

# Sardar Sarovar Project: The War of Attrition

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The Sardar Sarovar Dam reached a height of 121.92 m in 2006 and at this height the dam has enough water to generate most of the promised benefits – irrigation, drinking water, and electricity. However, currently only 30% of the targeted villages receive regular water supplies, less than 20% of the canal network has been constructed and power generation remains well below the generation capacity reached. Even as the dam construction nears completion, rehabilitation of several thousand families is poor or incomplete. This, for a project that has had clearly laid out legal mandates to alleviate human and environmental costs, and has been under continuous public scrutiny and Supreme Court monitoring. The performance of this project does not seem very different from other Indian major irrigation and power projects: while main civil works somehow get completed, infrastructure and efforts necessary to realise benefits of the projects remain incomplete. The experience of people displaced by the Sardar Sarovar Project is fairly consistent with the experiences of millions displaced by other projects across the country, wherein the State uses the colonial Land Acquisition Act to dispossess people from their homes, lands and livelihoods, and consistently refuses to create just resettlement and rehabilitation entitlements and accountability frameworks to enable restoration of their livelihoods and their dignity. Instead, it promotes cash compensation (often aggressively and violently) to make people give up their homes, villages, land and other natural resources.

The Tata Institute of Social Sciences published a report “Performance and Development Effectiveness of the Sardar Sarovar Project” in August 2008 (see [www.tiss.edu](http://www.tiss.edu) for the report). This article presents the main findings of the report, adding the latest statistics.

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## 1 Introduction

The Narmada is the fifth longest river in south Asia and the longest in central India. It is also the longest Indian river flowing westwards. Rising near Amarkantak in the Shahdol district of Madhya Pradesh (MP) at an elevation of 2,700 feet, it travels more than 965 km to form a natural 35 km border between MP and Maharashtra and a 40 km long natural border between Maharashtra and Gujarat. The river then flows for about 160 km through Gujarat and enters the Gulf of Khambhat (Cambay), and drains into the Arabian Sea.

First proposed in 1946, the Sardar Sarovar Project (SSP) became a part of the Narmada Valley Development Project (NVDP) planned on the Narmada river. The NVDP comprises 30 large dams (of which the SSP is the largest), 135 medium dams and 3,000 small dams.

In 1969, the government of India (GOI) constituted the Narmada Water Disputes Tribunal (NWDT) to resolve the interstate conflict with regard to sharing water for irrigation and power between four states (Gujarat, Maharashtra, MP and Rajasthan). The Tribunal was ambitious in its vision of the dam; and fixed the SSP dam wall height at 138.68 m (or 455 ft). When the final construction phase of installing radial gates is completed, the dam will stand at the final height of 138.68 m (full reservoir level or FRL). In a 100-year flood scenario, the dam height will be 141.21 m (maximum water level or MWL), when the dam's reservoir is full with a flowing water column over the dam wall. At FRL, the reservoir will submerge 37,000 ha land in 245 villages in Gujarat, Maharashtra and MP, with 193 villages in MP alone.

Till 2007, the project authorities (PA) did not have accurate back water level (BWL) estimates at FRL; since they did not include the flooding in the upstream tributaries of the Narmada river in the submergence zone. On 3 May 2007,<sup>1</sup> the Narmada Control Authority (NCA) had decided to carry out back water studies afresh. The final dam plans drawn by the PA accounted only for FRL (138.6 m)<sup>2</sup> for calculating the area submerged.

An area of 13,386 ha of forest land was diverted by the Ministry of Environment and Forests (MOEF) for the SSP, of which 4,165.91 ha is in Gujarat, 2,731 ha is in MP and 6,488.54 ha is in Maharashtra. The number of trees clear felled in just nine out of 33 submergence villages in Maharashtra was 5,72,000 (information obtained under the Right to Information (RTI)).

The catchment area lies upstream of the dam and includes the area over which water drains into the river and the reservoir basin. The catchment area needed to be treated (CAT) before submergence to prevent siltation and erosion as that would shorten the life of the dam, lower the quality of water and

damage turbines and other machinery used for power generation. The total catchment area was 2.4 million ha, including free draining catchment.<sup>3</sup>

The SSP has two power houses – a 1,200 MW River Bed Power House (RBPH – 6 × 200 MW) and a 250 MW Canal Head Power House (CHPH – 5 × 50 MW). The total installed capacity is 1,450 MW. Of the total power generated, Gujarat would be allocated 16%, with the rest being split between Maharashtra (27%) and MP (57%). This higher allocation of power benefit to Maharashtra and MP was to compensate for their loss of large tracks of land and forest due to submergence and since Gujarat was to get the most of the irrigation benefits of the dam (Cullet 2007: 06).

The command area is 3.43 million ha in Gujarat (of which 1.869 million ha is cultivable) and in Rajasthan it is 0.135 million ha (of which 0.075 million ha is cultivable). The SSP's canal network is supposed to be the largest in the world (estimated to be 90,389 km), located in Gujarat. The mammoth distribution network itself would take a significant land toll – estimates vary from 80,000 ha to 1,80,000 ha of land.

## 2 Tallying the Balance Sheet

The dam construction began in 1987, and by 1995 reached a height of 80.3 m. From 1991 onwards the project was contested in the courts for violation of legal mandates governing relief and rehabilitation (R&R) and environment measures. In 1995, recognising the validity of these pleas, the MP assembly and the Supreme Court (SC) of India stayed the construction of the dam wall. In 2000, a majority verdict in a split judgment allowed the construction of the dam to its full height.

Once work resumed on 31 October 2000 the dam wall rose rapidly. The NCA permitted a rise in dam height from 90 m to 95 m on 17 May 2002 and a further rise to 100 m on 14 May 2003. On 13 March 2004, the NCA permitted yet another rise in the dam height to 110.64 m and finally to 121.92 m on 10 March 2006.

A number of assumptions were made during the planning phase about the way the SSP would function. One was that the construction of the distribution network would be independent of dam building in order “to minimise the time-lag between creation of water storage and readiness of the conveyance system – without which water cannot be put to use”. With these assumptions and the dam height at 121.92 m, much of the irrigation, water supply and power benefits can be realised.

