

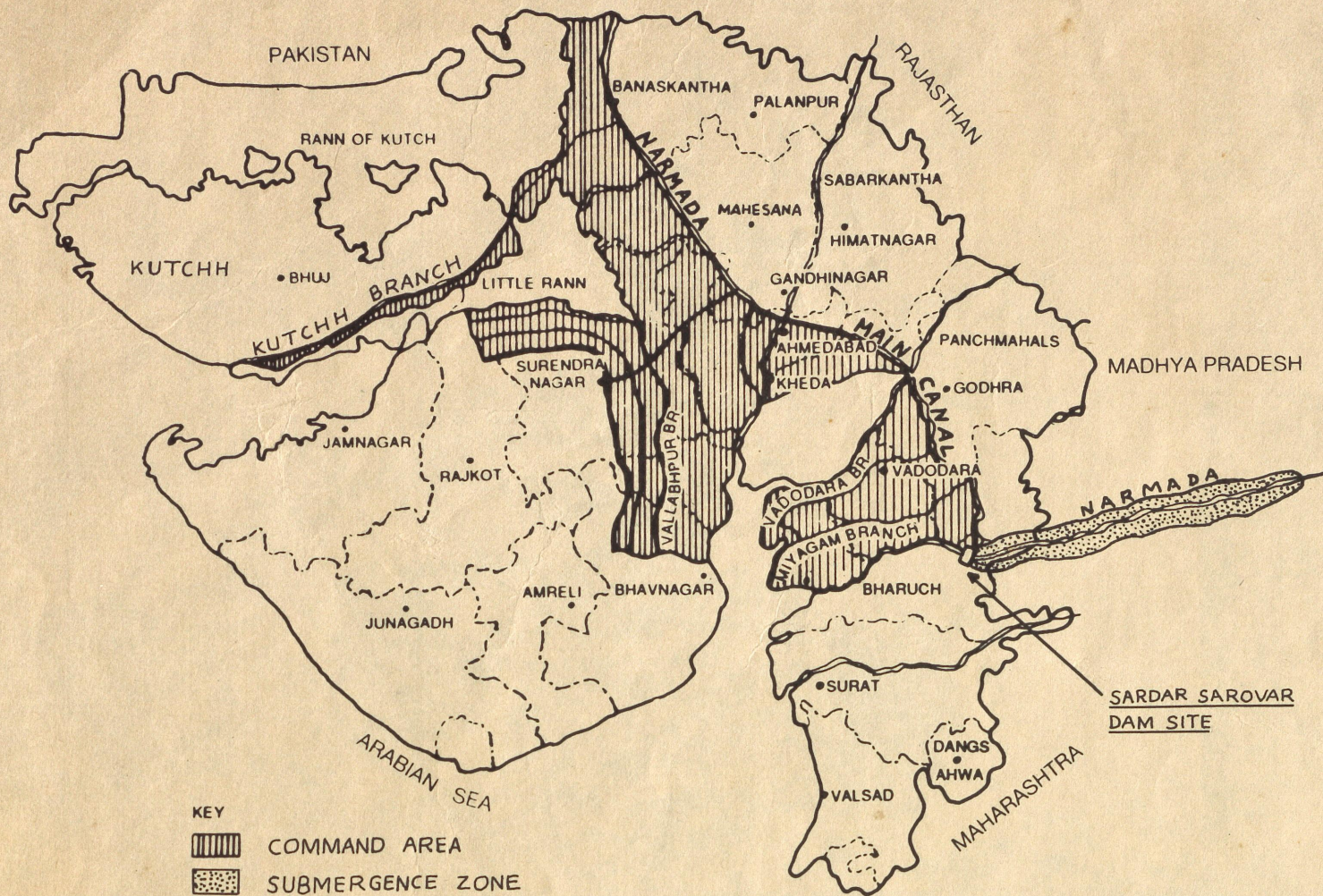
SARDAR SAROVAR PROJECT

An Economic, Environmental and Human Disaster



Narmada Bachao Andolan

SARDAR SAROVAR AND ITS COMMAND AREA



WHY THIS BOOKLET HAS COME TO YOU

The Sardar Sarovar Project (SSP) which is under construction on the Narmada in Gujarat is the biggest and most expensive project ever to be undertaken in this country. According to official estimates, this single mega-project will cost as much as the total outlay on all major and medium irrigation projects of the Centre and all the States during the entire Seventh Plan Period.

The project will not only be an enormous drain on Gujarat's financial resources, but also involves human displacement and environmental destruction on an equally massive scale. If the destruction to be caused by SSP is considered together with that of the proposed Narmada Sagar Project (NSP) in Madhya Pradesh — since the two projects are closely linked: 17 % of the benefits of SSP are dependent on regulated releases of water from NSP — the combined loss due to submergence, based on official figures, is a staggering 54,106 hectares of forests, 55,681 hectares of cultivable land, and the displacement of 502 villages with a population of 2,30,000 people !

The Government of Gujarat has sought to justify this enormous human and environmental destruction by claiming that the Sardar Sarovar Project will “permanently solve the water problem of the drought-prone and arid areas of Kutchh, Saurashtra and North Gujarat.” As we shall see, such a claim is utterly false : of the 52 talukas in Gujarat classified as drought-prone or arid, as many as two-thirds will receive no irrigation benefits from the project. Similarly, as regards drinking water, of the 12,250 villages in Gujarat officially designated as “waterless” villages, only 4,720 villages are to get drinking water from SSP — and these are not necessarily among the “waterless” villages. Clearly, the touting of this project as “Gujarat's life-line” and its “only hope” is intended to mislead the people of Gujarat and to conceal from them the truth about this project.

