

Report No. 17542

Recent Experience With Involuntary Resettlement India — Upper Krishna (Karnataka and Maharashtra)

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Acronyms

BCM	billion cubic meters (of volume)
DOF	Department of Fisheries
ha	hectare (1 hectare = 2.47 acres)
GO	Government Order
GOK	Government of Karnataka
GOM	Government of Maharashtra
HCG	house construction grant
ICR	Implementation Completion Report
IGS	income generating scheme
ISEC	Institute for Social and Economic Change
KIP	Karnataka Irrigation Project
LPG	land purchase grant
MCIP III	Maharashtra Composite Irrigation III Project
MCM	million cubic meters (of volume)
M&E	monitoring and evaluation
MIP II	Maharashtra Irrigation II Project
MIS	management information system
MSL	meters above sea level (elevation)
MW	megawatt (one million watts)
MYRADA	Mysore Resettlement and Development Agency
NGO	Nongovernmental Organization
OED	Operations Evaluation Department
PCR	Project Completion Report
RC	resettlement center
R&R	resettlement and rehabilitation
Rs.	rupees
SAR	Staff Appraisal Report
UK II	Upper Krishna II Irrigation Project
UKP	Upper Krishna Project

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This report was prepared by Warren A. Van Wicklin III. William B. Hurlbut was the editor. Benjamin S. Crow provided administrative support.

Preface

This report is one of six impact evaluations to assess the resettlement process of Bank-supported projects and to determine the impact on involuntarily displaced people. A separate Overview report describes the purpose and objectives of the study, the methodology and selection of case studies, the history of resettlement in each project, and the principal findings, lessons, recommendations, and policy implications. This report covers each of the topics of the Overview for the two India projects. The primary focus is on the Upper Krishna II Irrigation Project.

The current study updates the 1993 Operations Evaluation Department (OED) report, *Early Experience with Involuntary Resettlement*. This report corresponds to the 1993 reports on Karnataka Irrigation Project (Credit 788), and Maharashtra Irrigation II Project (Credit 954). The purpose of the report is to assess resettlement impacts and performance for follow-up projects approved 11 and 6 years later than the previous projects. The projects in the current study were prepared, appraised, approved, and implemented after the Bank first issued guidelines for involuntary resettlement in 1980, in contrast to the first study where projects were approved prior to any Bank guidelines on involuntary resettlement.

This report is based upon a review of the project files, other relevant documents, and the results of a specially commissioned socio-economic survey. Two OED missions visited the project area, one to design the 1997 survey and one to validate the survey results and for further investigation.

The draft report was sent to the Government of India on November 8, 1997. OED received a letter stating that the Government did not want to suggest any changes.

Om Consultants (India) Pvt. Ltd. conducted the survey under the leadership of Mr. R.R. Mohan. Om Consultants was assisted by Dr. Aloysius P. Fernandez, Executive Director, MYRADA. Dr. Fernandez accompanied both OED missions. Ms. R. Smitha, Training Officer, MYRADA, accompanied the first OED mission. Ms. Latha Mala, Programme Officer, MYRADA, and Messrs. R.R. Mohan, M. Kullappa, and C.S. Nagabhushana, all of Om Consultants, accompanied the second OED mission. Their long association with the Upper Krishna Project greatly enriched OED's understanding of the resettlement process at Upper Krishna and is gratefully acknowledged. OED is also grateful for the assistance extended to both missions by Mr. S.M. Jaamdar, Commissioner, Resettlement and Rehabilitation, Government of Karnataka, and Mr. Paramand K. Savant, Deputy Commissioner, Rehabilitation, Government of Maharashtra. Finally, OED would like to thank the hundreds of resettlers and non-resettlers who shared their time and provided us their perspectives on their resettlement experience at Upper Krishna.

1. Introduction

1.1 The Krishna River, which has a catchment area of 235,700 square kilometers and a length of 1,248 kilometers, is one of the three main rivers on the Indian subcontinent. It originates in the Western Ghats at 1,337 meters above sea level (MSL) and flows east through Maharashtra, Karnataka, and Andhra Pradesh (see map). The soils of the river valley are generally fertile and can provide good crop yields through irrigation. The Upper Krishna Project (UKP), which will eventually irrigate more than half a million hectares, is vital to the future of agriculture in the drought-prone regions of northern Karnataka. The multi-phase, multi-stage project started in 1962 and is still not close to completion. The primary focus of this case study is the Narayanpur Dam; the Almatti Dam is a secondary focus. Two dams on the Krishna River upstream of Almatti in the State of Maharashtra are discussed in Chapter 13 of this report.

1.2 The World Bank assisted the UKP through loans for two projects. Construction of the Narayanpur Dam started before Bank involvement and ended in 1982 when reservoir filling began. The Bank assistance started with the Karnataka Irrigation Project (KIP), supported by Credit 788-IN, approved April 4, 1978, for \$126 million, of which \$8.36 million was canceled. When the credit closed on March 31, 1986, the reservoir was only partly filled to 489 MSL. Resettlement continued under the successor project, Upper Krishna Irrigation II Project (UK II). That project was supported by Credit 2010-IN (for \$160 million equivalent) and Loan 3050-IN (\$165 million, of which \$120 million was canceled), both approved on May 4, 1989 and closed on June 30, 1997. Narayanpur Reservoir was completely filled to 492.5 MSL by the summer of 1996, and all resettlers were relocated, although some additional compensation programs were still under way. Construction of the Almatti Dam, immediately upstream of Narayanpur Reservoir, also started before Bank involvement, but will not be completed until 1998 at the earliest (see map). At the completion of UK II, the dam was completed to 509 MSL, with plans for an eventual height of 524 MSL. Relocation started in 1994, but most resettlers can still cultivate their former lands, so they have not yet experienced the full impact of resettlement. Therefore, only the planning and implementation process can be evaluated, not the outcomes. This report evaluates outcomes only for Narayanpur.

2. Description of the Project

Physical Layout and Affected Populations

2.1 Narayanpur is a composite dam consisting of a 10-kilometer-long earth-filled structure and a central cement section 1,023 meters long and 31 meters high. It lies in a flat, broad valley; small changes in elevation therefore flood large parcels of land. The reservoir is 60 kilometers long, covers approximately 132 square kilometers (28.5 of which was submerged before Bank involvement), and has a volume of 1.072 billion cubic meters. Almatti Dam also is a composite dam consisting of a 405-meter-long earth section and a cement section 1,159 meters long and 39 meters high. The reservoir, when filled to 509 MSL, has a surface area of 220 square kilometers and a volume of 1.133 billion cubic meters.

2.2 The Upper Krishna Project is the largest resettlement operation the World Bank has ever supported. It contains many resettlement components. The total number of resettlers involved will not be known until the Almatti reservoir, canals, and roads are completed. According to the most recent estimates, Narayanpur affected 90 villages, required the resettlement of approximately 5,100 households, and submerged at least part of the lands of another 1,433 households (see map).¹ Families in this part of Karnataka average six people, and the socio-economic survey determined that Narayanpur Reservoir affects 36,306 people. The situation at Almatti Dam is less clear, as many of the people who will eventually have to be resettled will not be resettled under the Bank-financed project. The Bank project will affect 95 villages, 32,673 households, and 142,525 people (including 15,665 major children). Another 2,602 households (16,000 people) have been or will be affected by the 96 square kilometers of canals, drains, and roads. Finally, 52 square kilometers were acquired for the resettlement centers to which resettlers were relocated (number of people displaced unknown). This, plus people missed by the survey, brings the total number of affected people under UK II to approximately 240,000.

2.3 This represents only the Bank-financed part of the dam. The Government of Karnataka (GOK) has even bigger plans. The Inter-State Water Tribunal, which allocates water from the Krishna River among the three riparian states—Maharashtra, Karnataka, and Andhra Pradesh—is set to meet again in the year 2000. Karnataka's share of the water will be determined by the percentage of water it is using at that time. The state's current share of the river's drainage is 44 percent, but it uses less. The GOK is committed to obtaining and using as large a share of the Krishna's water as possible. It sees that water as a major key to the future of the state, and Almatti represents the single largest means of storing and using that water. Therefore the GOK has built and plans to install (in September 1998) twenty-six 15-meter-high radial gates above the present spillway to allow the reservoir to be filled to 524 MSL. That would increase the reservoir volume *sixfold* (to 6.425 billion cubic meters) and *more than triple* the submerged area (to 750 square kilometers). This much larger reservoir will require acquisition of an additional 530 square kilometers of land, affecting 63 villages. The number of additional people affected by the larger reservoir has not been calculated, but it is estimated to be in the range of 100–150,000, not including the town of Bagalkot where an additional 9,000 families (54,000 people) will be affected, bringing the total number of people affected by Almatti to 340–390,000 and by the entire UKP to as much as 376–426,000. Almatti Reservoir would be six times as large as Narayanpur Reservoir and affect about 10 times as many people. This is a staggering challenge. This report will focus only on the Bank-assisted portion of the project.

Implementation of the Resettlement Program

2.4 Physical relocation of the families affected by Narayanpur did not go according to plan. Half the resettlement sites were to be completed by 1978, the rest by 1980.² Resettlement began in 1978 although it proceeded more slowly than originally envisioned as dam construction and reservoir filling also lagged. By June 1979, only 7 percent of the land had been acquired, 12 percent of the compensation for buildings had been paid, and 12 percent of the new resettlement

1. Back-to-office report (BTOR), A. Dani, ASTHR, to I. Hill, SA2AW, June 30, 1997, p. 3. The 5,100 households include 2,743 major sons and major daughters. Additional figures in this paragraph are from *Upper Krishna II Irrigation Project: Implementation Completion Report*, Appendix 5, p. 4.

2. *Early Experience with Involuntary Resettlement: Impact Evaluation on India Karnataka Irrigation Project*, Operations Evaluation Department, June 29, 1993, p. 14.

villages had been completed. Many families did not move until the last possible moment after the reservoir began filling in 1982, sometimes under police coercion. Filling of the reservoir was delayed and not completed for another 17 years, although 100 square kilometers of the reservoir were filled within 8 years. By the time KIP closed in 1986, only 2,925 families (18,000 people) had been resettled.³ This left a backlog of 3,500 families (21,000 people) at Narayanpur.

2.5 People were reluctant to move because the new villages had practically no means of livelihood. Even if there had been, people preferred to use their existing facilities for as long as possible. While the physical infrastructure of new villages was good and an improvement over the old villages, replacement of lost agricultural land and other productive assets was left up to the resettlers. Because compensation was inadequate, 80 to 90 percent of the people losing land failed to buy any replacement land at all, and those that did generally owned less land and land of poorer quality. Since the reservoir was only partly filled, and some of that for only part of the year, many people continued to farm the drawdown area. Most new villages are only one to two kilometers from the old villages, so distances to their farms did not significantly increase. About 40 percent of the submerged lands could still be farmed year round, and another 30 percent were uncovered for at least three to four months each year so one crop could be harvested. Most of the remaining resettlers sought work as agricultural labors or migrated for work.

2.6 Faced with this resettlement backlog, the Bank began to prepare a second phase project, UK II. Only then were the resettlement failures of KIP fully recognized. As the Staff Appraisal Report (SAR) for UK II says, "harsh lessons were learned: (a) efforts were focused almost exclusively on physical relocation of affected people and not on their rehabilitation, (b) cash was substituted as proxy for re-establishment of production capabilities, (c) institutional arrangements were inadequate and there were no skilled personnel to implement resettlement, and (d) resettlement plans were not properly synchronized with construction schedules."⁴ KIP had no resettlement plan, no estimate of the number of people that would ultimately be affected, a grossly inadequate budget, no institutional capacity to move anything like the necessary number of people, no income restoration strategy, completely inadequate legal frameworks, and very limited political will to improve resettlement and rehabilitation (R&R). The results were predictable. As the Project Completion Report (PCR) for KIP declared, "most of the people affected by the project suffered a deterioration in their standard of living; landless laborers have been particularly hard hit."⁵ It was as though resettlement planning was starting essentially from scratch, but relocation had been going on for eight years. Meanwhile, at Almatti, about 13,000 households had been at least partly compensated, but only 354 had moved (submergence had not yet started). The rest had largely consumed their compensation, and would be in a predicament once they had to move. The challenges facing Upper Krishna II were daunting. Few other Bank-assisted projects started resettlement under such difficult circumstances.

2.7 More than three years passed before UK II was approved. In a note from the GOK, the estimated number of resettler families was lowered by a third, from 32,000 to 21,000; GOK claimed the difference was due to double counting and other arithmetic mistakes.⁶ Bank staff

3. Memorandum, M. Cernea, AGRPR, to C. Helman, ASPAC, August 22, 1986, p. 1.

4. *Upper Krishna (Phase II) Irrigation Project: Staff Appraisal Report*, April 12, 1989, p. 28.

5. *Karnataka Irrigation Project: Project Completion Report*, FAO/World Bank Cooperative Programme, December 22, 1988, p. v.

6. Letter, J. P. Sharma, CADA/GOK, to I. Naor, ASPAC, June 6, 1986, p. 1.

disagreed sharply (among themselves) about how well preparation of resettlement planning and elimination of the backlog was proceeding. The Bank considered making the resettlement component a separate project, but closer examination revealed that the Bank would be able to finance only a small portion of the resettlement costs and therefore would have relatively little leverage. The Bank insisted on a pilot project for 500 households as a precondition for approving UK II. The pilot was generally successful. Progress on improving the legal framework, institutional capacity, the income restoration strategy, and political will was slow. The resettlement budget tripled, to \$60 million. The GOK issued a Government Order (GO) at the Bank's insistence on March 3, 1989. UK II was finally approved on May 4, 1989, even though the Bank was still not fully satisfied with the GO or other conditions.