As per figures reported in Gujarat's Socio-Economic Surveys, between 2003 and 2005, when the dam height rose to 110.64 m the maximum utilisation of irrigation remained at around 25,000 ha of the 1.86 million ha of irrigation potential. After 2005 it suddenly increased to 1.08 lakh ha. By 31 December 2005, the actual irrigation utilisation sank from 1.08 lakh ha in June 2005 to 97,000 ha. The government of Gujarat (GOG 2008: 40) reports that by June 2006, it rose again to 1.53 lakh ha and remained stagnant till 2007.

Between 2001 and 2006, water flowing through the canals was not adequately regulated because of the lagging Command Area Development (CAD) work. The increasing volume of reservoir water was used for unplanned purposes, for example allowing water into rivers or lakes in an ad hoc fashion. In August 2002,

when water flowing down the canals was diverted to the Sabarmati and Chandola lakes, eight children belonging to a slum dwelling community died.<sup>4</sup>

As predicated,<sup>5</sup> the CAD continued to lag well behind the dam wall construction and even after water started flowing down the canals. The permission to raise the dam height to 100 m before monsoon was given in early 2003. Only after this, in September 2003, the thought of setting up a separate Narmada Command Area Development Authority to implement CAD was initiated.

At this point, only 5% of the massive canal network of 90,389 km was ready (*Times of India* 2003). Construction of sub-minors and field channels had not yet begun. The Comptroller and Auditor General (CAG 2008: 108) corroborates that the Sardar Sarovar Narmada Nigam Ltd (SSNNL) had initiated field surveys for CAD in November 2003 and it was stipulated that the first phase of command would be fully developed by January 2009. Command area ecological concerns were not being addressed adequately and reported “as per agenda notes of NCA's environment subgroups meeting held on 26 December 2003, the proposal for the first phase of the command area was yet to be sanctioned” (Upadhyaya 2004: 1881). The CAG (2008: 108) reports that till July 2004 “SSNNL had undertaken little work on CAD besides field surveys”. Even by the 42nd meeting of the NCA's environment subgroup in 2005, there was no progress reported on CAD (Ahluwalia 2006: 67). As per the interim report (13 February 2009) of the MOEF-constituted experts committee to scrutinise the environmental compliance, the ecological concerns of the command area have not been addressed adequately.

In 1993, the authorities added a new benefit component to the dam – drinking water – using this as a critical reason to raise the dam wall; even as the cost-benefit balance sheet weighed heavily against the viability of the original plan. As GOG's support of dam construction intensified in the early 1990s, its estimates of villages that would benefit from the drinking water component kept rising. In December 1990, it was 7,235 villages; in 1991 it rose to 8,215 villages and 135 urban centres. Even though the plan for this component was proposed in 1987, no further action was taken till successive years of drought made it an emotively powerful issue. There were no real cost estimates for the drinking water component and its costs kept rising. The capital cost of the Sardar Sarovar-based bulk water transmission project was estimated to be Rs 7,470 crore at 2001 prices (Hirway and Goswami 2006: 03). The operation and maintenance cost alone was estimated in the range of Rs 511.86 crore annually at 2002 prices.

The task of conveying water for “municipal and industrial” use from canal delivery points to the distribution areas at the scale promised was stupendous. It required detailed planning to lay an integrated water supply pipeline grid, requiring the remodelling of existing urban and other infrastructure (Patel 1988: xxviii). This pipeline grid was estimated to take at least eight years to complete; accruing *after* the construction of the entire canal network was completed. Through the decade of the 1990s while successive governments kept on using the “drinking

water from Narmada” as an emotive appeal to justify the dam, the pipeline project kept getting proposed and scrapped with the change of political regime. It was only in April 1999, that the GOG approved the Sardar Sarovar-based bulk water transmission project.

Each time the dam height raise was permitted, it had to be accompanied by adequate measures to realise benefits and mitigate costs. This was not the case. Instead, financial, human and environmental costs have critically escalated and adequate attention was not paid to ensure the benefit delivery.

The current status of benefits realised and costs incurred are as follows:

**Irrigation Benefits:** The maximum irrigation utilisation has stagnated at 1.53 lakh ha in Gujarat (as per the Socio-Economic Review for Gujarat, 2007-08), as against the projected 17.92 lakh ha. In Rajasthan, the irrigation potential of 73,000 ha has not been realised at all. Non-realisation of irrigation benefits is due to delays in the creation of canal networks. The Gujarat government stated that 19,836 kms (26%) of canal network was completed as on 15 August 2009 (*Times of India* 2009, reporting a reply to an RTI request filed by Gordhan Zadafia). The total expenditure incurred up to April 2008 on Main Canal (Unit II) and Branches and Distribution System (Unit IV) stood at Rs 17,204.05 crore (NCA 2008:03).

**Drinking Water Benefits:** The performance of drinking water supply from the SSP in the districts surveyed in Gujarat has remained at 29-33% of the actual potential. This is partly because much of the drinking water has been diverted for power plants and industrial use, thereby decreasing the availability for domestic use. The CAG (2007: 19) reports that excess allocation was made for industries in Kutch district: “the management/government stated (July 2006) that SSNNL had increased (May 2006) the allocation for industrial water from 0.20 MAF (674 million litres per day or MLD) to 1.00 MAF (3,369 MLD)”. This also meant that the allocation for domestic use was reduced to 0.06 million acre feet (MAF) from the original allocation of 0.86 MAF.

**Power Benefits:** The actual realisation of power generation at 3,601 million units (MU) in 2006-07 and 4,435 MU in 2007-08 has not been consistent with the dam height achieved at 121.92 m. This was due to delay in the commissioning of the river bed powerhouse and also in installing the power turbine generators. Only 550 MU surplus power was attributable to the increase of the dam height from 110.64 m to 121.92 m; rather than the 1,500-1,700 MU of surplus claimed to justify the dam wall raise. Power generation has been one of the main arguments for increasing the dam height in the SSP. Indeed, even though the installed capacity of the SSP is 1,450 MW, it has been estimated that actual power generation will only be 425 MW in the early stages of the project, diminishing to 50 MW by the time all the water allotted for Gujarat is used for irrigation. The NCA (2008: 03) reports that expenditure incurred up to April 2008 on the hydropower component stood at Rs 3,490.64 crore.