It is astonishing that a project of this magnitude was officially cleared for investment, and construction work was allowed to begin, despite the fact that several critical studies and surveys essential for assessing the social and environmental costs of the project had not been completed — and remain incomplete even today. Without these studies, the viability of the project cannot to be said to have been established.

It is precisely for this reason that clearance for SSP and NSP was withheld by the Ministry of Environment and Forests as well as the Planning Commission for almost 8 years — until, in April 1987, the Chief Ministers of Gujarat, M.P. and Maharashtra met the Prime Minister and impressed upon him the political necessity of getting the projects cleared without further delay. Short-sighted political considerations thus prevailed, and projects that will prove to be financial, social and environmental disasters for their States were given the green signal.

It is extraordinary that physical and technical data pertaining to the projects and the financial estimates of costs and benefits have never been officially published. Vital planning decisions have been taken, and projects estimated to cost billions of rupees and affect the lives of millions of people have been cleared, without the Indian public being officially informed about either the costs or the benefits of these gigantic ventures.

Far from releasing vital information to the public, the Government of Gujarat has mounted a campaign of disinformation and misrepresentation in order to drum up support for SSP. Instead of encouraging informed discussion and debate, it has chosen to suppress criticism and indulge in villification of the critics; and instead of honestly facing the fundamental issues raised by those who oppose the project, it has used police force and even invoked the Official Secrets Act in an attempt to intimidate them into silence.

Nevertheless, public opposition to SSP and NSP is steadily mounting. In the forefront of the struggle are the tribals and small farmers of M.P., Maharashtra and Gujarat whose homes will be destroyed and whose lands will be submerged by the Sardar Sarovar Project, on which construction has already begun. As we shall see, it is now clear even to the World Bank that rehabilitation of all project-affected persons in accordance with

accepted principles and norms is going to be impossible. In addition, increasing numbers of social activists, human rights and civil liberties organisations, environmental groups, scientists, economists and public spirited individuals — including some of the most distinguished and eminent persons in this country — are coming to the conclusion that the two projects, as they stand today, are not justified. There is also the growing realisation that SSP will not only swallow up all money available for irrigation in Gujarat State, but will also make drastic inroads into other development funds, leaving no money for tackling the acute water crisis in large parts of the State.

A comprehensive re-appraisal of both projects, keeping in view all the issues and considerations that have been brought to light, is therefore urgently needed.

This small booklet is an attempt to place before you the true facts of the case; to answer some of the questions that are commonly put to critics of the project; and to debunk the myths propagated by those bent on pushing the project through at any cost.

THE CASE AGAINST SARDAR SAROVAR PROJECT

Loss due to Submergence:

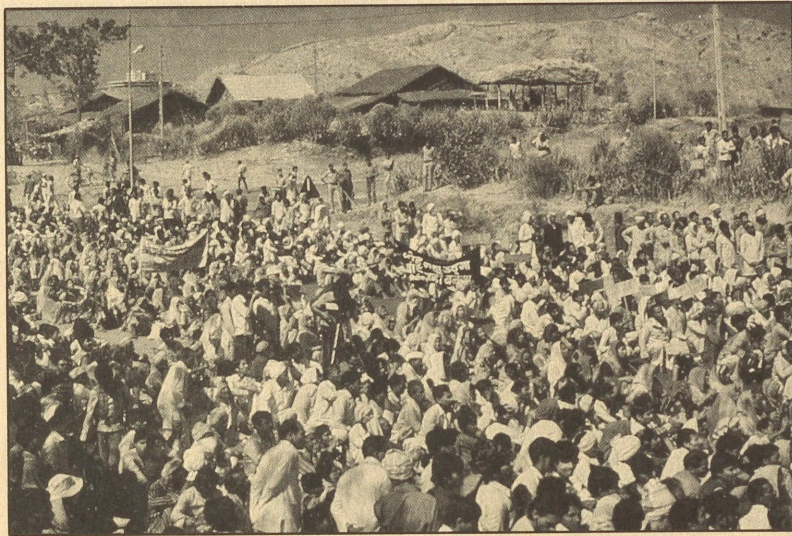
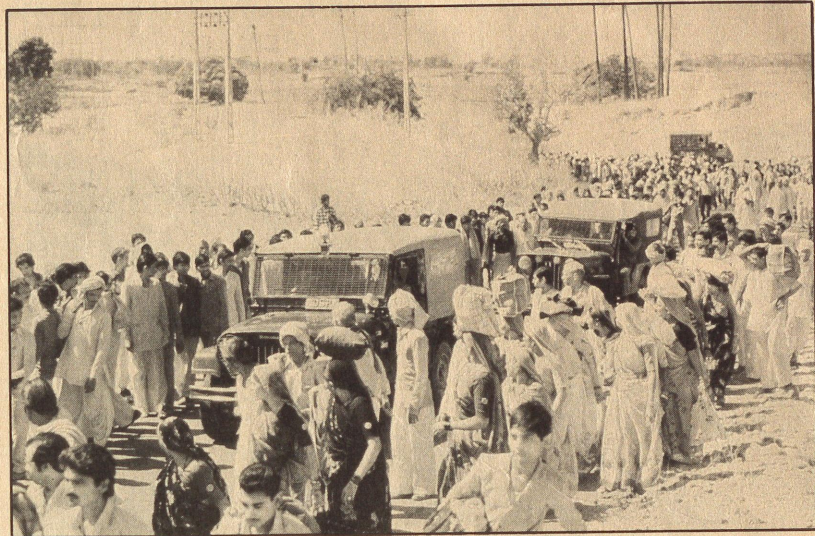
The SSP reservoir will submerge 248 villages — 193 in M.P., 19 in Gujarat, and 36 in Maharashtra — displacing over 1,00,000 people. Also to be lost due to submergence are 13,744 ha of forests and more than 11,318 ha of agricultural land, some of it among the most fertile in the world. But that is not all. SSP and NSP are closely linked, in as much as the latter has been designed as a storage dam for the former. 17 % of the benefits of SSP are thus dependent on releases of water from NSP. And the submergence loss due to NSP is going to be much greater : 40,332 ha of forest, 44,363 ha of fertile cultivable land, and 254 villages with a population (in 1981) of 1,30,000 people.