2.8 UK II ran into immediate difficulties. Only a month after approval a supervision mission noted that the GO did not take the experience of the pilot project into account and was likely to cause serious difficulties in implementation.⁷ The first supervision rating identified "moderate" R&R problems, but the correspondence is much more telling, using language such as "There has been inordinate delay in the implementation of the R&R program and consequently only minimal progress has been achieved in terms of planned targets."⁸ A December 1990 field report noted that of 2,315 households to be rehabilitated at Narayanpur in FY90-91, only 40 had been rehabilitated by October 1990, a 2 percent achievement rate.⁹ To be fair, physical works were also at only 2 percent achievement, but resettlement was supposed to catch up with civil works construction, not remain hopelessly behind.

2.9 After marginal improvements in early 1991, resettlement performance deteriorated quickly. By June the resettlement rating fell to a 3, "major problems." A July field report says that only 397 households were rehabilitated, leaving a backlog of 2,266.¹⁰ A November supervision mission report declared, "the Upper Krishna Project is in crisis and needs immediate attention."¹¹ Bank management finally sent the GOK a warning letter on February 24, 1992, saying, "The prevailing R&R situation demonstrates that GOK is in breach of the spirit and letter of the several covenants of the project/legal agreements."¹² Continued support of the project was predicated on remedial actions. The documentation lists dozens of points where the GOK was in non-compliance. Another warning letter was sent by the director of the India Department on March 30, and a third letter was sent on June 8. A mid-term review mission went out two weeks later. It found that "as far as R&R were concerned, the GOK had not taken any positive steps to comply with Bank recommendations. The only action taken by the GOK in the domain of resettlement was of an adverse nature, transferring the only Resettlement Officer posted to the project."¹³ Disbursements for land acquisition had ceased. During the roundup meeting of the mid-term review mission, the Bank gave the GOK an ultimatum to issue the necessary GOs within a week or the mission would recommend suspension of the credit. In late October the

7. Memorandum, A. Salam, World Bank Delhi Office, to M. Baxter, June 14, 1989, p. 3.

8. Letter, M. Baxter, World Bank Delhi Office, to G. Reddy, GOK, October 24, 1990, p. 1.

9. Field Report, Mission December 10-24, 1990, p. 8.

10. Field Report, Mission July 1-7, 1991, p. 9.

11. Memorandum, S. Tamondong-Helin, consultant, to G. Davis, ASTEN, November 15, 1991, p. 2.

12. Letter, M. Baxter, World Bank Delhi Office, to J. Alexander, GOK, February 24, 1992, p. 1.

13. Memorandum, A. Ghani, ASTEN, to J.P. Beaudelaire, World Bank Delhi Office, July 1, 1992, p. 1.

GOK voluntarily suspended construction of Almatti Dam to permit R&R to catch up. It was too late. On November 3, 1992, the Bank suspended disbursements.

2.10 The Bank set benchmarks as conditions for lifting the suspension and resuming disbursements.¹⁴ These included institutional strengthening, a land valuation committee, 200 housing ex-gratias (grants, supplemental to compensation, paid for the inconvenience and compulsory nature of forced relocation), 400 consent awards (higher compensation awards in exchange for resettler agreements not to take their cases to court), 200 resettler deeds for replacement land, a study of lift irrigation around both reservoirs, coordination of dam construction and resettlement, completion of 25 percent of the resettlement program, socio-economic surveys and detailed resettlement plans, and grievance units to resolve 500 court cases redressing inadequate land compensation. The GOK progress was sufficient that on February 26, 1993, the Bank partly lifted the suspension. It took one more year of additional GOK actions before the Bank fully lifted the suspension on February 15, 1994.

2.11 Progress improved for much of 1994—although more in form than content—but started to deteriorate again in 1995. The GOK failed to achieve specified actions by July 1 and August 1 deadlines. On August 30 Bank management again said, “The Bank is very concerned by the little progress made in the implementation of R&R,” and the project was suspended—except for disbursements for resettlement expenses—for the second time on September 2, 1995.¹⁵ Despite unparalleled attention to R&R, disbursements for R&R totaled only \$1.4 million during the next year. As the project neared its completion date of December 31, 1996, efforts were intensified to meet the conditions to lift the suspension in order to extend the closing date. In November the GOK official in charge of resettlement came to Washington and the Bank mounted a mission in December in order to lift suspension and extend the closing date by six months.

2.12 Given the intense efforts to catch up with dam construction, R&R implementation accelerated significantly in the last year. In the five months from October 1996 to March 1997, house plot distribution increased 60 percent, houses under construction increased 82 percent, and houses completed increased 113 percent, over totals as of October 1996.¹⁶ Land purchase grants (LPG) and income generation scheme (IGS) grants also increased dramatically, but the percentage used compared to accounts opened stood at 6 percent (LPG) and 5 percent (IGS). By June 1997 these figures had increased to 16 percent (LPG) and 12 percent (IGS). House construction grant (HCG) use reached 33 percent. Consent awards increased land compensation to market prices.¹⁷

2.13 Nonetheless, the GOK violated the main condition of the agreement by raising the spillway three meters to maintain its schedule of raising the dam to 524 MSL by 1998. This required the relocation of 8,000 more people under emergency conditions during the 1997 summer monsoon floods. This is fewer than the 19,000 people GOK expected to be flooded out and an improvement on 1996 when 20,000 people were flooded out of their homes.¹⁸ People were

14. Memorandum, H. Vergin, SA2DR, to J. Wood, SASVP, November 2, 1992, p. 3; faxed to J.C. Lynn, Chief Secretary, GOK, November 4, 1992.

15. Letter, R. Nelson, World Bank Delhi Office, to S.B. Muddappa, GOK, August 30, 1995, p. 1.

16. Memorandum, A. Dani, ASTHR, to H. van Wersch, SA2AW, April 14, 1997, p. 4.

17. *Ibid.*, p. 5; ICR, op. cit., Appendix 5, p. 8.

18. *Ibid.*, p. 2.

rescued from their houses by boats and helicopters as a one-in-ten-year flood swept through the valley. The evacuees were placed in temporary metal transit sheds while they continued construction on their permanent houses in the resettlement centers. Life is very difficult in the metal sheds, as people's health suffers, much of the village infrastructure is not complete, and the population is inadequate to support shops, services, and other amenities. A year later many of these people are still living in the metal sheds as they lack the financial means to complete their permanent houses to a sufficient stage to inhabit them. Flooding people out of their homes is an unacceptable relocation method. In response to that latest violation, the Bank decided to close the project on June 30, 1997. The Bank has initiated discussions with the GOK to find ways of completing resettlement associated with the Upper Krishna Project, including those people who will be affected when the installation of the 15-meter radial gates raises the reservoir level to 524 MSL. So far these discussions have not led to a third phase project.

Costs

2.14 Total project costs by the close of the credit/loan were \$755.9 million compared to \$542.2 million at appraisal, an overrun of 39 percent (all costs are in real terms). So far, resettlement has not contributed significantly to the cost overrun. R&R costs were estimated at \$100.8 million at appraisal and reached \$85.2 million when the credit/loan closed. They are projected to reach \$166.1 million by the completion of Phase II (people affected by the 509 MSL dam height).¹⁹ This represents a 65 percent resettlement cost overrun. Resettlement costs at credit/loan closure were 11 percent of project costs, but that is likely to increase as projected resettlement costs through Phase II completion will double, while most of the other project costs are near completion.

3. Database and Survey Design

3.1 All survey data and analysis are limited to Narayanpur. There are virtually no pre-dam data on incomes that would provide a genuine baseline. The first project, KIP, started before the Bank had a resettlement policy, and the prevailing approach to resettlement at that time was cash compensation of losses. Therefore, there was little incentive for collecting baseline data. Although UK II was approved in 1989, well after the Bank had established its resettlement policy, the GOK still did not conceive of resettlement as restoring income to targets established by a baseline survey. A major problem throughout implementation has been the focus of GOK's income generating strategies on raising affected households above the poverty line, but with little or no reference to their past income level. Although the Bank repeatedly requested a systematic survey to inventory all affected people, assets, and incomes, this did not begin until 1993.

19. A. Dani, Mission Aide Memoire, September 8-26, 1997, p. 11.

3.2 In 1991 the first OED study of involuntary resettlement commissioned a survey of affected people in six villages inundated by Narayanpur Reservoir, as well as three nearby unaffected villages.²⁰ A total of 210 affected, 120 partly affected (lost land but not their house), and 110 unaffected households were interviewed. This provided the first baseline, but about 85 percent of the fully affected households had resettled by the time of the survey. Thus, it was not a measure of incomes before impacts by the dam. While many households were still conducting drawdown agriculture on their former land, the impacts of the dam were affecting most families by then. By 1997 all the households had moved, and fewer were able to practice drawdown agriculture. OED commissioned another survey to assess changes in incomes, assets, and living standards. OED attempted to interview the same households interviewed in the 1991 survey, but data identifying those households was either lost or destroyed. Although almost exactly the same numbers of households in the same villages were interviewed in 1997—except for the partly affected villages and one unaffected village, Jogundabhavi, which OED dropped from the survey—they are not necessarily the same households. The consulting firm that conducted the 1997 survey did a comprehensive census of all households in all the fully affected villages in 1993, which had been commissioned by GOK, adding another point of data. Therefore, data for the households interviewed in 1997 can be directly compared to data for those same households in 1993. Less than 10 percent of households surveyed in 1993 could not be repeated in 1997 due to their having left the village, changed composition due to marriage, or other factors.

3.3 Within the villages, OED used random sampling to select the households to be interviewed. Average annual household incomes among the sample group were significantly lower than for the village as a whole: \$400 for the sample compared to \$475 for all the households. On the other hand, average household expenditures for the survey sample was \$426 compared to \$427 for all households. Given that expenditure data is more reliable in this area, the sample appears adequate.

3.4 The 1997 survey used the same questionnaire as the 1993 survey, with some modifications. OED dropped a few questions, but more significantly, added special sections to obtain more information about resettler perceptions. A particular area of emphasis is impacts on and perceptions of women. Women interviewers conducted this part of the survey, without the presence of men, to facilitate uninhibited responses. Field experience in Karnataka reveals that many women are reluctant to express views different from their husbands or other village men. The survey emphasized resettlers' perceptions of their present conditions compared to before the dam since no surveys were done at that time. Such questions are risky because the data can be highly unreliable, but OED is concerned with perceptions as well as realities.

3.5 Eleven experienced interviewers (6 men and 5 women) conducted the 1997 survey over a 10-day period. They used the usual methods for cross-checking responses, including comparing data with known crop yields and wage rates from agricultural surveys, comparing incomes and expenditures, rejecting suspicious data, and repeating interviews when necessary. Interviewers traveled to fields and nearby villages (where resettlers were working) when necessary to track down members of sample households.

20. The sampling methodology for the 1991 OED study is explained in Appendix I of *Early Experience with Involuntary Resettlement: Impact Evaluation on India Karnataka Irrigation Project*, OED, June 29, 1993.

4. Compensation and Eligibility

Evolution of the Compensation Policy

4.1 The original framework for land acquisition and resettlement in India is the Land Acquisition Act of 1894. Compensation consists of three parts: (a) compensation for the market value of assets acquired (land and structures), (b) a solatium (a compensation premium paid due to the compulsory nature of the acquisition), and (c) interest on the compensation if it is not paid at the time of acquisition. The basic principle is to pay the market value of assets acquired on the date of preliminary notification. An additional 15 percent of the determined market value was paid as solatium. Interest for delayed payment of compensation was set at 5 percent per year. Because of increasing land prices, lengthier delays during an inflationary period, and other problems, this policy was deemed inadequate. Compensation cases taken to court normally won a significant enhancement of the original compensation amount. By 1993 these enhancements averaged 37 percent. The policy has been modified almost every year since the mid-1980s, mainly through Government Orders, several of which contain provisions that are retroactive. Compensation policy continues to evolve.

4.2 Rather than recount the numerous specific changes in compensation policy, this section summarizes the main changes. In 1978 land compensation was Rs. 3,125 per acre, or about \$380 at prevailing exchange rates. In 1984 the solatium was doubled to 30 percent. The interest rate was increased from 5 percent to 9 percent for the first year and 15 percent for subsequent years. The compensation policy continued to be improved, although the single largest change was due to increasing land prices, which required increasing compensation levels. By 1985 the rate was Rs. 12,500, or \$1,021. By 1986 it was Rs. 17,500 or \$1,368. These were standard rates even though individual parcels can vary in quality. To reduce the number of cases going to court, the GOK adopted a consent award compensation system whereby the compensation payment for land is enhanced in exchange for resettler agreement not to dispute the award in court. Consent awards in 1997 ranged from \$1,408 to \$1,521 per acre for dryland, and \$2,143 to \$2,429 for irrigated land.²¹ The resettlers not only benefit from better compensation rates, they also avoid the effort and expenses of hiring lawyers or others to pursue their cases in court, which absorbs up to 40 percent of the court-ordered enhancement. Therefore, land compensation rates have increased significantly (in local currency). This does not necessarily equal replacement costs, however, as land prices could escalate faster than compensation rates. September 1997 data indicate that compensation has almost caught up to replacement costs, at least in some areas.