**Financial Costs:** According to the report of the Working Group on Water Resources for the Eleventh Five-Year Plan, the total cost of the SSP would be Rs 45,673.86 crore. The cumulative expenditure incurred so far on the project<sup>6</sup> (as on 30 April 2008) as per NCA’s latest status report is Rs 26,048.44 crore. The CAG (2002: 52) stated that “the SSNNL had incurred cumulative expenditure of Rs 10,978.63 crore as on March 31, 2001, of which expenditure of Rs 2,413.98 crore (22%) was towards interest charges and servicing debt liability” indicting SSNNL for indiscriminate market borrowings. In the period 2001-06, Rs 5,586.02 crore, i.e., almost 53% of the expenditure incurred, was related to debt repayment by the SSNNL.<sup>7</sup>

**Human Costs:** In 1979, the NWDT Award (NWDTA) estimated that 6,417 families would be affected by submergence. In 1986, the department of environment and forests put the total number affected at about 13,335 families. In 1994, the five member group (FMG) gave a figure of 40,245 families. In 2000, the SC acknowledged a figure of 40,287 families and in 2006, in an affidavit to the SC by the Union of India, the number of affected families was put at 43,000. Many categories of displaced and R&R sites have been arbitrarily excluded from enumeration right from the beginning of the project. The NWDTA at the very start excluded cultivators on state-owned forest and wasteland. It also excluded families displaced in the state of Gujarat (due to creation of project town and infrastructure). Unique categories such as Tapu (islanded) villages were not considered for most part. When included, they were only allotted house plots (without agricultural lands). In the differential enumeration policies between states, widows with asset ownership were differently entitled. While those in Gujarat were excluded, those in Maharashtra were included for allotments of R&R entitlements. In 2002, an arbitrary distinction was introduced by the government of MP (GOMP) between temporary and permanent project-affected families (PAFs); excluding those PAFs whose villages were submerged temporarily every year, from being allotted R&R entitlements, which the SC ruled as illegal in 2005.

Finally, the PA interpreted the final dam height to be the lower FRL height rather than the MWL height in the formulation of all its plans. By doing this, it excluded all the PAFs whose villages would be submerged between the FRL and MWL dam height. It also excluded those PAFs whose villages will be submerged by the afflux of BWL at the higher MWL dam. The number of these PAFs is estimated to be around 10,000. Not only have they not been included for R&R entitlements, but they were still uninformed about the submergence of their villages at MWL.

Thus, the cumulative number of families that are yet to be rehabilitated at the present height of 121.92 m and those to be affected if the height is increased to FRL, i.e., 138.68 m, is approximately 40,000 in MP, Maharashtra and Gujarat. Of those who have been rehabilitated, in a large number of cases the state governments have not complied with the binding rehabilitation norms of the SC and the NWDTA of providing the project displaced with cultivable and irrigable land, and alternative house plots with civic amenities in rehabilitation villages

(read the section on R&R mandates below along with Tables 1 and 2 in Annexure 1, p 48).

**Environmental Costs:** The CAT has not taken off leading to soil erosion and siltation in the reservoir, both contributing to the degradation of water quality and implications to lifespan of the reservoir. The NCA reports that compensatory afforestation has been completed in 42,064 acres of land in Gujarat, MP and Maharashtra. But field assessments on 1,242 acres of land have determined that 86% of the afforested areas are found to be highly degraded with little or no tree cover. About 52% of the command area faces high to very high probability of water logging and salinisation resulting in crop loss.

### 3 War of Attrition

The project components were regulated by legal mandates and clearances from three institutions: NWDTA, MOEF for environmental clearances, and the Planning Commission (PC) for approval of cost estimates and revisions there on.

Construction at the dam site began in 1987 even before the required clearances were awarded to the project. As the dam height continued to rise, little attention was paid to the planning of the ecological and human components of the project. There were few estimates and no plans on the ground to mitigate these costs. Little action was taken for environment protection measures and R&R of the PAFS, even as the catchment area, including land and forests, began to be submerged, displacing people.

### Environmental Mandates

The environmental impacts of large dams affect biodiverse ecosystems, replacing as they do riverine ecosystems by reservoir systems and forests by plantations. Large dams also impact communities that have traditionally depended on these ecosystems for their livelihoods.

Siltation of reservoirs and non-implementation of CAT have been acknowledged as major problems affecting operations of dams in India right from the early 1970s. In 1977, the Central Board of Irrigation and Power (CBIP) knew that siltation in dams was two to three times higher than estimated. Subsequently, India Country Study (2000) observed that siltation rates were higher than predicted. Failure to treat the catchment area severely degrades the water quality in the reservoir, the ecology of the watershed, and the operation and lifespan of the dam.

Addressing the command area ecological concerns while making available irrigation water is necessary to prevent water logging and soil salinity. If the SSP is completed, 52% of its potential command area faces high to very high probability of water logging and salinisation (Kothari and Ram 1994).

The 1980 Forest Conservation Act<sup>8</sup> (FCA) made compensatory afforestation compulsory to mitigate the destruction of diverse ecosystems. For the most part, the compensatory afforestation fund (CAF) has been reduced to the planting of saplings to grow plantations that cannot replace the original rich natural forests. But, however inadequate the CAF might be, it is still a mitigating measure that has begun to address the negative environmental consequences of clear felling of forests.

In 1985, when the project was approved for World Bank credit, it had not been granted environmental clearance by the MOEF. As late as 1986, the MOEF put on record its uneasiness on the Narmada Sagar Project (NSP) and SSP planning and their effect on the environment. However, the MOEF granted conditional environmental clearance to the project in 1987, on grounds that some money (about 5%) had already been invested in the SSP. Moreover, it also clearly stated that SSP was not to be granted full environmental clearance. The SSP and NSP have critical technical and operational linkages. The NSP was not ready for objective approval and the requisite information was not fully available. Hence, granting approval to the SSP on technical and other grounds was not recommended. Even then, the MOEF feared that there would be no commitment to comply with these conditions. It recommended setting up a body with "adequate power and teeth to ensure that the Environment Management Plan (EMP) does not remain only on paper but is implemented; and implemented *pari passu* with engineering and other works".

The conditional environmental clearance required the completion of EMP. For this, all the required estimates and complete plans for compensatory afforestation, CAT, and rehabilitation of displaced on non-forest land were supposed to be completed by late 1987 (according to the forest clearance); and by 1989 (according to environmental clearance). In addition, complete details of the CAD, survey of flora and fauna, carrying capacity of surrounding area, seismicity and health aspects had to be ready by 1989.