Forest loss of this magnitude is nothing less than suicidal at a time when the prime need is to safeguard all our remaining forests and substantially *increase* the area under forests. The concerned State governments are supposed to do compensatory afforestation, but there is a world of a difference between a natural forest and a man-made plantation: the latter can never “compensate” for the former, whether in terms of their role in regulating climate, in soil and water conservation, as a storehouse of biological diversity, or as a habitat for wildlife. Plans for compensatory afforestation in M.P., Maharashtra and Gujarat which were to have been submitted for the Central government’s approval by 30 November 1987 (as stipulated in the Ministry of Environment’s letter of 8 September 1987, sanctioning submergence of forest land for the project) are not yet ready. In any case, we all know how utterly dismal has been the survival rate of plantations in governmental afforestation programmes; why should we expect that the outcome in this case will be any better? And just as loss of forests cannot be meaningfully “compensated”, neither can the loss of prime agricultural land in prosperous areas such as Nimad district in M.P.

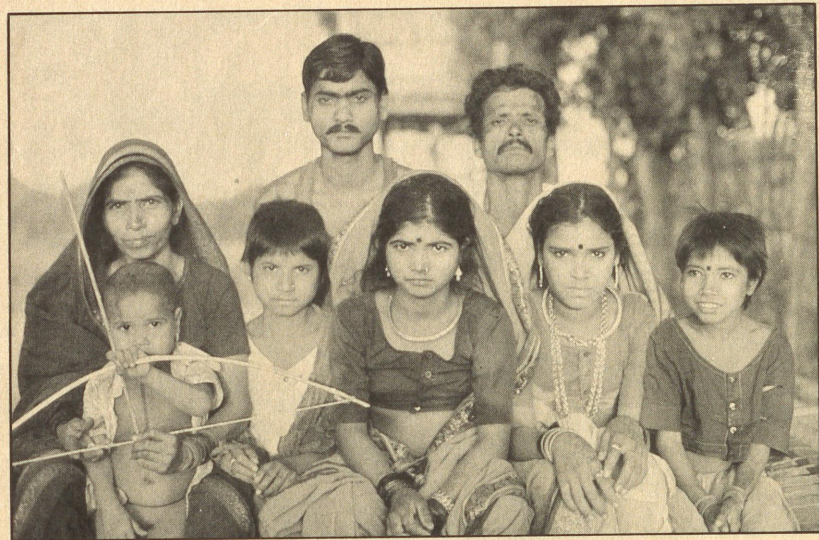
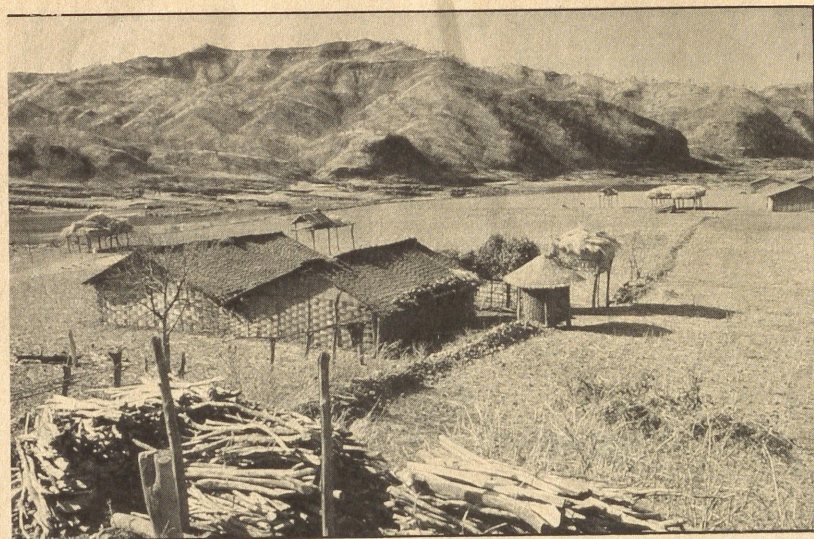
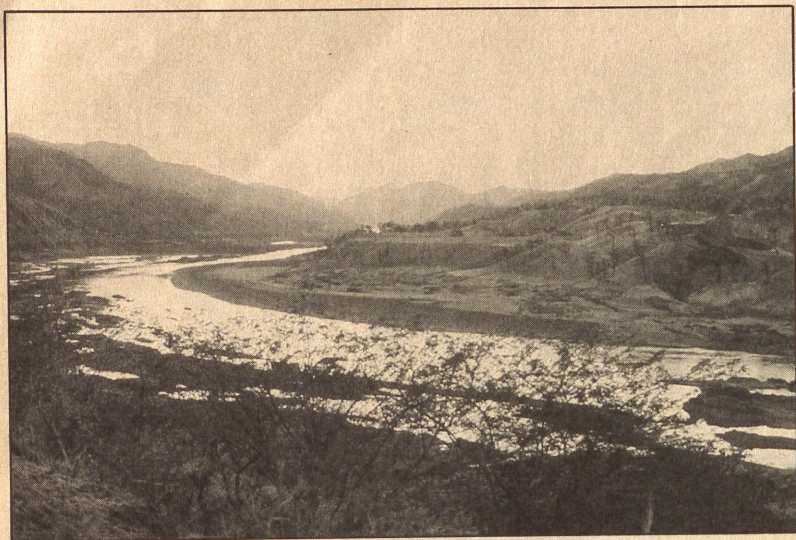
Apart from the loss through submergence, strong pressures are building up to get forest land released for resettling oustees. So far the Central government has been rejecting such proposals emanating from the State governments and the World Bank. But if no other land can be found for resettlement (see below), there is no guarantee that forest land will not eventually be released for this purpose also. If existing resettlement proposals/promises for both SSP and NSP involving release of forest land are added to the loss of forest due to submergence, the total forest loss on account of these two projects is between 1,50,000 to 2,00,000 ha.