4.3 Several new forms of compensation, called ex-gratias (supplemental compensation payments)—for housing, land, and income generation—have begun in the past few years to help rehabilitate resettlers. The house construction grants (HCG) are \$629 per household. Land purchase grants (LPGs) range from \$571 to \$1,714 depending on the amount of land lost and land remaining. The income generating scheme (IGS) grants range up to \$571. Everyone who is eligible for these ex-gratias should receive them, no matter when they originally were compensated or moved, except those losing more than 10 hectares received nothing. Another major change was the granting of resettlement packages—including houseplot, housing compensation, and ex-gratias—to sons age 18 or older and unmarried daughters age 35 or older

21. BTOR, A. Dani, ASTHR, to I. Hill, SA2AW, Annex 2 (Aide Memoire), p. 3. All 1997 prices, where local, have been converted at an exchange rate of 35 rupees = US\$1.

and still living with their parents. A major problem is that the sizes of all these grants are fixed and not indexed to inflation, so their value has significantly eroded over time. For example, at negotiation the LPG was deemed sufficient to buy 1.5 ha of irrigated land, the minimum to achieve self-sufficiency for one family, but now it buys only .2 ha, a grossly inadequate amount of land for self-sufficiency.

4.4 Preliminary notification for land and house acquisition at Narayanpur began in 1971, with compensation first issued in 1972. Compensation payments were completed, except for a few special cases, by 1983–84. For the 220 households in the 1997 survey, notification occurred between 1972 and 1987, and people relocated between 1979 and 1993. Resettlement has been a very extended process with people not moving until rising waters in the reservoir forced them to leave their houses. Thus, people were subject to very different compensation policies.

4.5 Compensation rates for Narayanpur resettlers were not generous, and the time between receipt of compensation and actual abandonment of the property, usually several years, meant that compensation money had already been spent and none remained to buy replacement land and houses. Furthermore, compensation payments were often received in installments, so resettlers had difficulty accumulating enough cash at any one time to buy replacement houses or land. The 1991 survey found that 43 percent of households received a single installment, 45 percent received two installments, and 12 percent received three or more installments. Those with separate parcels also tended to receive separate payments. Those that received adequate compensation and bought replacement land immediately appear to be doing quite well.

4.6 While most resettlers eventually found the means to replace their houses adequately, they have not been able to buy adequate replacement land. The government has considered various replacement land acquisition strategies including a land pool, allocating degraded forest land, bringing buyers and sellers together, and other methods, but nothing has been done beyond a pilot program. Finally, except for the IGS grants, which so far have been too little and too late to make much of a difference, nothing was done to compensate for lost incomes. For example, the landless are not entitled to any land compensation, yet their incomes are often affected because there is much less opportunity for agricultural labor work among villages that lost most of their land. It is within this context that resettlers' perceptions about compensation are discussed.

Resettlers' Perceptions of Compensation

4.7 Because resettlers continue to receive ex-gratias and other forms of compensation, resettlement at Almatti is ongoing, and compensation continues to improve, the resettlers have incentives to express dissatisfaction with compensation in hopes of receiving additional entitlements. Conducting an evaluation of resettlement impacts in this context was difficult because resettlers often assumed that responses and appeals made to the evaluation team could affect future benefits for their households or villages. Moreover, the consulting firm selected to conduct the survey was the same firm used to draw up the lists for ex-gratia eligibility. While this ensured that the survey team was welcome among the resettlers, it also contributed to the confusion.

4.8 Resettlers have always agreed about their dissatisfaction with compensation rates. A 1986 Food and Agriculture Organization (FAO) report observed that 90 percent of resettlers contested compensation rates. In the 1991 survey more than 95 percent of the households said they were dissatisfied with the initial compensation amounts for land and houses. By 1997, 96

percent of all resettlers had taken their cases to court. The courts almost always awarded the resettlers additional compensation, usually about equal to the original amount, thus doubling their compensation. Even with the enhancements, resettlers were rarely able to buy land or houses of the same size and quality. Many of the recent improvements in compensation, such as the ex-gratias, are welcome, but do not fundamentally redress past grievances. The housing ex-gratias are sufficient for house repair and expansion, but not for new houses. The IGS grants are too small for most productive investments. Nonetheless, the ex-gratias and grants are popular enough that the resettlers left with more than 10 hectares (and thus ineligible) are complaining and want to be included.

4.9 The resettlers are also upset at the compensation process itself. They believe that it is rife with corruption, with officials, lawyers, and even nongovernmental organizations (NGOs) taking a portion—usually 10 to 40 percent—of the compensation for themselves in exchange for assistance in processing claims. Resettlers feel that they should not have to pay (or go through so much effort) to receive what is rightfully theirs. The GOK recently has removed officials who were extorting parts of the compensation payments.

Use of Compensation

4.10 Use of compensation money varied by village; no category of use dominated. In fact, a residual category—other expenditures—accounted for 36 percent of all compensation in the six surveyed villages. The next largest use, 26 percent, was for buying land, although this varied by village from 10 to 34 percent. Only about 15 percent of the households surveyed bought land, so the percentage of total compensation is not necessarily comparable to the percentage of households. This percentage is consistent with the 1989 figure of 13 percent and the 1986 figure of 15 to 22 percent. The next largest use, 20 percent, was for social activities. Compensation gave resettlers an opportunity to amass a sizable amount of money at one time for weddings and dowries. They were often able to marry off their daughters more advantageously than otherwise. Loan repayment was also a significant (14 percent) use of compensation money. Often, though, resettlers accumulated increased debt due to impoverishment caused by resettlement.

4.11 The use of the ex-gratias has been significantly different from use of the original compensation because these funds are allocated for very specific purposes. For the LPGs, 67 of the 74 sample households that were eligible purchased land. Unfortunately, most of the land bought is far from the villages and has to be leased out. Practically all households were using the housing ex-gratias to expand or improve their houses. Only the IGS grants are not being used very much, partly because their small size (\$571 or less) makes them unattractive options. So far they are mainly used to buy milk animals, sheep, bullocks and bullock carts, and a few enterprises (for example, flour milling), but the numbers are small. As of April 30, 1997, with 5,249 resettlers eligible for LGS grants, only 889 grants have been used, a ratio of 17 percent.²² The ratio at Almatti is only half that of Narayanpur.

Conclusions

4.12 Compensation was a major problem in the Upper Krishna project. Compensation rates were inadequate, and even the courts recognized this. Although the rates steadily improved, land

22. Ibid., p. 3.

prices also escalated, so land compensation rates never quite caught up. Combined with land ex-gratias, they may have just barely done so. The size of the ex-gratias, however, depended on the amount of landholdings left after displacement, so that is not a reliable solution. Compensation was paid in installments, which while avoiding resettlers wasting all their compensation at once, limited the uses to which it could be put. Furthermore, its value often eroded by the time it was received. As a result, much of the compensation was used on consumption, only about a fourth was used to buy replacement land. Those who bought replacement land quickly did relatively well, but that solution may not have worked if most resettlers had received compensation and tried to buy land at the same time. The compensation process was very costly, consuming up to 40 percent of the total payments received, and it was fraught with corruption. The policy, rates, and process have improved more recently, but unfortunately that has not helped many resettlers for whom it is too late. Many of them have already suffered 15 years or more, so "making up the difference" now does not compensate for their suffering in the interim.

5. Income Restoration

Income Restoration Strategy

5.1 Income restoration for KIP was poorly planned. GOK policy was to provide resettlers with cultivable land, and the government made assurances to that effect. The SAR for the second project, UK II, tried to learn from the lessons of KIP and offered much more specific plans. The major income restoration strategy was to move people into the irrigation command (see map). Another strategy was to provide resettlers with government jobs. Bagalkot Town will require about 5,000 government employees once it becomes a district headquarters. Many income generating schemes are listed, including dairy cattle, bullocks and bullock carts, sheep rearing, sericulture, fishing, poultry, and small enterprises. The planning was too optimistic given the GOK's track record. Replacement land is not explicitly planned for. The SAR assumed that resettlers would find the land they needed. As land became irrigated, farmers were expected to sell off extra land as the irrigated land absorbed their available labor. This was already happening: from 1983 to 1986 farmers in Shorapur Taluk, receiving irrigation from the Narayanpur Right Bank Canal, sold 1,200 hectares per year—enough for 800 households.²³

5.2 Unfortunately, the income generating strategies were not implemented and the expected quantities of land in the command area did not materialize. The principal strategy of moving people into the command area has not been implemented, mainly because the command areas are still in the very early stages of development, long after resettlers were displaced. The command areas themselves are sources of out-migration due to land pressure. Some resettlers did find agricultural work in the command area, but that is far different and less satisfactory as an income restoration strategy. Therefore, the income restoration strategy existed more on paper than in practice. Only when it became abundantly clear by the early 1990s that this was completely inadequate were more deliberate measures taken to do something about income restoration.

5.3 Income restoration efforts improved slightly in recent years. Some resettler villages have been able to develop irrigation schemes. When they are completed, large-scale canal irrigation

23. *Upper Krishna (Phase II) Irrigation Project: Staff Appraisal Report*, April 12, 1989, p. 34.

schemes under construction on both banks of the Narayanpur Reservoir could significantly boost incomes. The GOK established a large fish nursery, but the reservoir fishery has not been well developed due to the lack of an ice factory, marketing, and other reasons. Among the surveyed villages, only Chittapur resettlers fish. The IGS grants led to some additional income, but very little diversification. The IGS grant program tried to substitute cash for lost productive assets, but without a vision of productive uses for the cash the IGS program failed to generate much income. Income restoration is by far the weakest aspect of resettlement.

Resettlement Impact on Incomes

5.4 No baseline studies of the affected villages were undertaken before resettlement began, so it is not possible to determine how the Narayanpur Dam affected pre-dam incomes. The 1991 OED survey used only a comparative methodology because chronological data was not available. Table 5.1 provides an indicative picture of increasing incomes and shifting sources of income since the first surveys.²⁴

Table 5.1: Annual Household Incomes

<i>Sources of income (\$ per household in the previous 12 months) *</i>	<i>Unaffected villages 1991</i>	<i>Affected villages 1991</i>	<i>Affected villages 1993</i>	<i>Affected villages 1997</i>	<i>Unaffected villages 1997</i>
Number of households	60	210	210	224	60
Crops, trees, vegetables			218	284	392
Livestock			10	36	16
Subtotal farm-income			228	318	408
Trading			7	15	31
Services			39	15	86
Agricultural wages			218	98	70
Non-agricultural wages			0	40	70
Other			26	30	118
Subtotal non-farm income			290	198	375
Total income	944	640	518	516	783

* All income figures are converted at the 1997 exchange rate of 35 rupees = 1 dollar and are adjusted for 23 percent inflation from 1991–93 and 30 percent inflation from 1993–97.

5.5 Most resettlers had higher incomes in 1997 than in 1993, but when adjusted for inflation they remained level. Average household incomes among the sample of affected households were \$518 in 1993 and \$516 in 1997. The resettlement villages have moved beyond the declining income phase to the income stabilization phase, largely due to their own efforts. This aggregate stability masks differences between villages. Average household income increased in three villages. At least this is an improvement over the earlier period, 1991–93, when current incomes held steady but fell 20 percent in real terms.

24. All data in this and following sections refer to the 1991, 1993, and 1997 survey samples, not the entire population affected by Narayanpur, unless specifically stated otherwise.

5.6 Without baseline data, the second best alternative is to compare resettler incomes to unaffected villages. Average household income in the unaffected villages decreased from \$944 in 1991 to \$783 in 1997, or by 20 percent in the six-year period.²⁵ Again, these are not necessarily the same households, and the 1997 data includes only two of the three unaffected villages surveyed in 1991.²⁶ The unaffected households also appear to be atypical of rural Indian villages. Sajjalgudda benefited greatly from a religious patron who established a beautiful temple in the village, attracted substantial donations, and founded a boarding school. Mural is even more visibly better off, with sidewalks of carefully cut stones; healthy, clean, well-dressed children; handsome, well-maintained houses, several with satellite dishes and many with TV antennas; a main road lined with shops; more than 30 households producing sarees on handlooms; and farmers with 4 hectares each of good land. Mural received 15 resettlers early on, and they are doing even better than the native villagers. Therefore, caution should be used in comparing income growth rates of the resettlers with those of the unaffected villages. That resettler villages' income declines were no worse than these two relatively prosperous villages is encouraging, even if income levels remain a third less. Because real incomes—purchasing power—in rural Karnataka are falling, just holding steady is a major achievement.

5.7 The sources of income changed significantly between 1993 and 1997. Farm income increased 40 percent, from \$228 to \$318 per household, while other (non-farm and off-farm) income decreased almost a third, mainly due to the decrease in off-farm agricultural wage income, despite an increase in agricultural wage rates. There are several reasons for the decrease in off-farm agricultural employment. First, irrigation increased, absorbing labor on-farm and reducing the need to work off-farm. Second, construction on the Narayanpur Right Bank Canal absorbed labor. Third, the payment of the housing ex-gratias generated home improvement and construction work and resettlers returned to take advantage of the situation. Fourth, the widespread malaria problem on the right bank made it more difficult for resettlers to leave the village for work. Data from the 1997 survey may be atypical in that malaria reduced migration and other non-farm incomes. Interviews suggest that migration was a significant alternative source of income (included in the "other" income category in the table).

5.8 It is less clear what accounts for the rapid increase in on-farm income. Landholdings per household definitely decreased, from 5.5 hectares in 1978, to 4.6 ha in 1991, 3.6 ha in 1993, and 2.5 ha in 1997. Among the survey sample, total area in production per household decreased almost 20 percent (from 3.0 ha to 2.4 ha) from 1993 to 1997, although people tend to underreport land farmed in tenancy. The decrease was due to land submersion and fragmentation among families. The proportion of landless remained level at one third. Cropping intensity increased slightly from 82 percent in 1993 to 90 percent in 1997. This was largely due to irrigation, which increased from 33 to 45 households. Yields increased between 1993 and 1997 for all the main crops (except bajra, which stayed level), probably also due to irrigation. Although people feared that yields on replacement land would be substantially less than on their former land, the statistics do not reflect a decrease. Total production stayed fairly stable, so that leaves price as the only other factor that could have changed.

