy, Practice and Theory* (Boulder, CO: Westview Press, 1993), pp. 63–85.
- Skidmore, T., "The political economy of policy-making in authoritarian Brazil, 1967–70," in P. O'Brien and P. Cammack (Eds.), *Generals in Retreat: The Crisis of Military Rule in Latin America* (Manchester: Manchester University Press, 1985), pp. 115–143.
- Trebat, T., *Brazil's State-Owned Enterprises: A Case Study*

- of the State as Entrepreneur* (Cambridge: Cambridge University Press, 1983).
- World Bank, *Operational Directive 4.30: Involuntary Resettlement* (Washington DC: The World Bank, June, 1990).
- World Bank, *Social Issues Associated With Involuntary Resettlement in Bank-Financed Projects*, Operations Manual Statement No. 23 (Washington DC: World Bank, 1980).