The Tragedy of Resettlement and Rehabilitation:

A tragic fate awaits the 1,00,000 oustees of Sardar Sarovar Project. Under the terms of the Narmada Water Disputes Tribunal award and the World Bank loan agreement, the governments of Gujarat, M.P. and



Dharna at Kevadia on 22 February, 1989 : Women from the Nimad district of M.P. arriving for the dharna (top left); the police chief of Bharuch district arriving at Kevadia in his Jeep (top right); a section of the massive dharna (bottom left); lathi charge on women activists (bottom right).



A view from the dam site (top left); a village slated for submergence in the Manibeli-Kevadia section of Bhusha gorge (top right); dry deciduous forests slated for submergence (bottom left); a Powra tribal family from Bhusha in the submergence zone (bottom right).

Maharashtra are bound to formulate a comprehensive and comparable policy for resettlement and rehabilitation (R&R) of all project affected persons on a "land for land" basis. By now the three State governments are supposed to have produced not just a policy but a detailed action plan for R&R, clearly identifying the lands to be made available for resettlement, and showing where and how each village and each family is going to be resettled. The preparation of a Master Plan for R&R was also one of the major conditions laid down by the Ministry of Environment and Forests, Government of India, in its letter of 24 June 1987 granting "conditional approval" to SSP; and this condition was reiterated by the Planning Commission in its letter of 5 October 1988 while approving the project for investment.

Several deadlines for the submission of such policies and plans have come and gone, yet none of the State governments have been able to come up with anything remotely resembling a comprehensive resettlement plan. The situation continues to remain chaotic. Since the entire oustee population has still to be properly surveyed, there is confusion even regarding basic facts like the number of persons and the number of villages to be affected. The definition of 'project affected person' (PAP) is such as to exclude a significant number of those actually affected. Only those persons whose lands are going to be directly submerged by the reservoir are being considered PAPs. Thus, the Gujarat Government has refused PAP status even to the inhabitants of the 6 villages displaced as early as 1960-61 for building Kevadia colony, a luxurious office-cum-residential complex built near the dam site for housing the engineers and officials working on the project — on the ground that these villages have not actually come under submergence! Similarly, the surprisingly large number of people whose lands will not be actually submerged but will become islands, all those whose lands will be acquired to make way for the extensive canal network, migrant labourers and share-croppers who will be affected when the lands on which they work are acquired for project-related purposes, boatmen and fishermen who will lose their livelihoods after construction of the dam — all these continue to be excluded from the definition of PAPs, even though the oustee's organisations have been repeatedly bringing these things to the attention of the authorities for the past five years.

Gujarat has announced a policy and liberalised compensation norms. Maharashtra and M.P. — where a vast majority of the oustees are to be resettled — have also announced so-called 'policies', but these are nothing more than general statements of non-operationalised objectives, and which differ significantly from the policy announced by Gujarat. For example, the terms on which 'land for land' is to be given are very different in the three States. It is first of all necessary to note that as originally envisaged, land for land was not to be given to the oustees free of cost: the oustees were required to pay the difference between the price of their land to be lost through submergence, and the purchase price of the new land to be given to them. Under Gujarat's liberalised resettlement policy, the government has decided to pay this difference in price; while in M.P. and Maharashtra — where 90% of the oustees are to be resettled — the oustees will have to pay the difference themselves! Since the purchase price of new land is invariably several times higher than the price of the land lost through submergence, the oustees in the latter two States are thus being condemned to lifelong indebtedness.

All three governments have also failed to identify the land to be made available for resettlement. With no concrete plans for R&R in sight, the necessary financial commitments have also not been made. Inconclusive wrangling is going on in meetings of the Narmada Control Authority (NCA), the highest coordinating body for the project, as to who should bear the additional cost if the liberalised norms adopted by Gujarat are to be applied in M.P. and Maharashtra also. Where such confusion prevails even at the level of policies and plans, the situation confronting the oustees in actual practice may be readily imagined. The government's efforts to date to resettle the small number of people already displaced have come in for severe criticism in reports by the official monitoring agencies: the Center for Social Studies, Surat, for the Gujarat oustees, and Tata Institute of Social Sciences, Bombay, for the Maharashtra oustees.