25. Because the 1993 survey did not include the unaffected villages, it is not possible to determine if the 20 percent decline took place at the same time, 1991 to 1993, as it did in the resettlement villages. Nonetheless, the equal decline for both resettlement and unaffected villages is striking.

26. OED did not explore why rural incomes are decreasing in general, and whether using inflation price deflators fairly captures the real purchasing power and living standards of both resettlers and unaffected people in this corner of Karnataka.

5.9 Despite all the claims that available land for grazing decreased, most livestock levels remained very similar to those of 1993. The number of animals owned by the sample households increased from 152 to 159 bullocks, from 17 to 21 buffaloes, and from 125 to 158 cattle. Only the number of sheep and goats decreased, from 360 to 176. Nonetheless, it is encouraging that large animal herd sizes held steady and that livestock income more than quadrupled. There is greater rental income from hiring out bullocks. The higher income from sheep sales is temporary as people are selling off their herds due to lack of fodder and grazing land. The percentage of people having to buy fodder for their animals increased from 22 to 56 percent.

5.10 Migration accelerated, but was not caused by the reservoirs. This is especially true among people aged 20 to 25. Migration is increasingly attractive as wage rates doubled or tripled.²⁷ Agricultural daily wages increased on average from \$.65 to \$1.00 between 1993 and 1997, while non-agricultural wages increased from \$1.10 to \$2.00 or \$3.00. All these figures compare to agricultural daily wage rates of \$.50 in 1989. Nonetheless, resettlers are reluctant to migrate unless necessary. Migration incurs many financial and social costs as well. So far the majority of resettlers were able to sustain themselves locally; only 11 percent of the total population in the fully affected villages migrated. Other non-farm sources contributed only 5 percent of total income.

5.11 The villages have very few shops or other service jobs. Only Chittapur, with its roadside location just below the right earth embankment of Narayanpur Dam, developed much roadside business, and that still accounts for only 6 percent of village income. Chittapur has a serious seepage and salination problem. Of the 4,000 acres in Chittapur before the dam, 2,100 was submerged, and 900 of the remaining 1,900 acres are affected by the seepage. Houses on the periphery of the village developed cracks. Chittapur therefore had to develop alternative sources of income. The village depends on about 25 percent of its population working in Goa each year. Reservoir fishing also contributes substantially to village income; some 400 of the village's 2,000 residents fish. Their average daily catch increased from 3 kilograms before the dam to 4 to 5 kg now, but more significantly, the price for fish increased from 10 cents to 57 cents/kg. The fishing season now lasts all year where previously it was only during the rainy season, from June to September. The Department of Fisheries (DOF) is stocking the reservoir. Fishing improved so much that fishermen migrated from Andhra Pradesh to begin fishing farther up the reservoir with more sophisticated equipment (such as motorboats). So far there is no competition or conflict between the Chittapur and Andhra Pradesh fishermen.

5.12 OED asked resettlers about their perceptions of current sources of income compared to before the dam.²⁸ The vast majority of resettlers felt that income from land (83 percent) and livestock (78 percent) had decreased, while income from agricultural wages (64 percent) and non-agricultural wages (74 percent) had increased. The majority (54 to 79 percent, depending on the destination) also believed that income from migration had increased. Given the loss of land and the increase in dependency on wage labor, none of these findings is unexpected.

27. Wage rates are converted at an exchange rate of 35 rupees per dollar and adjusted for inflation.

28. These results cannot be compared to the preceding discussion because these perceptions refer to a period before the surveys began, comparing pre-dam and current situations, not 1993 and 1997.

Conclusions

5.13 Average household incomes fell up to 1993, but have held steady since then. Because the reservoir reached its peak level only in 1996, it is premature to determine what the final impact of the reservoir will be. Nonetheless, irrigation, increasing crop intensity, and higher crop prices appear largely to have offset the decrease in cropping area. Wage labor outside the villages also helped to increase incomes. Income restoration appears to be on track, but with no baseline information there is no target income level against which to measure achievements. Given that incomes in relatively prosperous unaffected villages have decreased significantly (in real terms) during the same period, it is difficult to decide what level of income restoration would be an appropriate target. The income generating strategy envisioned during project planning is only belatedly coming to fruition, and then only partly. Some of the strategies that worked for Narayanpur, such as working in the command area, are likely to be less applicable for Almatti, but local, small-scale irrigation has significant potential. To the extent that incomes increase, more labor can be absorbed locally. Failing that, migration to Goa, Pune, and Bombay (Mumbai) will increase.

6. Assets and Living Standards

Housing

6.1 It is unclear how present houses compare to houses in the old inundated villages because no data exist on the old village. Resettlers were asked to recall their old houses. Average house size decreased from 696 to 414 square feet. One of the villages, Madari, clearly has better houses, but it also is the only surveyed village that relocated on red soil, which provides a better and cheaper foundation for constructing houses. Since the compensation for houses was inadequate by itself to construct new houses of equal size and quality, present house quality depends largely on household economic well-being. At Almatti one problem was that prices for materials and labor in house construction suffered inflation following an upsurge in demand by resettlers and government restrictions on quarrying on forest land. GOK subsequently stabilized prices for building materials by providing bulk procurement and obtaining waivers for resettlers to collect materials from forest land. Many households have acquired the financial means over the years to build better houses, but many have not.

6.2 No data were collected on household or farm assets. Inspection of dozens of houses revealed modest assets, but there was no basis for comparison with earlier periods.

Expenditures and Debt

6.3 Income data are unreliable, and households have too few assets to assess their living standards accurately. The best proxies are expenditures and debt levels. Expenditure levels increased much more consistently among villages than did incomes. Table 6.1 provides an indicative picture of increasing expenditures and shifting types of expenses during this period.

Table 6.1: Annual Household Expenditures

<i>Types of expenditures (\$ per household in the previous 12 months)*</i>	<i>Unaffected villages 1991</i>	<i>Affected villages 1991</i>	<i>Affected villages 1993</i>	<i>Affected villages 1997</i>	<i>Unaffected villages 1997</i>
Number of households	60	210	210	224	60
Food			298	306	371
Clothing			98	102	111
Shelter			10	18	13
Education			17	30	39
Transport			27	30	33
Loan repayment			27	36	26
Medicine			38	54	33
Others			27	24	26
Total expenditures	610	502	542	600	652

* All expenditure figures are converted at the 1997 exchange rate of 35 rupees = 1 dollar and are adjusted for 23 percent inflation from 1991–93 and 30 percent inflation from 1993–97.

6.4 Expenditures are increasing more steadily than incomes. The distribution of expenditures across categories is very similar in 1993 and 1997 and between the affected and unaffected villages. That affected villages spend less on food than do the unaffected villages is a positive sign. The percentage of children in school stayed the same, so increasing expenditures suggest higher levels of education. Also noteworthy is that affected villages are catching up to the unaffected villages in education expenditures. The high level of medical expenditures in affected villages is a negative finding and is probably due to rampant malaria, among other things. Most important, resettler village expenditures increased 20 percent from 1991 to 1997, compared to 7 percent for unaffected villages. Finally, resettlement villages' expenditures in 1997 were only 9 percent less than unaffected villages, compared to 18 percent less in 1991, so resettlers are catching up in many ways.

6.5 The level of indebtedness has decreased by 29 percent in the past four years. Average household debt decreased from \$653 to \$461. In two villages, Baldinni and Rampur, it decreased 68 percent and 54 percent, respectively, while it decreased slightly for the other four villages. No debt data earlier than 1993 are available, but present debt levels are approximately equal to annual household income. Their rapid decreasing, while encouraging, may be due to the rapid increase in ex-gratias (including grants) the past four years.

7. Social Infrastructure and Services

Electrification

7.1 Electrification increased from 42 percent of households in 1993 to 69 percent in 1997. This is even more than the 68 percent of households in the unaffected villages. One affected village has electrified every house. Unfortunately, the electricity supply is not reliable, a common problem throughout Karnataka.

Water Supply

7.2 Before dam construction people relied primarily on the river or open wells for water supply. Now all the resettler villages have piped water supply, mini-water supply, or borewell supply schemes. This is a great improvement over 1993 when 12 of the 28 resettler villages had hand pumps as their only source. There was an acute water shortage at that time. The drinking water situation improved in every village except one supplied by a pipeline from the river, making it dependent on reservoir levels. Borewell systems are affected by the water table. Unfortunately, the erratic supply of power affects some water supply systems.

Transportation

7.3 The GOK significantly upgraded village access roads to all-weather laterite roads. Internal roads are also much better now. In 1993 over 75 percent of the roads were judged to be in satisfactory condition. Resettler villages are now better served by buses and other public transportation, which may be a result of better roads.

Health

7.4 The health situation is difficult to evaluate. Some aspects of the situation are improving while others are deteriorating. Water-related diseases such as cholera and dysentery are decreasing in all the villages except Baldinni, the one village without a groundwater supply system. Baldinni's dependence on stagnant reservoir backwater for drinking water also led to increased diarrhea. Sixty-two percent of the resettlers report that the incidence of water-related diseases has decreased; only 18 percent say it has increased. Resettlers in Madari are unanimous that it has not worsened. On the other hand, malaria has increased in all the surveyed resettler villages except Madari, which is farthest from the edge of the reservoir. The reported incidence of malaria at Narayanpur increased from 262 cases in 1991 to 3,990 cases in 1996, a fifteen-fold increase. It tripled at Almatti during the same period, increasing from 518 to 1,750 cases.²⁹ The summer of 1996 was particularly bad as the reservoirs reached record levels and came closer to the resettler villages than ever before, but the problem has been increasing for several years. The problem is especially severe among the right bank villages, where every one had several people die of malaria since the summer of 1996. In Rampur seven people died in one month. Not only did malaria kill many people, it made many others too sick to migrate and reduced their productivity within the village. This is in stark contrast to the unaffected villages—farther back from the lake—where malaria is decreasing and not a significant problem. Although an anti-malarial program is in place, it is functioning poorly, and more than a third of its staff positions are vacant. The quality of health care facilities is improving. Unfortunately, these better facilities are frequently staffed inadequately and lack supplies. Resettlers frequently resort to private health care.

Education

7.5 Educational levels have increased substantially. The old villages had few educational facilities, but all the new villages have schools. Distances to schools have generally decreased. The quality of teachers and teaching has improved, facilitated by better housing arrangements for

29. BTOR, A. Dani, ASTHR, to I. Hill, SA2AW, Annex 2 (Aide Memoire), p. 4.

teachers. There is near unanimous agreement that education has improved and that educational facilities are closer.

Other Infrastructure

7.6 The GOK built community centers, temples, and mosques.

Services

7.7 The GOK also provided some services, although these are fairly limited in comparison to other projects. The DOF established a fishery and stocked the reservoir with fish. The GOK supplies visiting health professionals, mainly auxiliary nurse midwives. Very little was offered in terms of vocational training, credit, or other income generation assistance. The IGS grants do not come with training, advisory services, or anything else, which might explain their relative lack of success so far. Resettlers do not receive the agricultural extension they need either for dryland farming or for managing irrigation. Boreholes and poorly managed irrigation are affecting the water table. Many services are not provided that could make a difference.

8. Resettlers' Perceptions

8.1 Resettlers generally have a fairly critical perspective on the resettlement process. In the 1991 survey 75 percent rated their economic position as worse than before the project; only 8 percent rated it better.³⁰ They are becoming slightly more content with resettlement outcomes, but are far from satisfied; 68 percent rated themselves worse off and only 21 percent rated themselves better off. They see their lives as worse now in many ways. Even in areas that are now improving, such as expenditure levels, they feel they have already suffered and not fully recovered. Their lives were very difficult the first few years after displacement.

8.2 Overall they are negative about their change in housing. They often had worse houses for some period before they could recover and afford to build new houses. In 1991, 20 percent of resettlers said they were satisfied with their new houses, in contrast to 60 percent in the unaffected villages.³¹ By 1997, 31 percent of resettlers thought their new houses were better, while 52 percent thought they were worse. This dissatisfaction reflects the change in house size compared to pre-dam houses, which increased for 19 percent and decreased for 45 percent of the households, but it has improved since 1991. This should continue to improve with the use of housing ex-gratias. The new villages were well laid out; 48 percent of the resettlers said they liked the resettlement villages.³² Most people prefer the larger lots and not having to share walls, but they even disagree about that.

8.3 Water supply generally improved, and more resettlers agreed (43 percent) than disagreed (32 percent) that water was more available. A main reason for the mixed perceptions is that water levels fell in some villages, which decreased the quantity and quality of water. Water collection

30. OED, op. cit., p. 31.

31. Ibid., p. 15.

32. Ibid., p. 15.

time was felt to be about the same. People were equally balanced in their perceptions about the quality of the water systems. Much of the dissatisfaction is due to electric pump systems being out of operation during power outages.

8.4 The majority (63 percent) feel their health worsened, and only 13 percent feel it improved. This is in sharp contrast to the unaffected villages where the majority (52 percent) feel it stayed the same and only 10 percent feel it worsened. Resettlers feel that they have approximately the same degree of access to health care as before. More resettlers feel the quality of health care worsened (47 percent) than improved (21 percent). This is mainly due to the infrequent availability of health care personnel.

8.5 Resettlers are much more positive about changes in the level of education. Only 5 percent thought the situation was worse. They were even more positive than the unaffected villages, which have very good situations, but did not experience dramatic improvements in recent years. They also largely agree that educational facilities are now closer, although that varies by family, as some of them are now farther even if the school is in the same village or their children now attend a different school. Not only do resettlers feel that schools are more accessible (only 16 percent say it is worse), they also say the educational quality is improving, as school quality, teaching, and the environment improve (only 23 percent say it is worse).

