

Narmada project proceeds under the gun

This great river valley development project promises real benefits but faces an onslaught from India's greens, report Susan Maitra and Ramtanu Maitra from New Delhi.

A mighty river project, the Narmada Valley Development Project, the largest India has ever undertaken, is beginning to take shape amid growing opposition from environmentalists, some politicians, and movie stars trying to ape their Hollywood role models. The project is planned to be commissioned in stages, but when completed by the turn of the century it is expected to provide irrigation water to 5.2 million hectares of arable land, generate 3,500 MW of electrical power at peak load and make water available to at least 10.8 million rural people who do not now have access to an adequate amount of water.

The project is mammoth; work on it began about two decades ago. To get an idea of just how large the project is, it is necessary to look at the activity involved, and the cost. It encompasses construction of 30 major dams, 135 medium dams, 3,000 minor dams, and more than 75,000 kilometers of canals. The total project area is 96,350 square kilometers, and the estimated cost is about \$15 billion, a figure likely to prove conservative.

The Narmada River is India's fifth largest in size and the largest among the east-west flowing rivers. It represents an enormous untapped potential resource to deal power and water shortages for domestic as well as industrial and agricultural use over a large area. Without the project, river water utilization is barely 4%, as huge amounts of fresh water drain into Gulf Khambhat in the Arabian Sea unused every day.

Harnessing the Narmada

Rising near Amarkantak in Madhya Pradesh from the Maikal Range at an elevation of 900 meters, the Narmada flows west over a length of 1,312 km between the Vindhya Range to the north and the Satpura Range to the south. Perhaps the most picturesque of all Indian rivers, the Narmada is fed by hundreds of small and medium tributaries bringing rainwater runoff from the hills along both sides.

Hindu legend says that Narmada, the daughter of Lord Shiva, came down to Earth to quench the parched lands. Attracted by her beauty, the Yakhshas tried to capture her. To elude the powerful Yakhshas, Lord Shiva's daughter changed her guise from deep and somber to playful and shallow as she traversed her way to the sea. Indeed, the Narmada

has several faces: To the west of Jabalpur, where it cuts through a narrow gorge of white marble rocks, the river is as deep as 500 meters and placid as a lake. Less than 100 km to the east, the Narmada is known as the Sahashradhara (thousand streams) as it ripples through a broad field of rocks less than six feet deep but wide and noisy.

The core of the Narmada Valley development project is the construction of two major dams with large reservoirs. The Narmada Sagar dam (NS) will be located in Madhya Pradesh about halfway between the source and end destination of the river, while the Sardar Sarovar dam (SS) will be located in Gujarat. Most of the water storage, to feed the Sardar Sarovar, however, will lie along the run of the river in Madhya Pradesh.

The Narmada Sagar dam will irrigate 0.123 million hectares and generate 1,000 MW of electrical power at peak load, besides providing benefits such as flood control, pisciculture, tourism, and urban and rural water supply. The dam site is at Punasa in the Khandwa district of Madhya Pradesh. The cost of the project, as estimated in 1987, is about \$3.5 billion.

The Sardar Sarovar Project, with its site at Vadgam in Gujarat, will irrigate a far larger area than its upstream counterpart, the Narmada Sagar, which will also act as the storage dam for the Sardar Sarovar. With an irrigation potential of 1.9 million hectares and an installed capacity of 1,500 MW of electrical power, Sardar Sarovar will also offer benefits such as flood control, pisciculture, tourism and domestic water supply. The cost of the project is close to \$5 billion.

Benefits: beyond raw statistics

But to visualize the real benefits that these projects will bring in, one has to get beyond the raw statistics (**Table 1**). These projects will bring water where water does not now exist and prevent the Great Indian Desert from moving farther east or north, by not only irrigating vast tracts of land in Gujarat, but also 75,000 hectares of desert lands in the Bemer and Jhalore districts of Rajasthan. The Gujarat state government has already initiated a detailed survey of agro-industry potentials that will be opened up with the expanded irrigation.