Above all, the crux of the problem is that land for resettlement, estimated at not less than 50,000 ha at the very least, is simply not available. This has been admitted even by representatives of the Central government and the concerned State governments in recent NCA meetings (for instance, see the minutes of the meeting held on 3.6.1988). There is no non-forest cultivable land that is lying unutilised which can be given to the oustees. The Central government has so far refused to release forest land for resettlement purposes. The only remaining possibility is to resettle oustees on private irrigated land purchased for this purpose by the government

SALIENT FEATURES OF THE NARMADA PROJECT

NARMADA VALLEY DEVELOPMENT PROJECT

Number of dams: 30 major, 135 medium, 3,000 minor.

Major dams: 5 hydel, 6 multi-purpose, 19 irrigation, 10 on Narmada river, 20 on tributaries.

Cost: Over Rs. 30,000 crores (no official estimate available).

Benefits: Irrigation - 4.8 million ha.
Power - 2,700 MW Installed capacity.

Submergence: Over 6 lakh ha (no official estimate available), of which forests 3.5 lakh ha, culturable land 2 lakh ha.

Population displaced: Over 1 million people (no official estimate available).

SARDAR SAROVAR PROJECT

Location: Vadgam, district Bharuch, Gujarat.

Dam: Full Reservoir Level (FRL): 455 feet
Minimum Draw Down Level: 363 feet
Length: 3,970 feet
Type: Concrete gravity.
Gross Storage Capacity: 7.70 MAF
Dead Storage Capacity: 2.97 MAF
Live Storage Capacity: 4.73 MAF

Cost: Rs.6,406 crores (at 1986-87 prices), excluding environmental cost of forest submergence Rs.10,000 crores:

- Dam	936.18	crores
- Canal network	4,406.64	crores
- Hydro-electric installation	979.95	crores
- Proportionate cost of Narmada Sagar debitible to SSP	83.27	crores
	<hr/>	
	Rs. 6,406.04	crores

* Revised estimate for compressed construction schedule (July 1988): Rs. 11,154 crores.

Benefits: Irrigation - 18.87 lakh ha
Power - 1450 MW Installed capacity;
- 300 MW Firm power
Urban water supply, Flood control.

Canal system: Length of main canal 445 km; capacity 40,000 cusecs at its head, tapering down to 2,500 cusecs at Gujarat-Rajasthan border. 35 Branch canals; total distribution network about 75,000 km.

Submergence: 39,134 ha (forest land 13,744 ha; culturable land 11,318 ha).

Vilages affected: 245 villages -- 193 in M.P., 19 in Gujarat and 36 in Maharashtra.

Population displaced: Over 1 lakh people of whom 60 to 70% are scheduled castes/tribes.

Catchment area: 88,000 Sq.km (about 5% is in Gujarat, 93% in M.P., and 2% in Maharashtra).

NARMADA SAGAR PROJECT

Location: Punasa, district Khandwa, Madhya Pradesh.

Cost: Rs.6,000 crores (1987), excluding environmental cost of forest submergence: Rs.30,000 crores.

Benefits: Irrigation - 1.23 lakh ha
Power - 1,000 MW Installed capacity;
- 140-256 MW Firm power.

Submergence: 91,348 ha (forest land 40,332 ha; culturable land 44,363 ha)

Villages affected: 254 villages in Madhya Pradesh

Population displaced: 1,30,000 people (1981 census) of whom 65 to 70% are scheduled castes/tribes.

in the command area. But the price of such land is exorbitant; and it is only available as small, scattered plots rather than in substantial chunks, thus violating the condition that villages be resettled as a whole without breaking them up social unit. Moreover, this option is known to be politically unworkable. As the experience of Maharashtra and M.P. has clearly shown, legislation enacted in 1976 and 1985 respectively for the compulsory acquisition of land in the command area is doomed to remain on paper.

The World Bank's Reappraisal Mission visited India in April-May 1989. Its consultant on R&R was shocked to discover that little or no progress had been made on R&R, and that a number of issues raised by the oustees' organisations over the past five years have remained unresolved. Implementation of Government Resolutions on R&R was extremely poor, and there was a total lack of participatory structures for taking into account the wishes of the affected population. The Gujarat Government's practice of making the oustees themselves run around looking for land also came in for strong criticism. Finally, the World Bank consultant came to the obvious conclusion that resettlement in accordance with the principles laid down by the Bank and agreed to by the State governments is going to be impossible. Following the Report of the Re-appraisal Mission, the World Bank has given the State governments one more year to come up with acceptable policies and plans for R&R; and if they fail to do so by 30 June 1990, the Bank has threatened to cut off its credit to the Sardar Sarovar Project.

The harsh truth of the matter is that there is no satisfactory solution to the problem of resettlement and rehabilitation of oustees. In spite of this, if the project is allowed go ahead, there is no doubt that a large majority of the displaced population will be pauperised and reduced to destitution.

No Solution for Gujarat's Drought-prone Areas:

The Gujarat government's propaganda that SSP will "permanently solve the water problem in Kutchh, Saurashtra and North Gujarat" is patently false. A glance at the command area map of SSP shows that of the 6 districts of Saurashtra divided into 69 talukas, 3 districts (Jamnagar, Amreli and Junagadh) comprising 35 talukas will get no irrigation from SSP. In Rajkot district only 2 out of 13 talukas will get irrigation, and in Bhavnagar district only 5 out of 12 talukas will get irrigation. In only one district, i.e. Surendranagar, 6 out of 9 talukas will get irrigation benefits. Thus, as many as 56 out of a total of 69 talukas in Saurashtra — i.e. as much as 81% — will not get any irrigation benefits from SSP. Similarly, in Kutchh district, 5 out of 9 talukas will not get any irrigation.