8.6 Resettler opinion, while generally critical, varies according to gender, age, village, income level, and other criteria. Women tended to be more critical than men, and older people more critical than the young, especially among the women. Some villages did much better than others, and some have rather specific problems. Contrary to the general trend of the poorest suffering the most, in some ways the largest land-losers suffered the most, because they lost the most and compensation was inadequate. Those who had more than 10 hectares left did not receive the rehabilitation package. Similarly, they are not eligible for the recent ex-gratias and grants. Also, they were the most traditional and least flexible in shifting from farm-based to non-farm income.

8.7 Because additional efforts are being made to more fully rehabilitate them, resettlers tend to downplay benefits and overstate suffering in an attempt to win more benefits. They feel that their lives have been involuntarily changed, even if some things are better now. For example, many people that were previously self-sufficient now have to buy food. Food prices increased. The reduction in available grazing land, previously plentiful, as well as less intercropping, means less fodder, and led to a reduction in some livestock holdings. People had to migrate to supplement their incomes, with increasing family separation and all the other costs of migration. People miss the flowing river, and feel the reservoir is a much less desirable source of drinking water, etc. Some people have not coped well with their new lives as resettlers, and drinking problems have increased as the number of liquor shops has grown.

8.8 Overall, criticism is widespread. It began with compensation: levels were inadequate, it took too long and too much effort to collect payments, the process was corrupt, and those resettled later, even at Narayanpur, got a better deal. Resettlers feel they have worse houses than before, their land is less productive, their health is worse, and services are lacking. On the positive side, they generally feel the worst is behind them, their "resettlement centers" have stabilized as normal villages, there is better community infrastructure (schools, clinics, centers, roads, electricity), and their incomes and expenditures are now stabilizing or recovering (though still not what they used to be).

9. Other Issues

Participation by Resettlers

9.1 Although the SAR stated that resettlement officers would encourage and facilitate resettler participation, there was limited participation by resettlers until recently. In 1991, 80 percent of resettlers said there was no consultation on the location of the resettlement site.³³ That weakness was recognized and corrected. GOK resettlement officers now periodically conduct Gram Sabhas (village meetings) to identify affected people, select resettlement village sites and individual plots, and determine rehabilitation needs. Resettlers at Almatti report high levels of participation, including weekly meetings, consultations on most issues, and genuine responsiveness to resettlers' suggestions and preferences. This is in stark contrast to Narayanpur, where the GOK neither expected nor provided for resettler participation. At this point it is too late for Narayanpur resettlers to play much of a role as resettlement is essentially complete.

Participation by NGOs

9.2 The UK II SAR noted that NGOs had played a critical role. Mysore Resettlement and Development Agency (MYRADA) especially performed a significant role from 1986 to 1992 by making numerous suggestions for income generating activities. It withdrew from the project after the GOK failed to implement any of its resettlement plans. Another NGO, Bijapur Integrated Rural Development Society, worked in four resettlement villages, mainly by motivating children to attend school.³⁴ Action Aid of Raichur District also worked in the area. More recently, in 1996 in Abbihal village at Almatti, the Krishna River Affected Villages organized to represent five villages, working for resettlers' rights and fighting corruption. Concerned Citizens of Bagalkot is another NGO safeguarding resettlers' rights. The latter two are community-based organizations. In fact, almost all NGO activity has been by local organizations. This is in sharp contrast to Narmada where national and international NGOs played a very strong opposition role to the project and organized resettler resistance to resettlement. NGOs have been active in the resettlement villages, but not in project implementation, only project planning and monitoring.

Gender

9.3 The project did not address gender concerns. One supervision mission noted succinctly, "the needs of women as a group have been completely ignored."³⁵ Nonetheless, because OED wanted to focus specifically on gender issues and women's perspectives, both the 1993 and 1997 household surveys contained a separate questionnaire directed to women respondents, conducted by women interviewers, on issues of special interest to women. Since 22 percent and 18 percent (in 1993 and 1997, respectively) of the respondents to the main questionnaires were women, to some extent those interviews also reflected gender concerns. Because the 1993 survey had many problems preventing men from inhibiting women's responses, the 1997 survey took special

33. Ibid., p. 15.

34. *Socio-Economic Survey of Project Displaced Families Under Narayanpur Reservoir Area, Upper Krishna Project: Summary (Final) Report*, Om Consultants (India) Pvt. Ltd., p. 22.

35. Memorandum, A. Ghani, ASTEN, to J. P. Beaudelaire, World Bank Delhi Office, July 1, 1992, p. 3.

precautions (described in the earlier section on the survey design). Not all the responses pertain to gender concerns per se. Women cited many problems that the men did not emphasize. This section provides a female perspective on the resettlement experience.

9.4 Most women (62 percent) thought they now had less personal disposable income than in the old village; only 11 percent felt they had more. This has significance beyond the income loss alone, as the decisionmaking power of a woman is closely related to her personal disposable income. Labor opportunities for women were reduced. Their income from farming and livestock decreased and they became more dependent on wage income. The availability of fuelwood and fodder decreased. Livestock had to be sold. Women had to migrate for work.

9.5 Most women (72 percent) believed total household income also declined; 20 percent thought it had increased. Compensation was used for social and religious functions and other non-productive activities. There was a long time gap between payment of compensation and formation of the new villages. Not only was compensation considered inadequate or squandered but prices increased while self-sufficiency decreased. For example, vegetables were more scarce and had to be bought in towns at high cost. Some women sold their jewelry. Pregnant women went to live with their relatives. Women had to bear much of the burden of the decline in income and living standards during the difficult first few years after relocation.

9.6 Housing was another subject of discontent. Resettlers often had to live in huts or transit sheds during the interim. Even the replacement houses were judged inferior; 61 percent of women preferred their house in the old village while 30 percent preferred their new house. Opinions were evenly split on whether household chores took more time or less, and on the quality of the water system, although women are positive about having the water system. In the first few years after relocation water collection was problematic and time-consuming. Women are not happy about washing facilities. One of the worst problems is sanitation. In the old village shrubs that provided privacy. The new villages have public latrines, but these were not properly maintained and sanitary, so they are not used. Women thought health (59 percent versus 13 percent) and health care (49 percent versus 23 percent) worsened. They agreed that education improved (67 percent versus 21 percent), especially for girls and that the roads and the spacious layout were an improvement. The women have yet to come out of the "trauma" of resettlement.

9.7 Given the above, it is no surprise that many more women thought their lives had worsened (65 percent) than improved (21 percent). More than five times as many women said they were less happy now (73 percent) than in the old village (14 percent). This margin is even more negative when stratified by age. Women over the age of 25 expressed greater dissatisfaction than women under 25 on most issues. The younger women saw opportunities, while the older women were losing their earning capacity due to age and were more emotionally attached to the old village. Some of the younger women had married into the new village and had not experienced life in the old village.

Indigenous Groups

9.8 The project has no significant issues concerning indigenous groups. These two dams are in non-mountainous areas and have very few indigenous people; one tenth of 1 percent of resettlers are Lambanis, a type of gypsy people, the local caste of indigenous people.

Host Communities

9.9 Relations with host communities are good.³⁶ The host populations feel sympathetic to the plight of the resettlers. Most resettlers moved less than five kilometers. In most cases, villages were rebuilt with the same membership, just back from the edge of the reservoir. In at least one case, Hunkunti, a partly affected village, land was taken for the new village of Garsangi, which was completely flooded. It was much more typical for resettlers to move into the area of partly affected villages than of unaffected villages, so there was mutual understanding of the impacts. A relatively small number of resettlers bought replacement land outside their new villages.

Monitoring and Evaluation

9.10 The SAR stipulated that an NGO would do annual evaluation reviews of resettlement. Nonetheless, resettlement was not well monitored until 1991. There were many resettlement action plans and revisions, but relatively little analysis of their performance and results. Often there was more talk than action. The first OED resettlement study led to the first evaluation in 1991. When the Bank suspended the project in 1992, one of the conditions for lifting the suspension was a new action plan based on a comprehensive survey, which was conducted in 1993. In 1995 the GOK commissioned an additional survey to update the information and fill any gaps. The 1993 and 1995 surveys for GOK were mainly for planning purposes, to assess needs and generate lists of households eligible for various entitlements. The 1991 and 1997 surveys for OED were the only outcome evaluations. Without a baseline survey, proper evaluation is difficult. The GOK contracted the Institute for Social and Economic Change (ISEC), a university-based research institute, to do outcome surveys, but troubled relations between ISEC and the GOK led to termination of that contract. Since early 1996 a computerized management information system has provided a monitoring function. Monitoring is improving now.

Changes in Policy on Involuntary Resettlement

9.11 India's federal system makes resettlement a state responsibility. The federal government has no policy on involuntary resettlement, which has been an obstacle to better resettlement performance. In fact, the differing resettlement laws, institutions, and capabilities of the various states is part of the problem, and Karnataka has a history as one of the worst-performing states on resettlement. Many Government Orders were issued during the project, often to meet demands made by the Bank, but this is no substitute for a statewide policy or law. At least GOs apply to all projects in the state, not just the Upper Krishna Project. Resettlement now has a much better legal framework, but it is not well systematized.

10. Bank Performance

10.1 Bank performance changed significantly during the project. While performance was unsatisfactory until 1992, it improved markedly and has generally been satisfactory since then

36. OED, op. cit., p. 15.

and has been highly satisfactory since late 1995. The problem was that the performance of the GOK was clearly inadequate, but until 1992 the Bank was unwilling to take the steps necessary to remedy poor GOK performance. Since then the Bank has done much to turn the project around and to avoid a potential resettlement catastrophe that would eclipse the political damage of the Narmada/Sardar Sarovar Project and that has already caused greater suffering on the ground.

10.2 Much of the problem with resettlement performance goes back to the first project, KIP. The earlier OED report found that "The Karnataka government did not comply with the conditions of the project credit agreement, while for the Bank's part, there was lax quality control in communicating this non-compliance to the Government."³⁷ There was no proper appraisal of the resettlement and rehabilitation components. Supervision noted breaches of the project agreement, but these were glossed over in communications with the government and little was done to correct them. There was no accurate count of resettlers, no coherent strategy on how to secure adequate land for the resettlers, haphazard plans for income restoration that were never implemented, and no monitoring to ensure proper attention and corrective actions.

10.3 Bank performance, although not yet satisfactory, began to improve about 1985, at the very end of KIP. The Bank realized that the GOK was not moving forward to implement the necessary legislation to deal with resettlement. Although a bill was drafted with Bank assistance, and approved, it was not enacted. The Bank asked MYRADA to play a major role in resettlement and placed much of its hopes with MYRADA, but eventually the NGO became convinced that the GOK was not serious about implementing its suggestions and withdrew from the project. The Bank lost precious time pinning its hopes on MYRADA; it was the GOK that had to change fundamentally. With the second project, UK II, the Bank tried to renew attention to resettlement. Unfortunately there was no baseline survey; not even a complete census was available. Consequently, neither the budget nor the timetable agreed to could be implemented. The Bank and MYRADA suggested many methods of income restoration, but very few were implemented. While the SAR section and annex on resettlement are great improvements over the earlier project, performance on the ground did not improve noticeably.

10.4 It was only after the Narmada debacle and the subsequent increased attention to resettlement that the Bank finally took decisive steps. The turning point came in 1992. Specific benchmarks were set at short intervals; when these were not reached, the project was suspended in November 1992. The Bank worked closely with the GOK to meet the benchmarks and finally lifted the suspension in February 1994. Bank attention slackened slightly for the next year and a half, but when resettlement performance again deteriorated, the Bank resuspended the project in September 1995, the only time a project has been suspended twice because of resettlement. In December 1996 the Bank lifted the suspension rather than allow the project to close with so many unresolved problems. Even when the project credit finally closed in June 1997, the Bank offered to assist a third project to remedy remaining problems and complete resettlement of all people affected by dam heights up to 524 MSL. During 1992–97 UK II was supervised almost every three months by resettlement specialists who identified the shortcomings in painful detail.³⁸ Few resettlement operations among Bank-assisted projects have received equal scrutiny.

37. OED, *op. cit.*, pp. 40–1.

38. One problem with supervision was the frequent change in resettlement specialists between supervision missions and the occasional inconsistencies of their positions vis-à-vis the GOK.

10.5 Bank performance can be rated as unsatisfactory through 1985, marginally unsatisfactory from 1986 to 1991, satisfactory during 1992 and 1993, marginally unsatisfactory in 1994 and most of 1995, and highly satisfactory since late 1995. Attempting to aggregate different performance levels during different phases would not do justice to the improvement in Bank performance. The basic problem is that the Bank did too little until too late, when even superb attention to resettlement could not undo decades of damage. The Bank knew the severity of the situation but did not address the situation adequately until the crisis of 1992. The Bank too often insisted on issuance of GOs, increased staffing, and other inputs. The GOK would go through the required motions, but these failed to produce results on the ground. Even if all the resettlers eventually have their incomes and assets restored, they will have suffered 20 years or more of impoverishment in the interim. This is the "lost generation" problem, where unalterable losses and changes have occurred due to poor resettlement. Maybe their children will benefit, but the resettlers have suffered badly for a sizable part of their lives.

11. Borrower Performance

11.1 The Government of India was the borrower, and the Government of Karnataka was the beneficiary and the implementing agency. This section will comment on the performance of the Government of Karnataka. To some extent, GOK's performance parallels that of the Bank, albeit at a lower level. As the Bank attempted to motivate improved GOK performance with various threats and incentives, GOK performance responded. GOK performance at UKP started abysmally. The first resettlement plan was not even prepared until July 1986, after the credit for KIP closed. Then it was only done at Bank insistence, in order to facilitate approval of the follow-on project, UK II. Previous notes on resettlement and rehabilitation works were limited to reconstruction of houses and community infrastructure. There was no provision whatsoever for replacement of agricultural lands or plans to restore incomes. Even these highly inadequate notes were routinely ignored.