Narmada Valley Development Project in India's river systems



TABLE 1
Salient features of Narmada basin development (tentative)

	Irrigation		Beneficiaries		Power Installed capacity (MW)
	CCA* (m/ha)	Annual irrigation (m/ha)	Farm families (m)	Rural population (m)	
Madhya Pradesh	2.8	3.1	0.8	6.0	2,050
Gujarat	1.9	2.0	0.4	4.5	1,450
Rajasthan	<0.1	<0.1	<0.1	0.2	
Maharashtra	<0.1	<0.1	<0.1	0.1	
Total	4.0	5.2	1.2	10.8	3,500

*Cultivable command area

Gujarat has been a perpetual victim of erratic rainfall, and it is expected that the vast tracts of land which will be irrigated by the water made available from the Sardar Sarovar Project command area will eventually help to break the bondage of poverty and drought. Nearly 43% of Gujarat suffers acutely from drought. During the last three decades, according to available official reports, the state has suffered ten famines of varying degrees. During the semi-drought situation in 1986-87 and the full-blown drought in 1987-88, the total crop loss suffered by the farmers in Gujarat was close to \$3 billion, according to one estimate.

Apparently all this, or at least much of it, will change once the Sardar Sarovar Project is completed by the middle of this decade. Yet, the Narmada Valley Development Project has not been warmly welcomed by everyone. A significant number of people, including some public figures, has raised questions about its viability. While many detractors argue that the Sardar Sarovar and Narmada Sagar projects are both environmentally dangerous, the majority of antagonists are concerned about the fate of the people being uprooted due to the submergence of land or other aspects of the project.

Awash in controversy

The major issues that have been lined up to oppose the construction of the project are the following:

Submergence of land. According to available figures, the Sardar Sarovar Project and the Narmada Sagar Project together will submerge about 130,000 hectares, of which 54,000 are reportedly forest land. In return, the two projects will irrigate about 2 million hectares of land.

Displacement of local populace. The two projects, SS and NS, will displace about 230,000 people, a significant number of them tribals. The government of India claims that an adequate compensation scheme for those who are being uprooted has been implemented. The project's opponents claim that the compensation offered is inadequate. While there is reason to believe this is the case, the "antis" have not come up with a counterproposal for an appropriate compensation plan.

Economic non-viability of NS and SS. The antis fish out all kinds of figures to justify this claim, including their own "secret" findings that the SS project will not be able to generate half as much electricity as is officially claimed. However, the projects have been appraised several times over. The government engaged the Tata Consultancy Services, a private firm, in 1981-82 to make an economic appraisal. Tata came up with a benefit-cost ratio of 1.84. The project was again assessed in 1985 by the World Bank before sanctioning \$450 million credit.

At the time the project was cleared in October 1988, the Planning Commission calculated the benefit-cost ratio to be 1.99. The calculation took into consideration supply of industrial water, domestic water supply to urban and rural pop-

Environmentalists in full cry

Of all the opponents of the Narmada Valley Development Project, Baba Amte, a white-haired, elderly social worker who earned kudos for his work among the lepers, is undoubtedly the most respected. He has published a book titled *Cry, The Beloved Narmada*. While Amte takes a position against large dams in general, in the case of the Sardar Sarovar Project he argues that as many as 30 of the 52 districts of Gujarat will go without water even with completion of the project, and therefore it is not viable.

Baba Amte goes further. He has prepared a cost-benefit ratio for the Sardar Sarovar which shows the cost will be more like \$6.5 billion, and not \$5 billion as the government says. Amte's cost-benefit calculation has not gone unchallenged, but in the meantime the old crusader has shifted his home from the state of Maharashtra to the banks of the Narmada to counter allegations that the antis are carrying out their campaign from air-conditioned rooms. Baba Amte also denies a recent allegation that he had been somewhat noncommittal when a dam was built in his home district, apparently unwilling to infuriate his fellow locals.

While no one doubts the credentials of Baba Amte as a "do-gooder," the same cannot be said of many other antis. Take for example the case of movie actress Shabana Azmi. A product of the Bombay movies, where mafia dons, smugglers, and black money peddlers help to fi-

ulation, as well as minimization of the fury of floods to the extent water could be stored in the reservoirs between full reservoir level and maximum water level.

Failure to conduct a proper environmental impact study before approving NS and SS. As the government of India points out, the states are carrying out environmental impact studies on the flora and fauna as well as on historical monuments. But the anti-Narmada activists claim this is highly irregular, and insist this was why the Ministry of Environment and Forestry and the Planning Commission withheld final clearance for eight years before finally giving the go-ahead "under pressure from the previous prime minister."