**Violation of Environmental Mandates:** The project authorities showed no intention to adhere to these mandates before and during submergence. Although the MOEF enacted the FCA making compensatory afforestation mandatory in 1980, the SSP had felled 2,493 ha of forest in 1983 in anticipation of submergence without the ministry's clearance. In 1986, the Narmada Planning Group sought to justify this by quoting the urgency of the project, and citing possible consequences for low-lying areas in case they were not clear felled quickly (Kothari and Ram 1994). The compensatory afforestation plans were not made for these clear felled forests.

Further, neither the 1987 nor the 1989 deadlines for the submission of environmental plans were met. Since the stipulations of the conditional environmental clearance were not complied with, the approval was deemed to have lapsed. At the end of 1989, the environment sub-group of the NCA remarked there were a number of studies and surveys still being carried out with no definite time commitments for completion. It urged the NCA to seek renewal of environmental and forestry clearance beyond December 1989 from the MOEF given that no plans or estimates were yet ready.

In 1992, the World Bank independent review took a serious view of the failure of the Bank's incremental strategy and GOI's *pari passu* policy and pointed out that the continued non-compliance almost bordered on *defiance*. In 1993, the NCA unilaterally decided that fresh environmental clearance was not needed in spite of its own environment subgroup recommending it in 1989.

In 1993,<sup>9</sup> it was evident that the *pari passu* approach had completely failed. The FMG report also confirmed this, stating that the project proponents did not understand the magnitude of CAT needed; compensatory afforestation would probably face resistance from people; there was too much complacency about the potential threat of water logging and salinisation; and the downstream impact remained understudied.

Environmental Action Plans were not drawn up till 2001. CAD planning did not start even as water started flowing down the canal from 2001, and when irrigation formally began through the Irrigation Bye Pass Tunnel in August 2002.

### Financial Mandates

In 1985, the World Bank cleared the project and signed a loan agreement for \$450 million for dam and canal network construction. At this time, the PC had not yet done its economic and financial feasibility appraisal. In October 1988, the PC partially cleared investments for the project for Rs 6,406.04 crore at 1986-87 prices, ignoring the World Bank's financial estimate of Rs 13,640 crore.

**Lack of Financial Accountability:** By 1991, clearances given to the project had lapsed. The PC approval was conditional on the approval of subsequent financial estimates. The CAG (2002: 51) states "PC stipulated (April 1988 and January 1993) that costs shall be revised at intervals of five years, whereas Sardar Sarovar Construction Advisory Committee (SSCAC) desired (March 1993) that the same shall be done every three years. However such revision in cost estimates had not been done by SSNNL. It was noticed that SSNNL while submitting (May 2000) proposal for central loan assistance for the financial year 2000-01 to the GOI, indicated tentative cost estimate (without item-wise details) of SSP up to 1998-99 as Rs 23,602.98 crore." The CAG (2004: Para 1.8) reiterated the concern when it stated "due to disputes between the governments of Gujarat and MP over certain issues, the cost estimates revised subsequently during 1991-92, 1996-97 and 1998-99 could not be approved by the PC. However, pending such approval Central Loan Assistance (CLA) of Rs 2,896.25 crore was *irregularly* released during the period 1996-2003". That the PC's clearance for the project had lapsed in 1991 and was not approved at any further point did not come to light till the CAG (2002 and 2004) pointed it out.

### R&R Mandates

In addition to apportioning the benefits of the dam, the NWDTA (1969) laid down two binding legal mandates to mitigate the adverse effects on affected communities.

The first was the "land for land" mandate allotting alternative land entitlements to displaced PAFS (2 ha of irrigable agricultural land and a house plot with civic amenities<sup>10</sup>) for the first time in the history of displacement in India. It also laid down detailed directions for the R&R component regarding land and property acquisition, provision of irrigable land, house plots and civic amenities to the displaced. The NWDTA also mandated that communities were to be relocated as units in the "rehabilitation villages". The PAFS were to be offered the choice of rehabilitation within their own states.

The NWDTA recognised that offering only cash compensation to the displaced PAFS as in the past, did not result in the purchase of alternative land and had destituted them. Later the SC ruling in 2000 reiterated NWDTA's land for land clauses as exemplary. The NWDTA stipulates that PAFS not only "be entitled to" but also "be allotted to" agricultural land.

The second was the principle that R&R should precede submergence. It was to be progressively administered, continuously supported through grants and financial assistance. Arrangements for rehabilitation of the displaced in R&R sites with all civic amenities had to be put in place one year in advance. The GOI had to intimate the MP and Maharashtra governments of the area coming under submergence at least 18 months in advance and ensure the completion of rehabilitation in all aspects at least six months prior to submergence.

**Violation of R&R Mandates:** Right from the beginning, the NWDTA mandates were ignored. By the early 1990s, it became evident that the PA had no intention of rehabilitating the PAFS, and the case was fought in the courts from 1990 onwards.

The appraisal of the SSP by the four missions of the World Bank had not evaluated the R&R component between 1982 and 1983 (Cernea 1986: ii). In July 1983, the World Bank sent three letters to the union and state governments urging the need for comprehensive R&R plans. In September 1983, the resettlement appraisal mission<sup>11</sup> returned with a highly critical report questioning the state governments' commitment to comply with the NWDTA specifically pointing out the governments' ignorance of large-scale displacement and the absence of a rehabilitation plan.

After facing years of struggle by the PAFS, the government of Maharashtra used political processes to get forest land for rehabilitation, violating the MOEF's FCA and diverted 4,200 ha of forest land for non-forest use in 1990 and 1994. Initially, 2,700 ha of forest were clear felled for developing five resettlement sites for 2,000 families. However, it was realised later that at least 1,500 ha of the cleared land could not be used for resettlement because it was rocky and uncultivable. Following this, it became evident that the PA had to buy land to rehabilitate the PAFS. Efforts at land acquisition for creating alternate R&R sites were piecemeal and lagged well behind dam construction. The CAG (1999) states: "As on March 1998, MP had only rehabilitated 746 PAFS of 33,014 PAFS". Even by 2000, R&R plans had not been prepared, when the SC approved the increase in dam height.