11.2 One of the main problems was that until 1995 the Irrigation Department itself was in charge of resettlement. The needs of resettlement were usually subordinated to irrigation priorities. That continues to the present, where the GOK's desire to complete the dam to ensure its rights to its share of the Krishna River necessitates completion of the dam, filling of the reservoir, and use of the water by the year 2000, regardless of progress on resettlement by that time. The irony is that people were displaced to store water to supply the irrigation canals in the command area, but because many command areas are not yet close to completion, much of the water stored in the reservoirs is not currently used. Even the water that is used is badly managed and wasted because there is so much surplus water. People are being displaced for Karnataka's race to win water rights. Irrigation development is lagging reservoir filling and displacement by up to 10 years, not the 1 to 2 years anticipated. The canals that have been built are poorly maintained, causing seepage, salination, and even additional displacement. While this report does not evaluate the irrigation project, the breakdown of the water storage-command development linkage has almost completely vitiated the principal income restoration strategy and contributed to unnecessary additional hardships, and continues to do so.

11.3 In 1987 the GOK began issuing Government Orders that significantly improved the compensation package and resettlement policy. Translating these edicts into results on the ground was another matter. Resettlement still seriously lagged dam construction when the Bank first

suspended disbursements in 1992. Even while the project was suspended, work continued on the dam. It was only the threat of seriously damaging relations with the Bank that led the GOK to make a substantial effort to improve performance in the field. In 1993 the GOK issued the GOs covering the ex-gratias and grants that improved rehabilitation significantly. The GOK appointed a dynamic young resettlement manager, but he was killed in a car accident in October 1993.

11.4 Two years later, with the appointment a new Secretary for Rehabilitation & Land Acquisition, Upper Krishna Project, the situation began to change substantially. The secretary has a keen grasp of the situation, has energy and managerial capability, and is personally responsible for many of the improvements in this project since October 1995. During his tenure resettlement staffing increased from 150 to 900, tens of thousands of families started construction on their homes, thousands of ex-gratias and grants were paid, the consent award system was introduced, land compensation rates finally caught up to market prices, corrupt resettlement officers were fired, beneficiary participation is reaching reasonable levels, and much other work has been accomplished. The adoption of the consent award system in January 1996 was a key turning point in moving beyond the excessively adversarial approach previously followed. In fact, more was accomplished at Almatti between October 1995 and June 1997 than in the entire UKP up to 1995.

11.5 While aggregating GOK performance over time does not do justice to its recent improvements, it still must be rated as unsatisfactory overall as the main resettlement policy objective of income restoration was not achieved for many years, if at all. Planning was highly inadequate and implementation lagged unacceptably. Recent improvements help those not yet resettled, but offer only partial mitigation for those resettled under inferior arrangements. If GOK had paid attention to resettlement at the same level of intensity it has in 1996 and 1997, then it might have been satisfactory, but it got so far behind the first 18 years of the project that it has been forced into the untenable position of having to move people under emergency conditions as a standard operating procedure. Furthermore, nothing can be done to undo the "lost generation" problem.

12. Conclusions

12.1 The resettlement operation at Upper Krishna has made one of the most dramatic turnarounds of any resettlement operation in a Bank-assisted project, from crisis and two suspensions to approaching satisfactory performance. More remains to be done, but for the first time in a sad 20-year history the fundamental building blocks of an acceptable resettlement program—political will, a legal framework, institutional capacity, adequate budget, comprehensive planning, a development program, and participation of the affected population—appear to be in place. The experience offers many lessons, both negative and positive.

12.2 The planning and appraisal process for KIP was a lesson in what not to do. None of the preconditions for resettlement—listed in the preceding paragraph—were in place. Not even the number of affected people was known. The Bank insisted on a pilot project, but did not wait for the results before approving UK II, and even then success in the pilot project did not ensure success in the much larger scale full resettlement effort. Then resettlement was mismanaged to the point that the project had to be suspended twice and rebuilt almost from scratch.

12.3 The entire compensation process was highly inadequate, at least until recently, and caused lasting problems. People were not compensated at replacement costs, so they were unable to replace their income-producing assets, mainly land, and had to turn to other sources of income. Delays in receiving compensation, as well as being paid in installments, further aggravated the problem. Finally, the time, effort, and money (sometimes bribes) needed to obtain compensation ate away at the already inadequate compensation.

12.4 The relocation process was poorly coordinated. Part of the problem is that relocation was guided much more by dam construction than by rational planning. Irrigation in the command area was not coordinated with providing resettlers irrigated lands. Even in 1997, much of the water in the reservoir is not used for irrigation. People have been compensated years before relocation was necessary, thus creating a complete disjuncture in the process. Other times they have had to flee rising waters during the summer monsoon. Using boats and helicopters for emergency relocation, and housing resettlers in metal transit sheds in incomplete resettlement centers for years at a time, cannot be accepted as normal resettlement practices.

12.5 The income restoration strategy was highly flawed. Because of the time lag between displacement and the availability of land in the command area, that strategy was never viable. The command area was a net out-migration area to begin with, and people were not willing to sell their land on anywhere near the scale necessary to absorb resettlers. Providing IGS grants was no substitute for thinking through what people could use that money for. People need ideas and training. Too many people buying the same thing poses the danger of destructive over-competition, an unsustainable strategy. Closely related was inappropriate attention to common property resources, principally fuel, fodder, and land for grazing and vegetable growing.

12.6 Services for resettlers were highly inadequate. Health care personnel were insufficient. The malarial control unit, though functioning, has not controlled the rampant spread of malaria. People need advice on irrigated agriculture as they are misusing water supplies and salinating their land. Almost every kind of service that resettlers require is scarce.

12.7 Participation by resettlers was lacking on the whole, at least until recently. People were inadequately consulted and resettlement decisions did not conform to their needs or desires. This led to much greater resettler dissatisfaction than necessary. It also contributed to resettler dependency and a fatalistic attitude. Villages are taking far too long to adopt a self-sufficient attitude. People in resettlement villages strongly prefer to rely on the resettlement authorities rather than the Zilla Panchayat system of normal villages. Facilities are much better maintained under R&R authorities than by the Zilla Panchayats. At some point the special treatment will end and the resettlers will be responsible for operation and maintenance in their villages.

12.8 NGOs probably could have contributed far more than they have. They are useful in organizing people and promoting self-sufficiency. They could have used their experience in income generating activities to initiate more activities. The GOK's negative attitude toward some advocacy NGOs has somewhat blinded it to the potential that grassroots, field-based NGOs have for this kind of work. Only one of the GOK chief secretaries was supportive of NGO involvement; when he was replaced, support for NGO involvement declined considerably.

12.9 On the positive side, the Bank and the GOK learned what it takes to turn a project around. Institutional strengthening, from the top position on down, was critical. After years of unprofessional management, the GOK now has a fully functioning management information

system, although even that could be better used than it is at present. It is not realistic to move a quarter million people without a modern, computerized system. Now realistic budgeting and scheduling are at least feasible. The consent awards are a useful innovation in reducing the amount of wasted time, effort, and money in resolving complaints about compensation levels. The Lok Adalats (dispute resolution units) are also useful as a mechanism for addressing grievances. This project moved farther from confrontation to cooperation than many resettlement operations, even though it still has far to go.

13. Comparisons with Maharashtra

Introduction

13.1 The Maharashtra Composite Irrigation III (MCIP III) Project was supported by Credit 1621-IN, approved on July 16, 1985, for \$160 million, and closed on December 31, 1996, fully disbursed. A Project Completion Report was issued on June 17, 1997. The principal objective of MCIP III was to develop two command areas for dams that were already completed. The only resettlement associated with MCIP III, as it was originally envisioned, was that at Majalgaon Reservoir on the Godavari River, 300 kilometers northeast of the Krishna River (see map). The project was restructured on April 22, 1993, at which time the credit was revised to the equivalent of \$128.8 million. More significantly, the restructured project included "retrofit" rehabilitation of people resettled by four subprojects of Maharashtra Irrigation II Project.³⁹ Altogether the restructured MCIP III planned to resettle or rehabilitate 168,000 people displaced by nine dams in five subprojects (the four carryover subprojects from Maharashtra II plus the Majalgaon subproject).

13.2 The 1993 OED study focused on only the Krishna subproject of the Maharashtra Irrigation II Project (MIP II) because it was the most advanced at the time the project closed. One of the two dams in the Krishna subproject, Dhom, was completed and filled before MIP II, while the other dam, Kanher, was not completed until 1985, at the end of MIP II (see map). The earlier OED study looked only at the resettlement from Dhom. This OED study evaluates resettlement from both reservoirs because both were part of the Krishna subproject, and their resettled populations live in the same area. Both resettlement operations were completed long ago, but due to the restructuring of MCIP III, additional efforts were made to more fully rehabilitate the oustees of both dams (as well as the seven other dams). A three-year (1996–98) program is under way. Therefore outcomes of resettlement can be evaluated, but the retrofit effort is still in the early stages of implementation and its outcomes cannot be evaluated. This case study is similar to Upper Krishna II in that the focus is on rehabilitation in a recently closed project for resettlement caused by an earlier project begun in the 1970s. It differs in that it does not cover any resettlement being currently implemented at another dam also implemented in the recently closed project.

39. Maharashtra Irrigation II Project was supported by Credit 954-IN, approved on October 16, 1979, for \$210 million and closed on December 31, 1985, fully disbursed. A PCR was issued on December 30, 1988.

Description of the Project

13.3 The Dhom and Kanher dams are similar. The Dhom dam is 50 meters high and 2,478 meters long with a central masonry section of 241 meters. The reservoir has a surface area of 20 square kilometers and a volume of 286 million cubic meters (MCM). The Kanher dam is 47 meters high and 1,946 meters long with a central masonry section of 245 meters. The reservoir has a surface area similar to Dhom and a volume of 382 MCM. Because they are of similar size, and one valley apart, they displace similar numbers of people, 3,390 families for Dhom and 3,860 families for Kanher.⁴⁰ These are much smaller dams and reservoirs than the Karnataka projects on the Krishna River; they are approximately one fifth the size of Narayanpur. This is primarily because the dams are much farther upstream, where the river is smaller. They are also located in natural canyons, which limits their spread. Even so, the two dams affected about 40,000 people, as most people were living along the river banks, not farther up the hillsides.

Implementation of the Resettlement Program

13.4 Both dams started construction between 1968 and 1972. In contrast to Karnataka, both reservoirs were filled relatively rapidly (within two years) after dam completion. Resettlement was carried out expeditiously. Most of the people at both dams were moved to the irrigation command areas below the dams. At Kanher, some resettlers were relocated to the Bhima Dam command area, one river to the northeast.⁴¹ Because of delays in completing the canals and irrigation systems, some resettlers chose not to move to the command areas, but instead remained in the reservoir area moving farther up the hillsides. Because most of the displaced families had left the area, there was sufficient room for those remaining.

13.5 Because the resettlers were moved under earlier resettlement policies that are less generous than those at present, and because the irrigation benefits have not materialized, the Government of Maharashtra (GOM)—with Bank encouragement—developed a rehabilitation program. The program consists of four main components: (a) civic amenities, (b) house improvement ex-gratias, (c) income generation scheme (IGS) grants, and (d) irrigation for those not yet receiving it. Although the program was to be launched in early 1995, it did not begin until January 1996 and accomplished relatively little—except for the first component, community infrastructure—by the time MCIP III closed on December 31, 1996. The rehabilitation will not make much of an impact until the other three components are implemented. GOM resettlement staff are eager to do so and have already surveyed resettlers for their IGS priorities, but so far their budgets are blocked. The GOM is continuing the rehabilitation effort after Bank involvement ended in 1996.

40. These figures, totaling 7,250 families, are from *Resettlement and Rehabilitation in India: Volume II, Project-Specific Notes*, India Department, April 22, 1994. The earlier OED study, *Early Experience with Involuntary Resettlement: Impact Evaluation on India Karnataka Irrigation Project*, OED, June 29, 1993, had a figure of 7,850 families.

41. The Bhima River is the main river between the Krishna and the Godavari; all three flow east into the Bay of Bengal.

Database and Survey Design

13.6 The earlier OED study commissioned a survey in 1990 for a sample of 152 resettler, 116 host, and 60 unaffected (catchment area) households. The survey also did a tracer study to determine what happened to families that left the area. Only 5 percent migrated to Bombay (Mumbai), the traditional destination of people in this area. The survey was hampered by a lack of baseline or previous survey data against which to make comparisons. The 1997 OED study did not commission additional surveys as none of the recent rehabilitation efforts have focused on income restoration so far. Therefore, conclusions about the impacts of resettlement, and income restoration in particular, are tentative.

Compensation and Eligibility

13.7 The GOM passed two acts, the Maharashtra Resettlement of Displaced Persons Act, 1976 (enacted in 1977), and the Maharashtra Project Affected Persons Rehabilitation Act, 1986 (enacted in 1989), which substantially improved treatment of project-affected people. The first act decreed that the GOM would resettle as many displaced persons as possible on land in the benefited zone. Affected people are to deposit 65 percent of their compensation received for lands in the affected zone. Any difference between the amount deposited and the market value of land in the benefited zone is to be repaid in six annual installments. Agricultural laborers are to receive one irrigated acre in the benefited zone free. Those who choose to self-resettle are eligible for a rehabilitation grant of between 75 and 100 percent of the compensation money received for their land, up to a ceiling of 10 acres. The second act strengthened the definition of affected person to include not only landholders and agricultural laborers but also other residents of the affected villages, including brothers of joint families, and trade persons and other wage laborers working for five years in the affected zone. The effect was to extend coverage to 3,350 more families. About two thirds of the families opted for official assistance and one third resettled themselves.