A project of the size of the Narmada Valley Development Project will invariably create various opinions, and all of them may not be favorable. But there is no doubt that the environmentalists are trying to make capital out of blocking

nance the atrocious amounts of undeclared fees raked in by movie stars, the highly photogenic Azmi is invariably photographed at environmental happenings looking dreamily ahead or with a sullen gaze fixed on Baba Amte or somebody. A Muslim and a woman, doubly powerful credentials, Azmi is obviously surveying the political field, looking for an opendoor.

Of course, there are also the professional environmentalists who have become extremely active writing books, planting stories through their journalist friends, and frequently traveling to one or another Western mecca for re-charging. One such professional is Ramesh Billorey. Billorey has learned the art of telling big lies, as opposed to stringing together a lot of small lies, to shock people into a state of numbness. It is a perfected tactic and works very well where 70%, if not more, do not have any idea what Billorey is talking about.

In his book, *Damning the Narmada*, Billorey, concerned about the wildlife because of the submergence of certain areas, says: "Human beings can organize and disrupt even the construction of a dam. Animals, of course, cannot. Therefore, they are being left literally to the winds, to face a bewildering future or watery grave." Such hyperbole is characteristic of Billorey, a modern-day professional environmentalist. In this book he also threatens the human population that if the project is allowed to be built, the area may face a reservoir-induced earthquake causing devastation, waterlogging due to irrigation, and loss of fertile fields.

Then, there is Modha Patkar. A quintessential activist, slugging her rucksack and an armful of files, Patkar breathes fire and, often, pure hatred. She makes absolute statements like alleging that the Narmada Project "de-

stroys in the name of development." "The Narmada project is like a Mohammed bin-Tughlak experiment that is doomed to failure" (a reference to the mad king who shifted his capital from Delhi to Daulatabad in 1327, causing an enormous waste of human lives and draining the treasury).

Patkar says the Narmada project is doomed because of the high siltation in the rivers on account of a degraded watershed. The experts, however, do not quite agree with her logic. They point out that 30 major dams, 135 medium dams, and some 3,000 minor dams will do well to trap the silt before it comes to the NS or SS reservoirs. They maintain that these reservoirs have a minimum life of about 333 years.

Patkar, like fellow environmentalists, is careful not to attack the Ministry of Environment and Forestry where Mrs. Maneka Gandhi, a self-proclaimed environmentalist, rules the roost. Mrs. Gandhi's claim to fame as an environmentalist rests in part on the publicity she receives (as all active Nehru family members do) for taking care of Delhi's stray cats and dogs, and sometimes monkeys. She is aware of her dubious credentials, and confided to a journalist recently her belief that behind her back people call her minister of cats and dogs.

Maneka Gandhi is a good friend of the German Greenie "suprema," Petra Kelly. More than a solidarity of tough women, Gandhi and Kelly see eye to eye on the environment issue. Mrs. Gandhi was recently accused by an opposition politician of using her authority in a meeting with a West German minister to goad him to influence the World Bank to withdraw its grant to the Narmada project. She refuted the allegation claiming it was a private meeting.

it. Besides high-level lobbying and snaring in such luminaries as Baba Amte, a respected social worker, a number of movie stars trying to emulate Jane Fonda and Liz Taylor (see box), and some literary figures, the antis put up an impressive demonstration, complete with torchlight procession and tribal dances, last September in the tiny village of Harsud in Madhya Pradesh. A number of then-opposition politicians, including the present Minister for Environment and Forestry, Maneka Gandhi, were present to cheer them on. Since those politicians are now running the government, the hopes of the anti-Narmada activists are running high.

The project is also a victim of local politics. Since the longest stretch of the river is through Madhya Pradesh, the Madhya Pradesh state government expects maximum benefits to go to that state and not to Gujarat. However, one of the major purposes of the project is to bring water to the arid lands of Gujarat and Rajasthan as well as Madhya Pradesh.

So, predictably, Madhya Pradesh politicians, irrespective of political party, have begun to raise the war cry that the state's ecology will be destroyed for Gujarat's benefit. Gujarat, for obvious reasons, does not want the project to be reevaluated or altered even minimally.

At the moment, the environmentalists, with a silent nod from the Minister of Environment and Forestry, are trying to bring the Madhya Pradesh politicians into their fold to stop the project work. Some amount of pressure has been exerted on the World Bank to reconsider the \$450 million financial assistance to the project that has already been approved, including airing of the issue in the U.S. Congress and a recent seminar on the Narmada Project in Washington reportedly organized by a Japanese non-governmental organization. The bank, however, recently restated its conviction that the project is both viable and essential, and announced there would be no suspension of funding.