Gujarat has 52 talukas classified as drought-prone or arid, of which as many as 30 — i.e. 58% — will get no irrigation from SSP. Of the total of 184 talukas in Gujarat, only 62 fall within the command area of SSP. Of these 62 beneficiary talukas, about two-thirds are neither drought-prone nor arid.

With regard to drinking water, as already mentioned earlier, about 12,250 villages in Gujarat are officially designated as "waterless" villages. However, only 4,720 village are to get drinking water from SSP — and these are not necessarily among the "waterless" villages. Clearly, the project will NOT solve the drinking water problem of Gujarat, for which other solutions will have to be found.

The benefits of the project go primarily to the central districts of Gujarat which are by and large already relatively well off in terms of water resources. 88% of the irrigation potential of SSP will go to just 7 districts (Ahmedabad, Baroda, Banaskantha, Surendranagar, Mehsana, Kheda, Gandhinagar), of which the lion's share — almost 69% — will go to just 4 districts (Ahmedabad, Baroda, Banaskantha, and Surendranagar). And this is the project being touted as "Gujarat's life-line" and its "only hope"!

Uncertain Benefits:

Project planning has been so perfunctory and has been rushed through with such haste that large question marks hang over several major aspects of the project. To begin with, the full benefits of SSP will not be realised unless NSP is built concurrently and on schedule. But NSP is nowhere near being ready for implementation, and may not be built as planned in view of the fact that its environmental and social cost are

prohibitively high.

Construction on SSP has already begun even though essential studies and surveys which could decisively affect the viability of the project have even now not been completed. For instance, the project assumes a water availability of 27 million Acre Feet (M.A.F.), but official measurements in the largest part of the catchment area falling in M.P. suggest that actual water availability is only 23 M.A.F. or less (study by Shri Anantharaman, Chief Engineer, and Member, Planning Board, Government of M.P.). Similarly, the siltation rate assumed by the project is only 1.58 hectare-metres per 100 sq.kms. But the Dewan Committee on soil erosion and compensatory afforestation in the catchment area stated in its 1985 Report that this had increased dangerously to 5 hectare-metres per 100 sq.kms, and warned that there was every danger of a drastic reduction in the life-span of the dam unless prompt and effective measures are taken to check erosion in the catchment area. Despite this, no action plan has yet been formulated to treat the entire catchment area of SSP, or even for the priority area covering barely 16 % of the catchment. By far the largest part of the catchment area of SSP falls in M.P. for which neither the Government of M.P. nor the Government of India are willing to take the responsibility.

If water availability turns out to be less than anticipated — as is virtually certain for all these reasons — the projected benefits will not materialise. And the worst hit areas in such an eventuality will be those at the tail end of the canal network — viz the few talukas of Kutchh, Saurashtra and North Gujarat that are included in the SSP command.

Despite the political pressures under which clearance for the project was obtained, the Ministry of Environment and Forests had made its clearance conditional upon carrying out 8 major studies, as stipulated in its letter of 24 June 1987: (i) Resettlement and Rehabilitation (R&R), (ii) Catchment Area Treatment, (iii) Command Area Development, (iv) Carrying capacity of the surrounding area, (v) Compensatory Afforestation, (vi) Seismicity, (vii) Flora and Fauna, and (viii) Health impact of the dam. To date, none of these studies have been completed, even though each deals with matters that could significantly affect the costs and benefits of the project. Indeed, certain major new studies are only now being initiated, such as the study entrusted to the M.S. University, Baroda, of the possibility of sea-ingress as a result of the dam which could render large tracts of land unproductive in Bharuch district. Similarly, fresh studies are being started to assess the impact on flora and fauna, since the original study was found to be worthless. It should be evident, therefore, that the economic and ecological viability of the project has not been established. Indeed, as late as 1987, the Ministry of Environment and Forests stated in its note to the Prime Minister that it did not consider SSP and NSP ready for clearance.

The Farce of Cost-Benefit Analysis:

If a valid cost-benefit analysis were to be done it becomes clear that the project scarcely makes economic sense. Its benefits have been over-estimated, several important costs have been under-estimated (since the studies on which a proper evaluation could be based do not exist), and other major costs have been left out altogether. To give just one example, the value of crop production is projected to increase because of the project by more than 6 times — an increase not achieved even in Punjab. Similarly, the harm that will be caused by this project has been shown to be negligible. For instance, the value of forest land to be submerged has been taken at a ridiculously low Rs.15 to Rs.55 per hectare per year for just 50 years! Even a single plank of wood or a few bundles of grass today cost more than that. In contrast, the Ministry of Environment and Forest's estimate of the environmental cost of loss of forests is about Rs.8,190 crores for SSP, and a colossal Rs.30,000 crores for NSP!