13.8 For those opting for assistance, families were entitled to a houseplot, a loan for home construction, and up to seven acres of irrigated land (within 8 kilometers of their new houseplot) depending on the amount of land lost and family size. This land in the command area was acquired by imposing ceilings on land ownership for existing residents and requiring excess land to be sold to the government, which was in turn provided to resettlers. Naturally the land sold was land the former owners least wanted. In some cases it was good land, but in many others it was not. In October 1980 the house construction loan was increased, and government-subsidized house-construction materials were made available. Resettlers also received transportation to the new village, income generation loans, village infrastructure, and preferential hiring for government jobs.

Income Restoration

13.9 The basic income restoration strategy, based on the GOM acts, was to move resettlers into the command area. It was felt that sufficient irrigated land would be provided for each resettler household to improve their incomes. Loans for income generating activities were to supplement, but not substitute for, agricultural income. Similarly, government jobs and other wage labor would supplement household incomes. Apparently no specific income targets were set, but the basic farm model with income supplements appeared reasonable. Although it was a

commendable strategy, based on the concept of sharing project benefits with resettlers, it did not work well in practice.

13.10 OED's 1993 report said, "about three out of four households in the resettled villages indicated that their economic condition had improved compared to the old village."⁴² Furthermore, of the 25 percent who thought they were worse off, most were either landless or joint families that had split up during relocation. Not only was income perceived to be higher, the surveyed resettlers had incomes 20 percent above host villages, even while host village income had doubled in real terms between 1975 and 1987.⁴³ Therefore it was assumed that resettler income had probably also increased by at least similar amounts, even if no previous data on those households had been obtained.

13.11 The 1997 study found a much more pessimistic situation. The difference in results is perhaps because the 1993 report focused exclusively on Dhom dam, where resettlement started 10 years earlier and the irrigation command has had much more time to develop. Furthermore, that survey covered only 5 resettlement villages, all in the command area, whereas the 1997 study visited 13 resettlement villages in both the command and reservoir areas of both dams. Finally, the command area villages visited in the 1997 study were generally farther downstream from the dams, and thus would receive irrigation later.

13.12 OED's 1997 visit reveals that many resettlers in the command area have not received irrigation, despite having moved up to 20 years ago and being promised irrigation as early as 1982. Resettlement officers took the OED team to villages that were supposedly irrigated only to discover that the irrigation systems were not complete. A recalcitrant land owner has delayed construction of a four-kilometer stretch of canal by tying up the land dispute in court for ten years. This has denied water to the lower half of the command area. Where irrigation systems were completed, resettlers were sometimes found to be above the contour level and thus gravity-fed irrigation canals could not reach them. In other cases, neighboring non-resettlers used all or most of the irrigation water before it reached resettlers at the ends of canals. Resettlers live together in new communities, but cultivate fields isolated from one another. Sometimes resettlers had to pay for water from neighboring villages. Some people were able to establish private irrigation systems at their own expense. Most resettlers now have less land—and without irrigation, less production—and hence lower farm incomes. They have been forced to make up the difference through wage labor or migration. Even for those resettlers with adequate irrigation the reduction in the size of their landholdings often outweighs the increased production from irrigation.

13.13 The resettlers who had not left the reservoir area but had moved up the hillside were not as bad off as might have been expected. Since the majority of people living in the inundated villages had relocated to the downstream command areas, there was less population pressure on the upper slopes. Some individuals and groups had set up lift irrigation schemes. Most households have at least some family members working in the nearby town (Wai) or in Bombay (Mumbai). Many families still had deposits in government accounts to claim their replacement lands in the command area, once acceptable irrigated land became available. Extended families

42. *Early Experience with Involuntary Resettlement: Impact Evaluation on India Maharashtra Irrigation II Project*, OED, June 29, 1993, p. 16.

43. *Ibid.*, p. 26.

with two or more branches that had accepted land in the command area had one branch remain in the reservoir area and another in the command area. Therefore, they were diversifying their landholding portfolio and reducing their risks by pursuing both options. Most of those staying behind in the reservoir area thought that those with irrigation in the command area were doing better, while those without irrigation were doing worse. Intermarriage, festivals, and other activities kept village ties strong despite the distance.

13.14 It was difficult to estimate changes in household incomes, given the lack of baseline data and a limited sample. In a number of households, incomes were equal to or higher than before resettlement. This was due to off-farm income, primarily migration. Some would say that this is a natural process, as rural India moves increasingly from agricultural to non-agricultural sources of income. Nonetheless, the objective of creating a resettlement action plan where household incomes were measured, and plans were made to restore or increase it, does not appear to have been met in most cases.

13.15 There is little doubt that the comparison presented in the 1993 report—of the superiority of the outcome in Maharashtra over Karnataka—no longer holds. Karnataka Upper Krishna resettlers now see their incomes and expenditures stabilizing and starting to recover. Maharashtra Upper Krishna resettlers appear to have stagnating, if not declining, incomes. The GOM rehabilitation program has not had much impact so far, while the GOK rehabilitation program, after long delays, is in full operation and finally showing results. R&R performance in Karnataka's Upper Krishna II project is now more impressive and hopeful than in the Krishna subproject of Maharashtra's MCIP III project.

Other Issues

13.16 The new social infrastructure is widely appreciated. The layout and spaciousness of the villages, the roads and drainage, and the water and electricity facilities, are improvements over the old villages. Some of those amenities had begun to deteriorate, so the rehabilitation effort of the past year has focused on them. Most resettlers thought their new houses, though of good standards, were smaller than their previous houses.

13.17 Participation in the early years in Maharashtra was better than in Karnataka, although Karnataka is catching up. Nonetheless, options were limited in that resettlers had to choose land and houseplots where they became available. They have been able to decline any of the offered options, but that leaves them waiting for land. There has also been involvement by community-based organizations, but very little by outside NGOs. With the recent rehabilitation exercise, involvement of NGOs has been encouraged. NGOs were involved in surveys of resettler preferences for uses of the IGS grants. Until the IGS program gets under way their participation will remain limited.

13.18 Gender and indigenous people issues are no different from those in Karnataka. Relations with host communities were generally good. As the earlier OED report mentioned, there were some tensions at first, but most of these problems were resolved and an accommodation exists.⁴⁴ There is some intermarriage with hosts, but many resettlers still intermarry, even with their former fellow villagers that stayed behind. As at Karnataka, both the old and new villages keep

44. Ibid., p. 15.

the same name, but now they are often separated by substantial distances—up to 50 miles—and sometimes several villages have the same name as the people from the inundated village resettled in several areas. The most contentious issue remains sharing common resources such as irrigation water and grazing land.

Bank and Borrower Performance

13.19 Bank performance improved over the course of the two projects. Project preparation files for Maharashtra Irrigation II barely mention resettlement, and the SAR contains only a three-sentence paragraph saying that about 20,000 families will be submerged by the six irrigation schemes financed under the project. Although the SAR also contains a table showing the number of villages affected by each scheme, it offers no data on the number of families per scheme and has no data at the level of individual dams. The project has a land acquisition budget, but no budget for resettlement. Planning for MCIP III, while better, was still inadequate. The Bank's resettlement specialists warned that the GOM was being less than candid about its past performance and intentions, but the Bank approved MCIP III anyway. The completion report for MIP II, prepared three years later, noted significant R&R problems. Compensation was inadequate; 10 percent of the resettlers went to court—others could not afford the costs of litigation—and in many instances their compensation was doubled. More than six years passed between compensation and receipt of land in the command area, and then the land was often too high or undulating and therefore difficult to irrigate.⁴⁵ Nonetheless, Bank supervision ratings of MCIP III failed to reflect the extent of problems at Majalgaon. R&R continued to be rated a 1 until July 1991, when it was downgraded only to a 2 ("moderate problems"), even though a highly negative supervision report had been issued in November 1990.⁴⁶

13.20 Although the Bank had ceased involvement with all the other subprojects—including Krishna—in 1993, in the midst of the Bankwide Resettlement Review, the Bank restructured and expanded MCIP III to include the MIP II subprojects where people had been left improperly rehabilitated. This was a major step forward in accepting responsibility for past shortcomings, and the Bank pushed hard to get an appropriate rehabilitation plan designed and under way as soon as possible. Despite consistent Bank supervision, progress has been slow. The problem rests more with the borrower.

13.21 Borrower performance curiously deteriorated, at least temporarily. While the GOM was very proactive in improving resettlement policies during the period 1976–86, performance slipped afterwards. GOM preparation of MCIP III was woefully inadequate. The number of resettlers was understated by 42 percent. Economic rehabilitation was not planned for even though many resettlers were receiving cash compensation, not land-for-land as the policy proclaimed, despite GOM claims to the contrary.⁴⁷ The land was available if 75 percent of the compensation amount was deposited, but due to delays and other reasons resettlers usually had consumed much of their compensation just to survive and could not make the necessary deposit to receive replacement land.⁴⁸ Furthermore, most resettlers rejected the land offered in the

45. *India Maharashtra Irrigation II Project: Project Completion Report*, Asia Regional Office, December 30, 1988, p. 10.

46. BTOR, M. Mitra, consultant, November 19, 1990.

47. Letter, W. Partridge, consultant, to H. Helman, ASPAC, June 3, 1985.

48. Mitra, op. cit.

command area, preferring land much closer to their former villages. Half the resettlers had not even received their cash compensation, even though implementation had been under way for nine years.

13.22 The GOM did not demonstrate any interest in rehabilitating resettlers any further until the Bank encouraged it to do so in 1993. Then the GOM took a very long time to prepare a rehabilitation plan. Implementation of that plan has been slow and limited. Unfortunately the Bank does not have any leverage and has little means for monitoring progress. Contrary to the 1993 OED report, this study cannot endorse GOM performance as satisfactory. While the legal framework and strategy were laudable, results on the ground have not been satisfactory. Without monitoring and evaluation of resettler incomes, resettlers' claims that they have been made worse off cannot be disputed.

Conclusions

13.23 MCIP III is a lesson in the differences between policy and practice. Legal frameworks do not ensure outcomes, or even outputs. Just because resettlers are moved into a command area does not mean their rehabilitation problems have been solved or that incomes have been restored or improved. While resettlement was thought to be good, closer examination reveals a much less optimistic reality. Good performance does not automatically continue. Resettler incomes must be monitored to know the long-term results of rehabilitation efforts.

14. Lessons from Karnataka and Maharashtra

14.1 Many valuable lessons can be learned from comparing resettlement operations in adjacent states. The dams on the Krishna River created situations with many similarities and differences, and both are instructive.

14.2 *Poor planning is very likely to lead to problems during implementation.* Although it is possible for a project to overcome a poor plan and implement resettlement well, this rarely happens in practice. If anything, plans are often overly optimistic and even the inadequate targets set by plans are rarely achieved.

14.3 *Determining and paying adequate compensation for land is very difficult in areas of land scarcity and escalating prices.* Each increase in compensation rates tends to provide resettlers with more money chasing the same limited amount of land, thus contributing to a vicious inflationary cycle. This is almost inevitable when creating large reservoirs in populated areas. Delays in payments, or paying in installments, only exacerbates the problem. Paying interest on delayed payments mitigates the impact, but during highly inflationary times the interest rates must be adjusted accordingly.

14.4 *Income restoration is the most difficult part of R&R.* This was the weakest part of planning and where results have been the least satisfactory so far. As difficult as it is to resettle (relocate) tens of thousands of people, that task pales in comparison to restoring the incomes of all those people, especially in areas with scarce land resources and few income generating alternatives. If resettlement were merely a matter of making adequate payments for lost assets, then it would be a much easier task. Even the Bank is relatively weak on income restoration.

14.5 *Moving resettlers into command areas being developed by the same project displacing them is a tricky strategy.* Those command areas have to be operational by the time the resettlers move to them, or very shortly thereafter with full maintenance of incomes during the interim. Obviously, the resettlers have to be moved before the water fills the reservoir, but the reservoir needs to be filled to supply the irrigation canals in the command area. Such tight sequencing is very difficult. In Karnataka, it did not work at all, as resettlers were moved many years before the command areas were ready to receive them. In Maharashtra it did not work much better. Some of the command area was ready to receive the resettlers, but much of it was not ready for several years because of construction and court delays. Resettlers had already committed themselves to living in the command area, had made their deposits, and were trapped waiting for irrigation that came late, if ever. Their production and agricultural incomes fell. Some of them drifted away or developed other sources of income.

14.6 *Irrigation holds significant potential as a means of income restoration.* Irrigation in resettler villages (not in the command area), usually through lift irrigation, was a source of hope for many resettlers. Also, irrigation in the command areas provided demand for agricultural labor, but often it is too far away from resettlement villages. Physical relocation of resettler housing and community infrastructure needs to be coordinated with plans for income generating alternatives so they are geographically proximate.