From 2000 onwards, R&R entitlements were whittled down by the introduction of a series of policies that violated the NWDTA mandates. For instance, on 15 May 2001, the Narmada Valley Development Authority (NVDA) proposed an "amendment" putting in place the "special rehabilitation package" (SRP). This involved an "offer" for the displaced to give up/surrender their legal entitlement to alternative land, by opting for cash with which to "purchase" the land. This package violated NWDTA as well as the SC judgment that had ruled out any "review/amendment" of NWDTA for 45 years, i.e., till 2024. At a subsequent 63rd NCA meeting, held on 20 November 2001, valid objections were raised. The minutes noted:

Secretary, Ministry of Social Justice and Empowerment was of the view that land for land policy should be strictly followed as stipulated

in the NWDTA award. The amendment/provision should cover the fundamental aspects of NWDTA. Regarding amendment of the award suggested by the GOMP, he suggested that all facts should be furnished before the law ministry to ascertain whether the amendment shall be acceptable in the Court of Law before taking any decision in this regard.

However, the NVDA unilaterally approved the SRP by carefully avoiding the word *amendment* and instead referring to it as “additional liberalised” rehabilitation package and financial assistance in a government order (GO) dated 27 November/4 December 2001. On 7 January 2002, the NCA R&R subgroup pointed out that it had to be verified whether this GO proposing the “additional liberalised” rehabilitation package met with legal mandates. The secretary, therefore, felt that the order of the GOMP be examined by the union ministry of law.

**Justice Gone Awry:** The GOMP had also violated the NWDTA by arbitrarily introducing a distinction in permanent and temporary submergence affected and halved the number of PAFS entitled to R&R. The Narmada Bachao Andolan (NBA) filed a public interest litigation (PIL) in the SC in May 2002,<sup>12</sup> challenging this decision and seeking that rehabilitation of all the affected people be carried out in complete compliance with the NWDTA. The SC dismissed this petition on 9 September 2002, directing that the PAFS, especially those aggrieved by not having been allotted land, approach the grievance redressal authority (GRA). In 2003, 23 adivasi PAFS from Jalsindhi and Pichhodi filed an interim application (IA) seeking directions from the SC to the GOMP to rehabilitate them in compliance with the NWDTA and the SC issued a notice to the GOMP on 5 February 2004.

It was only on 15 March 2005 in a judgment, that the SC turned down the MP GRA’s September 2004 order, took issue with the GOMP on the grounds that it had not implemented the court’s earlier directions on rehabilitation of submergence impacted families, in letter and spirit. It also ruled that state governments had to rehabilitate the backlog of “temporarily affected” PAFS, major sons and unmarried daughters. The judgment also reiterated the “land for land” rehabilitation and lamented the SRP mechanism. However, it fell short of ruling that the rise in dam height from 95 m to 110.64 m was in violation of the law, since at this point, the PAFS categorised arbitrarily as temporary had not been rehabilitated.

Following this judgment, in the meeting of the review committee of the NCA on 21 March 2005, the chairman ordered the suspension of the SRP till the situation was reviewed. However, on 16 June 2005, the NVDA issued a GO *revising* the SRP. On 21 July 2005, in a meeting between the chairman of the NCA and the chief secretaries of MP and Gujarat, the chairman stated that rehabilitation must be carried out in accordance with the directions of the SC judgment dated 15 March 2005. On 30 July 2005, the commissioner (Field), NVDA, Indore sought an opinion of the GRA of MP<sup>13</sup> on the grant of the SRP and whether it violates the NWDTA’s rehabilitation clauses. On 18 August 2005, the GRA (MP) upheld the SRP, stating that the SRP did not violate any provision of the NWDTA. In permitting the GO, it overstepped its legal authority.

In the 62nd meeting of the R&R subgroup held on 12 September 2005, the R&R subgroup (of NCA) held the SRP as violative of the NWDTA’s rehabilitation clauses. Having examined the GRA’s legal opinion in detail, the chairperson of the R&R subgroup stated in a letter to the GOMP that all eligible PAFS be allotted land and in case the GOMP differed with the NCA’s directions, it needed to take it up with the NCA again. At this time, the NCA directed the GOMP to complete rehabilitation of all the affected families at the height of 121.92 m by 31 December 2005. The minutes noted:

Out of 30,690 PAFS in 177 villages, 17,288 PAFS have been rehabilitated including 4,262 PAFS in Gujarat. The remaining 13,402 PAFS were yet to be rehabilitated. These include a backlog of 13,233 PAFS affected at the current height of the dam (i.e., 110.64 m).

Thus, till September 2005, the R&R subgroup and the NCA were of the opinion that SRP contravened the NWDTA and judgment of the SC. In the 63rd meeting of the R&R subgroup of 8 March 2006, a meeting in which the decision to raise the height to 121.92 m was taken, the NCA completely shifted its stance. The GOMP reported only 16,156 PAFS affected between the dam height of 110.64 m and 121.92 m, and claimed to have rehabilitated them all even as the disbursement of payments as per the SRP mechanism in two instalments had not been completed (see Annexure 1 for the trends in displaced and rehabilitated). On this basis, the NCA permitted the raising of the dam height. The union water resources minister immediately decided to put the decision on hold and review it (Parsai 2006). But meanwhile, construction at the dam site had already started and no specific action was taken to halt it. The intense discussions that followed were hazed over by political expediencies. The SC heard the petition challenging the decision to raise the dam height on 17 April 2006, and refused to stop the dam construction, but warned that it would do so if rehabilitation was found to be inadequate. Having declined to stop the dam construction, the court indicated that the prime minister (PM) could step in to resolve the dispute as per directions given by the court in its judgment dated 18 October 2000.

At this point the prime minister’s office (PMO) intervened through the formation of two ministerial committees – the group of ministers and the Over Sight Group (OSG).<sup>14</sup> The report of group of ministers was submitted to the government on 9 April (leaked to the media a little later and thus getting printed in *The Hindu*, but remaining technically unavailable in the “public domain” till the time the Central Information Commission passed an order acting on the appeal filed by Shekhar Singh and Aruna Roy). The OSG report, submitted in early July 2006, was sympathetic to the claims of the party, and stated that the situation was generally satisfactory with regard to rehabilitation. In its order dated 10 July 2006, the SC considered the decision of the PM and declined to stop the construction of the dam.