Gross manipulation and outright jugglery of figures have been resorted to in order to keep the benefit-cost ratio above 1.5 as required by the Planning Commission (i.e. for a project to be approved, it must generate benefits of Rs.1.5 for every rupee spent on it). To give just one example of the sort of farce that has been going on in the name of cost-benefit analysis, consider what was done in the case of NSP. When the Ministry of Environment and Forests came out with its estimate of the environmental cost of loss of forest, the project authorities simply invented new benefits to match this cost increase. They decided to include under benefits a staggering Rs.17,000 crores representing the "savings" on account of Fuel and Operation/Maintenance

Charges of hydel as compared to thermal projects. In other words, since a hydel plant is cheaper than a thermal plant, the "savings" achieved by NOT building a hypothetical thermal plant have been added to the "benefits" of the project!

The World Bank's Economic Appraisal of February 1985 is sobering. It found that if the total benefits expected from the project were to fall short by just 13%, the net benefits of the project would fall to zero, making the project worthless in economic terms. Similarly, if there is a base-cost escalation (over and above inflation) of only 15%, the net benefits from the project would fall to zero. And likewise, if there is a construction delay of about 4 to 5 years over the original 17 year construction schedule, net benefits would be reduced to zero. Today construction of the dam is already 4 years behind schedule as stated in the June 1989 Report of the World Bank's Reappraisal Mission. Major new costs continue to crop up that were not even conceived of earlier. The cost of the project was placed at Rs.4,240 crores in 1983, which increased to Rs.6,404 crores in 1986, and further to Rs.13,500 crores according to a public statement by the Chief minister of Gujarat in January 1988. And Government of India officials are already admitting in private that the cost will eventually be in the region of Rs.20,000 crores! Whichever way one looks at it, the project as it stands today obviously appears to be unviable.

None of this should really come as a surprise. The Prime Minister himself has been repeatedly stating that large dams built since independence have not produced the expected benefits. In a meeting of Chief Ministers in July 1986, the P.M. revealed that of the 246 major irrigation projects undertaken since 1951, only 65 have so far been completed. Not a single project was completed on schedule, and 32 projects showed a cost escalation of more than 500%. Addressing a conference of State irrigation ministers in July 1987, the Prime Minister again expressed his unhappiness over the high costs, the very long gestation periods and the poor returns from big irrigation projects. He said: "For 16 years we have poured money out. The people have got nothing back, no irrigation, no water, no increase in production, no help in their daily life" Even the Planning Commission has acknowledged that large dams have become a drain on the economy, and has recommended that no new projects should be initiated before the incomplete projects have been brought to completion and existing capacities are fully utilised.

Financial and Economic Disaster:

The enormity of the financial implications of SSP can be gauged from the fact that the official cost estimate of this one project is as much as the total outlay on major and medium irrigation projects of the Centre and all the states in the entire Seventh Plan period! To find money for the project — over and above the Rs.700 crore World Bank credit (which still hinges on the fulfilment of several conditions) and the Rs.150 crore credit from Japan for the purchase of specific equipment — the Sardar Sarovar Narmada Nigam has grandiose plans to raise Rs.2,500 crores between 1990-2000 from the open market in fixed deposits and bonds. The interest payment on this borrowing will come to Rs.1,650 crores during this period. Since it is clearly beyond the ability of the Nigam to service this huge debt, at least a part of this burden will have to be borne by the Government of Gujarat. In addition, the Government of Gujarat will still have to raise for this project a further Rs.600 crores every year for the next 10 years!

The absurdity of this situation becomes obvious when we consider that Gujarat has been coming up with larger and larger budgetary deficits for the last few years, that its annual plan allocation for major and medium irrigation projects has averaged only Rs.294 crores over the Seventh Plan period, and it is now going to have to find twice that amount every year for this one project exclusively! The only way so much money can be made available for the project is by axing all irrigation schemes and putting a severe squeeze on other developmental outlays in the State, which will hit the poor the hardest. Alternatively, if it becomes impossible to find the money, the project will be left incomplete; the full development of the canal network will not be undertaken and the plans for environmental protection and compensatory afforestation which have a direct impact on the estimated benefits will not be carried out — which means that the projected benefits, especially for Kutchh, Saurashtra and North Gujarat, will never be realised.

Politics of the Project:

SSP and NSP were cleared under political pressure, despite the fact that neither the Ministry of Environment and Forests nor the Planning Commission had been satisfied as to the soundness of the project and both were in favour of withholding clearance. The "conditional" approvals given to these project are meaningless, since the conditions pertain to important and irreversible consequences of the project which should properly be assessed *prior to* granting clearance, in order to establish the justification of the project in the first place.

Clearly, we are up against powerful and deeply entrenched political, bureaucratic and commercial interests. As we all know, these mega-projects involving huge sums of money and international contracts for know-how and equipment offer an ideal field of operation for these vested interests. The various cuts, kick-backs, 'perks', spinoffs, political mileage and opportunities for patronage they bring to our politicians, bureaucrats and businessmen are often the decisive inducement for their implementation. It is these vested interest, with the support of the rich farmer lobby, which really stand to gain from this project, not the poor and needy people of Gujarat who have never been told the truth about the project. As experience shows, most of the benefits of irrigation will go to the relatively rich farmers; the small and marginal farmers will not only not gain much but will in fact become further dependent on dominant elements in the village which have the power to release or withhold water.

At another, deeper level, what we are also up against is the prevailing model of development and its accompanying 'bigger is better' ideology and consumerist value system, for which these mega-projects are the "modern temples of progress". It is asserted that development is not possible without such projects, and therefore we have to accept the human and environmental costs they entail! But this is simply untrue. There is a growing realisation that the present capital and resource intensive approach has not brought balanced and all-round development. It has only succeeded in creating islands of affluence amidst the large surrounding ocean of poverty and deprivation; and it is rapidly destroying our natural resource base and life-support systems on which depends our very survival as a nation. The so-called 'development' it produces is socially unjust and ecologically unsustainable.