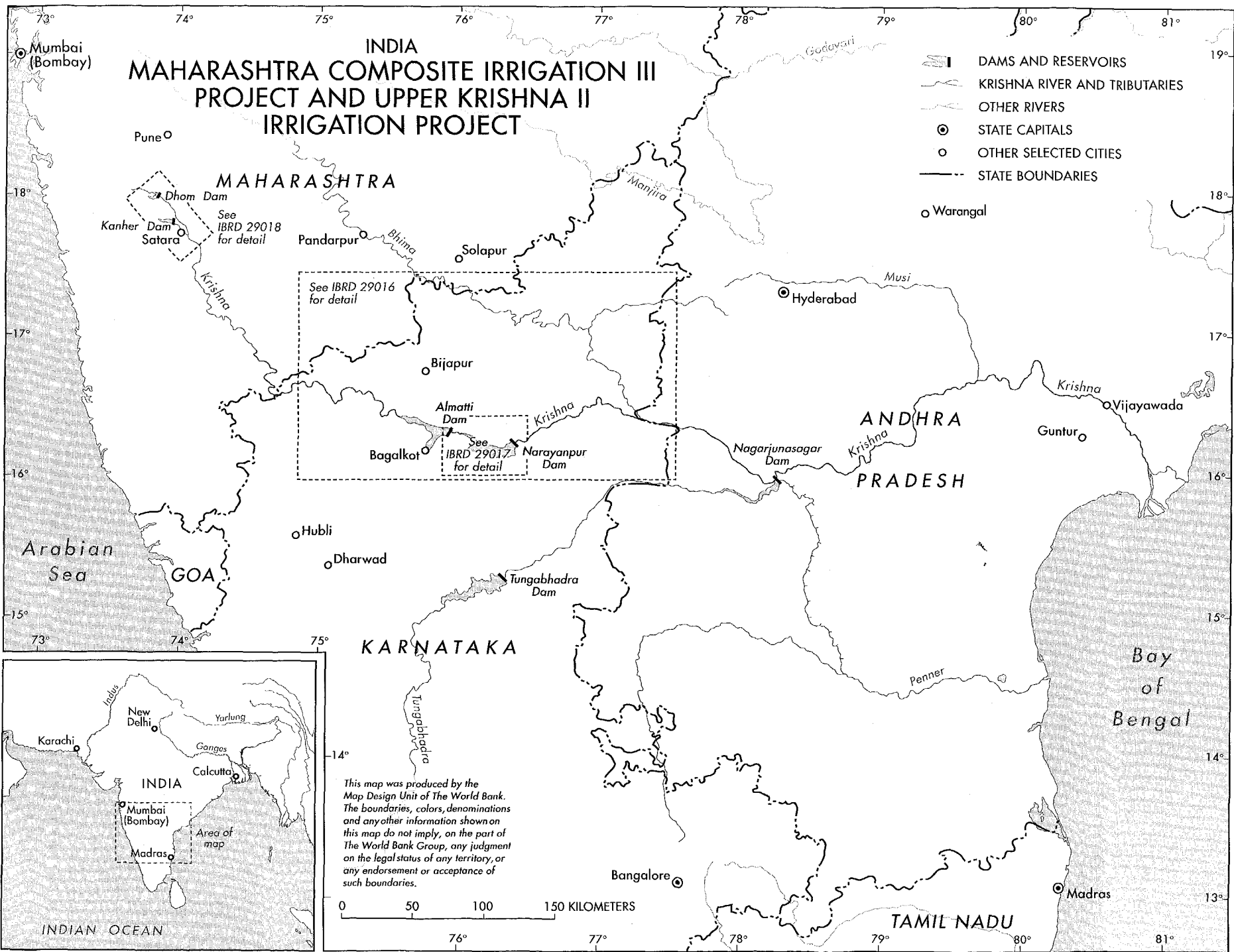
14.7 *Participation makes a difference.* Resettlers at Maharashtra (and Almatti more recently) were more satisfied with the resettlement process due to their participation. Even if they were not tangibly better off, at least they felt the outcomes were of their choosing. Only when resettlers were able to participate and their preferences were ignored, or the government did not deliver on promises, was there major dissatisfaction.

14.8 *NGOs have not been well used.* MYRADA developed several good resettlement plans for the GOK, but the GOK used them to a very limited extent. The GOM used NGOs to develop rehabilitation plans for MCIP III, but the IGS component has not yet begun. Clearly both the GOM and GOK could have used NGOs much more effectively, especially in soliciting resettler participation and in designing and implementing the IGS components.

14.9 *Resettlement officials need to have sufficient power to deliver their programs.* UK II did not make rapid progress until a senior Indian Administrative Service officer with the rank of secretary was appointed to head resettlement and posted to the field. He had the power to authorize expenditures and otherwise make things happen. MCIP III, on the other hand, appears temporarily stalled because the senior resettlement officers have not been able to get approval and funds to proceed with the critical components of their rehabilitation program. If MCIP III had the same situation as UK II, it would probably also be making good progress.

14.10 *The amount and intensity of Bank pressure apparently make a difference to borrower attention to and performance on resettlement.* The GOK only made substantial progress and improvements in performance after the Bank suspended the project a second time. Besides suspending the project, the Bank sent more supervision missions with higher level staff, including several senior managers up to the managing director level. The GOK knew that UK II was receiving intense scrutiny from the highest levels. MCIP III never received that kind of scrutiny. The project was restructured, but that was as much for irrigation as for resettlement, and attention was spread over five components and nine dams as well as their command areas. The Bank did not take strong actions on MCIP III.

MAP SECTION



IRRIGATION AREAS

STAGE I:

PHASE I (1978-86)

PHASE II (PROJECT)

PHASE III (REMAINDER OF STAGE I)

STAGE II:

GRAVITY IRRIGATION

PUMP IRRIGATION

IRRIGATION CANALS

PROPOSED UNDER PHASE II:

IRRIGATION CAN

DISTRIBUTARIES

FUTURE:

STAGE I
STAGE II

STAGE II
EXISTING

EXISTING: IRRIGATION CANALS

DISTRIBUTARIES

DISTRIBUTARIES

PROPOSED PUMPING STATIONS

DAM AND RESERVOIR UNDER C

EXISTING DAM AND
EXISTING TUNNELS

EXISTING TUNNELS
RIVERS

RIVERS
CITIES AND TOWNSCITIES AND TOWNS
STATE HIGHWAY

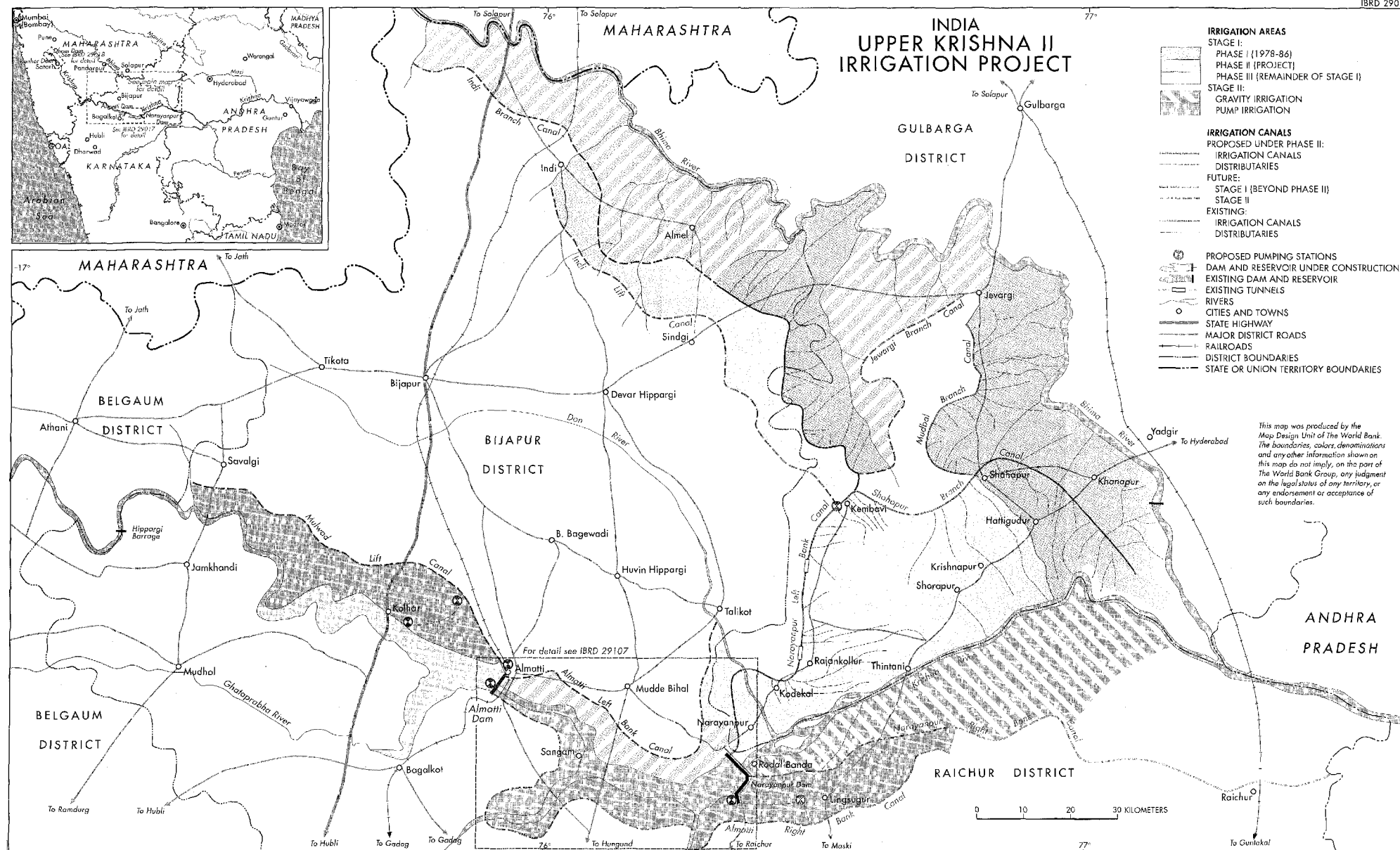
MAJOR DISTRICT ROADS

- 14 - RAILROADS

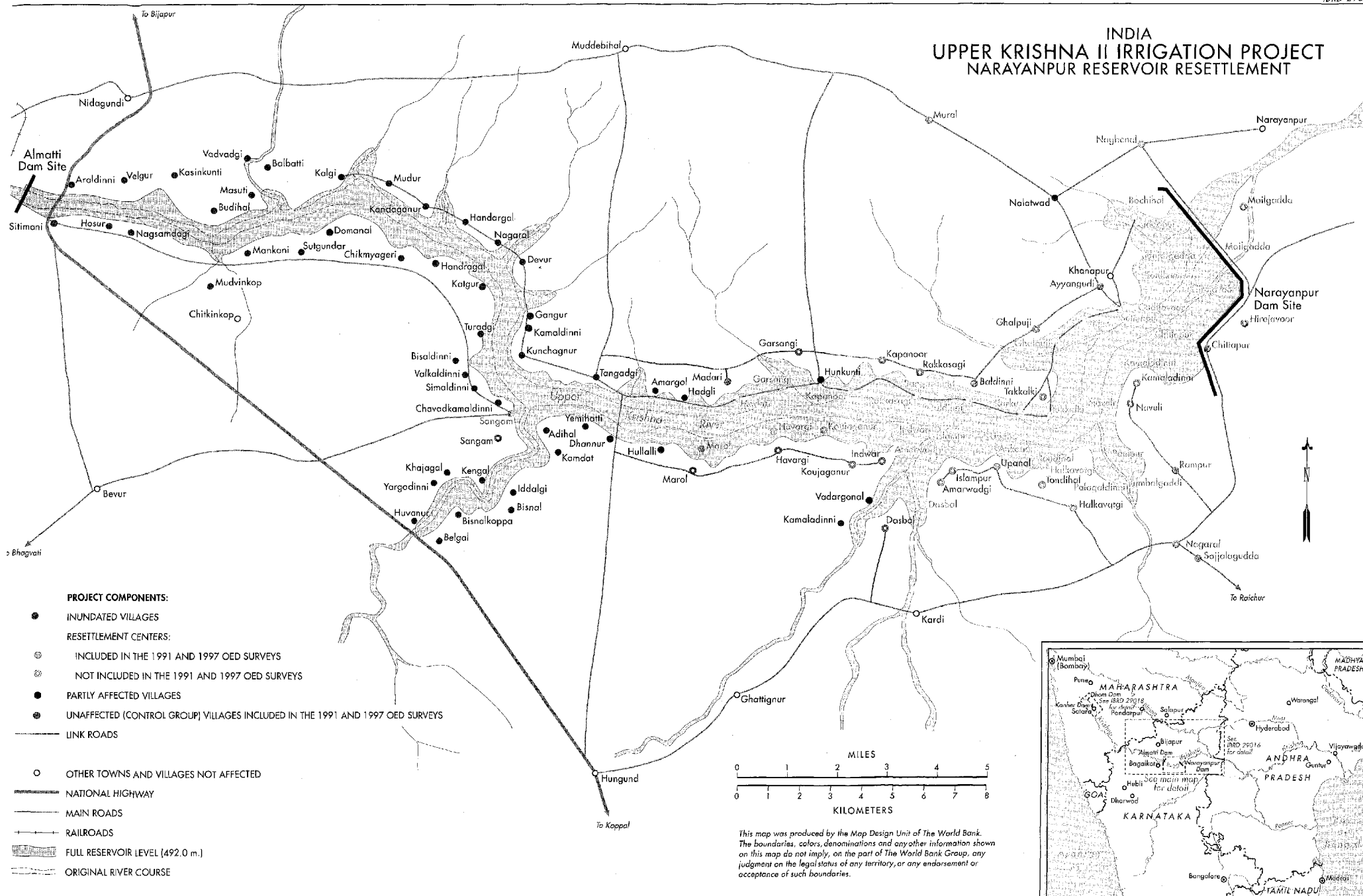
DISTRICT BOUNDARIES

— STATE OR UNION TERRITORY BOUNDARIES

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INDIA UPPER KRISHNA II IRRIGATION PROJECT NARAYANPUR RESERVOIR RESETTLEMENT



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