The PM took a decision based on the OSG report submitted on 8 July 2006, and observed that R&R work must be accelerated during the period when there would be stoppage of construction work due to impending monsoon. This did not mean stopping submergence that still engulfed several villages and

schools during the monsoon of 2006. Although the construction stopped at 119 m at the onset of monsoon, it restarted by October 2006 and the dam wall height was raised to 121.92 m in December 2006. The applicants before the sc filed a contempt petition in January 2007 in this regard charging the concerned authorities and concerned states for being in contempt of the sc having violated its directions. On 10 April 2007, during a hearing on the petition, the apex court asked the three participant states and the central government to file a status report on rehabilitation in three weeks. The sc on 10 March 2008, while hearing the PIL filed by eminent citizens and the IA again passed orders requiring the state of MP and the applicants to file affidavits and counter-affidavits before the matter is posted for final hearing. When the state parties are not accountable and no real mechanism exists to hold them accountable, affidavits and counter-affidavits had no meaning to the displaced and affected people.

#### 4 Ongoing Battles in Project Governance

The project was governed by the central ministry of water and irrigation. It formed the NCA to administer the project. In Gujarat, SSNNL was formed to administer all aspects of the dam construction. In Maharashtra, the Narmada Valley Development Department (NVDD) was responsible for all aspects of the SSP. In MP, this work was done by the NVDA. All three bodies (SSNNL, NVDD and NVDA), were accountable to the NCA as well as to their respective state governments. The NCA was advised on all its actions by the R&R subgroup and the environment subgroup.

Governing and administering the complex SSP was a mammoth task. First, the tribunal had no oversight or authority over the implementation of the award, and the bureaucratic machinery that was stipulated to execute the projects depended ultimately on the cooperation among the state and federal governments. By 1993, it was evident that the NCA and PA had not acted decisively to ensure that the project would be implemented successfully or check violation of legal mandates. This is in spite of it being continuously informed by its own subgroups. On many instances, it disregarded its own subgroups' wisdom in its final decisions. Confronted by the indifference of the NCA, the PAFs and NBA turned to the courts.

**The Supreme Court:** Right from 1991, the PAFs have sought justice from the sc to ensure project compliance with legal mandates. In response, at various points, the court has shifted its stances from *against* (largely before 2000) to *for* raising the dam wall height (largely after 2000).

On 20 September 1991, the sc directed the GOI to constitute a committee headed by the secretary (Ministry of Social Justice and Welfare) to monitor the R&R of SSP-affected people; treating a letter written by the then commissioner of scheduled castes and scheduled tribes about the lack of proper efforts in November 1990 as a writ petition. In 1991,<sup>15</sup> the sc had directed that rehabilitation had to be completed six months prior to submergence in all respects. In April 1994, the NBA filed the writ petition in the sc challenging the SSP on various issues around the violation of the

R&R mandates, environmental mandates, etc.<sup>16</sup> On 20 May 1994, the sc declined to stop work on the dam.

In January 1995, the assembly in MP took a unanimous decision to stop construction work on the dam wall. Following this, the sc issued a stay order on 5 May 1995, suspending work on the spillway. However, the PA continued other dam-related works. When contested in court, the sc in April 1996 mandated a stay on all dam-related work. Once again, in a strongly-worded statement given at the February 1997 hearing on the case, the court ordered state and federal governments not to continue with any construction on the projects as long as the PAFs had not been resettled and rehabilitated and as long as required studies, plans and mitigation efforts on environmental impacts were not completed. The litigation before the sc continued with numerous pleas (and counter pleas) between 1997 (February) and 1999. In this period, the sc denied pleas of the GOI and others to allow further construction of the dam.

After four years of taking this firm stance, in an interim order in February 1999, the sc allowed the height to be raised to 88 m (85 m + 3 m humps). On 18 October 2000, the sc allowed the dam height to be raised to its full height of 138.68 m, however in stages, ensuring rehabilitation and environmental safeguards *pari passu*. This was a split verdict (2:1), with a majority judgment allowing the dam height to be raised. The minority judgment by Justice S P Bharucha insisted on fresh environmental clearance before sanctioning the dam height clearance. The majority verdict, while allowing the construction to proceed in stages, placed considerable misplaced faith on compliance with the *pari passu* mandate of the MOEF.<sup>17</sup>

Two months after the sc judgment in December 2000, the SSNNL financially committed to completing the works by 2006 with Jai Prakash Associates through the payment of "idle charges".<sup>18</sup> In doing so, it pre-empted the date of completion of the dam construction. Later, the CAG (2006: 65-66) held that since R&R was lagging behind and construction could not resume, the contract (supplementary agreement with Jai Prakash) itself was a legally invalid and imprudent move. Rather than be determined by the pace of R&R and environment measures, the progress of construction was completely independent of them.

#### Review and Monitoring Committees

**(1) Five Member Group:** On 5 August 1993, after the withdrawal of the World Bank, the union water resources ministry appointed the FMG headed by Jayant Patil, to review the project, urged by the movement of the affected people. It was constituted as an independent review of the entire project; and its mandate was overarching. Pro-dam groups in Gujarat approached the Gujarat High Court to set aside the ministry's memorandum and to restrain the government from releasing the report to the public. The high court passed an order, which substantially restrained the government from releasing the report to the public.<sup>19</sup> When the said high court order was challenged in a petition before the sc, it called for the FMG report and allowed its public release on 13 December 1994.<sup>20</sup>

(2) **Group of Ministers:** In response to agitation against the dam height raise to 121.92 m, on 5 April 2006, the PM constituted a group of ministers comprising the minister of water resources, minister of social justice and empowerment and minister of state in the PMO to carry out a field visit to ascertain the claims on rehabilitation. This report stated that “complaints from various quarters that the rehabilitation and resettlement of displaced of Sardar Sarovar Dam has not taken place in consonance with the orders of the Supreme Court have been found to be correct”.<sup>21</sup> No decision was taken by the PM and the subsequent meeting of the review committee of the NCA on 15 April 2006 remained inconclusive.<sup>22</sup>

(3) **Over Sight Group:** The PM decided on 24 April to set up yet another committee – Shunglu Committee or the OSG – to carry out an intensive verification of rehabilitation claims. The OSG verified the action taken reports (ATRS) of the NVDA for PAFS getting displaced at elevation (EL) 121.92 m. Its report was submitted to the government on 3 July 2006. The OSG was largely sympathetic to the claims on rehabilitation put forward by the NVDA, MP.

By using the ATRS as the basis of its work, it tacitly sanctioned the arbitrary PAFS’ records at dam height 121.92 m by the NVDA. Further, the OSG only highlighted those who accepted the SRP, at the cost of others who did not do so. It acknowledged that the quality of the land available in the land bank was by and large, average. The OSG (2006: 16) noted that allocated government land was “not irrigable and uncultivable”. But even after acknowledging this fact, the OSG failed to rectify the violation of the NWDTA on land for land mandates.