Our opposition to SSP, based on facts and experiences, is a part of the growing movement against the tide of destructive development that is engulfing the country. Our struggle is based on the conviction that just, humane, participatory and sustainable development is possible, and is the crying need of the hour.

IS THERE AN ALTERNATIVE ?

It has been pointed out that human displacement as well as forest loss due to submergence can be greatly reduced by lowering the height of the dam. Several official proposals for a smaller dam already exist, entailing no significant loss of irrigation benefits (power generation, however, may have to be sacrificed).

However, by now the whole justification of the of the project has been called into question, and ad hoc compromise solutions are no longer enough. The possibility of lowering the height of the dam can only be considered as part of a total reappraisal of the project including a fresh cost-benefit analysis, taking an integrated view of the Narmada river basin and keeping in mind all the developmental alternatives that are available.

Such alternatives already exist. In any case, as we have seen, giant multipurpose dams like SSP do not offer a solution to the acute water problem of our drought-prone, semi-arid and arid areas. As critics like B.B. Vohra have forcefully demonstrated, the cost per hectare of providing irrigation through large projects has gone up sharply, and smaller alternatives, which cause none of the human problems and environmental destruction associated with large dams, are now more cost effective. What the country's dryland areas really need is thus an altogether different approach consisting of:

* Restoration of the tree and grass cover of the land, and soil and water conservation measures, so as

to eliminate surface runoff and enhance groundwater recharge;

- * Intensive development of small watersheds with widespread use of small-scale water harvesting and storage systems such as check dams, tanks and farm ponds;
- * Switchover to cropping patterns and agricultural / irrigation practices more appropriate to dryland conditions;
- * Greater emphasis on ecologically appropriate forms of development based on animal husbandry and forestry which are less water-intensive and more profitable than agriculture under dryland conditions;
- * Development of renewable energy resources appropriate to local conditions;
- * Development of small-scale, agro-based industries in rural areas;
- * Maximising the efficiency of utilisation of groundwater and surface water resources, so as to ensure the fullest possible use of limited quantities of water;
- * Recourse to dams, of the smallest size necessary, only to meet any deficit remaining after fully implementing the above measures.

With this approach it is possible to meet all reasonable water requirements, with no human and environmental costs, even in our chronically drought-prone and semi-arid areas. The amazing results that are possible have been demonstrated in village-level experiments in several parts of the country, e.g. Adgaon and Ralegan Shindi in Maharashtra, Sukhomajri near Chandigarh, and the Pani Panchayat experiment in water sharing in a group of villages near Pune.

For example, in Ralegan Shindi, rainfall is highly erratic and varies between a mere 200 mm and 800 mm, with an average of 574 mm. Before the watershed development programme was initiated just a few years ago, the village faced acute drinking water shortage, yields of jowar and bajra were low, and more than half the food requirement of the village had to be purchased from outside. After the watershed programme, drinking water shortage has been totally eliminated, irrigated area (in terms of limited water application) increased 12 fold, the cropped area as well as yields have more than doubled, and the village is now a net exporter of grain. All this has been achieved without using exogenous water from any large system.

However, it is possible to achieve such spectacular results only if there is decentralised management with the full involvement and participation of the people. Equity and social justice are thus built into this approach. The trouble, of course, is that the existing power structure in our society does not want full democratic participation at the grassroots. Nor is there any room for genuine people's participation in our top-down, bureaucratic approach to the planning and implementation of developmental programmes. Even the education of our planners, engineers and technical personnel excludes these simple yet highly useful technologies and approaches.

This is the challenge that confronts us today.

AN APPEAL

Despite the propaganda and disinformation being spread about the Sardar Sarovar Project, the movement against it is gaining in strength. The struggle will succeed because it stands for sanity, justice and the true public interest as against the vested interests of politicians and bureaucrats. But immensely powerful forces are ranged behind the project. If the colossal human and environmental tragedy it threatens is to be averted, the movement needs your support, in whatever from you can give it.

The struggle requires funds. Our efforts are entirely dependent on small contributions and spontaneous offers of help from individuals and small groups who share our concerns. Donations in cash or kind are most welcome, and may sent to : (i) Narmada Dharangrast Samiti, C/o P.O. Box 52, Dhule 424 007, Maharashtra; or (ii) "Prakruti", Kayjay Engineers, 123 M.G. Road, Bombay 400 023. *Only donations to "Prakruti" enjoy tax exemption.*

If you can help the movement in any way, or would like further information, please contact :

Medha Patkar
C/o Narmada Ghati Navnirman Samiti,
58, M.G. Road,
Badwani, Madhya Pradesh 451 551.

OR

Girishbhai Patel
Lok Adhikar Sangh
M 4/70/539, Shastri Nagar,
Opp. Pragati Nagar,
Ahmedabad 380 013.

OR

Narmada Bachao Andolan
A/51, Ocean Gold Apartments,
Twin Tower Lane, Prabhadevi,
Bombay 400 025.

WHO ARE WE ?

The Narmada Bachao Andolan (see address above) is an informal network of individuals and groups who are convinced about the destructiveness of the Narmada Project and have come together to oppose it. Its constituents have come together to achieve better coordination of the struggles being waged against the Project by numerous organisations and individuals in several towns and cities. The Andolan has no office bearers and no formal membership: you can join it by offering your help in whatever form you can give it.