The indifference of the PA to the issues raised by the OSG was exemplified when immediately after the OSG report was

released, the NVDA (GOMP) deleted with impunity the six “very poor” resettlement sites from further enumerations, especially marked by the OSG for immediate action. The only cosmetic action that the NCA undertook after the OSG report was to set up six monitoring teams to oversee the *upgradation* of these R&R sites. These monitoring teams had no power to check the PA’s violation of legal mandates.

(4) **Grievance Redressal Authority:** While concerns over non-compliance were addressed to the NCA and courts earlier, in 1999, the SC approved the constitution of a GRA for Gujarat, and later for Maharashtra and MP in 2000. The authority was assigned the task of looking at those cases as grievances individually. The GRAS seem to have handled non-compliance and violations of rehabilitation clauses of the NWDTA in a soft manner, as it failed to satisfy the PAFS in addressing their grievances. The GRA of MP in at least one instance<sup>23</sup> reinterpreted and undermined the NWDTA land for land mandate, while it commented favourably on the GOMP’s order on the SRP. Even when the GRAS have been responsive to policy violations, the PAs have remained indifferent to GRA directives.

## 5 Need for Reconsideration

The progress made by the SSP does not seem to be very different from India’s experience with major irrigation and power projects: while main civil works somehow get completed, creation of necessary infrastructure to realise benefits of the projects remain uncertain. A review of past irrigation and power projects shows that average cost overrun is about 235% more than projected cost; time overrun averages 10 years; and the irrigation, power and drinking water performance finally realised averages at

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around 60% of the potential created. And typically, while planning for new projects, there is no consideration about the option of fully realising the potential capacity of the existing facilities, or reducing the need for creating new facilities. This would not only ensure that capital is efficiently used, but also would safeguard social and environmental aspects (wcd India Country Report 2000).

The cost and benefits of the SSP still remain highly contentious. Given the progress made in raising the height of the dam, the project could have delivered irrigation, power and drinking water services at a much higher level than it has currently. Thus, the challenge is to rehabilitate the people already displaced, while investing efforts to deliver full benefits possible at the height of the dam.

The central question is: can anything be gained by limiting the height of the dam at its current level? What are the alternatives available to arrive at the benefits that are supposed to accrue when the dam attains the FRL of 138.68 m? While answering this question, it is important to look at the potential benefits of raising the height, in the backdrop of what has been achieved by raising the height to 121.92 m.

After the majority verdict by the SC, the government seems to look at the SSP dam with the FRL at 455 ft as a fait accompli. Though there have been articulations on the alternatives, these debates have not changed the original planning of the dam.

While the GOG is pressing ahead to increase the dam height to 138.68 m, there are arguments not to raise the height from the current level of 121.92 m. It is being argued that this rise in dam height is essential for the dam to deliver its benefits. Maximisation of power generation has been the central argument to raise

the height to 138.68 m. It was suggested that raising the dam to its full height would prevent the CHPH from lying idle for less than a month per year. It is also being argued, that the failure to raise the dam height to FRL 138.68 m would result in the loss of 13.06% of power from the water flowing in the RBPH.<sup>24</sup> Significantly, the power generation component proposed by the SSP is not a main benefit, and is technically designed to reduce as irrigation coverage increases.

A look at the history of the project does not support the assertion that the dam height has to be raised to 455 ft to deliver its benefits. Instead, Reddy and Sant (1994) concluded that lower height of the SSP would lead to only marginal and not very significant loss of power generation. Gujarat and Rajasthan's share of nine MAF water for irrigation and "municipal and industrial" water use can be ensured even if the height of the dam is kept just 107 m (Paranjape and Joy 1995).

The option of limiting the height of the dam could be considered for other important reasons as well. The increase will intensify the damage to people and the environment. A conservative estimate suggests that further increase in height to 138.68 m will submerge more than 20,000 ha of land affecting some 15,000 PAFs.

The resources saved from not raising the dam wall could be used by the GOG to address the ecological concerns in the command area and improve drinking water and irrigation coverage. This option also provides the participant state governments the capacity to address the previous non-compliances on social and ecological liabilities and provide for land-based rehabilitation of those who face submergence at the current height as per the NWDTA's binding rehabilitation conditions, as well as explore other least cost energy options.

## NOTES

- 1 The 78th meeting of the NCA held on 3 May 2007.
- 2 As on 3 May 2007, the GoMP had not acquired the property between MWL and FRL due to the highest flood level.
- 3 Letter by the then secretary of the MoEF, T N Seshan, addressed to the secretary of the Ministry of Water Resources (MoWR), "The Catchment Area should Cover both Submergence and Free Draining Catchment."
- 4 See, Meghdoot Sharon's News Reports in *The Indian Express*, August 2002.
- 5 The performance audit by CAG for Gujarat (Civil) in 1999 of 37 irrigation projects in Gujarat (other than the SSP) revealed the following: CAD activities delayed by 2-18 years in the case of 35 projects, failing to carry out environment protection works pari passu. Field channels were incomplete: 23% in 1992-93 rising to 80% in 1997-98. These 37 projects had shortfalls in warabandi works ranged between 34% (1992-93) and 83% (1997-98). In none of the 37 irrigation projects the required monitoring centres to watch CAD activities were set up.
- 6 However the said cumulative expenditure does not include expenses on the Sardar Sarovar based drinking water pipeline project, as the expenses on that is being booked on the balance sheets of Gujarat Water Infrastructure Limited and Gujarat Water Supply and Sewerage Board.
- 7 Cumulative expenditure on the project as on 31 March 2006 stood at Rs 21,411.81 crore as per Socio-Economic Review of Gujarat, which means the state had spent Rs 10,433.18 crore on the project in five years (2001 to 2006). The then chief

managing director of SSNNL had told *Down To Earth* in an interview, reported in 31 May 2006 issue that "Rs 8,000 crore has been spent on debt servicing".

- 8 For every hectare of forestland submerged or diverted for construction of the project, there should be compensatory afforestation on one hectare of non-forest land plus reforestation on two ha of degraded forest land.
- 9 S Maudgal, a senior MoEF official who had experience of assessing river valley projects, as early as in 1993 in a paper presented at a workshop organised by the Centre for Development Economics, Delhi School of Economics
- 10 Sub-clause IV (7) of clause XI of the NWDTA states under "Allotment of Agricultural Lands: Every Displaced Family from which more than 25% of its Land Holding is acquired shall be Entitled to and be Allotted Irrigable Land on the Extent of Land acquired from It, Subject to the Prescribed Ceiling in the State Concerned, and a Minimum of Two Hectares (five acres) per Family, the Irrigation Facilities being Provided by the State in Whose Territory the Allotted Land is Situated. This Land shall be Transferred to the Oustee Family if It Agrees to Take It".
- 11 W B Thayer Scudder, an expert on resettlement issues from the California Institute of Technology was contracted by the World Bank to lead a resettlement appraisal mission.
- 12 See *NBA vs Union of India and Others*, Writ Petition (Civil) No 328 of 2002.

- 13 GRAs were constituted by the SC's directive to redress grievances of the PAFs. Thus, the NVDA seeking a legal opinion of GRA on a SC judgment itself shall be taken with a pinch of salt.
- 14 The SC had declined to stay the ongoing construction as per its order dated 17 April 2006 and directed that the prime minister could intervene. The PM did not take a categorical decision even though as per direction of 18 October 2000 judgment, in the event of review committee of the NCA not being able to resolve the dispute, the PM can pronounce a decision which would be binding on all party states. Trusting the report of three of his cabinet ministers, the PM could have exercised extraordinary power vested into him (and not into PMO) and ordered a stay on the NCA decision permitting the raise in dam height. However, the PM appointed an Over Sight Group on 24 April 2006 to be headed by a former Comptroller and Auditor General of India V K Shunglu.
- 15 In the case of *B D Sharma Vs Union of India and Others* (Writ Petition No 1201 of 1990).
- 16 See, *Narmada Bachao Andolan vs Union of India and Others*, Writ Petition (Civil) No 319 of 1994.
- 17 A phrase that means "Side by Side" first occurs in the discourse when the environmental clearance was awaited. This phrase envisaged that construction work will not outpace environment mitigation measures and completion of rehabilitation of all displaced. In other words, it had envisaged that the pace of construction will be determined by the pace of environmental mitigation measures and rehabilitation of displaced and not the other way round.
- 18 These "Idle Charges" were to the tune of Rs 823.90 per cubic metre shortfall in a working

year (July to June) if there were shortfalls in meeting targets of three lakh cubic metre for reasons not attributable to Jai Prakash.

19 See, *Narmada Abhiyan and Others vs Union of India and Others*.

20 See, *Narmada Bacahao Andolan vs Union of India and Others*, Writ Petition (Civil) 319 of 1994, order dated 13 December 1994.

21 Full text of report of the group of ministers was subsequently printed on the front page of *The Hindu* on 17 April 2006.

22 Statement on the meeting of the review committee of Narmada Control Authority, Press Information Bureau Press Release, 15 April 2006 at 18: 20 hours. Posted on PIB web site at <http://www.pib.nic.in/release/release.asp?relid=17145> last accessed on 14 December 2009.

23 See, GRA, MP's Order dated 18 August 2005 on what it prefers to call SRP's legal validity.

24 Personal communication with Girish Sant (of Prayas Energy Group, Pune) and Himanshu Thakkar (of South Asia Network on Dams, Rivers and People).

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Annexure 1, Table 1: Status of R&R at EL 121.92 m of Madhya Pradesh Project-Affected Families

Date	Total No of PAFs	PAFs between	PAFs Resettled in	110.64 m Backlog	Balance to be Resettled	Total Balance to be	Source
	up to 121.92 m	110.64 m and 121.92 m	Gujarat MP	to be Resettled	between 110.64 m and 121.92 m	Resettled	
26 August 2004	21,730	12,870	865	Zero	12,005	12,005	Minutes of 60th meeting of NCA the R&R subgroup
12 September 2005	30,690	17,288	4,262	13,026	13,233	13,402 (6,854 landed/ 6,548 major sons)	Minutes of the 62nd meeting of the R&R Subgroup
31 December 2005	28,472	17,049	4,729	12,468	13,233	11,545	Status report, Narmada Control Authority
18 February 2006	24,421				No mention	No mention	Press release by NVDA
6 March 2006		17,255	3,339*			13,916*	Letter from Soz to Shri L C Jain
8 March 2006		16,156	2,238*	13,918			Minutes of 63rd meeting of R&R subgroup
7 April 2006	23,322		4,355	18,967			Status report placed as annexure 2 in Uol's application
17 April 2006	24,421		5,456	18,965			Press release by NVDA
3 July 2006	24,421	15,561	5,456	18,965			Oversight group report

\* These figures correspond to figures between 110.64 m and 121.92 m.

Annexure 1, Table 2: Number of the Madhya Pradesh Project-Affected Families Up To February 2008

Date	Total Number of PAFs at FRL 138.68 m	Number of PAFs Resettled			Balance to be Rehabilitated	Source
		Total	in Gujarat	in Madhya Pradesh		
29 August 2001	35,716*					50th R&R Subgroup meeting
26 August 2004	33,014	14,452			12,005 (PAFs affected between 110.64 m to 121.92 m) and 6,557 (PAFs affected between 121.92 m to 138.68 m)	NCA status report August 2004
29 April 2006	38,647					Letter from Commissioner, Rehabilitation (Field), NVDA
9 May 2007					14,619	NCA meeting news in <i>The Hindu</i>
31 August 2006	39,369	24,999	6,034**	18,965^	14,370	NCA status report, September 2006
31 May 2007	39,369	24,946	5,981**	18,965^	14,423	NCA status report, June 2007
7 January 2008	37,143					NVDA press release
22 February 2008	37,975	37,942			33	NVDA press release

\* The figure here was an upward change in the figure of PAFs in MP that was being mentioned at 33,014 till the 50th R&R subgroup meeting. Since then this the figure descended to 33,014 in August 2004 suggesting that the R&R subgroup was retracting its position along side the trend of diminishing number of PAFs that had set in by then.

\*\* Out of these, 5,456 PAFs were those who were affected at the height of 121.92 m and were rehabilitated as per NVDA press release dated 17 April 2006 and Shunglu Committee report dated 3 July 2006.

^ The figure remained stagnant at this level, suggesting that till 31 May 2007, MP has not rehabilitated a single PAF affected between 121.92 m and 138.64 m.